

LOCAL FOOD SYSTEMS AND PUBLIC POLICY: A REVIEW OF THE LITERATURE

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List of Abbreviations

AAFC	Agriculture and Agri-Food Canada
AAFRD	Alberta Agriculture, Food and Rural Development
APF	Agricultural Policy Framework
AB	Alberta (Province of)
AMAP	Associations pour le maintien de l'agriculture paysanne
AoA	Agreement on Agriculture
BC	British Columbia (Province of)
BSE	Bovine spongiform encephalopathy
CFAI	Community Food Action Initiative
CSA	Community supported agriculture
CPTAQ	Commission de protection du territoire agricole du Québec
Fed	Federal
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GMO	Genetically modified organism
HAACP	Hazard Analysis Critical Control Points
LFS	Local food systems
MB	Manitoba (Province of)
MLA	Member of Legislative Assembly
MNC	Multinational corporation
NAFTA	North American Free Trade Agreement
NB	New Brunswick (Province of)
NGO	Non-governmental organization
NS	Nova Scotia (Province of)
NWT	Northwest Territory
ON	Ontario (Province of)
PEI	Prince Edward Island (Province of)
QC	Québec (Province of)
RHA	Regional Health Authority
SK	Saskatchewan (Province of)
SME	Small and medium enterprises
SPS	Sanitary and phytosanitary
TBT	Technical Barriers to Trade
TRIPS	Trade-Related Intellectual Property
WFS	World Food Summit
WTO	World Trade Organization
YT	Yukon Territory

Executive Summary

This paper reviews the state of knowledge about local food systems (LFS). We identify LFS as an effective mean to achieve food sovereignty, defined as the right of people to local food production, healthy and ecological, realized in equitable conditions that respect the right of every partner to decent working conditions and incomes.

To achieve this vision of food sovereignty, LFS have to go beyond the distance travelled by food products before they reach the final consumers (food miles) and integrate social, economic and environmental benefits. The main types of LFS which meet these criteria are farmers' markets, community supported agriculture (CSA), box schemes, institutional local procurement initiatives, and farm shops. While most of the literature on LFS focuses on the expected economic, environmental and social impacts of these alternatives, relatively few examined the actual impacts. Nevertheless, the existing evidence highlight the positive effects of such initiatives: better incomes for producers, lower carbon footprint (depending on method of production), and promotion of healthier diets (through better access to fresh fruits and vegetables as well as nutrition education associated with these initiatives).

Farmers' markets, CSA and other initiatives are becoming increasingly present in industrial countries in recent years, but they still only represent a very small part of the food market. Our review of the literature examined which public policies have been identified as effective means to support the emergence, consolidation and further development of LFS. We have come up with a large inventory of such policies proposed in the literature, although few have been tested systematically. We found that the problems related to financing, to the market power of large firms in food values chains, and to the lack of knowledge—both from the producers and consumers side—were often raised as obstacles to the scaling-up of LFS.

We have also reviewed the agricultural policies adopted by federal and provincial authorities in Canada to assess whether they are supportive of LFS. We found that even though there is no national policy to promote LFS, provincial governments have been active with various programs in this area. There is much variations from one provinces to another, but the existing programs tend to cluster on the demand side, focusing on consumer education and marketing projects, even running some themselves (the origin labelling and promotion programs). To a lesser extent, we saw some program to support organic farming (transition programs) but very few focusing on processing and distribution.

Given the gap which exists in understanding the impact of existing public policy initiatives, our next step will be to conduct field work in the provinces of Québec and Ontario. Our analysis will move us towards the overall objective in our research program, which is to provide knowledge for policy action on food sovereignty.

Résumé

Ce document de recherche fait le point sur l'état de la connaissance concernant les systèmes alimentaires locaux au Canada. Nous avons identifié ces systèmes comme étant un moyen de cheminer vers la souveraineté alimentaire qui est définie comme le droit des peuples à une production locale, saine et écologique, réalisée dans des conditions équitables et qui respectent le droit de tous les partenaires à des conditions de travail et des revenus décents.

Afin de s'ancrer réellement dans la perspective de la souveraineté alimentaire, les systèmes d'alimentation locaux doivent aller au-delà de la distance parcourue par les produits avant d'atteindre le consommateur (food miles) et intégrer des objectifs sociaux, environnementaux et économiques. Les catégories principales de systèmes alimentaires locaux qui respectent ces critères sont les marchés fermiers, l'agriculture soutenue par la communauté, la livraison de boîtes de produits frais (box scheme), les politiques institutionnelles d'achat local et les boutiques fermières.

La majorité des textes sur les systèmes d'alimentation locaux insistent sur les bénéfices économiques, environnementaux et sociaux espérés, les impacts documentés demeurant limités. Cependant, les études empiriques révèlent des effets positifs provoqués par ces initiatives: de meilleurs revenus pour les producteurs, une empreinte de carbone réduite (dépendamment des méthodes de production) et la promotion d'une alimentation plus saine par un meilleur accès aux produits frais et à de l'éducation sur l'alimentation.

Les marchés fermiers, l'agriculture soutenue par la communauté et d'autres initiatives similaires gagnent en importance dans les pays industrialisés depuis quelques années, mais elles représentent toujours une part très limitée du marché alimentaire. Nous soulevons d'abord les obstacles qui limitent le développement de ces systèmes: les difficultés de financement, le pouvoir détenu par les corporations agro-alimentaires et le déficit de connaissance de la part des producteurs comme des consommateurs. Notre revue de littérature examine alors quelles politiques publiques ont été identifiées comme des moyens efficaces de support à l'émergence, la consolidation et le développement des systèmes alimentaires locaux. Nous avons identifié un large éventail de politiques qui sont proposées dans la littérature malgré que peu d'entre elles aient été évaluées systématiquement.

Nous avons identifié les politiques agricoles pertinentes des gouvernements fédéral et provincial afin de vérifier si elles supportent les systèmes alimentaires locaux. Bien qu'il n'existe pas de politique nationale faisant explicitement la promotion des systèmes alimentaires locaux, les gouvernements provinciaux ont été très actifs avec divers programmes dans ce secteur. Malgré que les situations varient entre les provinces mais, de manière générale, les programmes tendent à se concentrer sur la demande, c'est-à-dire

l'éducation des consommateurs et les projets de marketing qu'ils gèrent parfois eux même (labels d'origine et programmes de promotion, par exemple). Finalement, des programmes appuyant la production biologique (transition) sont en vigueur, mais peu d'entre eux traitaient de distribution ou de transformation.

Nous considérons donc qu'il existe des lacunes concernant la connaissance des impacts des politiques publiques sur les systèmes alimentaires locaux. Ceci nous amènera, dans une prochaine étape, à entreprendre de la recherche terrain au Québec et en Ontario. Cette nouvelle étape nous permettra de travailler à l'atteinte de l'objectif principal de notre programme de recherche, c'est-à-dire de participer à la construction d'une base de connaissance alimentant l'action politique pour la souveraineté alimentaire.

Introduction

Shorter, more localized food supply chains have been proposed as a vehicle for sustainable development (Lyson 2004; Halweil & Worldwatch Institute 2002; Rosset & Land Research Action Network. 2006; Desmarais 2007; *Vía Campesina* n.d.). In the last few years there has been not only a multiplication of studies and position papers on local food by non-governmental organizations (NGOs) and different networks, but also a growing interest by the public sector for local food, such as the ‘buy local’ campaigns and labels in many Canadian provinces and territories or the Québec ministry of agriculture’s announcement of a new \$14 million fund for the development of direct marketing. Given this surge in interest, there is a need for more studies on the concept of local food chains, their impacts on people and the environment, and the policy initiatives that could support them.

Équiterre and the Centre for Trade Policy and Law of Carleton University have decided to conduct a literature review on the subject for the benefit of the stakeholders involved in such projects, decision-makers, and more generally, civil society organizations working on food sovereignty and other food-related campaigns. The objective of this paper is to consolidate knowledge on the subject—a document that will be the starting point for a series of more detailed studies of local food systems (LFS) in Québec and Ontario and the policies that support them.

Reviewing the literature, we linked LFS to the idea of food sovereignty—a global movement that aims to transform food systems into engines of sustainable development and social justice. We also reviewed the different definitions ‘local,’ and by anchoring ideas of ‘local’ into the wider framework of food sovereignty, developed our own typology and working definition of an LFS. Finally, we identified the obstacles to the development and expansion of LFS and surveyed different policy proposals from around the world aimed at overcoming these obstacles.

Our methodological approach for the bibliographical research focuses on electronic databases of peer-reviewed publications through indexes such as Google Scholar, EconLit or JSTOR. We also included non-peer reviewed publications such as research reports from think tanks, NGOs and government agencies. While our research uncovered good number of policy ideas, some are only proposals on paper whereas others have already been implemented. We found that the literature tends to vary between two poles: they either discuss vague policy concepts, or they examine concrete initiatives that are very specific to their local or national contexts and not necessarily applicable in Canada. While several surveys of local food initiatives in Canada already exist (see, for example, Chinnakonda & Telford 2007; Epp 2009; MacLeod & Scott 2007), none are specifically focused on LFS as defined here (i.e. food systems designed to promote sustainable development rather than being defined solely by the distance travelled—see section 3), nor do they adopt the food sovereignty perspective.

The overview and analysis presented here are first a pooling of existing knowledge from both the Canadian and international contexts with respect to policies at the national, provincial and local/municipal level favourable to the development of LFS. In a preliminary literature review, we identified nine categories of policies that were recognized as means to attain food sovereignty (see Annex I). LFS were one of them, along with supply management or procurement policies and labels, among others, and it was identified as the first category to be analyzed. Second, the paper lays the

groundwork for a more in-depth exploration of policy alternatives at all three levels of government that will be based on fieldwork with LFS stakeholders and decision-makers in the fall of 2009.

1 Food Sovereignty Definitions: A Proposition for Small Producers Only?

The first organization that elaborated the concept of food sovereignty was Vía Campesina, an international peasant movement founded in Belgium in 1993 as a more radical alternative to the International Federation of Agricultural Producers (Pimbert 2008: 41). Vía Campesina wanted to organize the more marginalized producers into a movement in favour of a peasant agricultural model, in opposition to the dominant agro-industrial model dominated by multinational corporations (MNCs). In 1996, Vía Campesina refused to sign the Declaration of civil society organizations at the World Food Summit (WFS) in Rome and presented its own alternative, *Food Sovereignty: A Future Without Hunger* (Vía Campesina 1996), where it outlined the core principles of food sovereignty:

- food as a human right;
- redistributive agrarian reform;
- protection of natural resources;
- global trade reform, i.e. freedom from dumping, an end to the promotion of export-oriented cash crops, and debt forgiveness;
- limits on speculation on food commodities by MNCs;
- social peace; and
- democratic control.

At yet another counter-summit during the WFS+6 in Rome, a coalition of NGOs and community organizations led by Vía Campesina narrowed the definition of ‘food sovereignty’ down to the following statement:

Food Sovereignty is the RIGHT of peoples, communities, and countries to define their own agricultural, labour, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and to food-producing resources and the ability to sustain themselves and their societies. (NGO/CSO Forum for Food Sovereignty 2002)

Over time, however, the concept has also been used by other producer organizations and state governments that have adapted it to their own purposes. This other, more limited perspective of food sovereignty that emerged is mainly concerned with defending the political space of the state to develop their own agricultural and food policy without clarifying the precise goals of such a policy. Vía Campesina also defends the state’s right to create its own agricultural policies without interference from foreign powers, international trade agreements, and unfair dumping practices, but it also maintains that the objectives of such policies must be articulated in terms of sustainable practices, defence of family farming and peasant agriculture, social justice, and rural development. This ‘top-down’ view sees the state as the principal agent through which people’s sovereignty is expressed. Pursuit of food sovereignty thus implies that work should be done in international treaty negotiations and human rights conventions in order to allow state sovereignty over food policy—that is, to prevent interference from foreign powers in the policy-making process, lift restrictions placed

by international trade agreements, and eliminate dumping practices. It is thus essentially a top-down state-centred model unconcerned with the specific form agriculture takes.

Table 1. Two Main Orientations on Food Sovereignty		
Perspective	Autonomous Political Decisions (Top-Down)	Sustainable Local Development (Bottom-Up)
Vision	<ul style="list-style-type: none"> ▪ Relatively consensual perspective ▪ Relatively independent from the content of policies ▪ Reference to the strategic food stakes and food as a public good ▪ Government responsibilities regarding the right to food ▪ Top-down 	<ul style="list-style-type: none"> ▪ Driven by the global social justice movement ▪ Based on peasant agriculture and family farming ▪ Rejection of the productivist model ▪ Agricultural multi-functionality guaranteed by commercial protection ▪ Opposed to neoliberalism ▪ Bottom-up
Propositions	<ul style="list-style-type: none"> ▪ Quotas and supply management ▪ International convention to regulate national markets ▪ Create a food sovereignty convention ▪ Re-negotiate trade agreements and agricultural exceptions ▪ Right of the States to determine their degree of food autonomy ▪ Strengthen antitrust laws 	<ul style="list-style-type: none"> ▪ Convention on peasant rights ▪ Priorities on agro ecology in the public policies and projects of civil society ▪ Policies that penalize industrial agriculture for negative social and environmental externalities ▪ Memorandum on agro-fuel production ▪ Agrarian reform

Source: Adapted from CSAO (2007: 17).

By contrast, *Vía Campesina*'s position is that peasants, as opposed to profit-maximizing corporations, are seen as the rightful and responsible stewards of the land and the food it produces. Their concept of 'sovereignty' is that of a popular sovereignty not necessarily expressed by the nation-state alone. This position implies that in addition to securing state sovereignty on the international stage, work must be done to democratize policy-making all the way down to the local level and to transform dominant production and marketing models so as to suit the needs of peasant communities and the populations they feed. This version of food sovereignty thus promotes a peasant agriculture farming model built from the bottom up that strives for social justice and sustainable development.

For this research project, we decided to adopt the definition of food sovereignty developed in 2007 in Montreal by a Québec-based coalition for food sovereignty that included producer organizations, civil society groups, food distributors, and development organizations:

By food sovereignty, we mean the right of people to develop their own food and agricultural policy; to protect and regulate national food production and trade in order to attain sustainable development goals, to determine their degree of food autonomy, and to eliminate dumping on their markets. Food sovereignty does not contradict trade in the sense that it is subordinated to the right of people to local food production, healthy and ecological, realized in equitable conditions that respect the right of every partner to decent working conditions and incomes. [our translation from French] (*Rendez-vous québécois pour la souveraineté alimentaire* 2008)

This definition includes elements of both perspectives in a relatively balanced manner. It avoids references to peasant agriculture and avoids anti-capitalist rhetoric (neither of which are suitable to

the Canadian context where peasant agriculture contributes about one eighth of total food production) while re-affirming sustainable development as the number one priority for food policy. The language used in the definition, particularly terms like ‘sustainable development’ and ‘decent working conditions and incomes,’ is also inclusive enough to unite productivist as well as alter-globalist organizations.

Indeed, there is quite a vocal disagreement between two producer organizations in Québec on the question of agricultural models: one with a history of supporting industrial agriculture and the other, a small group of autonomous farmers affiliated with *Vía Campesina*. Given the context of Canadian agriculture (where the vast majority of food production is done on large farms), the perspective adopted by the authors is that family farming and peasant agriculture should be supported by the state and civil society organizations not as a general or unique model for agriculture, but as an incubator for innovative practices and sustainable methods of production. A parallel can be drawn with the cooperative sector in the rest of the economy: cooperatives are not necessarily the only ownership structure that should exist for businesses, but they are worth supporting as an innovative and democratic catalyst in social and economic development. Many governments around the world have understood that idea and have designed programs to support cooperatives. Similarly, supporting small-scale agriculture could be a priority for public policy, as an avenue towards developing a sustainable and socially just agricultural sector.

2 An Introduction to Local Food Systems: A Path to Food Sovereignty?

Vía Campesina, Friends of the Earth International, and several local and global groups organized an international ‘Forum for Food Sovereignty’ in Selengué, Mali in 2007. In addition to signing the ‘Declaration of Nyéléni’ (the most recent formulation of the food sovereignty concept coming from social movements), representatives from peasant organizations from around the world held meetings to discuss various aspects of food sovereignty. Localized food systems were third on the list of six pillars of food sovereignty and the thematic working group on Local Markets and International Trade declared: “We will assert the right of food providers and consumers to have autonomous control over local markets as a crucial space for food sovereignty” (Steering Committee of Nyeleni 2007 2008: 27).

2.1 *A Brief History of Local Food Systems*

Direct selling through local markets is not a new concept. For example, farmers’ markets have been around since pre-industrial times when they were the primary source of income for farmers selling excess produce (Sanderson et al. 2005: 2), and in many rural areas across the globe they have retained this function. However, farmers’ markets virtually disappeared in Northern countries during the 20th century due to urbanization and intensive farming. With the advent of hydroponics, new refrigeration equipment, and the spread of supermarkets, seasonality ceased to become a factor in people’s diets as it became possible to ship food across the globe in record time.

However, as concerns about health and the loss of tradition and culture began to take hold in post-modern society, farmers’ markets and other mechanisms intended to re-connect urban consumers with the land have grown in popularity. The modern movement for LFS as an alternative to the conventional agricultural system started in Japan in the 1970s with the *teikei*, which means

'putting the producer's face on the product' (Mundler 2007: 2). The *teikei* were organized around consumer cooperatives, whose members would link up with producers and even helped with the work on the farm. Today, \$15 billion worth of Japanese agricultural production is sold directly to over 11 million consumers, half of them organized into consumer co-operatives (Pretty 1998: 164-165).

Similar innovations in alternative marketing soon appeared in several European countries, including Switzerland, whose communitarian farming model was eventually exported to the state of Massachusetts in the US in 1985 to become 'community supported agriculture' or CSA (Mundler 2007; Groh & McFadden 1997).¹ A similar model was also adopted in Québec by Équiterre in 1995 where consumers, organized into groups, pay up front at the beginning of the season and receive deliveries of food baskets each week, thereby sharing the risk inherent in agricultural production (see www.equiterre.org). France jumped into the fray in 2001 under the name 'Associations pour le maintien de l'agriculture paysanne' (AMAP, or Association for the Conservation of Peasant Agriculture in English) in the province of Toulon (Mundler 2007: 2). These initiatives are based on a 'direct' link between the producers and the consumers, and various related initiatives emerged around these projects, such as institutional purchasing, farmers' markets, and others.

Parallel to such direct marketing initiatives, farmers' markets are also making a comeback. In the US, the number of farmers' markets increased from 200 in 1976 to over 2,400 by the mid-1990s, while in the UK the increase was even more drastic: from only one in 1997 to 395 in 2002 (La Trobe & Friends of the Earth 2002).

The rising popularity of local food systems is symptomatic of the crisis of confidence in the agro-food industry. Food related epidemics such as BSE and the bird and swine flues as well as the long – standing debates about health and nutrition (e.g. GMOs, aspartame, and others additives) have made consumers wary of industrially-produced and processed foods. In addition, growing awareness about the global environmental crisis and the social and economic impacts of globalization have added an additional criterion –sustainability – a priority for many consumers. However, in Canada, for example, the 2005 Atlantic Canada Food consumer study revealed that only 7% of shoppers look for locally grown vegetables (cited in Chinnakonda & Telford 2007: 1). Even those who do shop for local food do not do so exclusively. A study of farmers' markets in Ontario found that customers spent on average 30% of their weekly food budget at the farmers' market and not a single respondent spent more than 60% (Smithers et al. 2008: 343). In their study of institutional purchasing in the UK under the Cornwall Food Programme, Thatcher & Sharp (2008) found that the contracts awarded to local suppliers were at most worth 3% of their annual turnovers, which suggests that the program did not make a significant difference in their business volumes.

Nonetheless, the popularity of LFS has been increasing in many places and this is symptomatic of the crisis of confidence in the agro-food industry. Food-related epidemics such as Bovine spongiform encephalopathy (BSE) and the bird and swine flues as well as the long-standing

¹ A note on terminology: In North America, CSA refers to a system in which consumers buy a 'share' at the beginning of the season—essentially a pre-payment—and receive regular deliveries of fresh produce throughout the growing season. In Europe, this is simply called a 'box scheme,' referring to the box of fresh produce the consumer will receive or pick up. In contrast, what Europeans call CSA requires more involvement on the consumers' part, including owning and/or renting the land in partnership with the farmer, occasionally working on the farm, and learning about agricultural production and rural development issues. The box scheme is only one of several methods of distribution for European CSA projects.

debates about health and nutrition (e.g. genetically modified organisms (GMOs), aspartame, and other additives) have made consumers wary of industrially-produced and processed foods. In addition, growing awareness about the global environmental crisis and the social and economic impacts of globalization have added an additional criterion, sustainability—a priority for many consumers.

2.2 *Defining 'Local'*

The term 'local' is still contested and its definition varies from one local market development organization to the next. Literally, the term 'local' indicates a relation to a particular place, a geographic entity. However, as our literature review has uncovered, most organizations have a more elaborate definition of what is local, often incorporating specific goals and objectives that an LFS ought to deliver into the definition itself. In the literature we can distinguish three aspects of LFS: proximity, objectives, and distribution mechanisms.

2.2.1 *Proximity*

In common usage, the term 'local' indicates a relation to a particular place with defined boundaries. A report by Agriculture and Agri-Food Canada (AAFC) (Chinnakonda & Telford 2007) distinguishes four ways of delimiting a 'local' area:

1. **Geographic distance:** calculated in units of distance, usually with a defined maximum distance but in some cases a minimum distance;
2. **Temporal distance:** calculated in units of time, e.g. the food can be trucked to the point of consumption in 24 hours or less;
3. **Political and administrative boundaries:** based on municipal, regional, or national borders; and
4. **Bio-regions:** natural boundaries of an ecosystem.

Such proximity criteria can often be arbitrary. While Smith & MacKinnon (2007) popularized the idea of the '100-mile diet,' the geographical limits set by various initiatives are quite diverse: 74km in Iowa, 250km in Washington D.C. (Halweil & Worldwatch Institute 2002: 11, 19), 30-40 miles in most of the UK, and 100 miles in London (La Trobe & Friends of the Earth 2002: 16), for example. There is even disagreement between producers and consumers: in Great Britain, the organizers usually put forward the idea of a 30 mile radius while consumers prefer a 100-mile radius that would give them greater variety in their food choices (Chinnakonda & Telford 2007: 4). Time limits are equally arbitrary and often very context-specific (24 hours means something very different in the US and Canada where food is usually transported by freight and rail, as compared to the UK where it has to be flown in or shipped by sea). Political limits are perhaps most omnipresent in our food system. Origin labels (e.g. 'Product of Canada', 'Aliments du Québec', etc.) are quite common although they often mean very little, especially in a country as large as Canada, or even within individual provinces (Québec alone is three times the size of France).

Another criterion not discussed by Chinnakonda & Telford but used by Équiterre's CSA program defines 'local' based on a 'social' distance, i.e. the number of intermediaries between producer and consumer. Mundler (2007: 10) also uses the number of intermediaries to categorize

different local food initiatives into three groups. Mundler's first two categories are called 'direct sales' (i.e. no intermediaries between producer and consumer) and include sales on the farm (e.g. farm shops, free picking, farm restaurants, Internet or postal delivery) and outside the farm (e.g. polyvalent markets, farmers' markets, commercial fare, individual or collective sales point, home deliveries, CSA). The third category is 'indirect sales' and includes conventional retail, restaurants, and consumer's cooperatives.

Still within the 'social distance' realm, Ilbery & Maye (2005: 334) prefer to characterize short food supply chains based on relational criteria where information and knowledge of the participating parties, rather than the absolute number of intermediaries involved, are the defining features. Their three categories are as follows:

1. **Face-to-face:** Consumers meet the producers face-to-face and purchase the product directly from them.
2. **Spatially proximate:** Consumers are aware of the product's local origins when they purchase it in a local outlet.
3. **Spatially extended:** Consumers are unaware of the product's origins when they purchase it outside of its locale; product labels or other images are used to educate them.

While proximity—whether geographical, temporal, or social—plays an important role in defining an LFS, such arbitrary limits for the absolute number of kilometres, hours, or intermediaries is not in itself the primary purpose behind local food initiatives. Rather, it merely targets or designates a particular zone in which food activists and policy-makers wish to see certain economic, environmental, and social changes.

2.2.2 *Objectives of Local Food Systems*

The intended impacts of LFS vary, depending on the participants as well as the methods used to get local food to consumers. Consumers and sellers differ in opinion on what makes local food important. The UK working group on local food (2003: 14) found that sellers emphasize minimizing distance and consuming homemade produce while buyers place more importance on traceability and trust issues, quality, freshness, environmental impact, and support for the local economy. Chinnakonda & Telford (2007: 6) note geographical differences in the desires of European consumers: while Northern Europeans emphasize sustainability, traceability, health, and food security, Southern Europeans tend to emphasize local flavours and the food's connection to culture, land, and traditional production methods.

Another study by Smithers et al. (2008) found that customers' motivations for using farmers' markets varied considerably, from the need to purchase a particular item to the desire to support a local vendor. The latter finding suggests that social relationships, which tend to characterize these food systems, can have economic implications. Older studies found that the 'market experience'—such as the increased social interactions and higher returns—are the most important motives for farmers (Davis 1978), with the former being rated as somewhat more important (Lyson et al. 1995), while consumers looked for quality and freshness (Lockeretz 1986). Hinrichs (2000) therefore argues that both consumers and farmers have instrumental motives for participating in local food initiatives. Though some are utilitarian (e.g. fresher food for the consumer, higher returns for the farmer) and

others moral (e.g. supporting the local economy out of a sense of solidarity, building social relationships in the community), they are nevertheless instrumental concerns. Feagan (2007: 23) adds that “being conscious of the constructed nature of the ‘local,’ ‘community’ and ‘place’ means seeing the importance of local social, cultural and ecological particularity in our everyday worlds.”

Thus the concept of LFS explicitly links these wider social, economic and environmental concerns with the locality. An LFS is defined as “collaborative effort to build more locally based, self-reliant food economies—one in which sustainable food production, processing, distribution, and consumption is integrated to enhance the economic, environmental and social health of a particular place” (UC Sustainable Agriculture Research Program, in Feenstra 2002: 100). In this case, the ‘local’ nature of the food system becomes a means to an end. This is even more explicit in Friends of the Earth UK’s definition (La Trobe & Friends of the Earth 2002: 13) which stipulates that local food should deliver:

- economic welfare benefits to producers and local communities;
- food security (feeding the ‘food deserts’) and health benefits (‘fresh food’);
- environmental benefits through diversification of agriculture;
- environmental and health benefits by minimizing the carbon footprint;
- environmental and health benefits through sustainable farming practices; and
- social benefits through closer contact between producers, consumers, and the land.

The Friends of the Earth UK definition reprises the concept of sustainable development and its three pillars (social, economic, and environmental development) but leaves the methodology for achieving these goals open. It only explicitly excludes supermarkets as an adequate distribution mechanism because standard practice in the supermarket sector includes limiting the range of crop varieties and un-necessary transport food through centralized processing and storage facilities. It is also interesting to note that the term ‘local’ in the geographical sense does not actually enter Friends of the Earth UK’s definition. Only the social criterion which emphasizes contact and relationships based on trust and solidarity has explicit geographical dimensions. For all other criteria, ‘local’ is simply a way of targeting a particular territory presumably for community solidarity reasons. Friends of the Earth Spain goes even further by arguing that agro-ecology, local food circuits, and democratic self-management in the food sector are inseparable components of a well-functioning food system.

In a similar vein, Kloppenberg (1996) has coined the term ‘foodshed’ to describe “self-reliant locally or regional based food systems comprising diversified farms using sustainable practices to supply fresher, more nutritious food to small-scale processors and consumers to whom producers are linked by the bonds of community as well as economy” (Working Group on Local Food 2003: 12). Sustain, a UK local food organization, includes the following criteria in their definition of local: “produced or processed, traded and sold within a defined radius; profitable for the producer, processors and retailers; healthy; fairly or co-operatively traded; non-exploiting of the employees; environmentally beneficial in its production; accessible geographically and affordable; encouraging knowledge and understanding of food and food culture” (Working Group on Local Food 2003: 11). The Public Sector Food Procurement Initiative in the UK also uses a broader definition in which ‘sustainable food’ is said to “raise production and process standards; increase tenders from small and local producers; increase consumption of healthy and nutritious food; reduce adverse environmental

impacts of production and supply; increase capacity of small and local suppliers to meet demand” (Michaels et al. 2006: 2).

Overall, there is a wide set of economic, environmental, and social objectives that can be associated with particular local food initiatives. Table 2 below summarizes the benefits typically associated with LFS identified in the literature. For a more detailed discussion of the impacts that LFS have, see Section 4.

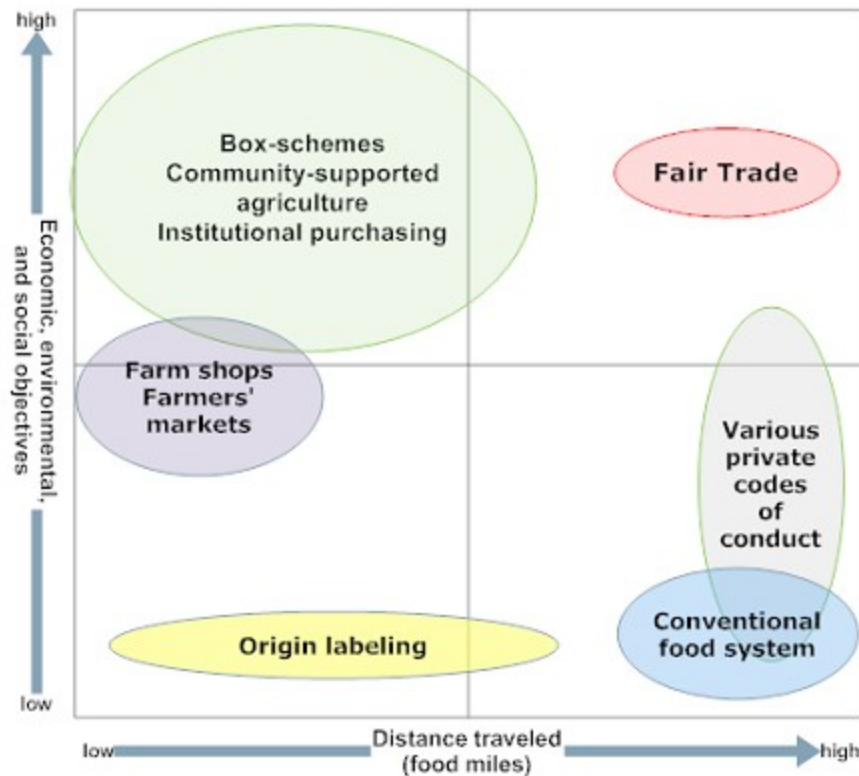
Table 2. Potential Benefits of a Localized Food System	
Environmental Impacts	
Reduced CO ₂ emissions	Jones 2001; Pirog & Leopold Center for Sustainable Agriculture. 2001; Hora 2001; East Anglia Food Link 2008
Encourages sustainable agriculture (soil & water management, on-farm biodiversity, animal welfare)	Chubb 1998; Tutt & Morris 1998
Reduced use of fertilizers, pesticides, and other agro-chemicals	Norberg-Hodge et al. 2002
Reduces packaging and waste	Tutt & Morris 1998; United Nations Environment Program 2008; Bord Bia, Irish Food Board n.d.
Economic Impacts	
Control over prices and sharing of risks	Lamine 2005; Bullock 2000
Greater share of value added	Renting et al. 2003
Greater income for farmers	Sanderson et al. 2005; Chinnakonda & Telford 2007; Chalopin 2007
Better prices for consumers	Sanderson et al. 2005; Sabih & Baker 2000; Conner 2003
Economic spill-over	Delgado 1998; New Economics Foundation 2001; Bullock 2000
Employment	La Trobe & Friends of the Earth 2002; Hughes et al. 2008
Business skills development	Sanderson et al. 2005; Bullock 2000; Baker 2008; Ferris & Behman 1994; Festing 1998; Steele 1995
Social Impacts	
Creates social bonds between producers and consumers	Sanderson et al. 2005; Davis 1978; Lyson 1995; Chalopin 2007; Soil Association 1999
Food security for at risk populations	Chubb 1998; Dean 1999
Nutrition and healthy dieting	Bullock 2000; Vogt & Kaiser 2008; Norberg-Hodge et al. 2002; Jones 2001; Pawlick 2006
Equality: market access for small farms	Chinnakonda & Telford 2007

What must be noted, however, is that within the general framework of food sovereignty adopted here, definitions of local restricted to geographic barriers are not sufficient. If ‘local market’ is to be a ‘crucial space for food sovereignty’ as the delegates at the Nyéléni 2007 summit intended, then ‘local’ must include additional social criteria, notably ‘sustainable development’ and ‘decent working conditions and revenues,’ as specified in the Montreal declaration.

Figure 1 illustrates the discussion above. Geographic distance and the number of intended benefits are represented on the X and Y axes, respectively, and various food marketing mechanisms are plotted along these two axes. These mechanisms have been grouped together based on the range they usually cover in terms of both distance and social, environmental, and economic objectives. The emphasis here is on ‘usually’ because a particular type of distribution mechanism is not tied per se to any distance or benefit criteria. What Figure 1 does show are general tendencies. For example, CSA

initiatives usually aim for a wide set of criteria and impose limits on distance. Therefore, they are to be found in the top left quadrant of the diagram. Origin labels such as ‘Aliments du Québec’ only indicate the place of production and have very little bearing on economic, social, and environmental criteria. In fact, most such labelled items are distributed through conventional channels criticized by food activists. However, nothing prevents the advent of a label that would cover a wide range of criteria in addition to proximity, such as the recent ‘Local Food Plus’ label currently in use in the Toronto area. Organizers of farmers’ markets could also impose criteria other than distance (many in fact are also organic) but most do not and are therefore in the middle range on the left side of the diagram. Conversely, institutional purchasing policies like the one in Italy can be limited to geographical criteria and should be in the lower left quadrant, but others like Équiterre’s ‘À la soupe!’ definitely do encourage a holistic approach and some Italian schools have voluntarily adopted such an approach, going beyond government-mandated policies (Morgan et al. 2007).

Figure 1. Food Miles and Local Food System Objectives



For the purpose of this literature review, we shall focus on policies that encourage, promote, or facilitate projects that fall into the top left quadrant (or green circle) of Figure 1: geographically proximate and aiming for the highest number of economic, social, and environmental benefits. Thus, an LFS is defined here as *an integrated food production, distribution, and consumption system operating within a designated geographical area for the purpose of achieving sustainable development goals*. Some authors add the epithet ‘sustainable’ in front of ‘local food system’ but we feel that the term is already so closely associated to its social, economic, and environmental development objectives that adding the epithet is not necessary.

2.3 *Distribution Mechanisms in Local Food Systems*

A crucial element in any LFS is the distribution mechanism, i.e. the method by which the food gets from producer to consumer. In their discussion of local food initiatives, La Trobe & Friends of the Earth (La Trobe & Friends of the Earth 2002: 15-17) identify four categories: farm shops, farmers' markets, box schemes, and CSA. In addition, we have identified Institutional Procurement Policies as an innovative direct public policy option for increasing the presence of sustainable local foods. Below is a description of each type of distribution mechanism.

2.3.1 *Farm Shops*

Produce is sold to the consumer in a space owned or controlled by the farmers, ranging from farm-gate stands to collective retail outlets. Furthermore, Internet farm shops marries the traditional and ultra modern by helping farmers market their produce online. Internet Farm Shops allows for:

- a community of food producers and farm shops to collective organize;
- an easy way to promote farm business;
- an easy way for customers to place or update orders;
- a quick and easy way to make existing customers aware of new products/inventory; and
- a chance for farmers to promote products to other community members and to a wider market.

2.3.2 *Farmers' Markets*

The markets themselves are run by an intermediary organization, often supported by the municipality on whose territory the market takes place. The produce on sale must be grown within a defined distance from the market, and the stalls should be attended by the producer or someone directly involved with production.

2.3.3 *Box Schemes*²

The customer provides a pre-payment (or 'share,' in the US) and receives a weekly box of fresh local produce whose contents depend on the yield. This method involves risk-sharing and provides market stability for the producer. Urban agriculture is increasingly being incorporated into box schemes. Box schemes could consist of solely organic products, fruits and vegetables, meats or a combination of any. Box schemes gather and distribute food locally.

2.3.4 *Community Supported Agriculture*

In addition to sharing risks, customers also share responsibilities for the production, by leasing or owning the land, working on the farm, and learning knowledge and skills related to farming and rural issues. CSA is a marketing strategy where consumers buy shares in farms before the planting season and then receive a portion of what becomes available each week during the growing season. Initially

² Box schemes and CSAs evolved from the Japanese *teikei* model discussed in section 3.1. For questions of terminology, please refer to footnote 1 in section 3.1.

introduced in the US in 1985 by 1990 there were an estimated 50 farms and by 2000 over 1,900 farms (Hughes et al. 2008).

2.3.5 *Institutional Procurement Policy*

In addition, institutional purchasing policies have been suggested and are being targeted as a way to increase demand for local foods. Équiterre's *À la soupe!* program aims to link schools, day-care centres, and hospitals to its existing network of local farms already participating in the CSA program. Participating institutions are also encouraged to include education activities related to local food issues. However, as the participating institutions are part of the public sector, internal decision-making is restricted by existing public policy covering the sector. Nevertheless, there is much potential in that area:

Policies that place a priority on purchasing local food as an effective way of increasing demand by food service providers and distributors of local food. A procurement contract offers local food producers with a steady predictable market, which can help them expand and grow operations which contribute to the growth of the economy (Carter-Whitney 2008: 9).

In response to pressure from citizen groups and some government officials, the Italian national government as well as several regional governments have become much more proactive, passing laws that require the use of local ingredients in schools (Halweil & Worldwatch Institute 2002: 47). Schools have also incorporated related educational activities on the topics of nutrition, cooking, food selection and study trips to local farms. These policies are grounded in provisions in the Italian constitution that aim to guarantee the right to healthy lifestyles, cultural and territorial development, and local decision-making autonomy (Morgan et al. 2007).

In the UK, the Public Sector Food Procurement Initiative, mentioned above, is led by the Department of Food, Environment, and Rural Affairs and aims to increase local content in public procurement by sourcing from smaller suppliers and through shorter circuits (Department for Environment 2009), pursuant to a government-wide policy of levelling the playing field between smaller and larger suppliers (Office of Government Commerce 2009).

Politically, the reasoning behind Italy's policies was based on cultural and dietary issues (preserving the healthy Mediterranean diet and way of life) rather than on economic or environmental grounds. However, this has not prevented upwards of 300 schools from going organic as well as local. What this example underscores is that the intended benefits of a 'local' food system are not necessarily linked to a particular distribution mechanism. Conversely, the economic, social, and environmental benefits usually associated with 'local' food systems are not necessarily tied to geography either. Fair Trade, for example, is a mechanism designed to bring a vast array of benefits to producer communities in the South through international trade.

2.3.6 *Urban Agriculture*

Finally, a mention must be made of urban agriculture. Urban agriculture is almost always directly linked to consumers and is probably the largest incarnation of LFS and has been recognized as an important source of food, particularly in the South. Urban gardens have made the city of Havana almost self-sufficient in fruits and vegetables while urban agriculture is the second-largest

source of employment in Dar es Salaam and half of the population of St Petersburg uses a small urban garden (Halweil & Worldwatch Institute 2002: 37-38). The popularity of urban gardens has also increased in the North, with Toronto's urban garden count going from 50 to 122 in the 1990s (Baker 2000). Nonetheless, these figures pale in comparison with Havana, Dar es Salaam, and St Petersburg.

3 The Impacts of Local Food Systems

LFS were found to have various environmental, economic, and social impacts, most of which were favourable, although these positive perspectives must be distinguished from the positive outcomes people *expect* or *hope* will result from engaging in these systems (a point that was reported in some of the literature). The following section first summarizes the environmental, economic, and social outcomes of LFS initiatives generally and then examines these impacts by the specific types of LFS identified in the previous section.

3.1 Environmental Impacts

Food miles, defined as the distance that food travels from the point of production to the consumer, are often at the forefront of the local food debate. An all-Iowa meal travels 74km while the standard meal travels 2,577 km while in England, an imported meal creates 650 times the carbon emissions than an all-England meal would. (Halweil & Worldwatch Institute 2002: 19-20). A different study produced a much smaller yet still very large difference in carbon footprints: air-freighted fruit and vegetables emit 33 times more carbon than locally-sourced produce (East Anglia Food Link 2008).

However, it is not always the case that food that travels shorter distances will have a lower impact on the environment. For example, Redlingshofer (2006) shows that, in Germany, it is the production of food that accounts for more than half of energy consumption, with transportation, processing and packaging accounting for the rest. Dietary habits were also very significant as livestock production was far more energy intensive than growing crops. Thus, adopting organic production can reduce energy consumption by 30% compared to conventional agriculture and a lacto-vegetarian diet reduces it by an additional 30% compared to a meat-eating diet. This also means that foods imported from areas where production is more energy efficient can have lower carbon emissions than locally-produced foods, as is the case with out-of-season foods in Northern Europe (Carlsson-Kanyama 1997). The implication here is that adopting seasonal eating habits, as opposed to using energy intensive production (e.g. greenhouses) out of season, is necessary if 'eating local' is truly going to reduce emissions. Similarly, Jones (2001) finds that home-grown and local sourcing are the most energy efficient options, and Jones recommends avoiding transport of fresh produce to countries where the product could be grown locally using sustainable low external-input cultivation techniques. An exception to this is when indigenous food production systems require enough irrigation, protection or heating that the level of energy consumption in the production stage is raised considerably.

Another caveat is consumer behaviour. Coley et al. (2009) found that purchasing food from the closest source does not necessarily mean it will have the lowest carbon impact. They calculated that consumers who drive a round-trip distance of more than 7.4km to obtain locally grown food will produce more carbon emissions than if they purchase from a large-scale vegetable box supplier that

uses cold storage, packing, and transportation. This implies that LFS that incorporate bulk deliveries of sustainable produce to population centres are more environmentally friendly than options such as farm shops and farmers' markets where many consumers must consume energy very inefficiently.

In addition to carbon emissions and energy efficiency, consuming fresh local food reduces waste. A study found that 40 per cent of household rubbish that goes to landfill is supermarket packaging (United Nations Environment Program 2008). Fresh produce bought at a farmers' market, farm shop, or food scheme eliminates the need for packaging (Tutt & Morris 1998). Box schemes and CSA initiatives also eliminate food waste by distributing all production among members (Bord Bia, Irish Food Board n.d.). In the US, over 5.4 billion pounds of food were lost in 1995 at the retail level while in the fruits and vegetables category, almost one third was lost (Scott Kantor et al. 1997). However, losses made in the household and in the food service industry overshadowed retail: 91 billion pounds or 26% of edible food available that year.

Finally, a holistic vision of localized food systems implies organic agriculture and sustainable natural resource management. All farms participating in *Équiterre's* CSA program or in France's AMAPs commit to sustainable and organic farming. Localized food systems thus contribute to reducing usage of harmful agro-chemicals and preserve natural resources for future generations (Norberg-Hodge et al. 2002). Halweil & Worldwatch Institute (2002) also point out that in localized food systems, a small number of farms are expected to produce a variety of crops, thus increasing on-farm biodiversity.

3.2 *Economic Impacts*

The effects of globalization on farmers have been felt across the globe: UK farm incomes remain at 1930 levels, having dropped 75% in three years during the 1990s; over half of China's rural population withdrew from farming in the two decades that followed the 1979 reforms; the government of Andhra Pradesh plans to phase out 20 million small farmers using aid money, etc (La Trobe & Friends of the Earth 2002: 7). GRAIN, a global not-for-profit research network recently started a website, farmlandgrab.org, to capture as much information as possible on what is perceived as an attack on the global countryside. Canada is not immune, having recently caught the attention of US-based holdings companies interested in buying up large swathes of Canadian farmland (Ladurantaye 2009). The economic effects of the agro-industrial model are also being felt in Canada. Between 2001 and 2006, 67.5 farms, on average, have disappeared each week while the number of farms earning over a million dollars in annual revenue has increased by 33% between 2001 and 2006 (Statistique Canada 2007). Overall, farm incomes have fallen by 24% between 1988 and 2002 (Dietitians of Canada 2008, cited in Epp 2009: 6) and 44% of all farms can no longer cover their operating costs (Statistique Canada 2007). Solvency is easier for some than others: 86% of farms earning over \$1 million manage to cover their costs, although for farms earning less than \$25,000, only 28% do (Idem. 2007). Meanwhile, the number of young farmers (below 35 years of age) has declined by more than half since 1991 (National Farmers' Union 2008, cited in Epp 2009: 6).

Studies show that LFS can help mitigate some of these effects. Impact studies indicate that farmers report a greater control over prices and thus are less exposed to market fluctuations (Bullock 2000). Risk-sharing in general an important benefit in the box scheme or CSA set-up. In a study of such initiatives in France, Lamine (2005) concludes that producer-consumer links contribute to risk-

sharing by 1) offering an alternative to unacceptable uncertainties (chemicals and intensive farming); 2) by reducing the producer's risk concerning yearly fluctuations in yields; and 3) by guaranteeing a market for every harvest.

Local food initiatives have been economically viable and have generated much-needed income for producers. In the US, 85% of farmers' markets are economically self-sustaining (Bullock 2000). A survey of 54 local food schemes in the UK (La Trobe & Friends of the Earth 2002: 21-30) revealed that 43% of surveyed initiatives have a turnover of less than GBP 100,000 while the top three earn GBP 2.8 million, GBP 1 million and GBP 750,000 respectively. These larger initiatives tend to be established exceptions (one is over 40 years old) which have also managed to make inroads into other industries, such as running a restaurant or a processing plant or developing their own branding.

In Canada, farmers' markets were found to generate \$500 million in sales in Ontario alone (Bullock 2000) while in the whole of Canada, this figure adds up to \$1.03 billion (Farmers' Markets Canada 2009). In Québec, *Équiterre's* CSA contributes to 73% of the average turnover of the participating farms and delivers an average annual profit of \$3,582 while conventional agricultural activities in Canada averaged losses of \$6,255 annually (Chinnakonda & Telford 2007: 37-39). The Greater Edmonton Alliance (2009) conducted a survey to assess the local population's commitment to supporting an LFS. They secured a pledge from 712 Greater Edmonton households, comprising about 2000 individuals, to shift 40% of their current food dollars to local food when the 'important' and 'very important' challenges to buying local—as identified in their survey—food are resolved. This would result in a shift of \$2.3 million dollars annually to purchasing local foods. If 25% of Edmonton Census Metropolitan Area residents responded similarly, this would mean over \$330 million would be shifted to local foods. This would result in a total local food purchasing of \$530 million. The multiplier effect would bring the economic impact to over \$2 billion.

One of the reasons that farmers make a better living through localized food systems is that they get to capture more of the value added that would normally be captured by the more economically-powerful distributors, processors, and retailers. Renting et al. (2003) measured the socioeconomic impact of farms engaged in direct selling, quality production, and organic production, which they defined as the additionally generated net value added compared to conventional agriculture. They reported that farms in Germany, Italy and France had an additional 7-10% of net value added as a result of organic farming, quality production, and direct selling practices.

Because small local food businesses hire locals and source inputs and services locally, money spent in a localized food system is more likely to be spent within the locality rather than being 'siphoned off' as would be the case in a conventional food system. A study by the New Economics Foundation (2001) found that Every GBP 10 spent on a local food business brings GBP 25 to the local economy compared with GBP 14 if spent at a supermarket. A study in Western Africa found that every new dollar of farm income could create from \$1.96 for the local economy, as in Niger, up to \$2.88, as in Burkina Faso (Delgado 1998). In contrast to shopping in a centralized one-stop shop, customers at farmers' markets are likely to spend their money on other local businesses. On farmers' market days in Winchester, Hampshire, local stores reported 30% increases in takings over the same day in previous years (Bullock 2000). La Trobe & Friends of the Earth (2002) estimate that approximately 50% of the turnover is estimated to go back into the local economy, with some

schemes reporting 80% or above. In Canada, the \$1.09 billion spent at farmers' markets is estimated to generate a total of \$3.09 billion for the local economy (Farmers' Markets Canada 2009).

Employment is yet another benefit. In a survey of 47 LFS in the UK found that a total 230 full-time jobs, 195 part-time jobs, and 30 seasonal jobs were created (La Trobe & Friends of the Earth 2002). A study in West Virginia (Hughes et al. 2008) found that the state's 127 farmers' markets generated 795 jobs while a total of 24 000 people were directly involved in the preparation and distribution of the food.

Consumers also benefit economically from localized food systems. Sanderson et al. (2005) found that prices in the US can be up to two thirds lower at farmers' markets in the compared to supermarkets. Sabih & Baker (Sabih & Baker 2000) found that CSA initiatives in Canada save consumers 39% compared to purchasing the same organic produce from a local supermarket. Another study, however, found more mixed results. Conner (2003) compared the lowest priced organic produce from local stores to the cost of CSA shares for two CSAs in NY and found that consumers saved money by belonging to one CSA but only at the other if the member took advantage of all pick you own produce opportunity offered by that CSA.

Finally, Friends of the Earth UK (2000) and Sanderson et al. (2005) report that direct marketing mechanisms improve farmers' business skills, namely marketing. Hughes et al. (2008: 1298) report that "[f]armers indicated that farmers' markets help them improve skills in customer relations, merchandising, and pricing as well as increasing their business confidence." Direct feedback from consumers, in particular, increases farmer confidence and helps them improve their product (Steele 1995; Ferris & Behman 1994; Festing 1998). Some local food initiatives even take on the daunting task of full supply chain development. In Mexico, for example, the owner of the restaurant Itanoní Tortillería worked with its local suppliers by contracting their maize, assisting them with maize production and seed selection on an annual basis, sharing the cost of inputs such as organic fertilizers, and paying a premium for their maize (Baker 2008: 247). Organizers of the different LFS also gain valuable business experience essential to making LFS viable in the long run.

3.3 *Social Impacts*

The social impacts of LFS tend to be more qualitative and subjective but nevertheless important. Several studies (Lyson et al. 1995; Davis 1978; Chalopin 2007; Soil Association 1999; Sanderson et al. 2005) point out that both producers and consumers view their direct relationship to one another as one of the main reasons why they choose to participate in LFS.

In terms of social impact, LFS have positive effects on health and education. Vogt & Kaiser (2008) found that farm-to-school programs supported obesity prevention among school-aged children by providing greater access to healthy meals and an increased appeal for healthy foods. Students learned to appreciate healthy foods through various activities: growing school gardens to better understand how food was made, taking field trips to farms and farmers' markets, listening to talks given by visiting farmers, being taught about nutrition in class, and partaking in taste tests and other activities in the cafeteria. Such hands-on learning activities about agriculture helped to promote a school environment that supported physical activity and healthy eating.

Nutrition in general is cited in several other studies as a benefit of LFS. Industrial agriculture makes use of a number of agro-chemicals that have negative impacts on human, animal, and plant life (Norberg-Hodge et al. 2002; Pawlick 2006). Although the worst of these products have gradually been banned in the global North, they remain in use in much of the South., putting producers' health at risk, if not the consumers' as well. While consumer protection agencies have done a relatively good job to ensure that the food we eat is *safe*, it may not necessarily be the *healthiest* choice. First, because supermarkets demand attractive looking products, crops are produced for their superficial qualities rather than nutrition. A study by Pawlick (2006), for example, found that a fresh tomato today contains 61% less calcium than in the 1950s. Second, long transportation and storage times, both unavoidable characteristics of the conventional distribution system, have also been found to reduce the nutritional value of foods (Jones 2001). Though this caveat only applies to fresh produce, it is precisely through these items, and not through wheat and rice, that humans obtain their recommended daily intake of key vitamins and anti-oxidants.

LFS can also contribute to battling social inequality. Chubb (1998) found that organizing farmers' markets in marginalized neighbourhoods reduces food insecurity in 'food deserts.' Similarly, Deane (1996) describes subsidized vegetable box schemes in the UK that have targeted food insecure groups in particular. The US Department of Agriculture has a program where food insecure households receive 'local food stamps' redeemable only at farmers' markets, thereby combating both urban and rural poverty at the same time (Bullock 2000). La Trobe & Friends of the Earth (2002) also point out that localized food systems, unlike conventional distribution networks, allow smaller farmers to participate: 41% of participating farms were smaller than 5ha. Farmers' markets and CSA initiatives simply do not have the same quantity demands as supermarkets and wholesalers and therefore allow small farmers to enter the value chain.

4 Public Policy for Local Food Systems

4.1 *Barriers to the Development of Localized Food Systems*

Is there a need for public policy for LFS? As the previous section indicates, it appears that LFS have a number of desirable attributes. However, Renting et al. (2003) are the only ones to provide estimates of the prevalence of LFS. By extrapolating from their sample of seven countries to the European level, they estimated that of a total of 7 million farms, approximately 1.4 million (20%) were direct sellers, 800,000 (12%) were engaged in quality production, and 100,000 (1.5%) were involved in organic production. However, gauging the number of chains that are in operation in any given region is difficult for several reasons. First, there is no strict definition of what an LFS is. Also, while the types of LFS that were studied in this literature review—farmers' markets, farm shops and restaurants, grocers and distribution centres—are found in virtually every country, not all of them source their produce locally. Even if this number was known, a given seller may be using local sources for only a portion of their supplies, rendering the estimated number inaccurate. Renting et al.'s estimate should thus be considered an upper limit.

It should also be noted that though the number of direct-selling farms is potentially quite sizeable, these farms tend to be small or medium and therefore account for a far smaller percentage of production. In Canada, there are approximately one hundred thousand 'small or medium' farms

(defined as having sales of less than \$100,000) scattered across the country (AAFC 2005). These hundred thousand farms account for 37% of farms, numerically, but only produce about 13% of total food production.

Paradoxically, despite the small prevalence of direct marketing schemes, food tends to be produced relatively close to consumers. In Hanoi, 80% of vegetables, 50% of pork, poultry and fish, and 40% of eggs originate in urban and peri-urban areas (Food and Agriculture Organization 2000). Similar figures prevail in Bangkok and Shanghai. Even in the US, 79% of total fruit production, 69% of total vegetable production, and 52% of dairy production is grown in metropolitan counties, i.e. mostly within the arbitrary 100-mile limit (Sorensen & Center for Agriculture in the Environment (US) 1997: 5). However, this food will is usually shipped to centralized processing and packaging plants, travelling hundreds of kilometres in two directions only to reach a supermarket that could be in theory very close to the product's point of origin (Halweil & Worldwatch Institute 2002: 9). The produce can also be destined for consumption in far away locations, even if local demand exists. The UK imported 126 million litres of milk and exported 270 million litres in 1997, and in 1996 it imported 49 million kg of butter while exporting 47 million kg (Worcester 2000: 30-31).

It is not the lack of local food that has created the global food system. Several authors have attempted to explain the rise of industrial agriculture and the global trade model that came with it (Patel 2007; Norberg-Hodge et al. 2002; The People's Food Commission 1980; H. Friedmann 1982; McMichael 2005). While there is no consensus among academics, geopolitics, corporate culture, neoliberal ideology, technology, demographics or a combination thereof are the usual suspects. Moving beyond such grand questions, Halweil (2002) points to public policies that have contributed to the rise of the globalized agro-food industry. Certain policies act as directly as barriers for small-scale producers by making it harder for them to enter markets (e.g. sanitary and phytosanitary regulations). Other policies act as indirect barriers by making long-distance food more competitive (e.g. the ongoing externalization of the environmental costs of transportation). Often they are both: they facilitate industrial long-distance agriculture at the expense of small-scale sustainable agriculture and short supply chains (e.g. zoning laws that favour big farms, subsidy systems that favour big retailers, funding schemes targeted at large producers, etc.).

Focus group-based research carried out amongst LFS participants in the UK by La Trobe & Friends of the Earth (2002) chose to look at policy through the prism of barriers and solutions. The researchers first asked participants what was preventing them from expanding their operations—and thus their impact—and then asked them to imagine how these barriers could be overcome. Such an approach pre-supposes that LFS are a viable and desirable alternative to the conventional model but that they are marginal because public policy (including public inaction to the detriment of the public good) has favoured the development of the agro-industrial and productivist model.

Such an assumption agrees by and large with the 'bottom-up' food sovereignty thesis favoured by *Vía Campesina*. It also agrees with our argument that LFS, like co-operatives before them, are sources of social, economic, and environmental innovation—an assumption corroborated by the literature review of impacts, above—and should be supported by public policy because they exist in a difficult and hostile environment.

Table 3 summarizes the barriers to the development of LFS and proposed solutions. The majority of the table was constructed based on the work done by La Trobe & Friends of the Earth

(2002) and has been complemented by case studies and resulting recommendations by Fernández (1999), Reardon et al. (2002), Halweil & Worldwatch Institute (2002), Wormsbecker (2007), Friedman (2007), and Morgan et al. (2007). These studies come from a wide variety of countries—Argentina, Latin America in general, Britain, Canada, and Italy—and thus a wide variety of social, political, and economic contexts. Nevertheless, the recommendations tended to repeat from one author to the next and we made the decision to group these recommendations into common categories when we felt was appropriate, thus sources are not cited for each individual barrier or proposed solution.

The barriers to local market development and the corresponding policy recommendations have been grouped together into four broad categories (first column to the left) that correspond to the four stages in a typical food value chain and one final political category. Throughout the chain, however, the same three types of barrier can be found: lack of financing for small-scale projects, economic power of larger corporations, and knowledge.

- **Lack of financing:** Local food projects, whether they are small agroecological farms or the non-profit organizations that organize CSAs, tend not to be well-endowed financially and thus depend on external financing. Taking loans from commercial banks may force them to take undue financial burdens and debt because, first, the projects themselves are not designed to generate profits but rather to achieve social and environmental objectives and, second, commercial banks are often not willing to issue micro-loans at competitive rates.
- **Economic power:** The food retail sector is marked by high rates of market concentration and food producers have no other choice but to go through conventional marketing channels such as supermarkets in order to survive. Supermarkets and their subcontractors further up the value chain impose certain (often superficial) quality standards and minimum quantities that are not conducive to agroecological production. The revenues of large food retail chains also means they have a significantly larger marketing budget and can win price wars with smaller competitors. This is often framed as a question of competitiveness, but from the point of view of local food activists it is not. Supermarkets have been able to achieve economies of scale because they do not have to pay for the social and environmental costs of their business practices. The implication is that this is a case of market failure and that public policy should give more advantages to LFS rather than subsidize the agro-industrial model of production and distribution.
- **Knowledge:** The lack of knowledge appears under several different forms throughout the table. On the production and distribution side, it is mostly about LFS developers (from farmers to organizers) having the information they need to make LFS function: where to get funding, where to find physical space, relevant business skills, and also knowledge about each other. Networking is as important in alternative food value chains as it is in the conventional business world but the people working on developing LFS are fewer and far between. More important perhaps is the lack of information on the consumer end. The lack of demand for local foods is attributed to a) a lack of information about where to procure it, b) a

lack of information about prices (focus groups in the UK believed that supermarkets offered better prices, which is true for certain goods but not necessarily for a typical consumer basket (La Trobe & Friends of the Earth 2002)), and c) a lack of knowledge about the social and environmental consequences of the conventional food system (the underlying assumption being that if consumers knew, they would stop going to supermarkets).

The last column to the right also features existing Canadian policies, federal, provincial, or local that resemble the proposed solutions. These existing policies are discussed in greater detail in the section that follows.

Table 3. Barriers and Proposed Solutions to Local Food Systems, Categorized by Government Jurisdictions

Policy Category	Barriers	Policy Proposal	Jurisdiction*				Examples
			L	P	F	I	
Production and Land	Banks and development agencies not responsive to the needs of small business Low availability of/access to capital loans and start-up finance	Subsidize start-up costs and capital investments for small producers and publicize these and other financing options		x	x	x	
	Poor access to land for new generation of farmers	Zoning favourable to small producers Land redistribution policy favourable to young and small producers	x	x			Agricultural Land Reserve (BC), Greenbelt Foundation (ON), CPTAQ (QC)
	Market concentration output side: Buyers don't want to deal with many small producers (transaction costs) Market concentration input side (seeds, fertilizers, etc.)	Regulations and anti-trust laws to restrict market concentration State recognition of and support for communitarian seeds banks New contract law framework more favourable to small farmers Support producer co-ops		x	x	x	Agri-Food Market Development Program (PEI)
	Lack of technical knowledge about sustainable agriculture	Publicly supported mediating and knowledge transfer structures between research centre and the industry, peer visits and mentoring		x	x		
	Lack of knowledge about business and marketing Lack of support among producers	Fund research, skills training, and extension services for sustainable production Business development services in tune with needs of smaller producers	x	x	x		Local Market Expansion program (AB) Local Market Expansion program (AB), Canada Small Business Financing Programme (Fed), Business Development Bank of Canada (Fed)

* Note: L = Local, P = Provincial, F = Federal, I= International

Table 3. Barriers and Proposed Solutions to Local Food Systems, Categorized by Government Jurisdictions							
Policy Category	Barriers	Policy Proposal	Jurisdiction*				Examples
			L	P	F	I	
Production and Land	Lack of economic incentive (clear premium for participating in LFS)	Grants for ecological production based on the market price for environmental goods		x	x		Climate Change Action Fund (MB), Going Organic (SK), Organic Transition Programme (MB), Agricultural Sustainability Initiative (MB), Organic Development Initiative (NB), Farm Investment Fund (NS), AAFC Technical Assistance Program (Fed)
	Indirect incentives for industrial production	Environmental regulations in favour of sustainable practices, including price incentives/disincentives	x	x	x		
	Unfair competition	Facilitate access to rural infrastructure for small producers Hold imported food to the same environmental and labour standards that apply in Canada		x		x	
Transformation and Processing	Banks and development agencies not responsive to the needs of small business	Subsidize start-up costs and capital investments for small producers and publicize these and other financing options		x	x	x	Direct Marketing Community Development Trust (NS), Canada Small Business Financing Programme (Fed), Business Development Bank of Canada (Fed)
	Low availability of access to capital loans and start-up finance						
	Regulations (hygiene and other) disproportionately high impact on small businesses (impractical, inappropriate and too expensive given the SME context)	Review hygiene and SPS regulations		x	x		Local Market Extension program (AB)
	Regulations do not allow on-farm processing	Change zoning laws to permit more processing and transformation plants	x	x			
Indirect subsidies to large processors (transport costs)	Support Co-ops to achieve economies of scale		x	x			
High transaction costs when dealing with small producers			x	x	x		
* Note: L = Local, P = Provincial, F = Federal, I= International							
	Lack of infrastructure (livestock processing, vegetable washing, packaging, abattoirs, etc.)	Fund market studies to build efficient local processing system		x	x		

Table 3. Barriers and Proposed Solutions to Local Food Systems, Categorized by Government Jurisdictions								
Policy Category	Barriers	Policy Proposal	Jurisdiction*				Examples	
			L	P	F	I		
Transformation and Processing		Invest in local infrastructure, subsidize small processors (start-up costs, capitalization)		x			Direct Marketing Community Development Trust (NS), Fruit and Vegetable Storage Assistance Program (NS),	
	Lack of business and marketing skills	Business development services tuned to the needs of small processors		x			Business Financing Programme (Fed), Business Development Bank of Canada (Fed)	
	Banks and development agencies not responsive to the needs of small business	Start-up and other financing for processing units		x	x			
Distribution and Marketing	Lack of organization and marketing skills for potential facilitators of an LFS	Business and development services for retail, marketing Fund training for facilitators and organizers Mapping of SFS initiatives to promote networking		x			CFAI (BC), Agri-Food Market Development Program (NB), Agri-Food Promotion Program (PEI) CFAI (BC), Direct Marketing Community Development Trust (NS)	
	High transaction costs when dealing with small producers and/or processors	Support marketing groups/co-ops/organizations		x			Direct Marketing Community Development Trust (NS) Meat processing capacity development (YT) Agri-Food Market Development Program (PEI) Prince George (BC), Healthy Eating Nova Scotia (NS)	
	Lack of infrastructure (warehousing, cold storage, etc.) relevant for LFS	Develop local and stocking facility that could be developed by a regional or local development policy	x	x	x			
	Market concentration in retail, transport, and distribution sector	Anti-trust laws			x	x		X
		Contract regulations			x	x		
		Platform to link local producers with local buyers (lower transaction costs)		x	x			
	Poor access to retail space	Supporting the multiplication of farmers' kiosks		x	x			
		Offering urban land for farmers' markets		x				
	Starting a home delivery of fresh produce from the region		x					
* Note: L = Local, P = Provincial, F = Federal, I= International								
	Indirect subsidy to long-distance food (low taxation on fuel)	Environmental policy to internalize externalities (fuel tax, etc.)		x	x			
	Wheat board under threat in WTO and NAFTA	WTO out of food and agriculture			x	x		

Table 3. Barriers and Proposed Solutions to Local Food Systems, Categorized by Government Jurisdictions							
Policy Category	Barriers	Policy Proposal	Jurisdiction*				Examples
			L	P	F	I	
Distribution and Marketing	Canadian quota system makes sales by small producers difficult	Change Canadian quota system			x	x	
	Policies promote agriculture for export	Promote local markets instead (adequate technical and market research, extension services, advice, and incentives)		x	x	x	
	Poor access to local food for low-income groups	Development of farmers' market in poorer urban areas	x	x			CFAI (BC)
		Diffusion of the concept and its articulation to other practices in the cities	x	x	x		
Demand	Convenience of one-stop shopping and delivery services offered by supermarkets	Directory of local food purchasing options	x				Dine Alberta (AB), www.chomparoundalberta.com (AB), Local Food Promotion (MB), Savour Ontario (ON), Select Nova Scotia (NS)
		Encourage supermarkets to adopt sustainable purchasing policies		x	x	x	
		Support farm shops and farmers' markets and other collective alternatives to supermarkets	x	x			Ontario Farmers' Market Strategy (ON), Agri-Food Market Development Program (PEI)
	Preference for cosmetic qualities of food	Awareness campaigns about the impacts of conventional food industry	x	x			Climate action secretariat (BC)
	Lack of awareness about the conventional food system and the economic, environmental, and social benefits of LFS	Providing resources to schools to integrate knowledge about regional produce into their curriculums	x	x			Real Food for Real Kids (ON), Ontario Agri-Food Education (ON)
	Consumer market research			x	x	Pick Ontario Freshness (ON)	
	Eat local campaigns		x	x		Food Sales Guidelines (BC), Local Market Expansion program (AB), Pick Ontario Freshness (ON), Green Belt Foundation (Toronto area), Mettez le Québec dans votre assiette (QC),	
	Perception of supermarkets as cheap	Independent watchdog to monitor prices	x				Nutritious food basket pricing
* Note: L = Local, P = Provincial, F = Federal, I= International							
Demand	Catering establishments (private and public) lack interest and access to local food	Public procurement policies (lead by example)	x	x	x	x	City of Toronto (Toronto), Healthy Eating Nova Scotia report (NS)
		Facilitating institutional local purchasing practices	x	x			Vision for Agriculture (YT), Dine Alberta (AB)

Table 3. Barriers and Proposed Solutions to Local Food Systems, Categorized by Government Jurisdictions							
Policy Category	Barriers	Policy Proposal	Jurisdiction*				Examples
			L	P	F	I	
	WTO and other trade agreement obligations (NAFTA) restrict public purchasing policies	Encourage private sector to source food locally	x	x			Vision for Agriculture (YT), Dine Alberta (AB)
		Upgrading of school infrastructure	x	x			
		Change application of trade rules to agriculture and food sector			x	x	
	Local food is a niche (high-end) market	Subsidies for distribution and sale in low-income areas Teaching people to cook (seasonally) with local food (particularly in low-income neighbourhoods and schools) Allow food service directors to specify their preference for regional produce in the bidding process Price support for low-income groups	x	x	x	x	
	Lack of information about product origin and production process	Branding and labelling scheme for LFS initiatives	x	x	x	x	Yukon Grown (YT), NWT Grown (NWT), Foodland Ontario (ON)
Policy Framework	Lack of government concern for rural issues, lack of leadership	Need a “political champion” for the cause		x	x	x	Food for the Future (QC), Our Action Plan to be Self-Sufficient in New Brunswick (NB), Beyond Kyoto (MB)
	Policy framework favours single-issue approach, local food issues fall into too many government departments, lack of a holistic vision	Creation of Food and Food Security ministries to bring together all the elements relevant to the food system, to be complemented by cross-cutting teams across levels of government and specific themes Create LFS team or Food Policy Council at the municipal/county level	x	x	x		
	Agribusiness and MNCs have too much influence over policy decision-making	Democratize decision-making process, open the system to wider, equitable, and meaningful consultation	x	x	x	x	s

* Note: L = Local, P = Provincial, F = Federal, I= International

4.2 Food Policy in Canada

Though based on hundreds of consultations across Canada between 1977 and 1980, the final report of The People's Food Commission, *The Land of Milk and Money* (1980), foreshadows much of the food sovereignty discourse that would emerge a generation later. *The Land of Milk and Money* documents the onset of industrial monoculture, unfair pricing by quasi-monopolistic processing and distribution corporations, the growing political influence of these corporations (at the expense of farmers), and the rise of supermarkets as well as the resulting rural exodus and nutrition crisis. These changes, which occurred in Canada in the years between World War II and the oil crises of the 1970s, foreshadow the changes that would occur in the developing world throughout the 1980s and 90s. Not surprisingly, the report's recommendations parallel those that are being made by organizations like *Vía Campesina* today. The report argues that the Canadian food policy framework should be more responsive to the needs of farmers and consumers and that the agricultural system as a whole should embrace sustainable practices and family farm co-operatives.

Table 4. Importance of Local Food Initiatives in Canadian Provinces	
Province	Highlights
Ontario	In 2006, the 130 producers' markets generated around \$645 million in sales. Earnings totalled \$1.9 billion. About one million attend regularly producer's markets. The number of producers' markets went from 60 to 132 between 1991 and 2007.
British Columbia	A study shows that the population spent \$65.3 million in producers' markets and \$53.2 million in neighbouring businesses in 2006.
Nova Scotia	Ten farmers' markets contributed \$62 million per year to the provincial economy.
Québec	Équiterre's CSA went from one to 102 farms between 1995 and 2006. It contributes to 73% of the average turnover of the farms, and yields an average annual profit of \$3,582 annually when conventional agricultural produces an average annual loss of \$6,255.
Source: Chinnakonda & Telford, 2007: 38-39.	

Several notable local food initiatives have emerged since the publication of the report (see Table 4). However, as the foreword to the online re-publication of *The Land of Milk and Money* notes:

The policies underlying the concerns of Canadians in the 1970s have, however, not changed a great deal, even as their results—from the destruction of fisheries to the crisis of obesity—have become ever more dire (People's Food Policy Project n.d.).

Indeed, Canadian food policy has by and large stayed its course, favouring the productivist model of agriculture over the recommendations made by the People's Food Commission in 1980. In 1999, the last year for which figures are available, 75% of federal support went to farms whose sales exceeded \$100,000 while only 25% went to 'small and medium' farms (AAFC 2005). In the meantime, as noted earlier, farm incomes have continued to fall, plummeting by 24% between 1988 and 2002 (Dietitians of Canada 2008, cited in Epp 2009: 6), while the number of young farmers (below 35 years of age) has been more than halved since 1991 (National Farmers' Union 2008, cited in Epp 2009: 6), all of which indicates that farming is not a viable activity except for large and established farms (Statistique Canada 2007).

The Canadian food policy framework is fractured both ‘horizontally’ between several ministries or departments and ‘vertically’ between local, provincial, and federal levels of government (MacRae 1999). Generally speaking,

Federal responsibilities lie mostly with trade and national standard setting for food safety, grading, and labelling. Provincial responsibilities focus on extension, land use, and internal movement of goods. Most other responsibilities are shared (e.g. production supports, research, and development). At both levels, governments are informed by networks of para-public and private sector actors (MacRae 1999: 187-188).

At the level of the federal government food policy is split between six ministries departments and agencies, eight if overseas agricultural development initiatives are included in the tally (the Canadian International Development Agency and the International Development Research Centre). Table 5 presents an overview of the federal departments and their responsibilities.

Table 5. Federal Food Policy Framework			
Ministry or Department	Objectives and Roles	Example Programs	
AAFC	Build competitive and innovative sector	Health claims and novel food ingredients review	
		Resources to generate field trial and lab data for new pesticides	
		Increase scientific capacity for reviewing veterinary drug submissions	
		Funding policy research on competitive agriculture	
	Ensure sector contributes to society's priorities (health, environment, and safety)	Food Safety Systems development: assists (develop national strategy and disseminate training materials and tools) firms in developing HACCP-based control system	Food Safety System Recognition: will provide funding for the adoption of recognized food safety systems
			Food Safety Implementation: financial incentives to producers and processors to adopt approved safety systems
			Finance research in Agri-Environmental science
			National Land and Water Information Service
			Creating a list of BMPs and facilitating adoption
			Technical assistance (extension) for better environmental management
			Environmental Performance Measurement and Reporting
			Manage risk
	AgriStability (for margin declines of >15% in case of low prices, government stabilizes revenue to Olympic average)		
AgriInvest: federal and provincial governments match annual producer contributions to savings accounts; covers margin declines of 15% or less)			
AgriInsurance: insurance for loss due to specific perils (pests, droughts, etc.)			
AgriRecovery: ad hoc response to agricultural disaster			
Department of Foreign Affairs and International Trade * in consultation with AAFC	Eliminate “trade-distorting” supports except for the five supply-managed commodities	WTO’s AoA	
		NAFTA, bilateral FTA	
		Environmental exceptions in the WTO, GATT, TRIPS, TBT, SPS, AoA, subsidies to adopt new environmental laws (up to 20% of cost)	
	Food Aid	Voluntary commitment to donate 420,000 MT to WFP	

Table 5. Federal Food Policy Framework		
Ministry or Department	Objectives and Roles	Example Programs
Canadian International Development Agency	MDGs	Funding for programs dealing with nutrition (\$105 million), agriculture (\$500 million target never reached), and environmental sustainability
	Food crisis	World Bank calls for a 'new deal' on global food policy in 2008
International Development Research Centre	Research	Funded research on food and water insecurity, production technologies, and local resource management
Canadian Food Inspection Agency	Minimize public health risks	Regulations and inspections for dairy, eggs, fish and seafood, fresh produce, honey, labelling, maple, meat and poultry, organics, and packaging materials and non-food chemicals.
		Registration of manufacturing establishment
		Import and export requirements
		Food safety investigations program
		Industry advisories
		Chemical residue sampling program
	Ensure a safe and sustainable plant and animal resource base	Food Safety Enhancement program implementation (funding from AAFC)
		Develop biosecurity standards
		Develop animal welfare standards
		Develop SPS standards
	Contribute to consumer protection	Plant Health Surveillance unit (info for dealing with pests)
		Regulation of plant breeding and genetic manipulation
Canadian food labelling initiative (Product of Canada, made in Canada)		
Food recalls		
Fisheries and Oceans Canada	Retail Food Program (in charge of misleading labelling and packaging)	
	Promotes growth of aquaculture and is developing a sustainable development plan	Sea coast and inland fisheries
		Fishing and recreational harbours
		Hydrography and marine sciences
Coordinating other government departments regarding fisheries and oceans		
Health Canada	Food safety (Health Products and Food Branch)	Food Directorate: conducts scientific research and risk assessment for developing food safety policies (covers contaminants, additives, food processing, novel foods and GMOs, and nutrition products)

Table 5. Federal Food Policy Framework		
Ministry or Department	Objectives and Roles	Example Programs
		Office of Nutrition Policy and Promotion: research and nutrition policy standard setting, publishing the Canada's Food Guide and Canada's Nutrition and Health Atlas
	First Nations and Inuit Health	Aboriginal Health Start program, FN/Métis/Inuit version of Food Guide
	Promoting nutrition	{no program relevant to local foods}
Industry Canada	Food sector development in the current context of high competition in a global value chain and industrial structure	Operations sector: information for investment opportunities (Measurement Canada), Canada Small Business Financing Program
		Genomic Research project: GMO development for food security (mostly fish)
	Regulate competition	Regulates predatory pricing and product packaging/label claims
	Intellectual property	
	Business development	Business Development Bank of Canada: technical advice and financing to farmers for meeting industrial, environmental, and quality assurance standards

Source: "Food, Glorious Food! Towards a Comprehensive Food Policy for Canada." Discussion Paper and Background Research. E-Summit Toronto, 2009.

MacRae (1999) criticizes the federal framework for being contradictory. While Health Canada promoted nutritious and healthy eating and Environment Canada promoted conservation and environmentally-friendly practices, the policies, regulations, and incentives coming from AAFC encouraged an industrialized agriculture model that adversely affects both nutrition and environmental sustainability.

In the decade that has passed since MacRae's critique, AAFC has made some headway into bringing together various departments and synchronizing their work through Canada's Rural Partnership, a federal program which introduced an Interdepartmental Working Group on rural development issues. While this 'rural lens' brings together many of the food-related policy areas, it leaves out a significant number, particularly on the demand side.

The Agricultural Policy Framework (APF), introduced in 2003, significantly enhanced 'vertical' cooperation between federal and provincial levels of government as well as 'horizontal' coordination by explicitly including food quality and environmental management among its objectives. The APF marks "the first time that major federal provincial agreements have gone beyond income stabilization and business risk management, linking these measures to environmental and food safety and quality concerns" (Hedley 2006: 23).

The APF was replaced by the Growing Forward Framework in July 2008. Growing Forward commits \$1.3 billion in funding over a five year period—with 60% coming from the federal government and the rest from provincial and territorial governments—to the development of an innovative and globally competitive industry (Government of Canada; AAFC n.d.). However, the framework also stipulates that the development of the agricultural sector ought to contribute to 'society's priorities', here identified as i) enhancing the safety and security of Canada's food system; ii) promoting environmentally responsible agriculture; and iii) helping the sector to meet consumer demands for health and wellness.

Although developing local food markets is not cited as a priority, the Growing Forward Framework does provide increased flexibility for provincial and territorial governments to tailor programs so that they meet regional and local needs while achieving national goals. This is significant because it means that in addition to their areas of exclusive responsibilities (land use, internal movement of goods, and extension) provincial governments have increased flexibility in areas of shared responsibility (production support and research).

This should be of particular interest to local food promoters as most policy areas relevant to LFS fall either entirely under provincial and local jurisdiction, or under joint jurisdiction but where provincial government have more leeway.

Epp (2009) provides a succinct overview of provincial and territorial food policies and programs. Table 6 provides an overview of those policies and programs which are relevant to LFS. As is clearly evident in the table, these initiatives come from a variety of departments, just like at the federal level, including agriculture, health, environment, education, zoning bodies or land custodians, municipal affairs, and even tourism. The contradiction between health and environment policy objectives and agricultural-economic objectives noted by MacRae at the federal level also appears to be present. What is interesting is that this contradiction has played out differently across the provinces (1999).

Table 6. Provincial Food Policy			
Province	Responsible Departments/Institutions	Programs/Activities	Description
British Columbia	Provincial Health Services Authority and Regional Health Authorities	Food Sales Guidelines	Facilitate healthy nutritional choices for consumers
		Community Food Action Initiative	\$1.5 million provided to community groups, agencies, and individuals (working through the RHA) for projects aiming to promote food security at the community level : examples include food banks, community gardens, box schemes, nutrition education, and policy development
		Monitoring and evaluation	based on community-generated "success indicators"
	Climate Action Secretariat	Food Miles	\$3 million over 3 years to educate BC citizens and policy-makers about food miles
	MLA ad-hoc committee on agriculture	BC Agricultural Plan	Recommends that the provincial government promote local food and community food systems
	BC Agriculture Council (farm organization)	Buy BC	Territorial food labelling initiative, boasts 75% consumer recognition
	Agricultural Land Commission	Agricultural Land Reserve	Protect agricultural land in the Fraser valley from urban sprawl
Yukon Territory	Department of Energy, Mines, and Resources	<i>Vision for Agriculture</i> document	Provides rebates for local food providers
		Yukon Grown	Territorial food labelling initiative
		Meat processing capacity development	Invested \$175,000 into mobile abattoir, recurring annual investment of \$30,000
		Master Gardener program	Trained (40 hours) volunteers assist home-gardeners with technical advice
Northwest Territories	Federal-territorial AFP		\$435,000 annually for 5 years for NWT farm investment
	Industry	NWT Grown	Territorial food labelling initiative
Nunavut	Fisheries and Agriculture	Community Harvesters Assistance Program	Provides funds to assist with fuel, supplies, and equipment costs
Alberta	Alberta Agriculture, Food and Rural Development	Dine Alberta	Encourage chefs to use local ingredients. AAFRD estimates \$3 million was injected into the economy as a result of the program

Table 6. Provincial Food Policy			
Province	Responsible Departments/Institutions	Programs/Activities	Description
		Local Market Expansion Program	Increase the demand for local foods: enhance business skills, build alliances between small farmers, facilitate consumer awareness, and remove regulatory barriers.
	Travel Alberta	www.chomparoundalberta.com	Provides info on farmers' markets, buy direct locations, and crops that are in season
Saskatchewan	Legislative secretary for Organic Farming	<i>Going Organic</i> report	Recommends funding for farmers transitioning to organic as well as increased availability of information
Manitoba	Action plan on climate change	<i>Beyond Kyoto</i> report	Recommends that Manitoba become food self-sufficient
		Climate Change Action Fund	\$3.2 million in 2006-2007 for projects including community gardening, organic food, and sustainable agriculture
	Manitoba Agriculture, Food, and Rural Initiatives	Local Food Promotion	Website has information on where to get local food
		Organic Transition Program	Up to \$800 per year to help with transition costs
		Agricultural Sustainability Initiative	Funding for investment in water-quality, agri-energy, biological cropping systems, and ecological goods and services
		Manitoba Agri-Innovation Suite	Funds for new product development, tends to favour projects that use local commodities
Ontario	Ministry of Education	Real Food for Real Kids / Foodland Ontario	Teaches high school students how to eat healthy and locally grown foods. * Note: Ontario has major school meal programs but they are not explicitly linked to local procurement
	Ontario Ministry of Agriculture, Food, and Rural Affairs	Pick Ontario Freshness	Local food promotion: \$12 million over 4 years to fund trade events, advertisements, and research activities (consumer research)
		Foodland Ontario	Territorial labelling initiative, boasts 94% consumer recognition

Table 6. Provincial Food Policy			
Province	Responsible Departments/Institutions	Programs/Activities	Description
		Ontario Agri-Food Education	Promotes awareness of agricultural issues in schools
		Ontario Farmers' Market Strategy	\$4 million over 4 years to Farmers' Markets Ontario and the Ontario Farm Fresh Marketing Association in order to provide business information and marketing analysis re: direct marketing
	OMAFRA and Ontario Ministry of Tourism and Ontario Tourism Marketing Partnership Corporation	Savour Ontario	Promotion and advertisement of restaurants that use and promote local food
	Ministry of Municipal Affairs and Housing	Ontario Greenbelt	Protects agricultural land around the Golden Horseshoe. The Greenbelt foundation does research and promotes local food.
Québec	Ministry of Agriculture, Fisheries, and Food (MAPAQ)	<i>Food for the Future</i> report 2006 (By parliamentary committee)	Recommends an integrated food security policy, including the promotion of locally-grown foods, food self-sufficiency, developing culinary skills, and monitoring the cost of a nutrition food basket (as is done in Manitoba, Alberta)
		Mettez le Québec dans votre assiette	\$14 million over three years to promote local products and local farmers. \$9,115 million is earmarked for marketing rather than developing local food circuits
	Commission for the protection of agricultural land in Québec (CPTAQ)	Agricultural land protection	CPTAQ has jurisdiction over land use in designated green zones
	Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois	Report based on over 700 submission from industry and civil society	Recommends that Québec agriculture should be feeding Québécois, grow diverse crops, and embrace professionalism as well as sustainable techniques
New Brunswick	Government of New Brunswick	<i>Our Action Plan to be Self-Sufficient in New Brunswick</i> report 2007	The government's plan is strive for self-sufficiency in all sectors, including food.

Table 6. Provincial Food Policy			
Province	Responsible Departments/Institutions	Programs/Activities	Description
	Department of Agriculture and Aquaculture	Agri-Food Market Development Program	Provides grants of up to \$10,000 for projects that promote local food consumption: road signs, farmers' markets, development of promotional materials, diversification, new product development, marketing groups
		Organic Development Initiative	Funds to cover the costs of organic transition and on-farm infrastructure
		Transforming Agriculture Together	Report identifies retail sector as a barrier to entry for local farmers
Prince Edward Island	Government of PEI	Sustainable resource policy	Funding for adoption of sustainable practices, including in agriculture
	Department of Agriculture	Agri-Food Market Development program (Buy PEI Initiative)	Provides grants of up to \$6,000 for local market development to farmers, farmers' markets, agricultural organizations, and marketing boards.
		Agri-Food Promotion Program (Buy PEI Initiative)	Up to \$1,000 for projects that aim to increase demand for local foods
		Organic Industry Development Program	Funding for organic value chain development, adoption of sustainable practice, and weed and pest control.
Nova Scotia	Ministry of Health Promotion	<i>Healthy Eating Nova Scotia</i> report (2005)	Recommended that municipal lands be made available for community gardening and the public institutions source locally in order to increase availability of nutritious local foods.
	Ministry of Agriculture, Fisheries, and Aquaculture	Select Nova Scotia	Website that promotes local food and provides information on where to get it
		Direct Marketing Community Development Trust	\$2.3 million over 3 years for farmers and farmers' markets for infrastructure development, expanding VA processing, launching CSAs, and improving marketing

Table 6. Provincial Food Policy			
Province	Responsible Departments/Institutions	Programs/Activities	Description
		Agri-Food Industry Development program	Grants of up to \$20,000 per year for the adoption of innovative technologies and systems (not targeted exclusively at local market initiatives)
		Farm Investment Fund	Up to \$10,000 for investment in human resources and capital investments for the purpose of sustainability (must have an Environmental Farm Plan to be eligible)
Newfoundland and Labrador	Ministry of Agriculture	Fruit and Vegetable Storage Assistance Program	Up to \$20,000 to support on-farm infrastructure

Source: Stefan Epp, "Provincial Approaches to Food Security: A Scan of Food Security Related Policies in Canada" (Manitoba Food Charter).

In British Columbia, it was the Health Services Authority that developed a holistic view of health and nutrition that included eating nutritious local food produced, processed, and distributed in an environmentally sustainable manner. In all other provinces, health departments also promote healthy eating through public awareness campaigns or school meal programs but, save for Nova Scotia, they don't make any explicit reference to supply-side issues such as food miles, environmental sustainability, local economic development, or the agricultural production process in general. British Columbia's Health Services Authority, in contrast provides \$1.5 million annually for local food-related projects including community gardens, box schemes, and food banks. What is interesting is that British Columbia's agriculture ministry has not provided any support for local food projects except through the Agriculture Land Reserve which only indirectly helps LFS by protecting peri-urban agricultural land (Connell et al. 2007). The health department is in essence working against the dominant agricultural model still supported by the agriculture ministry. British Columbia does have a provincial food labelling initiative, Buy BC, but it is run by the British Columbia Agriculture Council, a farmers' organization rather than the government itself.

Nova Scotia, as mentioned above, also links healthy eating to local and sustainable food production but, unlike British Columbia, its ministry of agriculture complements the health department's demand-side work (public education on healthy eating and local food public procurement programs) with a supply-side local market development policy that provides \$2.3 million over three years for the development of LFS. The agriculture ministry also adopted environmental objectives and has a program to help small farmers (grants up to \$10,000) with environmentally-friendly infrastructure investments. Similarly, the government of Prince Edward Island aligned its ministry of agriculture with its over-arching government-wide sustainability policy. In the context of the agricultural sector, this translates into grants for small-scale local market development projects (\$6,000 limit for supply-side projects, \$1,000 for demand-side projects).

Alberta, Ontario, and New Brunswick, on the other hand, have promoted local food market development without any explicit link to health or the environment. The policies are similar to those in Nova Scotia and Prince Edward Island in that they provide funding for small-scale local market development projects such as farmers' markets, marketing collectives, advertising, and business development skills for family farmers. Promotion of local foods in these provinces is usually also done through the agriculture ministries and/or affiliated provincial food labelling initiatives. New Brunswick goes a bit further than the other provinces in that its local market development initiative is part of an official plan to become fully self-sufficient in all economic sectors, including agriculture, adopted in 2007. It remains to be seen whether New Brunswick's policies will have greater transformative impact than in other provinces with similar programs.

Beyond the provincial level, municipalities have authority over certain zoning laws and bylaws that can facilitate or inhibit the development of LFS, particularly regulations concerning the use of agricultural zones for commercial purposes. Though aimed at protecting agricultural zones from industrial development and other forms of encroachment, such by-laws effectively prevent on-farm direct sales or the use of farmland for farmers' markets or farm shops (Wormsbecker 2007) and organizers of such initiatives typically have to negotiate with municipal authorities for special permits or designated spaces (Connell et al. 2007). However, agricultural zoning per se (designations for tax purposes) falls within provincial government jurisdiction or a land management agency, such as the

Agricultural Land Reserve in British Columbia or the Commission pour la protection des terres agricoles du Québec.

The vast majority of local food-related organizing is done by civil society groups at the local level. Provincial-level programs such as British Columbia's Community Food Action Initiative or Prince Edward Island's and New Brunswick's local market development programs can provide funding directly to community-level groups and agencies working on local circuits. The need for networking and information sharing between groups working at the community-level (e.g. farmers' market and popular kitchen organizers, CSA facilitators and school boards, etc.) has led to the emergence of food policy councils, under the aegis of municipal authorities. The Toronto Food Policy Council, for example, exists as a sub-committee of the Toronto Board of Health, a department within the Toronto municipal government. The food council works as a space for community organizers to sit together and with municipal officials and also funds various short food supply projects such as box schemes, urban agriculture, and research into policy development, including public procurement initiatives (City of Toronto n.d.). Food policy councils exist in several major cities including Toronto, Montreal, Vancouver, and Ottawa.

4.3 *Analysis: Does Canadian Food Policy Support Local Food Systems?*

As the last column of Table 3 shows, there are policies in Canada that are designed to support the development of LFS. However, three general observations can be made about the state of food policy in Canada and LFS.

The first is the most obvious: while the last column of Table 3 does seem full, all but two of those programs operate at the provincial level and thus not all of Canada is covered. While the federal AFP (2002-2007) and Growing Forward (2008-2012) have increased federal government presence in food policy (if only in money terms), provincial governments design the specific policies and programs and thus the level of support for LFS varies across the country. It is unlikely that the federal government could provide stronger policy directives and thus provincial governments should be the target of efforts to improve policy.

Second, despite this unevenness across provinces and territories, the programs that do exist tend to cluster on the demand side with a second, smaller cluster in organic agriculture. It appears that governments are willing to support marketing projects, even running some themselves (the origin labelling and promotion programs) and consumer education at one end and the transition to organic farming at the other, but make very few efforts to affect processing and distribution. Only the Yukon Territory and Nova Scotia have significant programs in those areas. However, the federal government does offer financing for small agricultural businesses, though it does not target any specific part of the value chain. The question that arises then is whether or not a strategy based mostly on consumer awareness and 'voting with your wallet' can really support LFS. Based on extensive interviews with consumers, Lockie (2002) makes a convincing argument that the retailers themselves exert more influence on the act of consumption than any kind of political sensitivities.

Third, there is still a lack of a 'political champion' of food policy. A decade after MacRae's (1999) critique, food policy in Canada is still run by a number of departments, with ministries of agriculture, environment, and health taking the most important roles at both federal and provincial level. Only Nova Scotia and New Brunswick have cross-departmental policies and approaches to food systems. However, none of these policy initiatives are driven by the idea of food sovereignty.

Health and food security—that is, the availability of affordable and healthy food, regardless of how it got to the plate—seem to be the most common drivers. Only New Brunswick has adopted a policy of self-sufficiency.

While food policy in Canada does not seem to support food sovereignty per se, several policies and programs that could help develop LFS are in place. However, these programs tend to be small, offering small sums (\$1,000 to \$10,000 per project) to a small number of projects (few initiatives reach the ten million dollar mark). The effectiveness of these programs needs to be evaluated. Firstly in terms of whether the program itself is having the desired effects on a micro-scale and secondly in strategic terms, i.e. is there some other domain where policy could be more useful.

Many existing policies offer assistance for small producers to join the conventional trading system or develop small-is-beautiful alternative marketing schemes. Halweil suggests that “direct marketing schemes might also be the easiest part of rebuilding a local foodshed, in the sense that farmers’ markets, CAS arrangements, and other direct marketing schemes operate under the radar of the conventional food chain, in the niche for fresh, high-quality food connected to a real person” (2002: 41). It thus follows if LFS are to expand beyond the margins of society, policy priorities should be antitrust legislation, commodity payments, major changes to agricultural research and education, a fossil fuel tax, and binding international agreements against dumping (Idem. 2002: 57).

5 Conclusion: Looking Ahead

The literature on LFS is still relatively limited in terms of providing strong empirical evidence on the scope and the impacts of the existing initiatives. Research on such initiatives in Canada is even more limited. Nevertheless, this review has highlighted strong suggestive evidence about the positive impacts of LFS and about which public policies are most likely to support their development. However, the selection of proposed public policies is very large and needs to be prioritized in terms of what respond to the greatest needs and can be most effective.

The next step is to gain a better understanding of which public policies should be promoted in order to strengthen LFS in Canada. This requires moving beyond the review of existing literature and conducting original research. In the next phase, field work will be conducted in the provinces of Québec and Ontario. We will also aim to understand whether international trade rules represent obstacles to the implementation of these public policies or not. These analyses will move us towards the overall objective in our research program, which is to provide knowledge for policy action on food sovereignty.

Annex I. Broad Categories of Policies Supporting the Development of Local Food Systems

Policy	Source
Governments to give preferential treatment (such as local procurement laws or tax breaks) to local farmers and food businesses	Halweil, B., & Prugh, T. (2002) Morgan and Morley, 2002
Create and support local food policy councils (doing education, price comparison, distribution to low-income households, food delivery services for elderly)	Halweil, B., & Prugh, T. (2002)
Support to local food distribution network (such farmers' markets)	Steering Committee of Nyeleni 2007 2008
More effective antitrust law enforcement to reduce market concentration in different parts of the national and global food system (concerning seeds, pesticides, food processing and retailing)	Pimbert M. 2006. Halweil, B., & Prugh, T. (2002)
Subsidies or other types of preferential treatment for producers using environmental production practices (e.g. organic producers)	Pimbert M. (2006).
Supply management system (including tariffs/quota protection)	Pimbert M. (2006).
Labelling standards regarding production methods and origin of products	Pimbert, 2006
International commodity agreements to regulate the total output to world markets.	Pimbert, 2006
Purchase emergency food aid locally or regionally from smallholders	Holt-Gimenez, E. and L. Peabody 2008

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