

# Farm to school in British Columbia: mobilizing food literacy for food sovereignty

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**Abstract** Farm to school programs have been positioned as interventions that can support goals of the global food sovereignty movement, including strengthening local food production systems, improving food access and food justice for urban populations, and reducing distancing between producers and consumers. However, there has been little assessment of how and to what extent farm to school programs can actually function as a mechanism leading to the achievement of food sovereignty. As implemented in North America, farm to school programs encompass activities not only related to school food procurement, but also to the development of student knowledge and skills under the framework of food literacy. Research on farm to school initiatives has largely been conducted in countries with government-supported national school feeding programs; this study examines farm to school organizing in Canada, where there is no national student nutrition program. Using qualitative fieldwork and document analysis, we investigate the farm to school movement in British Columbia, in a context where civil society concerns related to education and health have been the main vectors of farm to school mobilization. Our analysis suggests that, despite limited institutional infrastructure for school meals, the British Columbia

farm to school movement has contributed toward realizing goals of food sovereignty through two main mechanisms: advocacy for institutional procurement of local and sustainable foods and mobilizing food literacy for increased public engagement with issues of social justice and equity in food systems.

**Keywords** Food sovereignty · Food literacy · Farm to school

## Abbreviations

BC	British Columbia
BCAITC	British Columbia Agriculture in the Classroom
BCMA	British Columbia Ministry of Agriculture
BCME	British Columbia Ministry of Education
BCMHS	British Columbia Ministry of Health
BCMHSLS	British Columbia Ministry of Healthy Living and Sport
BCSFVNP	British Columbia School Fruit and Vegetable Nutrition Program
CBO	Congressional Budget Office
CHSF	Coalition for Healthy School Food
EYSP	Edible Schoolyard Project
F2SGV	Farm to School Greater Vancouver
F2SVA	Farm to School Vancouver Area Regional Hub
G8	Group of Eight Industrialized Nations
HGSF	Home-Grown School Feeding Program
OME	Ontario Ministry of Education
NGO	Non-governmental Organization
PHABC	Public Health Association of British Columbia
USDA	United States Department of Agriculture

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USDA FNS United States Department of Agriculture  
Food and Nutrition Service  
VSB Vancouver School Board

## Introduction

There is a growing scholarly and public dialogue taking place around food systems transformation, with divergent views around current and future roles for government, civil society, and the food and agriculture sector itself. Food sovereignty is one framework for shaping policy surrounding these roles, and has increasingly become part of global, national, and regional initiatives to restructure food markets to achieve ecological sustainability, health equity, social justice and food security. Defining food sovereignty is not a straightforward task; there are numerous, and in some cases conflicting, definitions (Patel 2009). The framework of food sovereignty can be summarized as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Nyéléni Forum for Food Sovereignty 2007). While the specific mechanisms for food sovereignty are often defined locally to meet the needs of local populations and in relation to local social and ecological contexts, some broad goals are common across the movement, including supporting farmer livelihoods, alleviating hunger and malnourishment, improving agricultural sustainability and social justice, and strengthening local food systems. Early food sovereignty scholarship often focused on the context of rural populations and the Global South, but there has now been considerable work emphasizing its relevance to urban populations and the Global North (Wittman et al. 2011; Alkon and Mares 2012; Desmarais and Wittman 2014; Laidlaw and Magee 2014; Cidro et al. 2015). In the urban context, a primary issue of consideration has been the relationship between food sovereignty and movements for food access and food justice (Block et al. 2011; Clendinning et al. 2016).

Among other forms of food system restructuring, the food sovereignty movement advocates for changes in how governments support their domestic food and agriculture sectors, particularly by influencing, or “mediating” how markets can contribute towards the achievement of social and environmental goals (De Schutter 2014; Wittman and Blesh 2017). “Mediated markets” is an umbrella term referring to a range of food systems interventions designed to support domestic agriculture sectors, improve agriculture-related environmental outcomes, and improve food security and diet-related disease incidence through managing relations of supply and demand. In socially mediated markets, governments facilitate exchange

relationships and the creation of new market structures and hybrid structures of governance, particularly in the provision of food security and other social welfare needs (Rocha 2007; Soares et al. 2013). In addition to such efforts as price supports for producers, government regulation of food prices, and establishment of food reserves, examples of mediated market interventions include public procurement and/or social assistance programs, school feeding and “farm to school” programs, public nutrition, and food banks. While public procurement programs have been positioned as key tools by the food sovereignty movement, there has been limited assessment of how and to what extent such programs are functioning as pathways toward food sovereignty (Quaye et al. 2009, 2010; Wittman and Blesh 2017).

Farm to school programs focused on public procurement are part of social “infrastructures of provision” (Seyfang 2011) that utilize the power of institutional purchasing for schools, hospitals, and other public programs to support agricultural development and other social and environmental goals (Buckley et al. 2013; Conner et al. 2014). Also known as home-grown school feeding programs (HGSFs), in their most widespread form farm to school programs aim to increase the locally-sourced share of food procured by schools (Joshi et al. 2008; Izumi et al. 2010b; Conner et al. 2011; Bateman et al. 2014; Bontrager Yoder et al. 2014; Lyson 2016). These programs provide a localized alternative to traditional supply chains for sourcing food for schools and other institutions that typically involve multiple actors between farms and the institutions, including packers, shippers, processors, and wholesale distributors. Distributors operate at scales ranging from regional to multinational and often offer discounts for purchasing large volumes and multiple products, which can be attractive to public institutions working with very limited budgets. Generally, traditional institutional supply chains aim for overall cost minimization by emphasizing efficiencies at all stages (Feenstra et al. 2011).

Prior work on farm to school supply chains has analyzed how they differ from traditional institutional food sourcing models, including the facilitation of closer relationships between farmers and schools and farmers and consumers based on a set of shared community values. Evaluations of farm to school supply chains have also addressed how they can be more successful by restructuring traditional aggregation and distribution centres to meet local procurement goals (Feenstra et al. 2011; Heiss et al. 2014). By linking sustainable production and consumption systems, farm to school programs are argued to provide expanded and more stable markets for local agricultural products, particularly those grown by small- and medium-scale farmers, who may be struggling to remain financially viable (Bagdonis et al. 2008; Conner et al. 2008; Izumi et al. 2010b).

As implemented in North America, farm to school programs encompass interventions not only in school food procurement, but also in the development of student knowledge and skills surrounding both individual food behaviors and food systems, under the framework of food literacy. The food sovereignty literature has only recently begun to engage with consumer and urban perspectives on sustainable consumption and accessibility of healthy food, with fruitful intersections with the developing body of work on food literacy. As Cullen et al. (2015) have described, for individuals, food literacy is “the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components” (p. 143). At a more structural level, food literacy encompasses the knowledge, skills, and practices that enable citizens to participate more effectively in the construction of a sustainable and equitable food system, including through food choices and waste management, as well as through participation in the development of food policy (Vidgen and Gallegos 2014; Cullen et al. 2015). Food literacy as a mechanism has been criticized for being perhaps too narrowly focused on stimulating individual behavioural change at the expense of a broader consideration of the structural constraints to food system sustainability (Kimura 2011; Sumner 2013); however, as programs and scholarly discourse surrounding food literacy have further developed, the concept is now being reframed as an avenue for social change leading to food systems transformation (Valley et al. 2017).

Cullen et al. (2015) emphasize that an ecological approach, which includes environmental and social context, is necessary to develop food literacy and food systems engagement. Sumner (2013) further argues, “food literacy aims for individual and social change by encouraging people to read the world in terms of food. In addition, food literacy includes an engagement with power relations in its full-cycle understanding of food” (p. 87). Increased social mobilization towards programs that address concentrations of power in food value chains and promote access to culturally appropriate, healthy, and sustainably produced foods align with goals of food sovereignty, which aim to change structural conditions in support of more just and sustainable food systems. Developing individual food literacy skills can lead to support for structural change through deepened food systems engagement, which may manifest in actions ranging from shifts in individual consumption patterns to collective political organizing.

Work on farm to school initiatives has largely been conducted in countries with national school meal programs, such as the US and Brazil (Joshi et al. 2008; Izumi et al. 2010a; Sonnino et al. 2014; Kleine and das Graças Brightwell 2015). In this article, we examine farm to school organizing in Canada, which does not have a national

school food program. Farm to school initiatives in Canada have emerged from the “bottom up,” in a context where food literacy concerns and nutrition education by civil society have been the main drivers of mobilization. We ask how activities of the farm to school movement in British Columbia (BC) have contributed toward “mediating markets” for food sovereignty through advocacy for institutional procurement of local and sustainable foods, but also through mobilizing food literacy as a consumer education mechanism. We begin by providing background on farm to school mobilization in North America, highlighting differences between the US and Canada. We then describe the scope and methods of our research and include results from our qualitative fieldwork and document analysis involving the BC farm to school movement, particularly considering how the BC movement has engaged with school food procurement and food literacy. We conclude by analyzing how the movement has contributed to food sovereignty goals and highlighting potential pathways for the future.

## Farm to school in North America

During the Great Depression of the 1930s, agricultural surpluses and poor child nutrition motivated the US government to begin widespread school food programs, building on a limited number of school feeding programs that had existed since the 1930s (Allen and Guthman 2006). School meal programs had been developed in cities in the first decades of the twentieth century, initially driven by charitable societies concerned about children’s welfare, but later supported by school boards. In 1946, the US government passed the National School Lunch Act, which remains in effect today. Through this act, US schools serve at least one meal each school day, for which they receive remuneration and donations of agricultural commodities through the USDA (Rutledge 2009).

Concerns began emerging in the 1990s that US school meals were unhealthy and potentially contributing to childhood obesity, with grassroots and public policy responses emerging in terms of nutrition regulation and in the form of alternative programming for food literacy, framed for the first time as “farm to school.” Early farm to school programs included a group of farmers in northern Florida forming a cooperative to sell fresh fruits and vegetables to school districts in the state in 1995. In California in 1997, a parent worked with a school food service director to start a farmers’ market salad bar program, which eventually became a financially viable operation in all 15 schools in the Santa Monica-Malibu Unified School District (Joshi and Beery 2007; Lyson 2016). The Edible Schoolyard project began operating in Berkeley in 1995, developing a garden on a portion of unused ground at a middle school to

support cooking classes and other food literacy education efforts (EYSP 2016). National legislation in 1994 set nutrition standards for school meals; in 2004, the Child Nutrition and Women, Infants and Children Act furthered school food nutrition standards and increased funding for including fresh vegetables and fruits in school meals (Lyson 2016).

The 2010 Healthy, Hunger-Free Kids Act both significantly changed nutrition guidelines for school meals, and established the USDA Farm to School program to assist in the implementation of farm to school programs that improve student access to local foods at school. These activities included procurement of local foods for school meals; staff training; purchasing of equipment for handling fresh local foods; school gardens; community partnership development and outreach; school garden curriculum development; and program evaluations (Benson et al. 2015; Lyson 2016). The “cornerstone” of farm to school programs in the United States has been programs that explicitly link local agricultural production to school food service through institutional procurement (Allen and Guthman 2006). The 2015 US Farm to School Census determined that US schools purchased \$789 million in local foods from farmers, ranchers, and food processors/manufacturers during the 2013–2014 school year, which represented 4.8% of the total \$16.4 billion budget for the national lunch and breakfast programs in 2014. As indicated by the Farm to School Census, 62% of schools with farm to school programs have salad bars, which are often locally stocked, and 44% of the school districts surveyed have school gardens (CBO 2015; USDA FNS 2016).

### The Canadian context

Canada is unique among comparable (G8) countries in that it does not have a national school feeding program (Koç and Bas 2012). Despite Canada’s considerable agricultural commodity surpluses throughout much of the twentieth century, the country did not look to school feeding programs as a destination for these surpluses as other countries did. Canada has in the past donated some of this surplus to programs that support school feeding programs in other countries, including the United Nations World Food Programme’s school feeding programs in Africa (Rutledge 2009).

While Canadian provinces have provided assistance to children through supports to their mothers since the 1870s, federal benefits began in 1944 when the Family Allowance Act began to provide universal support for children regardless of need. These “baby bonuses” were designed to encourage women who had joined the workforce during World War II to return home by helping to replace their incomes (Finkel 2006; Rutledge 2009). Though it has not

been consistently in place since the 1940s, a version of this program exists in Canada today, with per-child payments commonly known as “milk money” ranging from \$60 to \$160 per month, depending on the age of the child (Battle 2007; Hopper 2015). In the post-war era, baby bonuses and other policies that supported women staying home and raising children were viewed as an alternative to a proposed national school lunch program, under the rationale that every child was receiving government support, and that mothers would assume responsibility for their child’s mid-day meal using the baby bonus subsidy (Rutledge 2009). However, recent reports indicate that more than 17% of Canadian children (percentage not including BC data), and more than 15% of children in BC live in households affected by food insecurity (Tarasuk et al. 2016; Li et al. 2016).

Since at least the 1990s, the creation of a national school feeding program has been part of Canadian grassroots and policy advocacy for combatting childhood poverty and malnutrition, despite critiques that charity programs run by civil society organizations were not only not meeting the goal of feeding hungry children, but also drawing political attention away from underlying causes of hunger related to social inequality (Raine et al. 2003). Within the last decade, however, federal legislators have developed a political vision for expanding grassroots civil society programs into a universal, national school meals strategy, identifying the constitutional pathway to school food legislation and advocating for political mobilization to enact a program (Leeder 2011). Arguments for the school food program included advocating for children’s rights and for economic prosperity through improved school performance and graduation rates, and contributions to the agricultural economy (Duncan 2012). The Coalition for Healthy School Food has assembled in recent years with leadership from Food Secure Canada (a national NGO) and includes over 30 additional national, provincial, and local organizations. The Coalition is lobbying for

an investment by the federal government in a cost-shared Universal Healthy School Food Program that will enable all students in Canada to have access to healthy meals at school every day. Building on existing programs across the country, all schools will eventually serve a healthy meal or snack at little or no cost to students. These programs will include food education and serve culturally appropriate, local, sustainable food to the fullest extent possible (CHSF 2015).

The constitutional division between provincial and federal responsibilities has consistently been provided as a justification for the federal government not becoming involved in school nutrition. In 2014 a representative from Health

Canada, the federal health department, stated that “the provision of food in schools is a provincial and territorial responsibility” (quoted in Hyslop 2014). Each Canadian province has some form of school food policy and/or program, as do two of the three territories (Hyslop 2014). The policies primarily focus on setting nutritional standards for what food is available in schools from a range of sources, including private vendors or meal programs run independently by individual schools or school districts, rather than on universalizing or increasing access. For example, Ontario issued a “School Food and Beverage Policy” in 2010 that sets nutrition standards and evaluation criteria for food sold in schools, but excludes most special occasions and fundraising (OME 2010); British Columbia has a similar policy, discussed further below. Manitoba’s school and nutrition guidelines, updated in 2014, are designed to “assist schools as they make plans to improve school nutrition environments,” and provide checklists and worksheets for different areas where schools often provide for students, including meal programs, cafeterias, vending, sporting events, and special occasion meals (Manitoba Government 2014).

Though school food-related policies and programs exist across Canada, they are inconsistent and do not provide universal meal services for students. In the absence of a national level school meal structure, diverse strategies have emerged both for feeding students and for providing food literacy education, but little analysis has been conducted to date regarding the potential of these programs to serve as a structural mechanism for sustainable food systems transformation towards food sovereignty. In response, we undertook a case study of the provincial farm to school movement in British Columbia as an entry point to understanding how advocacy for procurement of local foods for school meals and educating consumers through food literacy interventions may serve as mobilizing mechanisms for food sovereignty. In what follows, we provide an overview of food systems in British Columbia, including both the school food and farm to school landscapes in the province. We conclude by discussing the potential of grassroots-initiated farm to school programming to support goals of food sovereignty, in the absence of universal policy support, by connecting both production and consumption aspects of local food systems through food literacy training.

### *The British Columbia food system*

A large and diverse collection of actors are involved in food systems transformation initiatives in British Columbia, including numerous civil society organizations. Four municipal and regional food policy councils exist in the province, and provincial and regional public health authorities have taken interest in food security and food systems

issues, primarily from a human health perspective (Mundel 2013). The origins of many of these organizations are rooted in concerns about regional food security due to the province’s limited supply of agricultural land, most of which is located in peri-urban areas under intense development pressure (Newman et al. 2015). Despite the limitations, the presence of suitable farmland aligns with favorable climatic conditions in highly populated areas of the province, in particular the Fraser Valley area of the Lower Mainland, parts of Southern Vancouver Island, and the Okanagan, and enables British Columbia’s farmers to grow a wide variety of commodities, much of which is exported (BCMA 2016). While framed around increasing total revenue, including in the export sector, the 2015 BC Provincial *Agrifood and Seafood Strategic Growth Plan* includes goals for increasing domestic markets through public procurement. The strategy includes the goal of increasing within-province purchases of BC products by \$2.3 billion (or 43%) by 2020, with a proposed action for achieving this goal to “encourage the development and adoption of buy local policies for food retail, food services, and public sector institutions” (BCMA 2015).

### *Farm to school activity in BC*

Programs explicitly framed as “farm to school” have been operating in various forms in different parts of the province since at least 2007; other initiatives that bear characteristics of farm to school programs have also been operating without the label. These projects did not originate from a single source or coordinating organization, but rather from diverse actors scattered across the province. JoAnne Bays, a provincial and national leader in farm to school and farm to institution initiatives, credits a 2006 presentation in British Columbia by FoodShare, a Toronto-based community organization, as having galvanized the first initiative branded as a “farm to school” salad bar program in the province (Bays 2010). Since the 1990s, FoodShare had implemented salad bars in several schools, mobilized municipal funding to support student nutrition programs, and advocated for a national school food program for Canada, as well as having initiated a suite of other efforts to promote more localized food economies (Friedmann 2007; FoodShare 2016).

Building on the enthusiasm for farm to school programs in the province, Farm to School BC was established in 2007 as a network that “promotes, supports, and links Farm to School activity, policy and programs across the province,” and is administered by the Public Health Association of British Columbia (PHABC), an NGO which has multiple funding partners, including the Ministry of Health (PHABC 2017). PHABC, the BC Healthy Living Alliance, and other organizations supported several salad bar

and produce availability-focused farm to school expansion initiatives throughout the province between 2007 and 2014 (Bays 2010). In the fall of 2014, Farm to School BC began a 2-year project entitled *Growing Farm to School* to foster the development of 50 new farm to school programs across the province and the development of three pilot Farm to School Regional Hubs in three urban centres. Goals for the Hubs program included increasing the number of schools involved in farm to school initiatives; building and strengthening existing farm to school programs; establishing networks and resource groups providing support for establishing and maintaining Farm to School programs; communicating about Farm to School initiatives to the general public; and establishing a Regional Hub model that might be applied throughout British Columbia, and elsewhere in Canada, while remaining flexible enough to meet the needs of different communities.

## Methods

Our characterization and analysis of the farm to school movement in BC is based on document analysis and qualitative fieldwork conducted from 2013 through mid-2016, which included a participatory, community-based evaluation of the Farm to School Regional Hubs program. Documents included materials produced by Farm to School BC, Farm to School Regional Hubs, and by other groups and individuals involved in organizing farm to school activities in the province. Our qualitative field work involved structured interviews and focus group interactions with two groups of farm to school actors in the province: participants in farm to school “Learning Labs” and stakeholders and coordinators of the three Farm to School BC Regional Hub pilot programs. We also attended events which were either organized by Farm to School BC or which featured speakers involved in farm to school organizing in the province.

## Learning labs

In 2012, a group of stakeholders who had coalesced to form a community of practice called Farm to School of Greater Vancouver (F2SGV) decided to focus on food procurement in a large urban school district in British Columbia. To work toward this goal, F2SGV decided to take a “Learning Lab” approach, defined as an ongoing process of stakeholder collaboration and consultation that involved activities linking purchasing and food service leaders within the district’s school board and individual schools with distributors and with other area stakeholders. The series of activities that comprised the Learning Lab occurred in 2013 and 2014. Facilitators contracted by F2SGV conducted interviews with seven district purchasing and food service

leaders and held two learning lab discussions, including a “test kitchen” event with local food systems actors including chefs, teachers, public health officials, and representatives from a food distribution company. The Learning Labs aimed to develop promotional materials and to bring stakeholders “together in a collaborative process to increase the availability, procurement, and consumption of local food in schools” (F2SVA 2016, p. 23).

## Regional Hubs focus groups

Our research team conducted a process evaluation of the Regional Hubs pilot program in 2015–2016, which consisted of two focus groups (in fall and spring) conducted with each of the three Regional Hubs (Vancouver, Capital/Victoria, and Kamloops). A total of 23 individuals participated across the six focus group sessions. Though the Farm to School BC Regional Hubs pilots began in 2014, many who participated in the focus groups had been involved in some form of farm to school work for several years prior to the initiation of the Regional Hubs program; for example, many of those who supported the formation of the Vancouver Regional Hub had been involved in F2SGV. All members of steering committees for each Regional Hub were invited to participate in the focus groups, and included public health officials, school district representatives, and leaders from other community food organizations. Two urban farmers participated, both of whom also held other roles in farm to school organizing (one as a parent and one as a community food systems activist). Our research team also participated in meetings between Farm to School BC provincial-level leadership and Regional Hubs coordinators; sat in on steering committee meetings for each hub; and attended events that each hub hosted in its respective community.

## Results

Farm to school programs have the potential to support goals of food sovereignty as a structural mechanism to reshape market relationships and political engagement in local and regional food systems. We sought to understand the development of the farm to school movement in British Columbia, where there is no universal school feeding program, but where various forms of farm to school initiatives have existed for nearly a decade and involve a wide variety of actors from civil society and public health and education sectors. In this section we characterize farm to school organizing in BC, in particular tracing how food literacy training has emerged as the dominant framing for farm to school activities. We identify challenges that have significantly shaped attempts to implement farm to school

programming focused on public procurement, which suggest large-scale implementation of mediated markets for school food in the province will require longer-term structural and policy transformation.

### Procurement framing

In its vision, goals, and overall discourse, the farm to school movement in BC has drawn substantially on the international farm to school focus related to sourcing food from local farms for school meals. Emphasis on local procurement was found in overview documents and guidebooks for farm to school activities in the province; in program proposals and justifications; and in goals and objectives stated by provincial farm to school actors.

For example, the second edition (2012) of *A Fresh Crunch in School Lunch: The BC Farm to School Guide*, is regularly referenced by Farm to School BC, who prepared the document, as well as by other farm to school actors in the province. This guide lists benefits of farm to school, which it defines broadly as “a school-based program that connects schools (K-12) and local farms” (p. 2), based on research on US farm to school programs (PHABC 2012). For children, the guide lists benefits surrounding healthier options in school cafeterias, increased food and agricultural literacy, healthier lifestyle choices, and enhanced mental and social development. For farmers, the guide lists market diversification, positive relationships with the school and broader community members, opportunities to explore processing and preservation for institutional markets, and establishment of grower cooperatives to supply institutional markets. While the guide goes on to discuss school gardens and other types of programming that fall under the farm to school umbrella, there remains a significant emphasis on purchasing and serving food produced by local farmers throughout the guide, including general tips for schools on how to find local farmers to work with and how to develop menus around what is produced locally.

The *Farm to School Vancouver Area Guide*, produced by Vancouver’s Regional Hub and released in Spring 2016, draws on the 2012 *BC Farm to School Guide* while providing information specific to the Metro Vancouver region. This guide includes a section with step-by-step instructions on how schools can buy from farms, a farmer directory, and a “Focus on Farmers” profile of several local farms, in addition to recipes centered on foods grown in the Metro Vancouver area. The guide also includes some information on school gardens, primarily through discussions of how to incorporate farm to school into school-led curriculum and pedagogy and through quotes from students about their experiences with school gardens (F2SVA 2016).

The movement’s interest in school meal ingredient procurement from local farms was also reflected in the

Learning Labs, which were designed with procurement as their central focus. Collaboratively, a group of school representatives and F2SGV stakeholders set four goals during their discussions: (1) increase procurement of local and/or sustainable food; (2) procure foods that model sound nutritional practice for students; (3) create a knowledgeable and engaged school community for local, healthy, and sustainable food; and (4) provide training and support to develop capacity to procure local, sustainable food. Three of these goals explicitly focus on procurement, though one primarily concerns building food literacy (F2SVA 2016, p. 22).

### The BC school meals landscape

Although neither a national Canadian nor a provincial-wide school meals program currently exists in British Columbia, the provincial government provides some funding for feeding students in schools, through CommunityLINK (Learning Includes Nutrition and Knowledge). For the 2016/2017 school year, this funding will total \$52 million CAD, distributed across all 60 school districts in the province. An additional \$11.2 million of provincial funding will be distributed across 25 of the school districts to meet the needs of the growing numbers of socioeconomically vulnerable students in those districts. Considering there are approximately 554,000 students enrolled in public schools in BC, this \$63.2 million funding represents a \$114 expenditure per child per school year (BCME 2016). CommunityLINK funding is designed “to support the academic achievement and social functioning of vulnerable students,” and while many schools use the funding to support feeding programs, it can also be used to provide other services such as academic support (BC Government 2016). Some school districts also support student nutrition programs through additional funding sources, including charitable donations and municipal allotments (e.g. VSB 2015).

To establish guidelines for the use of funding for providing food in schools, the province developed a *School Meal and School Nutrition Handbook*, last updated in 2010. There are seven principles on the list of “Guiding Principles for School Meal and School Nutrition Programs,” including Healthy Eating, Food Safety, Respect for Students and Families, Respect for School Diversity, Cost-Effectiveness, Partnerships, Food Security, Food Experience (social interaction), and Education. As part of the Food Security principle, the handbook states that “Programs will contribute to food security in British Columbia by increasing students’ access to healthy foods and, where possible, by offering locally grown foods” (BCME and BCMHLS 2010, p. 5). In 2013, the province released *Guidelines Food & Beverage Sales in BC Schools*, which defines minimum nutrition standards for foods and beverages sold to students as mandated policy for schools, and includes suggestions and

tools for implementing the guidelines (BCMh & BCME 2013). The guidelines document lists using farm to school programs to teach students about local food systems as an example of a possible teacher action to support the policy, and includes using seasonal fruits and vegetables “to support local BC food producers” as a way to encourage compliance in school bake sales (p. 75).

While the school nutrition programs funded by CommunityLINK focus on delivering food to vulnerable students, some schools provide food services for both these students and the general student population. Schools with no kitchen facilities, which include many elementary schools in the province, often rely on contracts with private catering companies to provide the provincially supported meals for vulnerable students, and in some cases for other students as well. Some high schools have student culinary instruction programs, and the participating students may prepare meals for others at their school or for students at nearby elementary schools. Schools may have kitchen staff and cafeterias that market food to the general student population.

In addition to this diversity in how food is prepared or provided within schools, there is considerable variance among school districts in British Columbia in sourcing the ingredients. In some school districts, purchasing is centralized at the district level, typically via district-wide contracts with large suppliers such as Sysco. In other districts, schools independently make purchasing decisions or form purchasing groups with other nearby schools. As noted by a Learning Lab participant, for secondary schools with teaching cafeterias, sourcing is “Curriculum driven... can buy local apples if it meets goals of curriculum.” Even when under contract with a larger supplier, schools often have some leeway to purchase foods outside of the contracts for use in the cafeteria, and some actively choose to purchase from local farms.

Province-wide programs also supply food to schools as a means of increasing student fruit and vegetable consumption and promoting the agriculture sector in the province. The BC School Fruit and Vegetable Nutritional Program (BCSFVNP) launched in 2005 with 10 schools involved, and by the 2015/16 school year had grown to include almost universal coverage, with programs in 1464 K-12 public and First Nations schools reaching more than 549,000 students. The program provides a serving of BC-grown fresh fruit and vegetable snacks every other week during the school year (13 times). The BCSFVNP is currently piloting a program that would additionally offer servings of BC milk to children in grades K-5. The BCSFVNP receives financial support from the Ministry of Health and administrative support from the Ministry of Agriculture and Ministry of Education, and is managed by the BC Agriculture in the Classroom Foundation, a non-governmental organization which functions as a registered charity, and which also

receives substantial support from producer organizations such as the BC Dairy Association (BCAITC 2016).

### Challenges to scaling up local food procurement in BC schools

The infrastructural limitations of BC’s school feeding landscape foreground many of the reasons that the programs implemented by the farm to school movement in the province have struggled to scale up food procurement from local farms as a primary component of farm to school. Furthermore, prior to recent developments such as the formation of the National Coalition for Healthy School Food, much of the discourse surrounding school feeding programs in Canada has been focused on alleviating poverty-based food insecurity, rather than around nutrition for the total student population. A 2014 news article asking whether Canada needed a national school meal program began with, “When you think of breakfast and lunch programs at public schools, it usually brings to mind kids and youth whose parents can’t afford to keep their pantries stocked with enough food for three meals a day” (Hyslop 2014). This focus on school feeding primarily as a poverty alleviation program, rather than as a component of education and health for all students and coupled with an agricultural economic development strategy, is one of the discursive tensions within the nascent mobilization of a large-scale social movement seeking a national school feeding program.

Participants in our focus group discussions and Learning Labs identified several other challenges to implementing local procurement programs with institutionalized relationships to the local farming sector as part of farm to school activities in BC. Even when meals are served in schools, there are several barriers to increasing the amount of local food in the supply chain. Schools often request food safety documentation, which is primarily handled through traceable food safety practices built into operations of large institutional suppliers. Individual local farmers or smaller-scale local suppliers may have difficulty providing the documentation needed to demonstrate that they are meeting similar food safety guidelines. School meal programs also rely on other aspects more characteristic of large-scale distributors, including the consistency in availability of food items at sufficient quantities to meet the needs of the schools over the course of a school year. Learning Lab participants shared their perceptions that they may not be able to get sufficient quantities of preferred, and often prepared or processed, food ingredients directly from local farmers, and commented on the seasonal limitations of local production. As one participant stated about local food, “most of the great seasonal stuff doesn’t coincide with school year.” Securing local food through the existing large-scale distributors can also be a challenge; some large institutional

suppliers list the geographic origin of food on their ordering forms, while others do not.

Participants also discussed challenges encountered by school staff and operational facilities as limitations in local sourcing of school meal ingredients. Many schools have kitchen facilities with limited equipment and storage, especially freezer space. Whether cafeteria staff are hired directly through schools or through catering contractors, there are often not resources available to train them in preparing cost-efficient recipes using available local ingredients. Learning Lab participants noted that the process of tracking down, ordering, and managing local food on a regular basis can be time-consuming, and there are rarely dedicated personnel for food purchasing and supply oversight at either the school or district level, with the responsibility typically being one of many job duties of a single staff member.

### **A different focus: farm to school as food literacy**

The farm to school movement in BC comprises a large number of independent organizations and stakeholder groups involved in multiple networks. An important role of the Regional Hubs, in particular, has been to bring together these individuals and groups to discuss shared goals, values, and priorities for local food systems transformation. As an organization convening the Regional Hubs, Farm to School BC outlines three component-goals of farm to school programs: (1) bringing healthy, local food into schools, (2) hands-on experiential learning opportunities for students, and (3) fostering school and community connectedness. Most focus group participants associated the word “farm” in “farm to school” with hands-on experiences such as growing food and with fostering healthier lifestyle habits, including eating fruits and vegetables and being active, and not exclusively with the procurement of local food. Participants identified the Ministry of Health funding provided for the Regional Hubs and for the more general Farm to School BC *Growing Farm to School* campaign as “legitimizing” evidence of support from the provincial government for farm to school programming oriented towards a food and health literacy framing. Participants further described a range of components and motivations for “farm to school” based on their own backgrounds and prior work, including food literacy, garden- and food-based curriculum development, school nutrition, broader food system transformation, and local procurement. Local procurement was the least frequently mentioned among these, whereas aspects of food literacy were the most frequently mentioned.

While documents show that all three of the above component-goals have been included in the framework of Farm to School BC since its earliest days, several long-term

stakeholders in BC farm to school efforts who participated in the Regional Hubs focus groups viewed the focus of provincial farm to school organizing as having shifted over the past decade. An earlier focus was in-school salad bars, stocked as much as possible with locally-grown produce, whereas the broader focus now includes experiential food literacy education and strengthened connections between school programming and community-based food systems work. One focus group member, a school district representative, identified that while a locally-sourced school meal program may be a long-term goal, other farm to school initiatives, such as school gardens, can serve as “low-hanging fruit” to build momentum for eventual structural changes that could provide a framework for expanding local food procurement.

While Farm to School BC recommends and supports a range of programming options, school gardens have emerged as the most popular type of initiative implemented under the farm to school umbrella in BC. These gardens work toward supporting the goal of bringing healthy, local food into schools, though as described above, the amount of food that can be produced in the gardens is very limited, and the opportunities for it to be consumed in schools can be further constrained by lack of kitchen facilities and contexts for regular student meal programs. Participants discussed the role of school gardens in supporting school and community connectedness through working with local businesses to secure garden materials, consulting with experienced gardeners or other knowledge resources, and involving parents and other community members in constructing and maintaining the gardens.

School gardens are most oriented toward providing students with opportunities for hands-on experiential learning, with the goal of increasing food literacy through developing student skills in growing and preparing food and understanding multiple aspects of food systems (production, processing, consumption, and waste management), as well as introducing unfamiliar vegetables and fruits. School gardens in BC have developed in diverse forms, as both stand-alone projects and as part of suites of farm to school initiatives at schools. For example, Smithers Secondary, a school in Northern BC which received a grant under the *Growing Farm to School* program, developed school gardens and greenhouses to address both the issues of food insecurity in a remote region with a short growing season, and to teach students about food systems. Farm to school activities at Smithers incorporate lessons about climate change, relationships between food consumption, health and well-being, and relationships between air and water quality and food production, transportation, and waste. Students and staff produce over 35 types of edible plants, which are both used for student consumption and for sale to local community members; the local community also assists in tending

the gardens when school is not in session in the summer. As noted in the school's 2016 progress report, "This project has provided a basis for teaching the key social responsibility concepts of sustainability, self-sufficiency, and healthy living" (Smithers Secondary 2016).

The Queen Elizabeth Annex elementary school in Vancouver, also a *Growing Farm to School* grant recipient, started with a focus on nutrition education and food skill building. In support of these goals, students, staff, and parents have constructed and maintained an edible garden, which teachers credit for increasing student openness to trying new vegetables, and for students sharing their interest in healthy foods with their parents at home. The farm to school team at Queen Elizabeth Annex has also constructed bee and butterfly gardens for helping develop student understanding of pollination, and has implemented school-wide composting (Larrivee et al. 2016). At Wildflower Elementary in Nelson, BC, instead of building an on-site school garden, teachers used the *Growing Farm to School* grant to develop a food literacy curriculum with modules on food geography, food culture, food as fuel, food as medicine and food systems. Teachers partner with local farms and gardens, where students participate in both planting and harvesting during visits; students also visit area commercial food processing facilities. According to Wildflower's 2016 self-generated progress report, in regards to student outcomes, "They learned that we are a part of complex food systems, and that these systems are integrated with many other systems, all with far reaching impacts" (Wildflower Elementary 2016).

Some schools have incorporated emphasis on foraging for wild plants and on cultivating native and traditional plants used by Indigenous populations in school gardens. These activities involve working closely with elders and other traditional knowledge keepers in the communities surrounding the schools. For example, Skeetchestn Community School near Savona, BC, on the Skeetchestn Reserve, installed a garden and greenhouse on school grounds with the help of the Chief and Council and with support from a *Growing Farm to School* grant. Students are growing traditional tobacco for ceremonial offerings to elders and to the land, in addition to vegetables. Community elders are teaching students how to use traditional plants, and local fishermen and hunters have worked with Health Authority representatives to share harvested foods with the school (Zutz 2016).

Focus group participants from several stakeholder groups emphasized how school garden programs under the farm to school program umbrella were meeting the goals of their organizations related to food systems transformation. For public health officials, student health promotion is the primary motivation for establishing farm to school programming. As one public health official noted,

"From a public health perspective, we have a very large focus around healthy schools, and looking at the whole school environment, and the context that kids learn. Food is a really important part of that. Kids need healthy food to learn and to be successful, so the food literacy piece of farm to school is really important." School district representatives identified school gardens as aligning with provincial education mandates. Across the province, models and priorities for school curricula are shifting to include more emphasis on experiential, inquiry-based, and project-based learning; district representatives saw farm to school as naturally fitting into these new curricular priorities, with a strategic link to food literacy objectives, primarily healthy eating and developing food skills. For example, a school district in Kamloops has adopted project-based learning as a key framework for its curriculum in the coming years, and farm to school programming will help fill the mandates of this curriculum, since initiatives such as school gardens can be incorporated into lessons across multiple subjects and students are involved in all stages of their creation (e.g. from researching appropriate species to plant, to scaling up recipes for cooking harvested vegetables). District representatives see this curricular connection as being key to maintaining and building support for farm to school activities among school district administrators and teachers.

### **Discussion: farm to school and food sovereignty in BC**

Farm to school programs have the potential to contribute to goals of food sovereignty by taking the critical step of connecting primarily consumer-focused concerns around healthy eating and food skills to the need for structural changes in the food system as a whole, including by supporting local farmers through mediated markets, improving the quality of food available to school children, and establishing social infrastructure towards broader food literacy and public engagement in food systems. When situated within broader discussions of structural change in food systems, farm to school initiatives around food access and justice, traditional cultural food practices, school gardens, harvesting wild foods with community members, and food preparation can not only build individual skills but also contribute to food literacy oriented toward food sovereignty by creating links between individual eating choices and skills and broader community and structural food security challenges.

In countries that have universal school meal programs, the opportunity to insert social goals into institutional purchasing contracts can provide a framework and influential leverage point to support increased purchasing from local farms. Leveraging public procurement spending has the

potential for substantial economic impact for local producers; worldwide, budgets for public procurement range from 6 to 12% of GDP, and governments have long “used their purchasing power to achieve important redistributive and developmental goals” (De Schutter 2014, p. 2). However, in British Columbia, for farm to school to function in a mediated market role to support regional food production, structural policy changes are needed at the provincial and/or national level. The lack of a comprehensive and universal provincial or national government-sponsored school lunch program means that the way food is handled in schools in BC is both diverse and inconsistent. Many schools do not have the capacity to purchase local food for school meals, as they have few or no resources or facilities for any sort of food service, which creates a structural limitation to the role of farm to school in increasing support for local agriculture, at least in the short term. However, the “discursive turn” towards food literacy as a mechanism to increase consumer engagement with food systems transformation may bear fruit in the longer term. The group of non-governmental organizations that has assembled nationally as the Coalition for Healthy School Food, and the work of some government leaders, indicates that a Canada-wide movement for a comprehensive school meal program is building. Such a program, built with knowledge of the history and current trajectory of the national school meal programs in other regions of the world, would likely be designed to include a focus on incorporating locally-sourced food into school meals.

Even if a federally-supported school meal program is not implemented in the near future, there is potential for increased support for mediated markets at the provincial level through grassroots mobilization for food literacy. The steadily increasing amounts of funding in recent years for school feeding programs for vulnerable students through CommunityLINK, combined with the BC Ministry of Agriculture’s focus on local procurement in its *Strategic Plan*, have the potential to generate increased purchases from local producers to supply what food is served in schools. Realizing this potential will require such measures as support for more farmers to gain the necessary certifications to supply to large distributors and institutional purchasers, or to develop their own collective distribution models and traceable food safety documentation practices that satisfy school needs. Our BC case study highlights the shared responsibilities and cooperation required among government, community organizations, and private producers and consumers in order to implement mediated market interventions in support of meeting food sovereignty goals (Desmarais and Wittman 2014).

Though farm to school programs in BC are limited in the degree to which they can fulfill the role of supporting local farms as the principal supplier of school meal

programs, they are laying groundwork for other contributions to food sovereignty goals. Stakeholders in BC agree that farm to school programs are fostering food literacy in the students who participate in them, not only through individual skills development and opportunities for healthy eating, but also increased understanding of the structural and political context of food systems, environmental impacts of food production, community food security, and cultural significance of traditional and wild foods. Food literacy exists at a confluence of individual knowledge, skills, access, and beliefs, where they interact with policies, programs, availability, and culture (Cullen et al. 2015). The food literacy work that students—in collaboration with their parents and community organizations—are developing in elementary and secondary school thus has strong theoretical potential to lead to increased social and political engagement in food systems throughout their lives. For example, these initiatives may affect how future citizens direct their consumer spending in relation to more “healthy,” “sustainable,” and/or “local” foods; lead students and their families to become directly involved in food production; or lead them to support policy initiatives over time related to the food system at large. British Columbia’s farm to school movement is thus one pathway helping to support the transformation of the food system, emphasizing the potential for broader citizen involvement in supporting food sovereignty goals (Block et al. 2011; Clendenning et al. 2016). Our work highlights the need for ongoing assessment of farm to school programming, in particular in relation to outcomes of mediated markets such as institutional procurement for supporting local producers, for short- and long-term outcomes for student and other participants, and in relation to broader policy mobilization for food sovereignty.

In conclusion, our examination of farm to school organizing in British Columbia demonstrated both challenges and opportunities for farm to school initiatives to function as a mechanism towards food sovereignty. Our study contributes to the growing body of literature examining food sovereignty in urban and Global North contexts (Wittman et al. 2011; Alkon and Mares 2012; Desmarais and Wittman 2014; Laidlaw and Magee 2014; Cidro et al. 2015), while also illuminating barriers to realizing the benefits of increased public food procurement for local farmers when there is no or limited state-supported infrastructure for school meals—a situation that has the potential to expand to other G8 countries if funding for nutrition programs is reduced as part of government spending cutbacks. While the lack of a Canadian national school meal program is a major hurdle that limits the potential of farm to school programs to support local producers, there are both opportunities for increasing local procurement within the existing framework and growing public momentum for policy changes that could lead to universal school meals. Even

when they do not involve the procurement of local food for school meals, education-focused farm to school programs in BC and other areas are building food literacy in school age children who will have significant future economic and political power. As populations in the Global North wrestle with wide-ranging food systems challenges, including ongoing unequal access to healthy and culturally-appropriate foods; increasing financialization and degradation of farmland; and uncertainty about export markets and import consistency due to changing trade policies, increased food literacy education can help close the discursive gaps between concerns of consumers and producers, with food sovereignty serving as a uniting framework.

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