Perspectives on Community Based Food Security Projects

A Discussion Paper

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Foreword

Planning for community food action initiatives is at an important juncture. As health authorities invest new resources to meet commitments in this area, they must find common ground on what works best in yielding positive outcomes.

The goal of this discussion paper is to explore the experiences in BC and elsewhere and to promote common understanding that will support collaborative planning of effective, evidence-based programs. It recognizes that a variety of perspectives exist regarding food security, a variety of programs are being supported and a variety of methods are used to gauge effectiveness.

This diversity presents challenges but also opportunities to move ahead. BC can lead by collaborating on common province-wide goals, measures and tools for program planners and funding agencies. This discussion paper is an initial step towards identifying common opportunities.

One highlight that stands out for me personally is how critical it is to develop and put into place an evidence-based framework. Practice has outpaced the available evidence in food security programs. However, incorporating evidence from design through to implementation and evaluation is essential to sustain the recent growth in interest in food security initiatives, and ultimately to improving the health of the population we serve.

I look forward to hearing the perspectives of the Community Food Action Initiative partners on the next steps recommended by this discussion paper.

Lydia Drasic

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Provincial Health Services Authority

Highlights

The goal of the Community Food Action Initiative is to increase food security for the BC population. The specific objectives to accomplish this goal are to increase:

- Awareness about food security.

- Access to local, healthy food.

- Food knowledge and skills.

- Community capacity to address local food security.

- Development and use of policy that supports community food security.

This paper considers community food projects or interventions aimed at addressing accessibility. According to the World Health Organization, food knowledge and skills are not sufficient by themselves to ensure proper nutritional intake. Access to good, affordable food makes more difference to what people eat than education does. While interventions may show promise in terms of short term process outcomes, the correlation to health and population outcomes needs to be researched further.

Focusing on Health Outcomes

Often, but not always, community food security activities are directed at the individual or household level while targeting specific populations such as those with low incomes, the homeless, children or seniors.

A continuum of community responses can be drawn but programs are often developed and delivered in various settings (schools, community centres, gardens, etc.) in response to perceived local need and often with broader goals than just food security.

Several program structure and management criteria are recommended as good practice for CFAI and are detailed within the report. In addition, seven distinct outcome objectives could be identified for activities which focus on access issues, with individual initiatives directed at one or more. They are:

- Alleviate hunger

- Obtain and distribute nutritious, affordable food

- Localize food resources

- Develop or enhance individual food skills (production, preservation and storage, preparation)

- Improve nutritional knowledge

- Enhance social capital formation and community capacity

- Development and use of healthy policy

Ensuring Effective Evidence

Evidence-based decision-making is seen as key to planning for population health. However, practice is ahead of the evidence base. Evaluations from a population health perspective would be complex to perform and beyond the scope of many community-based food security activities. It is unknown to what degree those with the most need for these programs actually access them. Improving the evidence base is essential to demonstrating actual outcomes and to sustaining the commitment of decision-makers to activities. Recognizing the variety of local circumstances and that one size does not fit all, seven points were recommended for consideration as next steps:

1. Develop a logic model to assist local agencies with funding decisions

2. Perform environmental scans to assess how activities integrate in their community

3. Establish common indicators and collect baseline data

4. Evaluate some existing projects to develop funding criteria

5. Identify underserved low-income populations

6. Review the evidence on broader aspects of community food security

7. Partner with social researchers to research and evaluate

Recommendations for Good Practice on the Community Food Action Initiative

The following suggested program selection criteria address the program itself, the context of the community food security program environment and general program structure and management criteria, and may be able to be used to assist both program applicants and funding bodies.

1. Program Structure and Management Criteria

All programs should address the following *program structure and management:*

■ Be safe and fall within any applicable regulations.

■ Be cost-effective, or at least have cost/ effectiveness tracking strategies.

■ Have an evaluation plan in place prior to start-up.

■ Have clear and appropriate outcome measures, including participant outcomes (e.g., knowledge, attitudes, behaviours, nutrition or health – see also the food security program criteria such as increasing access and so on).

■ Have an ongoing process auditing plan in place that tracks key indicators (e.g., staff activities and hours, volunteer activities and hours, cash flow, clients served, etc.).

■ Have an evaluation/ review horizon (e.g., every 2 years).

2. Food Security Aspects of Individual Programs Criteria

Along the food security continuum there are criteria that can be applied to assess program merit. The *food security aspects of the individual programs* should offer some combination of the following:

■ Alleviate hunger and malnutrition

■ Offer nutritious foods

■ Promote human dignity

■ Use local resources

■ Be community-based (desired, not imposed)

■ Support social capital development (multiple personal interactions)

■ Have a long-term plan or process to support project sustainability

■ Offer an education component

3. Other Program Support Criteria

Other considerations are that the program should:

- "Fit" into the community political and social atmosphere.

- Consider support of existing programs.

- Consider the impact of new programs on existing programs

Resources

Community Food Security Program Checklist

The following suggested program support criteria may be able to be used to assist both program applicants and funding bodies. The rationale for the criteria can be found in *Perspectives on Community Based Food Security Projects: Issues and Programs,* Provincial Health Services Authority, February 2006.

1. Program structure and management should:

- Be safe and fall within any applicable regulations.

- Be cost-effective, or at least have cost/ effectiveness tracking strategies.

- Have an evaluation plan in place prior to start-up.

- Have clear and appropriate outcome measures, including participant outcomes (e.g., knowledge, attitudes, behaviours, nutrition or health – see also the food security program criteria such as increasing access).

- Have an ongoing process auditing plan in place that tracks key indicators (e.g., staff activities and hours, volunteer activities and hours, cash flow, clients served, etc.).

- Have an evaluation/ review horizon (e.g., every 2 years).

2. Community-based food security programs should:

- Alleviate hunger and malnutrition

- Offer nutritious foods

- Promote human dignity

- Utilize local resources

- Be community-based (desired, not imposed)

- Support social capital development (multiple personal interactions)

- Have a long-term plan or process to support project sustainability

- Offer an education component

3. Overall, Programs should:

- "Fit" into the community political and social context.

- Consider support of existing programs.

- Consider the impact of new programs on existing programs

Practical Online Resources by Topic

Community Gardens:

- **City Farmer:** http://www.cityfarmer.org/

- **Vancouver Park Board, "Vancouver's Community Gardens:"** http://www.city.vancouver.bc.ca/parks/info/policy/comgardn.htm

- **Levenston, Mike, "Urban Agriculture Initiatives in the Vancouver Area," 2004.** http://www.ryerson.ca/foodsecurity/Documents/CityFarmer.doc

- **Toronto Food Policy Council, "Feeding the City from the Back 40," 2001.** http://www.toronto.ca/health/tfpc_feeding.pdf

- **Hobbs, H. "Greening Rooftops in the Garden City, Life Cycles," 2002.** http://www.lifecyclesproject.ca/PDF/Rooftop_Gardening_Hobbs.pdf

- **Draft Model to Support Community Gardening in the City of Ottawa.** http://www.flora.org/cgn-rjc/e_events_3-Jun-04.htm

- **Kortright, R. "Evaluating the Potential of Green Roof Agriculture," 2001.** http://www.cityfarmer.org/greenpotential.html

Food Banks:

- **Greater Vancouver Food Bank Society.** http://www.foodbank.bc.ca/

- **Greater Vancouver Food Bank Society, "British Columbia Food Banks."** http://www.foodbank.bc.ca/programs/listobanks.html

- **Greater Vancouver Food Bank Society**, "Programs." http://www.foodbank.bc.ca/programs/index.html

- **Canadian Association of Food Banks, "Education and Research."** http://www.cafb-acba.ca/english/EducationandResearch.html

Food Boxes:

- **Vancouver Community Network, Good Food Box."** http://www.vcn.bc.ca/gfb/index.php

- **Scharf, Kathryn. "A Nonprofit System for Fresh-produce Distribution: The Case of Toronto, Canada."** http://www.idrc.ca/en/ev-30607-201-1-DO_TOPIC.html

- **Foodshare. "What is the Good Food Box?"** http://www.foodshare.net/goodfoodbox01.htm

Food Security Action Plan Examples:

- **Thunder Bay** http://www.tbdhu.com/food/security/FAN_ReportSept2004.pdf

- **Toronto:** http://www.toronto.ca/grants/pdf/growing_season.pdf

Gleaning:

- **University of Maine Cooperative Extension, "Food for Your Community: Gleaning and Sharing."** http://www.umext.maine.edu/onlinepubs/htmpubs/4301.htm

- **Life Cycles, "Glean 'til you're green."** http://www.lifecyclesproject.ca/programs/food_distribution/fruittree/glean.htm;

■ **Vancouver Fruit Tree Project.** http://www.vcn.bc.ca/fruit/.

Meals on Wheels:

■ **Von B.C. Meals on Wheels.** http://www.vonbc.com/meals.htm

■ **Burnaby Meals on Wheels.** http://www.vcn.bc.ca/bbymeals/

■ **Langley Meals on Wheels Services Society.**
http://www2.vpl.vancouver.bc.ca/dbs/redbook/orgpgs/8/811.html

■ **"Meal Services."** http://www.fiu.edu/~nutreldr/OANP_Toolkit/Meal_Services/Meal_Services_
revised2.htm

■ **Mathematica Policy Research, "First Evaluation of the Federal Elderly Nutrition Program since 1983."**
http://www.mathematica-mpr.com/nutrition/enp.asp#objectives

School Nutrition Programs:

■ **DASH.** http://www.dashbc.org/sfnp/dc.html

■ **DASH.** http://www.dashbc.org/aboutnp/bfl/guidelines.html

Soup Kitchen Facilities:

■ **"Harbour Light Meal Service"** http://www2.vpl.vancouver.bc.ca/DBs/RedBook/orgPgs/6/692.html

United States Private Programs:

■ **Food Research and Action Center.** http://www.frac.org/html/all_about_frac/about_index.html

■ **Briefel, R., et al. The emergency food assistance system – findings from the client survey,
USDA Food Assistance Research Report #32, (2001).**
http://www.ers.usda.gov/publications/fanrr32/fanrr32.pdf

■ **Tiehen, L. "Private Provision of Food Aid: The Emergency Food Assistance System"**
http://www.ers.usda.gov/publications/fanrr26/fanrr26-5/fanrr26-5.pdf

■ **Daponte, B.O. "The Evolution, Cost, and Operation of the Private Food Assistance Network" (2000).**
http://www.irp.wisc.edu/publications/dps/pdfs/dp121100.pdf

United States Public Programs:

■ **Nutrition. Gov. "Food Assistance Programs."**
http://www.nutrition.gov/index.php?mode=subject&subject=ng_assistance&d_subject=Food%20
Assistance%20Programs

■ **Poverty Research News. "Food and Nutrition News.** http://www.jcpr.org/newsletters/vol5_no2/vol5_no2.pdf

What we know

With regard to food as a social determinant of health, the World Health Organization sums up our level of understanding as follows:

> *A good diet and adequate food supply are central for promoting health and well-being. A shortage of food and lack of variety cause malnutrition and deficiency diseases. Excess intake (also a form of malnutrition) contributes to cardiovascular diseases, diabetes, cancer, degenerative eye diseases, obesity and dental caries. Food poverty exists side by side with food plenty. The important public health issue is the availability and cost of health and nutritious food. Access to good, affordable food makes more difference to what people eat than health education.*
>
> *Social and economic conditions result in a social gradient in diet quality that contributes to health inequalities. The main dietary difference between social classes is the source of nutrients. In many countries, the poor tend to substitute cheaper processed foods for fresh food. High fat intakes often occur in all social groups. People on low incomes, such as young families, elderly people and the unemployed, are least able to eat well.*
>
> *Dietary goals to prevent chronic diseases emphasize eating more fresh vegetables, fruits and pulses (legumes) and more minimally processed starchy foods, but less animal fat, refined sugars and salt.*[i]

We also know the following

There is more understanding of the barriers to healthy eating than the efficacy of interventions to improve healthy eating.

Social capital level has a positive impact on health, taking charge of health, and psycho-social mechanisms.[ii]

Evidence for decision-making is being increasingly demanded, and the extent to which public health policy is based on evidence is being questioned.[iii]

Experts in the field of food and nutrition are calling for more rigourous research to understand the factors which influence healthy eating and population health in order to develop effective strategies to address health status, and to inform policies and programs which impact on the health of all Canadians.

What we don't know

There is as yet little evidence regarding the efficacy of community-based food security interventions. Usually, the effectiveness of these activities is either not being evaluated at all, or being reviewed

with a focus on process outcomes and with insufficient rigor to demonstrate health and population outcomes.

Do these interventions alleviate hunger and improve access to nutritious, health-promoting foods and to what extent? Are there impacts at a population level?

Does the existence of such initiatives actually contribute to on-going inaction by government to respond to the underlying causes of hunger and malnutrition?

What is the cost of food security interventions in relation to the effects achieved?

Do short-term process outcomes lead to long-term population level outcomes?

Are there more effective solutions to the issues of poverty, hunger and malnutrition?

Perspectives on Community Based Food Security Projects

1. Introduction

1.1   The Community Food Action Initiative (CFAI)

As part of the ActNow! BC healthy eating strategy the British Columbia Ministry of Health has adopted the British Columbia Public Health Alliance on Food Security's May 31, 2005 document A Proposal for the Community Food Action Initiative. This five-year initiative supports food security in BC through the implementation of community, regional and provincial plans and activities to provide increased access to safe, culturally acceptable and nutritionally adequate diets through a sustainable food system. Its aim is to improve access to healthy foods for all members of the community while specifically striving to improve access for people with low income.

The goal of the Community Food Action Initiative is to increase food security for the BC population. The specific objectives to accomplish this goal are to increase:

- Awareness about food security.

- Access to local, healthy food.

- Food knowledge and skills.

- Community capacity to address local food security.

- Development and use of policy that supports community food security.

The Regional Health Authorities throughout BC have received funding to address food security issues in their region in a comprehensive and integrated way. To support long term benefits and ensure solutions are part of a planning process that addresses community priorities, funding is allocated based on community plans rather than isolated projects.

The Provincial Health Services Authority has also received funding to provide coordination, support the Regional Health Authorities, implement province-wide initiatives and lead the evaluation of the initiative. A provincial advisory committee with inter-sectoral representation has been established to provide strategic guidance and to monitor the implementation of the overall Community Food Action Initiative. Activities include:

- Reviewing regional strategies to identify commonalities, efficiencies, gaps and opportunities to collaborate.

- The development and implementation of supports to Regional Health Authorities and provincial initiatives.

- Advising on evaluation within the context of a common evaluation framework, and reviewing and reporting results.

- Making recommendations to government, health authorities and other key stakeholders on the future direction of food security in BC.

1.2 Background

In response to a request from the Health Authorities for information to support evidence based decision making with regard to the CFAI, this paper is intended to give a brief overview of the nature and effectiveness community-based food security food activities or interventions which aim to address access to healthy, nutritious foods and to cite studies and websites which can lead the reader into each sub-area in more depth. In addition, from this review, suggestions for assessing the effectiveness of community-based food projects are developed and next steps suggested. This is a first step in an ongoing investigation of the broader dimensions of the food security issue.

The Community Food Action Initiative has adopted the definition of community food security offered by Hamm and Bellows (2003) which states that "community food security is a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes self-reliance and social justice".[iv]

Essentially food security revolves around the idea that people should have reliable access to nutritious food. But as this definition suggests, it is about much more than this. The term food security has evolved into an umbrella concept which includes activities ranging from social justice and hunger alleviation to sustainable food production and distribution through to ensuring safe and healthy food systems.

Food security is emerging as an area of interest within the health sector. Because of the clear link between diet and health and their relationship to other determinants of health, such as socio-economic status, the promotion of healthy eating and ensuring access to nutritious foods is seen to have important implications for improving the health of populations.[v] From a population health perspective, it is understood that in order to influence the health of individuals, families, and communities, comprehensive action strategies must be undertaken on the full range of health determinants. To place food security within this framework, comprehensive and coordinated food policy, programs and services acting across determinants are seen to provide the context for healthy, safe and sustainable food systems (figure 1, below) leading to a well nourished population.[vi]
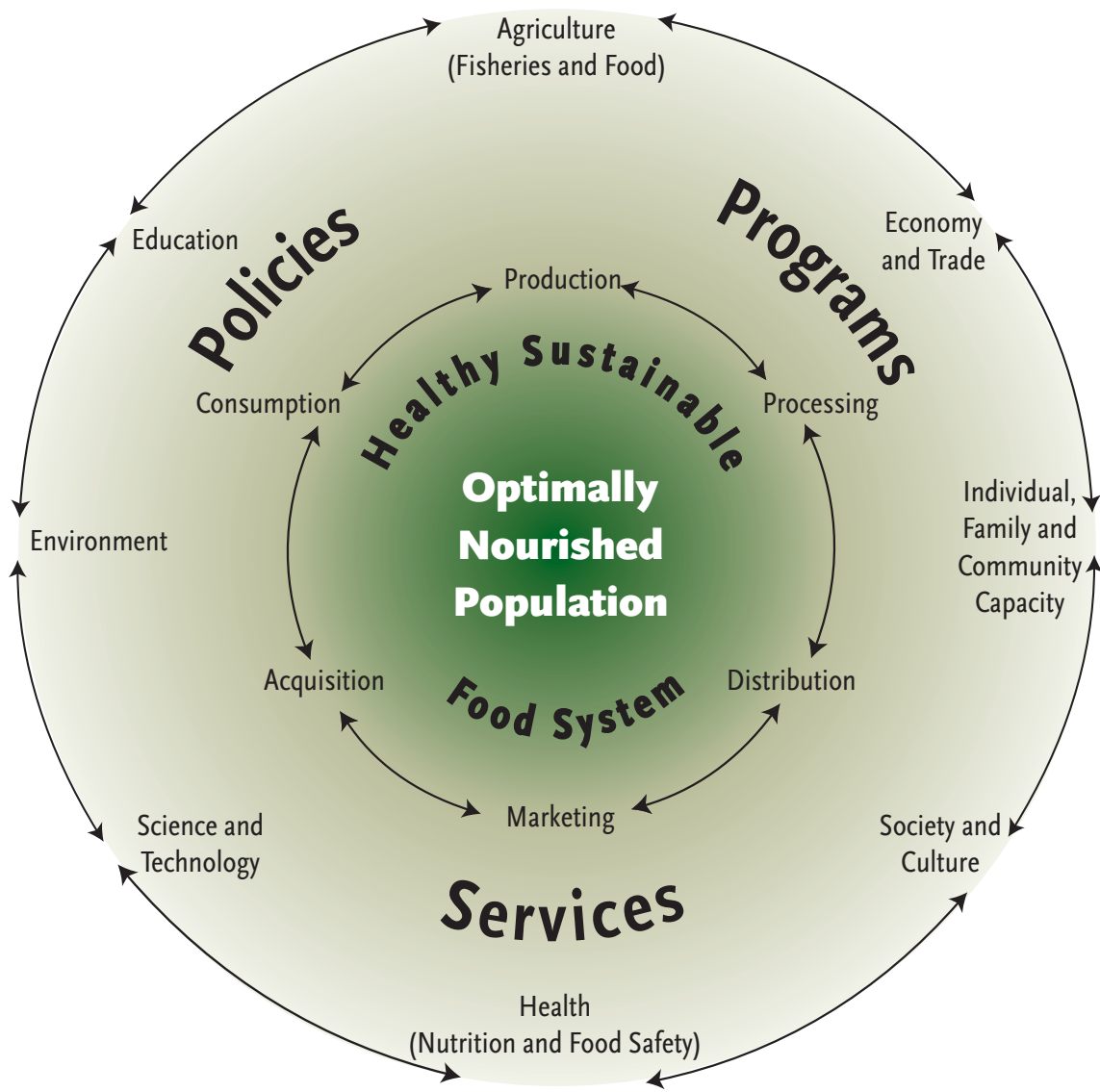
Figure 1   A healthy, sustainable food system framework. (Adapted from Dahlberg et al. 1997, Tansey and Worsley 1995).

These strategies can be synthesized into themes, with food security seen as the satisfaction of five components:[vii]

- **Availability**: sufficient supplies of food for all people at all times

- **Accessibility**: physical and economic access to food for all at all times

- **Acceptability**: culturally acceptable and appropriate food and distribution systems

- **Adequacy**: nutritional quality, safety, and sustainability of sources and methods of food supply

- **Agency**: actors, policies and processes that enable actions that ensures food security

1.3 Document Limits and Parameters

It is recognized that the issue of food security is considerably broader than the focus of this paper. Food security issues cover, among other things, the creation of integrated food security policies at all levels of government, global food distribution systems, agribusiness, and local, national, and international economies.[viii] However, this document is limited to a review of specific community-based interventions to mitigate food insecurity and food access, as opposed to discussing broader economic, social, or policy issues.

What follows is a brief overview of the nature of various community-based food security activities and projects which focus on food access and to act as a resource by citing studies and websites[ix] that can lead the reader into each sub-area in more depth.[x] In addition, from this review, suggestions for assessing the effectiveness of community-based food security activities are developed and next steps suggested.

The methodology used by researchers is further detailed in Appendix A.

2. Food Security Concepts

2.1 Food Security and Health

The link between diet and health has been well-documented. In the UK, the Department of Health reports the following:

■ Consuming at least five servings of fruit and vegetables a day can reduce the risk from heart disease, stroke and cancer by up to 20 per cent.

■ A reduction in salt intake of 6 grams per day would result in an estimated reduced incidence of coronary disease by 6 per cent, stroke by 15 per cent and hypertension by 17 per cent

■ An estimated one in three deaths from cancer and one in three deaths from coronary disease are attributable to poor diet

■ Reducing fat intake, particularly saturated fat, can help lower the risk of coronary disease and some cancers.

■ If the number of obese children continues to rise, children will have a shorter life expectancy than their parents.[xi]

Canada's rates of overweight and obesity have been consistent with those of other developed nations. In 2000-01 47.4 per cent of adults exceeded the recommendations for healthy weight.[xii] For children

the trends have been similar. Over the 15 years from 1981 to 1996, growth in the prevalence of obesity in both sexes has seen a five-fold increase.[xiii] Overweight and obesity has been shown as a common risk factor for numerous other chronic disease such as diabetes and coronary disease and their increasing incidence threatens to overwhelm the Canadian health care system.

Obesity has been shown to be more common among those in lower socio-economic groups. The National Longitudinal Survey of Children and Youth (NLSCY) found that for children aged 2 to 11, those who lived in families below the low income cutoffs (LICO) were more likely to be obese than those living in families above the LICO.[xiv]

There is a growing body of evidence demonstrating that Canadians on low income are nutritionally vulnerable for a number of reasons:

- In Western industrialized countries, those in higher socio-economic groups have healthier diets (consuming more fruit and vegetables and low-fat or skimmed milk, as well as fewer fats and oils, and less meat) than those in lower socio-economic groups.

- Early life circumstances, including nutrition, have a significant impact on health in adulthood.

- As economic and social circumstances decline, people have shorter, sicker lives.[xv]

- Energy-dense, nutrient-poor foods are cheaper to purchase.

- Low socio-economic neighbourhoods have fewer supermarkets which offer access to produce and other nutritional food stuffs at lower prices.

- In low socio-economic neighbourhoods, there is a higher concentration of fast food outlets.

In the 1998 UK report Our Healthier Nation: A Contract for Health access to food is one of the key factors listed as contributing to health inequalities, along with the lack of opportunity that people on low incomes have to put their knowledge about what is good for health into practice.[xvi]

2.2 A Focus on Access

For the purposes of this paper, consideration is given to community food projects or interventions which aim to address accessibility. Often, but not always, these activities are directed at the individual or household level while targeting specific populations such as those on low-income, the homeless, children or seniors.

The literature in this area clearly indicates that poverty is at the heart of the issue of food insecurity and access to food. Research has consistently illustrated that for food insecure Canadians "the most important barrier to healthy eating is inadequate income."[xvii] Inadequate or expensive housing is also

a key factor as many low income people do not have access to food preparation facilities e.g. kitchens or community kitchens.

Income is also "a determinant of healthy eating that transcends several social groups, notably children, seniors and Aboriginal peoples. In a market-based economy, those with inadequate income to purchase a healthy diet for myriad reasons, including inadequate welfare rates, minimum wage, or higher costs of healthy foods and diets, are unable to fully participate as consumers."[xviii] Although there is debate regarding the actual level of poverty, it is generally agreed that poverty in BC is significant.

After paying for shelter costs, individuals and families have little or no money left over for food or other necessities. For example:

A single parent family on assistance, which is the most common family scenario on assistance, is short after shelter costs 26 dollars per month for food and could not possibly afford a healthy diet nor other necessities including clothing, transportation (to look for work and hunt for bargains), child care (to support a job search), school supplies and personal care items (e.g. toothpaste, hand soap, shampoo).[xix]

According to the report "Food Insecurity" published in Statistics Canada's Health Reports in May of 2005, almost 15% of Canadians, or an estimated 3.7 million people, were considered to be living in what is known as a "food-insecure" household at some point during 2000/01. The report, based on data from the Canadian Community Health Survey (CCHS), also found that more than 40% of people in low- or lower-middle-income households reported some degree of food insecurity. Households were considered to be food insecure if the person responding on behalf of the household acknowledged any of three circumstances stemming from a lack of money: someone had worried about not having enough to eat; someone had not eaten the quality or variety of food desired; or someone had not had enough to eat.[xx]

Among the world's richest nations, Canada has one of the worst rates of child poverty at 17.6 per cent.[xxi] Food insecurity, malnutrition, the prevalence of chronic disease such as early onset diabetes and obesity, and food bank use among children are some of the consequences of this statistic. Since 1989, the number of children utilizing food bank support has increased by 184,309.[xxii] For British Columbia, this situation is even more severe: BC has the highest child poverty rate of any province at 23.9 per cent, or nearly one out of every four children.[xxiii] In 2005, 24, 216 children were recipients of food bank support during the month of March.[xxiv]

Since the establishment of the first food bank in 1981, Canadians have increasingly relied on a charitable food system comprised of food banks and soup kitchens to meet the needs of the growing numbers of hungry. However, according to the 1996 National Longitudinal Survey of Children and Youth (NLSCY), when asked how they coped when they had insufficient food, only 35 per cent of hungry families reported that they utilized food banks. The 1998-99 National Population Health Survey (NPHS) indicated similar results in their analysis of all age groups, in that one-fifth of those

reporting food insecurity sought assistance from charitable food sources.[xxv] Those facing food scarcity and hunger predominantly resort to other strategies to address these issues.

While sometimes referred to as an 'emergency food system', food banks are poorly equipped to meet the growing demands for food: in 2005, the average food bank was able to provide 5 days worth of food per month in their food hampers.[xxvi]   Food banks may also limit the frequency a recipient can access a food bank: nearly sixty per cent of food banks limit visits to one per month for hampers.[xxvii] As this system is also inadequate to address the needs of emergencies such as a natural disaster or flu pandemic, therefore, for the purposes of this paper, food banks, soup kitchens and the like will be referred to as the 'charitable food system'.

2.3 Food Security or Community Food Security?

The terms food security and community food security are generally not well understood and may be confused with concepts such as 'food safety' or 'bio-terrorism' for example. It is therefore useful to describe and delineate these concepts. At the most basic level, food security refers to the *ability* of an individual or household to access nutritious food. Community food security refers to the *capacity* of a community to provide for the food security of its members.

Food security is a term that is still relatively recent and has evolved from activities at an international level regarding hunger and malnutrition. At the 1996 World Food Summit, the Food and Agriculture Organization of the United Nations defined food security as:

"all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

Within this framework, the unit of analysis is usually the individual or household. How this state of food security is evaluated is reflected in this approach: usually measures are correlated with income or financial resources, and these indicators are more often measures of food insecurity rather than the state of food security itself. For example, in the National Longitudinal Survey on Children and Youth (NLSCY) the question was framed as "has your child ever experienced being hungry because the family had run out of food or run out of money to buy food?" The Canadian Community Health Survey (CCHS) considered households to be food insecure if the person responding on behalf of the household acknowledged any of three circumstances stemming from a lack of money.[xxviii] These indicators often point to the size of the need, but not necessarily to strategies which will address the underlying causes of this need.

Community Food Security is a term with an even more recent history. Although there is no consensus on a definition as of yet, Hamm and Bellows have offered the following description which is gaining currency:

"a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes self-reliance and social justice".

Mark Winne, Food and Society Policy Fellow, describes community food security as "both a goal and a method that embraces the full range of food chain activities – natural resources and agriculture, processing and distribution, nutrition and health, public policy – and promotes a systems approach to food problems".[xxix] Within this framework the unit of analysis is the community. How community food security (or insecurity) is evaluated profiles the state of food security along a continuum based on a range of indicators. Community Food Assessments are one tool to assist communities in assessing their capacity to provide for the food security of its members and offers an avenue for planning to address the underlying causes of hunger and malnutrition. There are six basic assessment components:

- Profile of community socioeconomic and demographic characteristics

- Profile of community food resources

- Assessment of household food security

- Assessment of food resource accessibility

- Assessment of food availability and affordability

- Assessment of community food production[xxx]

Community food security is a process for achieving food security for residents in a community. This methodology utilizes multiple interventions across sectors in order to address a complex issue such as food and food security. The goal of such activity is to increase a community's capacity to provide for the food security of its members. Capacity within a health framework can be understood as an "increase in community groups' abilities to define, assess, analyze and act on health (or any other) concerns of importance to their members"[xxxi] As such, community food security has much in common with a population health promotion framework.

2.4 Community Food Security and Population Health Promotion

Population health is an approach that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health (the social determinants of health). The population health approach recognizes that health is a capacity or resource rather than a state, a definition which corresponds more to the notion of being able to pursue one's goals, to acquire skills and education, and to grow. This broader notion of health recognizes the range of social, economic and physical environmental factors that contribute to health. Within this framework, health is understood as "the capacity of people to adapt to, respond to, or control life's challenges and changes."[xxxii]

Community food security activities and interventions can be seen as operating within a similar framework. This methodology is discussed elsewhere in this paper, but to be brief, community food security like population health, is a conceptual model for thinking about food security and the health of a community. It uses a systems approach for analysis and action on a range of determinants impacting on food and nutrition, and supports collaboration across a range of sectors. The who, why and how from the population health promotion model (see Figure 2) could easily be superimposed on the community food security framework, noting that rather than reorienting health service, the priority from a community food security perspective would be to reorient the food system towards health.

WHO: With whom can we act? The levels within society where action can be taken

WHAT: On what can we take action? (The determinants of health — areas where action could improve health)

HOW: How can we take action to improve health? (The Ottawa Charter Action Strategies)

WHY: Why take action to improve health? (Using the best available information to make decisions that are consistent with community needs, values and resources.)

Nancy Hamilton & Tariq Bhatti
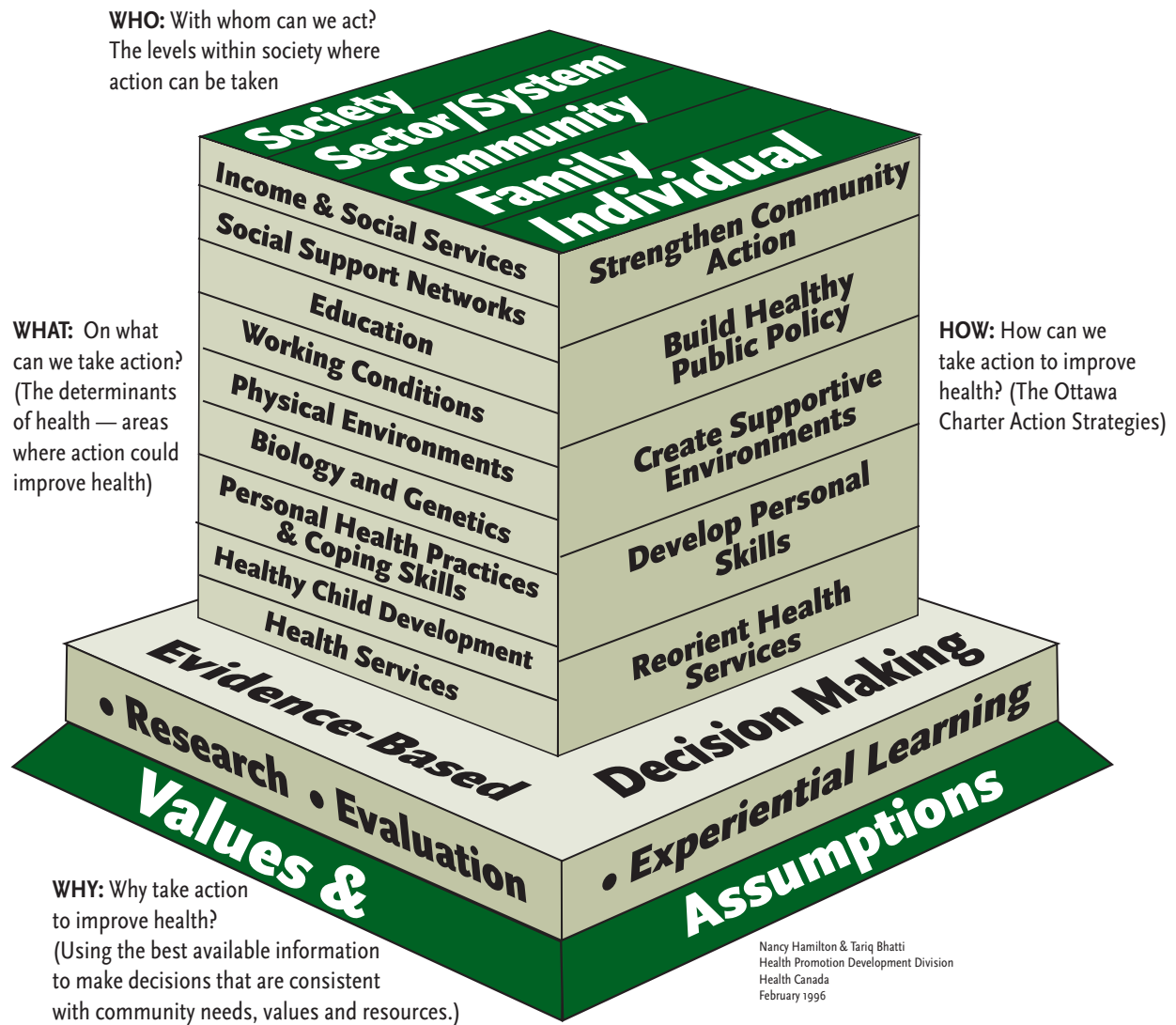Health Promotion Development Division
Health Canada
February 1996

Figure 2 Population Health Promotion Model

3. Evaluation and Evidence

3.1 A Word on Evidence

Within the framework of population health, evidence-based decision making (EBDM) is seen as key to developing programs and policies which will address the needs of community members.   The aim of EBDM is to ensure that decisions about health and health care are based on the best available knowledge. To use EBDM one must first assess what constitutes evidence, both in relation to health-enhancing interventions and to organizational or policy level decision making. One also needs to explore the availability and accessibility of reliable information and knowledge that identifies how interventions, practices and programs affect health outcomes. As a result, there is an increased focus on health outcomes (as opposed to inputs, processes and products) and on determining the degree of change that can actually be attributed to an intervention. Changes are examined in health status, determinants of health and health status inequities between population sub-groups. Process, impact and outcome evaluation are used to assess these changes.[xxxiii]

3.2 Evidence for Community Based Food Security Interventions

Like many activities oriented towards healthy living and the prevention of chronic disease, there is as yet little evidence regarding the efficacy of community-based food security interventions. This is a case where "practice is ahead of the evidence base as a result of the pressures to take action."[xxxiv] While in most cases, the evidence is weak for community-based food security interventions, it is important within a health context to establish "whether community approaches to address economic determinants of healthy eating are workable in a variety of Canadian contexts, have an impact on food and eating at the population level, influence population-level policies that promote supportive environments for healthy eating, and ultimately influence population health status."[xxxv]

Sometimes evaluations on community based food security activities follow the format of case studies rather than the methodology of scientific rigour. The aim can be to understand the environment in which these interventions operate at the community level; provide illustrative, in-depth examples of specific interventions; document what has been learned and accomplished through these activities; to use the knowledge gained through implementing these activities to inform the practice of community food security interventions; or some combination of the above. Other times evaluations of community based food security activities have a focus on process outcomes with insufficient scientific rigor to demonstrate health and population outcomes. While interventions may show promise in terms of short term process outcomes, the correlation to health and population outcomes needs to be researched further.

Community based food security projects have primarily been a response to perceived needs in neighbourhoods and communities resulting from increasing poverty on the one hand, and a food system that has a limited orientation towards health and nutrition on the other. These

activities and interventions for the most part have been administered through charitable or non-profit organizations. Evaluation of community food security interventions and activities has been inadequate for a number of reasons:

■ The food security activities may have been one component of a larger community initiative;

■ Resources – both human and fiscal – may not have been available to conduct a rigorous evaluation;

■ Reporting and evaluation may have been oriented towards the requirement of funders. So rather than scientific rigor, an evaluation is focused towards indicating that dollars were well invested;

■ These initiatives are often small-scale, lack funding for long-term development and are oriented to have local impact and so investigation into population level effects may not have been undertaken or is difficult to prove. Because of this, community-based activities often do not have rigorous, scientific evaluation with pre/ post testing and experimental/ control measures and statistical testing.

■ Practitioners may be focused on the implementation of activities and delivery of services, rather than their evaluation.

■ There may be errors in the logic of evaluation measures. Common problems with evidence "success" indicators involve the use of personal testimony, program output increase, and external correlation.

Table 1: Common Program Evaluation Problems

Measure: Personal Testimony	Measurement Problem	Solution Examples
Persons in a program are asked if they like the program and they say "Yes".	Of course they do, they are in it voluntarily.	Determine the drop-out rate and find out what do the people who dropped out say.
Persons in a program are asked if the program has changed them and they say "Yes".	They may be saying that to be agreeable, or may believe it but it is not true.	Get pre/ post or control/ experimental group measures. If the issue is eating habits, interview them about, for example, "yesterday" and "average day in the past month" food intake, then compare that with their responses some months into the program. Obtain Body Mass Index measures pre/ post.
A program's output is increased is claimed to "make a difference". For example, an increase the distribution of food hampers is claimed to increase food type intake increases (e.g. fruits and vegetables).	There is no measure of what participants did pre-program. It may be just a change in source, not habits.	See above.
Measure: External Event	**Measurement Problem**	**Solution Examples**
Program growth correlates with change in other programs, changes in community statistics etc. For example, food bank use declines.	Correlation is not causation.	Detailed study of other cause/ effect possibilities.

For the most part, evaluation strategies should be multi-faceted so that, while a single measure may not be sufficient to call a program a success, multiple measures pointing in the same direction would be more persuasive. For example, the combination of "subjective" interviews about the program effects can be combined with more "objective" measures such as food diaries and BMI. Program participants can complete a survey on entrance to a program, then again later on to see if there have been any statistically significant changes in knowledge, attitudes, behaviours, health indicators and so on - program evaluation does not necessarily have to be difficult; but it has to be implemented systematically.

The World Health Organization has made the following recommendations for improving program evaluation, which could be applied to community-based food security interventions:

■ As a matter of good practice, any new intervention or initiative should have evaluation included as part of the project plan

■ Minimum standards for evaluation design need to be devised for the future. As an example, for fruit and vegetable consumption programs, these should include standard validated measures of fruit and vegetable intake and tools to measure predictors of intake (that is, knowledge, attitude, social support). These tools are needed to increase confidence in program evaluations and to allow for valid comparisons between intervention results. These measures should be as simple as possible to encourage their use when the intervention, not the research, is the primary objective.

- All studies should have a better description of the methods used, including information on generalizability, response rates, randomization method, precise details of the intervention, and so on.

- All evaluations should ideally have a control or comparison group as randomized controlled trials are still the 'gold standard' for assessing the effectiveness of interventions and are the best method for reducing bias. This should allow for unequivocal findings about the change an intervention has made in the target population.[xxxvi]

Finally, to reiterate, the overall examination of community-based food security activities is an emerging research area, and as noted above, this document deals only with an examination of a sub-set of community-based programs and possible evaluation criteria.

4. Food Security Indicators

This document focuses on the access dimension of food security, but recognizes that the causes of food insecurity or the factors contributing to a food secure individual, family or community, are multi-dimensional. These issues are complex, and other aspects besides financial resources contribute to food security, such as access to appropriate food sources, the capacity to store and cook food, food production and distribution methods and so on. Additionally, food insecurity can be chronic or acute, and if acute, it can be cyclic (e.g., at the end of a pay period). Some aspects of these dimensions were covered in the Statistics Canada 1988 National Population Health Survey food security supplement, as cited in Ostrey & Rideout (2004), but the Statistics Canada data is not dense enough to be applied at a community level in BC (see also Brink, 2001) for a review of food security measures and food-insecure population characteristics). Nonetheless, they are strong enough to lead to the conclusion that there is not universal food security in British Columbia, even without the evidence of the use of food banks[xxxvii] and other food security-related programs like the "Good Food Box"[xxxviii] and "Share BC."[xil]

In terms of the utilization of food security measures, Ostry & Rideout (2004) articulated five levels or indicators of food security measurement in their report Food Security Indicators for British Columbia Regional Health Authority: Final report to the BC Community Nutritionist's Council. Table 3 below summarizes their levels and indicator variables, and, as they note, the measures move from the most valid and reliable indicators at the "direct" level through to the least at the "reverse" level.

Table 2:
Possible Food Security Indicators for British Columbia RHAs [xl]

Type of Indicator	Focus	Indicator
Direct	Whole population level	Incidence of food security as measured by biannual CCHS regional food security assessment questions Quality of the Diet (Fruit and vegetable questions CCHS)
	Vulnerable population level	Breastfeeding habits (CCHS) Direct monitoring of seniors' nutritional health through CIHI Roadmap
Indirect	Accessibility and affordability of nutritious food	Income indicators Healthy Food Basket in conjunction with Income Indicators
	Extent of use of emergency food sources	Proportion of population using food banks more than once per year
Consequences of Food Insecurity	Health consequences	Incidence of low birth weight
	Nutritional or dietary consequences	Breastfeeding initiation rate and average duration of breastfeeding
Process	Local food policy	Proportion of communities with RHA representation on food policy councils RHA advocacy and support for food access programs
	Pre- and peri-natal nutrition programs	Availability of pre- and peri-natal nutrition programs
		Proportion of hospitals adopting Baby-Friendly™ Initiative/ International Code of Marketing of Breastmilk Substitutes
	Promotion of fresh fruit and vegetable consumption	Existence of campaigns to promote increased fruit and vegetable consumption
	Promotion of healthy food in RHA workplaces	Proportion of RHA workplaces and public facilities with nutritious food purchasing policies in place
	Promotion of healthy food in schools	Proportion of schools in RHA with school food programs
		Proportion of schools in RHA with healthy school food policies
		Proportion of schools in RHA with nutrition integrated into the curriculum
Reverse	Provincial policy environment	Pharmacare coverage of food supplements for people at nutritional risk

While the above measures should give a good indication of the prevalence of food insecurity, they are not measures of awareness of food security; access to local healthy foods; increased food knowledge and skills; increased community capacity to address local food security; and increased development and use of policy that supports community food security. Additional tracking systems would have to be put in place to monitor these aspects of the objectives of the Community Food Action Initiative.

J. McGlone of the Joseph Rowntree Foundation also recommends that:

Food projects should not be judged solely on whether they produce changes in nutrition or health outcomes in the long-term – such as changes in blood vitamin levels, or reductions in mortality, important as they are. Rather, they should also be seen as contributing to changes in short-term nutrition indicators, such as increasing skills and confidence to use a wider range of food stuffs than before, or to improve food purchasing or eating patterns through access to cheaper food. Measurements of process outcomes have to become part of the definition of success. xli

5. Community-Based
Food Security Activities and Interventions

McGlone makes the following comparison of community-based food security projects to other community or voluntary sector initiatives:

There are clear similarities: all are oriented to personal change and achievement; many address structural problems faced by low income households; many rely on volunteers to maintain and energize them. There are also important differences: 'food' is a more complicated issue, for individuals, households and communities, than say credit or clothes. Food choice and management are a daily habit, yet also part of self and family identity, deeply imbedded in cultural, social and religious beliefs and practice. Food is private, in that it is stored and consumed in the domestic domain; yet it is also communal (shopping, eating) and therefore a public good, because few grow or rear their own food. Access to food – that is, the shops or markets people can reach, what they buy, and how much – is governed by decisions and practice in which few ordinary citizens play any part. Initiatives to change factors within the complex business of obtaining, preparing and consuming food are bound to be varied in nature and outcome...For these reasons, local food projects are difficult to define and understanding how they work is not a straightforward matter. xlii

Community-based food security initiatives, like those in the charitable food system, are a response to growing hunger that has been occurring over the last decades and a food system that has a limited orientation towards health and nutrition. There is a range of activities occurring along the food security continuum (figure 3, below) - some of which are closely interconnected and some unique. These initiatives occur across a variety of sectors – for example, health, education, economic development – and in a variety of settings – schools, community centres, gardens, and so on.

Community food security activities often are integrative in nature and usually encompass multiple goals and activities. These activities are often pursued within a broader framework such as making nutritious food more accessible to low-income people and/or building a stronger local or regional food system.

Continuum of Community Food Security Responses

Charity   **Community Development**   **Social Enterprise**

Food banks		Local food systems strategically connected in a sustainable network
Soup kitchens	Organic production and preservation	
Gleaning		Farmers' markets
	Community kitchens	Commercial kitchens
	Community gardens	Production contracts
	Rooftop gardens and urban agriculture	Private sector investment
	Projects with the primary goal of building individual capacity	Government investment
	Good Neighbour programs	Sectoral strategies
	Cooperative grocery stores and buying clubs	Market research
	Mobile stores / Industry training	Product development
	Healthy food vending	Infrastructure development
Store shuttles	Targeted marketing	

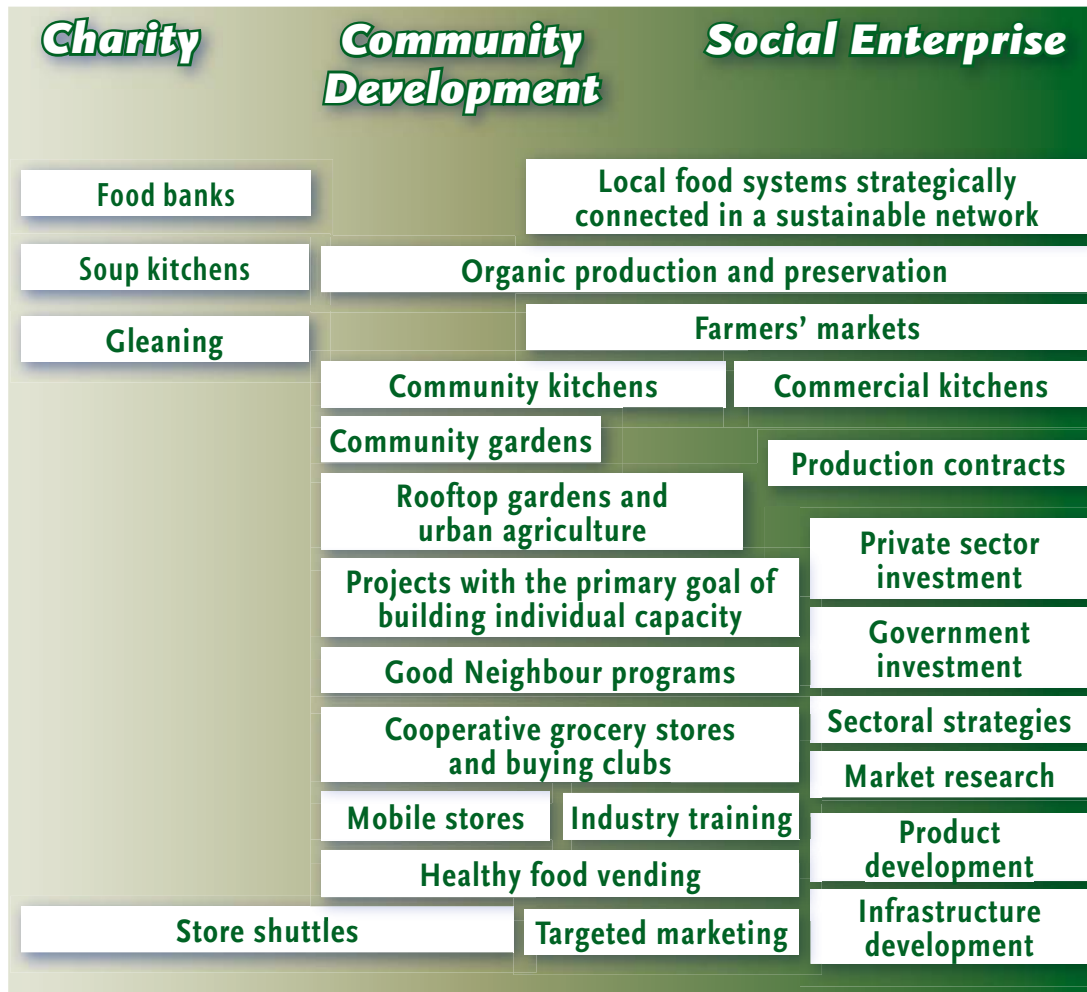Figure 3[xliii]

With the rising trends in obesity and chronic disease, the correlation between diet and health, and the further connection with socio-economic status, there is growing interest in the potential for community based food security projects to serve as interventions to address these issues. Local initiatives and projects have been recommended as a strategy to support people on low incomes to access a healthy and varied diet in the UK, and they have also been found to be a useful strategy for professionals wishing to link more effectively with community to support capacity building efforts. There, community-based food security projects 'are seen as empowering local people to work in partnership with professionals in the public, voluntary and private sectors'.[xliv] Some projects have also been found to reach people bypassed by more conventional health programs and it is suggested that for some individuals, some sort of involvement in a local food project may represent an important first step towards reconstructing their lives.[xlv]

The orientation towards community capacity building and social capital development are important aspects of these activities. Research indicates that social capital level has a positive impact on health promotion (e.g. decreased in infectious diseases, improved maternal and infant health), taking charge of health (e.g. social justice, community involvement), and psychosocial mechanisms (e.g. social support, social inclusion).[xlvi] It is suggested that incorporating social capital as an objective within a health framework should produce a different vision and outcomes – an increased emphasis on relationships and ties between members of a network which could then mediate the harsh life circumstances that have an impact on health.[xlvii] In fact, Dr. Katie Martin found correlations between low income households' ability to secure sufficient food and their connection to neighbours, friends and helping services.[xlviii] McGlone recommends that:

The social gains at individual and community levels are not separate from nutritional outcomes but intrinsic to their achievement. Overcoming social isolation, giving people a sense of worth and well-being, empowering them, and raising levels of skills and training enable individuals to feel more in control of their own health and welfare. There is then the possibility to implement changes and move towards healthier eating. For these reasons food projects raise the social capital of a community.[xlix]

Seven distinct outcome objectives could be identified for activities which focus on access issues, with individual initiatives directed at one or more. They are:

- Alleviate hunger

- Obtain and distribute nutritious, affordable food

- Localize food resources

- Develop or enhance individual food skills (production, preservation and storage, preparation)

- Improve nutritional knowledge

- Enhance social capital formation and community capacity

- Development and use of healthy policy

Food security interventions occurring at the community level could be categorized according to the following themes:

- Charitable Food Activities

- Community Development Activities

- Nutrition Education Activities

- School-Based Activities

- Community Economic Development Activities

- Healthy Policy Development

For the purposes of this paper, evidence reviews were undertaken on the first four of the six thematic areas.

A. Charitable Food Activities

Charitable Food Activities:
Food Outreach, Soup Kitchen and Food Bank Programs

The objective of these programs is to get food to people who are hungry or malnourished and cannot effectively supply food for themselves through conventional shopping, purchasing, and cooking practices. The outcome measure would be whether or not the program delivered sufficient and nutritious food to the target group, which in turn would require knowledge of the epidemiology of the target group. The target groups can be roughly divided into those in non-institutional and institutional settings.

Programs targeting non-institutional clients include food provision activities such as "soup kitchens", "food banks", and "meals on wheels". Programs targeting institutional clients include providing meals to those in nursing homes, hospitals and the like.

These activities provide food access to clients by delivering prepared food (usually in a street environment) or by having clients come to a permanent location to have a meal or pick up hampers. They are supported primarily through charitable contributions and some grants. The extent of evaluations for these activities is based on whether they supplied a certain amount of food to some number of persons who are present. On the other hand, they do not adequately serve most that are in need—three-quarters of American Households in the US that use both public and charitable food assistance programs, continue to experience food insecurity.[l] Additionally, the occasionally unsavory atmosphere, regulations, and food quality discourage those most in need from using these types of facilities,[li] and so therefore are not alleviating hunger and malnutrition among all who require food assistance. Finally, the balance of foods available can be overloaded on starches and lacking fruits and vegetables.[lii]

Meals on Wheels:

These programs deliver pre-cooked meals to homebound seniors or persons with a chronic or acute illness on a non-profit fee-for-service basis or through charitable donations. For example the Victoria Order of Nurses[liii] supports such a program, as do various municipal volunteer groups.[liv] They may become more important as elderly people—and hence low-income elderly people—come to represent

an increasing proportion of the population.[lv] On the other hand, traditional delivery systems of dropping off meals may not be particularly effective, at least amongst homebound older women,[lvi] although there is evidence that these sorts of programs for the elderly improve their nutritional status.[lvii]

Soup Kitchens:

These programs serve regular free meals to those who come to the facilities. Organizations like the Salvation Army[lviii] have been operating such programs for a number of years, along with churches and other charitable groups. As noted above, the occasionally unsavory atmosphere, regulations, and food quality discourage those most in need from using these types of facilities.

Gleaning Programs:

Gleaning involves the collection of surplus produce from farms[lix] or individuals[lx], which is then processed and distributed. While it allows less wastage, it is limited in that it is seasonal and involves the knowledge and capacity to process, distribute, and store the resulting foods. These activities could work more effectively with an established organization that has access to processing facilities (e.g., community kitchen, food bank), however the logistics of gleaning operations can be difficult. [lxi] It is uncertain whether these programs can significantly or reliably contribute to participants' daily nutrition, but they offer community and social capital building opportunities, as well as the possibility of educating for long-term attitudinal and behavioural change.

Food Banks:

There are numerous food banks in BC[lxii], even within a university setting,[lxiii] offering a range of programs[lxiv] and innovative fund raising efforts like "Share BC"[lxv]. However, Tarasuk and Eakin (2003) in their study of food banks in Ontario came to the conclusion that:

Food giving was essentially a symbolic gesture, with the distribution of food assistance dissociated from clients' needs and unmet needs rendered invisible. We conclude that, structurally, food banks lack the capacity to respond to the food needs of those who seek assistance. Moreover, the invisibility of unmet need in food banks provides little impetus for either community groups or government to seek solutions to this problem.[lxvi]

It is challenging to measure the impact of these interventions on food security except in terms of their food distribution output[lxvii], although Starkey et al. reported that food bank users had a similar dietary intake compared with the adult population when other variables were controlled.[lxviii] On the other hand, from interviews with 153 women who used emergency food assistance, Tarasuk & Beaton (1999) concluded that, "The findings highlight the limited capacity of ad hoc, charitable food assistance programs to respond to problems of household food insecurity which arise in the context of severe and chronic poverty."[lxix]

For the most part, these activities cannot be expected to reliably supply their clients with sufficient calories, let alone nutritious, balanced meals. Food banks and the like can only distribute with they can obtain, and reliable systems to collect and distribute food to those who need it, when they need it, are not in place. They are stop gap measures to address problems that stem from broader social policies, but are not solutions in and of themselves to food insecurity.

B. Community Development Activities

These programs are based on a community development framework which assumes that food resources would be more accessible, support neighbourhood revitalization and community capacity building, and be more environmentally friendly while supporting local economies if they were community based. Programs in this group include community gardens, urban agriculture, farmers' markets, and community kitchens. Transportation access to food is also part of food security concerns in this area.[lxx] The objective of these programs is to supply participants with nutritious, affordable food while increasing the capacity of individuals in terms of awareness of healthy food and how to prepare it. It is important to note that there are many more activities utilizing this approach within a community food security framework that have not been reviewed here, such as consumer-producer networks, co-operatives and so on.

Good Food Box Projects:

"Good Food Box,"[lxxi] and "Harvest Box"[lxxii] projects typically operate as a variation on food-buying clubs that allow participants to pay for locally obtained fruits and vegetables (when available) at a reduced cost once or twice a month.

While these sorts of programs fulfill food security objectives in terms of delivering locally produced nutritious food at a reduced cost to people who need it, perhaps the relatively low frequency of access and small amounts delivered may be insufficient to affect eating habits. On the other hand, they can offer a dignified alternative to food banks for those that can afford to participate in them, and can have some community-building and social capital value that food banks lack.

Community Kitchens:

The community kitchen group of programs often has a well-supported implementation strategy.[lxxiii] In their review of 10 community kitchens, Tarasuk & Reynolds (1999) concluded from study findings that, "in some cases, community kitchen participation may enhance coping skills and provide valuable social support. However, the programs have limited potential to resolve food security issues rooted in severe and chronic poverty because they do not alter households' economic circumstances in any substantial way."[lxxiv]

Fano et al. (2004) surveyed participants in the Calgary Health Region Collective Kitchen Program and found that while they entered the program for social interaction and support, their nutritional habits improved as a consequence of being in the program.

Community Gardens & Urban Gardening:

Community gardens can include both a proliferation of gardens in the community and more organized projects like Vancouver's community gardens.[lxxv] In her review of community gardening in the USA, Kantor (2001) notes that few studies have quantified the impact of community gardens on food intake by low income households, that a 10' by 20' garden using donated land, volunteer labour, and free water would cost about $200.00 (US) per year, and can yield between $70.00 to $540.00 (US) worth of vegetables per season. She also notes that they tend to be insecure in terms of location permanence and labour turnover.[lxxvi] On the other hand, Armstrong (2000), in her study of 63 community gardens in upstate New York, found that gardens in low-income areas facilitated community organization.[lxxvii] It has been estimated that the cost of setting up a community garden in City of Ottawa (assuming land was available and volunteer labour) is between $3000.00 and $5000.00.[lxxviii] Sullivan (1991) surveyed managers of 17 community gardens in the USA, 12 of which were in rural areas, and argued that the organization of these projects must differ from location to location, depending on the needs of the community.[lxxix]

One study compared 144 community gardeners with 67 non-gardeners and found the gardeners ate a wider variety of vegetables such as kale, bok choi and other Chinese vegetables, while another compared 144 gardeners with 67 non-gardeners and found that "gardeners ate 6 out of 14 vegetable categories significantly more frequently, and milk products, citrus, sweet foods and drinks less frequently." It also found that "gardening was positively associated with community involvement and life satisfaction." [lxxx]

On the other hand, limited individual gardening (including rooftop gardens[lxxxi]) and larger gardening projects can be successful even in urban settings and, if supported, could encourage the local-production values around food security[lxxxii], while the Toronto Food Policy Council argues that a city-supported and coordinated urban agriculture policy could contribute significantly to local food supplies.[lxxxiii]

C. Nutrition Education Activities

The premise of these programs is that if people know more about appropriate eating habits, nutrition, preparing healthy foods and so on, they will be better equipped to make informed choices about food and remain or become healthy. The BC Dairy Foundation's grade school "Food Sense" program[lxxiv] is an industry-driven example, as is the "Baby-Friendly" program.[lxxxv] Individual information needs are addressed by, for example, "Dial-a-Dietitian" programs,[lxxxvi] and have even been recommended for the homeless,[lxxxvii] who may have access to sufficient calories but do not make healthy choices (where choices are available).

Like many activities, education programs can be short-lived and not funded sufficiently to incorporate in-depth evaluations. Additionally, changes in knowledge about nutrition may not necessarily ensure changes in eating options or habits. For example, a study involving nutrition education for pregnant teens increased their knowledge about proper nutrition, but did not influence food intake.[lxxxviii] On the other hand, some grade-school nutrition education programs resulted in both an increase in nutrition knowledge and in changed nutrition habits.[lxxxix] As a sidebar to nutrition education projects, the Urban Nutrition Initiative of the University of Pennsylvania's Center for Community Partnerships and Department of Anthropology is an interesting combination of programs, teaching, and evaluations.[xc]

Arguably, in the long term, education regarding nutrition and food systems could be integrated into the school system, through curriculum development or other strategies. In the shorter term, focus on at-risk target groups (e.g. pre-and-post natal nutrition education) may have significant and immediate health effects.

D. School – Based Activities

While not within the mandate of the Community Food Action Initiative, the importance of school-based nutrition projects – and the extent to which these activities have been evaluated – warrant mention in the context of this paper. It is important to note that while these initiatives do not fall within the mandate of the Community Food Action Initiative, there is support through ActNow! BC for a range of activities impacting on school-based nutrition.

School nutrition programs running during the school year often are general nutrition programs[xci] and can include breakfast programs.[xcii] The New Brunswick Ministry of Education's Policy and Planning Branch reviewed the "Healthy Minds" K-5 breakfast program and found that breakfasts could be supplied for under $1.00 per student, that participation varied from school to school, and that those students who participated in the program appeared to benefit from it.[xciii]

On the other hand, Hay (2000) in his review of Health Canada's school-based nutrition programs notes that:

As school food programs have developed, their goals have shifted. Programs that were begun simply to feed children now try to address multiple goals such as nutritional adequacy for all children, nutritional education, positive socialization, school attendance, family time-stress, community mobilization, partnerships and social supports. One reason for this shift is that programs have been unable to demonstrate reductions in hunger and enhancements in nutrition.[xciv]

A review of both breakfast and lunch school nutrition programs in the USA found that the former tended to improve nutritional intake, while the latter had more mixed results.[xcv] An evaluation of a program that sent children home with food in backpacks reported some positive effects on behaviour and self-esteem.[xcvi]

Dayle et al (2000) studied child nutrition feeding programs (primarily school-based, with some community-based and church-based) in Atlantic Canada and found that "programs justify their expansion to non-target group children as a means of reducing stigmatization, while reaching only an estimated one-third of targeted children" and that "as new services are added and franchising is proposed while the purpose of the program — feeding healthy foods to children — ultimately succumbs to drives for efficiency and the desire to maintain the program itself."[xcvii] At a more micro level, school food programs must wrestle with efficiency issues such as eligibility[xcviii] and ways to serve food that reduce wastage.[xcix]

6. The Right Program Mix

Activities situated along different points on the food security continuum can run parallel or sometimes in conjunction with one another. However, not all food security activities are appropriate to all communities at all times. Need for food access programs may be cyclic, at the end of pay periods for example, and some activities will be seasonal, such as gleaning or community gardens. Different regions and environments will have different mixes of target groups and program-implementation opportunities depending on the existing infrastructure and initiatives operating in a community.

Consequently, when considering program support, the needs of the community as well as the current mix of activities should be considered to try to maximize benefits. For example, Kneen (2002) shows how the pregnancy outreach program (POP) in BC was linked to other community programs in a 2-year period,[c] while Casey et al. (2003) explored the multi-faceted Santropol Roulant project in Montreal.[ci]

Additionally, activities should be judged in terms of their contribution to social capital[cii] in a community, as Martin et al. (2004) in their study of 330 low-income households in Connecticut found that "Households may have similarly limited financial or food resources, but households with higher levels of social capital are less likely to experience hunger."[ciii]

The notion of social capital is an important one in the area of community-based food security activities and projects, as it can be an important latent outcome of many of these programs. Franke (2003) defines social capital as:

the resources that emerge from the networks of social interactions based on norms of trust and reciprocity. These resources facilitate the achievement of individual and collective outcomes. These benefits may be expressed in terms of well-being, health, safety, democracy, or of acquisition of economic or human capital.

It follows that activities which bring participants together to share activities like community gardens and community kitchens, or share in volunteering like food banks and other food distribution programs can build social capital amongst the participants, especially if the activities are enduring. In the simplest of terms, people get to know each other and help each other in times of need. This

can be particularly useful in increasingly urbanized and isolated environments. It also follows that the more interaction among interventions, the more likely social capital will be enhanced – food banks linked to good food boxes linked to community gardens linked to community kitchens linked to gleaning and so on.

Further, it could be suggested that the more comprehensive and interactive the activities in a community, the more social capital will be built, the more resilient the community and the more likely that people in that community will be willing assist each other. This community-building function of community-based food security activities may be their most important contribution to improving the lives and health of the participants.

7. What Works?

As noted earlier, for the most part, activities and interventions have not been evaluated.[civ] Whether the impacts on the knowledge, attitudes, behaviours, nutrition or health of the participants translates into population level impacts is seldom measured. And the complexity in assessing whether these interventions have had any impact at a population level is beyond the scope of most community based projects. It is also unknown the degree to which these activities or projects are accessed by those who most need them.

Turning to the issue of "success", it must be kept in mind that different programs have different success criteria – a program that aims to educate should be judged on what is learned, but not necessarily on whether or not that learning produced any behaviour change. As well, different stakeholders may have different criteria for success. Another issue is that some types of programs may have a "step function", such that they will succeed if and only if they are applied at a sufficient level for a sufficient amount of time.

It is suggested from a review of the literature that the relative success or failure of individual activities and approaches has as much to do with the community context of the activity and the associated infrastructures than with the individual merits of the specific activity itself. That is, mediating factors related to community capacity such as the existence of a "mixed portfolio" of activities and projects; the availability of infrastructure and institutional supports; and the history of these activities within the community, will have a significant effect on whether an initiative will achieve success. It follows that individual community-based food security activities and projects should be supported within the context of the needs and priorities of the community; the mix of programs that are already in place; one size (e.g., community gardens) may not fit all; and that existing capacity within the community be considered when undertaking project planning. J.McGlone (1999) of the Joseph Rowntree Foundation has identified a number of key factors that contribute to whether a food project will work or not (Table 3).

Table 3
Factors affecting the success and sustainability of food projects

Facilitate	Hinder
Reconciling different agendas	Opposing agendas
Funding	Instability of funding
Community involvement	Meeting limited needs
Professional support	Lack of support
Credibility	Changing agendas
Shared ownership	Exclusively owned
Dynamic worker	
Responsiveness	

If long term sustainability is an objective, programs that build social capital and support community capacity building may be preferable to ones that do not contribute to this objective. Therefore, a continuity of activities that bring people together in order to build social capital and develop capacity may be preferable.

In a review of the effectiveness of interventions and programs promoting fruit and vegetable intake, the World Health Organization has concluded from prior evidence reviews that "effective interventions for fruit and vegetable promotion will need to include individual-level interventions, population-level prevention strategies and 'upstream' macro-level policy and environmental interventions."[cv] Therefore a range of activities and interventions occurring along the food security continuum utilizing a population health promotion model is an approach recommended to realize some success in impacting on food security.

It is imperative that whatever activities are supported in various communities be evaluated contextually and with strong methodology so that it can be determined what interventions and in what combination are effective in the diverse communities of BC.

8. Recommendations for Good Practice on the Community Food Action Initiative

Food Security Aspects of Individual Programs Criteria

Along the food security continuum there are criteria that can be applied to assess program merit. The *food security aspects of individual activities or projects* should offer some combination of the following:

- Alleviate hunger and malnutrition

- Offer nutritious foods

- Promote human dignity

- Utilize local resources

- Be community-based (desired, not imposed)

- Support social capital development (multiple personal interactions)

- Have a long-term plan or process to support project sustainability

- Offer an education component

Program Structure and Management Criteria

All programs that receive public support should address the following *program structure and management criteria:*

- Be safe and fall within any applicable regulations.

- Be cost-effective, or at least have cost/ effectiveness tracking strategies.

- Have an evaluation plan in place prior to start-up.

- Have clear and appropriate outcome measures, including participant outcomes (e.g., knowledge, attitudes, behaviours, nutrition or health – see also the food security program criteria such as increasing access and so on).

- Have an ongoing process auditing plan in place that tracks key indicators (e.g., staff activities and hours, volunteer activities and hours, cash flow, clients served, etc.).

- Have an evaluation/ review horizon (e.g., every 2 years).

Other Program Support Criteria

For the most part, the above suggested criteria do not take into account the overall political and social atmosphere in communities. That is, they are primarily objective and mechanical. *Other considerations* are that the program should:

- Fit into the community political and social context.

- Consider support of existing programs.

■ Consider the impact of new programs on existing programs

9. Future Considerations for Action

There are seven points for consideration that might be undertaken in the future:

■ Develop and ratify a logic model that assists local agencies in selecting community-based food security programs for funding. The matrix should consider both the merits of a program in terms of community food security, as well as in terms of how it meets the goals and objectives for the Community Food Action Initiative and priorities of the Regional Health Authorities. This might be in part accomplished through a conference of stakeholders. Such a conference could provide for a good base of understanding for the next few years of program development.

■ In order to assess how a program integrates or complements the mix of existing interventions and activities in the community, environmental scans of community-based food security programs should be undertaken. Community food and nutrition assessments, or a variation thereof, could be used as a tool to assist with this planning and assessment.

■ As there is a lack of a data regarding food security that applies at a provincial and regional level, a set of common indicators that can be applied at these levels should be developed. Baseline data should be collected so that program and policy effects can be measured before and after the life of the initiative. This could be at a relatively high level using, for example, survey research asking respondents about their levels of food security.[cvi]

■ As there are few rigorous data on outcomes of community food security activities and interventions, evaluations of BC projects currently operating could be undertaken to assist in developing criteria for future funding. Further, it might be most effective to select one or two that are established and typical and evaluate these initiatives over a length of time.

■ From the current research on food banks it is clear that a significant gap exists between the need for food and nutrition support and services and the ability of the charitable food system to address those needs. It would therefore be helpful to conduct an investigation to identify underserved low income populations within the province and by region as these are the populations that will most benefit from successful interventions regarding food access. This would assist in designing or more effectively targeting community based food security interventions to those who need it most.

■ Develop further evidence reviews on the broader aspects of community food security.

■ Engage the social research academic community to partner on research and evaluation of community-based food security interventions.

The above actions would help ensure a rational, measurable, and accountable foundation for future program and project finding and overall initiative evaluation.

Research Methodology and Library/Internet Search Strategies

Two independent researchers searched the literature and web sites and compared results, stopping when searches yielded diminishing returns and substantial redundancies in sites/ articles. Various keywords and combinations were used, including: food security, food insecurity, food bank, community garden, community kitchens, gleaning, meals-on-wheels, hunger, good food box, school food programs, school lunch, farmer's markets, urban gardens, and so on. In turn, many sites had pages of additional links that were followed, while articles, through their references, led to other articles.

In particular, the search was focusing on activities that had an evaluation component that might help direct program development in British Columbia. Follow up was then conducted with key informants for further direction on resources relevant to this topic area and additional resources and websites were searched based on this information.

The UBC library subscribes to journal search engines such as Pub Med (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi). As a Department at the University of British Columbia, ARES linked searches using these subscription-only search engines in addition to Google, Google Scholar, and Mooter.

As noted at the beginning of the paper, the purpose of these searches was not to completely review the entire literature, but rather to take a reasonably comprehensive snapshot of the issue of community-based food security programming as it currently expresses itself, and to supply the reader with a foothold of references and articles to allow entry into the area. Additionally, there was a particular emphasis on identifying programs with outcome measures that went beyond cataloguing the number of persons served or programs started, to looking for evaluations that included behaviour change outcomes.

Finally, higher-order policy-related issues like the causes of poverty and international food supply systems were not within the mandate of this commission and therefore, for the most part, were not pursued. The search time was about 40 - 50 hours.

Practical Online Resources by Topic:

Community Gardens:

- **City Farmer:** http://www.cityfarmer.org/

- **Vancouver Park Board, "Vancouver's Community Gardens:"**
  http://www.city.vancouver.bc.ca/parks/info/policy/comgardn.htm

- **Levenston, Mike, "Urban Agriculture Initiatives in the Vancouver Area," 2004.**
  http://www.ryerson.ca/foodsecurity/Documents/CityFarmer.doc

- **Toronto Food Policy Council, "Feeding the City from the Back 40," 2001.**
  http://www.toronto.ca/health/tfpc_feeding.pdf

- **Hobbs, H. "Greening Rooftops in the Garden City, Life Cycles," 2002.**
  http://www.lifecyclesproject.ca/PDF/Rooftop_Gardening_Hobbs.pdf

- **Draft Model to Support Community Gardening in the City of Ottawa.**
  http://www.flora.org/cgn-rjc/e_events_3-Jun-04.htm

- **Kortright, R. "Evaluating the Potential of Green Roof Agriculture," 2001.**
  http://www.cityfarmer.org/greenpotential.html

Food Banks:

- **Greater Vancouver Food Bank Society.** http://www.foodbank.bc.ca/

- **Greater Vancouver Food Bank Society, "British Columbia Food Banks."**
  http://www.foodbank.bc.ca/programs/listobanks.html

- **Greater Vancouver Food Bank Society**, "Programs." http://www.foodbank.bc.ca/programs/index.html

- **Canadian Association of Food Banks, "Education and Research."**
  http://www.cafb-acba.ca/english/EducationandResearch.html

Food Boxes:

- **Vancouver Community Network, Good Food Box."** http://www.vcn.bc.ca/gfb/index.php

- **Scharf, Kathryn. "A Nonprofit System for Fresh-produce Distribution: The Case of Toronto, Canada."** http://www.idrc.ca/en/ev-30607-201-1-DO_TOPIC.html

- **Foodshare. "What is the Good Food Box?"** http://www.foodshare.net/goodfoodbox01.htm

Food Security Action Plan Examples:

- **Thunder Bay** http://www.tbdhu.com/food/security/FAN_ReportSept2004.pdf

- **Toronto:** http://www.toronto.ca/grants/pdf/growing_season.pdf

Gleaning:

- University of Maine Cooperative Extension, "Food for Your Community: Gleaning and Sharing." http://www.umext.maine.edu/onlinepubs/htmpubs/4301.htm

- Life Cycles, "Glean 'til you're green." http://www.lifecyclesproject.ca/programs/food_distribution/fruittree/glean.htm;

- Vancouver Fruit Tree Project. http://www.vcn.bc.ca/fruit/.

Meals on Wheels:

- Von B.C. Meals on Wheels. http://www.vonbc.com/meals.htm

- Burnaby Meals on Wheels. http://www.vcn.bc.ca/bbymeals/

- Langley Meals on Wheels Services Society. http://www2.vpl.vancouver.bc.ca/dbs/redbook/orgpgs/8/811.html

- "Meal Services." http://www.fiu.edu/~nutreldr/OANP_Toolkit/Meal_Services/Meal_Services_revised2.htm

- Mathematica Policy Research, "First Evaluation of the Federal Elderly Nutrition Program since 1983." http://www.mathematica-mpr.com/nutrition/enp.asp#objectives

School Nutrition Programs:

- DASH. http://www.dashbc.org/sfnp/dc.html

- DASH. http://www.dashbc.org/aboutnp/bfl/guidelines.html

Soup Kitchen Facilities:

- "Harbour Light Meal Service" http://www2.vpl.vancouver.bc.ca/DBs/RedBook/orgPgs/6/692.html

United States Private Programs:

- Food Research and Action Center. http://www.frac.org/html/all_about_frac/about_index.html

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United States Public Programs:

- Nutrition. Gov. "Food Assistance Programs." http://www.nutrition.gov/index.php?mode=subject&subject=ng_assistance&d_subject=Food%20Assistance%20Programs

- Poverty Research News. "Food and Nutrition News. http://www.jcpr.org/newsletters/vol5_no2/vol5_no2.pdf

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with the box at the bottom saying "just show evaluated" checked.

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Appendix A

Recommendations for Good Practice on the Community Food Action Initiative

The following suggested program selection criteria address the program itself, the context of the community food security program environment and general program structure and management criteria, and may be able to be used to assist both program applicants and funding bodies.

1. Program Structure and Management Criteria

All programs that receive public funds should address the following *program structure and management:*

- Be safe and fall within any applicable regulations.

- Be cost-effective, or at least have cost/ effectiveness tracking strategies.

- Have an evaluation plan in place prior to start-up.

- Have clear and appropriate outcome measures, including participant outcomes (e.g., knowledge, attitudes, behaviours, nutrition or health – see also the food security program criteria such as increasing access and so on).

- Have an ongoing process auditing plan in place that tracks key indicators (e.g., staff activities and hours, volunteer activities and hours, cash flow, clients served, etc.).

- Have an evaluation/ review horizon (e.g., every 2 years).

2. Food Security Aspects of Individual Programs Criteria

Along the food security continuum there are criteria that can be applied to assess program merit. The food security aspects of the individual programs should offer some combination of the following:

- Alleviate hunger and malnutrition

- Offer nutritious foods

- Promote human dignity

- Use local resources

- Be community-based (desired, not imposed)

- Support social capital development (multiple personal interactions)

- Have a long-term plan/ process to support project sustainability

- Offer an education component

3. Other Program Support Criteria

Other considerations are that the program should:

- "Fit" into the community political and social atmosphere.

- Consider support of existing programs.

- Consider the impact of new programs on existing programs

It may be better to more fully support (and evaluate) an established program than to implement a new program that may score more support criteria "points" but would be less likely to survive, or that would draw resources (such as volunteers) away from currently functioning programs in the community.

Appendix B

Community Food Security Program Checklist

The following suggested program support criteria may be able to be used to assist both program applicants and funding bodies. The rationale for the criteria can be found in Perspectives on Community Based Food Security Projects: Issues and Programs, Provincial Health Services Authority, January, 2006.

1. Program structure and management should:

- Be safe and fall within any applicable regulations.

- Be cost-effective, or at least have cost/ effectiveness tracking strategies.

- Have an evaluation plan in place prior to start-up.

- Have clear and appropriate outcome measures, including participant outcomes (e.g., knowledge, attitudes, behaviours, nutrition or health – see also the food security program criteria such as increasing access).

- Have an ongoing process auditing plan in place that tracks key indicators (e.g., staff activities and hours, volunteer activities and hours, cash flow, clients served, etc.).

- Have an evaluation/ review horizon (e.g., every 2 years).

2. Community-based food security programs should:

- Alleviate hunger and malnutrition

- Offer nutritious foods

- Promote human dignity

- Utilize local resources

- Be community-based (desired, not imposed)

- Support social capital development (multiple personal interactions)

■ Have a long-term plan or support project sustainability

■ Offer an education component

3. Overall, Programs should:

■ "Fit" into the community political and social atmosphere.

■ Consider support of existing programs.

■ Consider the impact of new programs on existing programs

Finally, it may be better to more fully support (and evaluate) an established program than to implement a new program that may score more support criteria "points" but would be less likely to survive, or that would draw resources (such as volunteers) away from currently functioning programs in the community.

Appendix C

Discussion Prompts

- Do you agree that the recommendations are practical or have other comments regarding:

    - outcome objectives for access

    - considerations for action

    - recommendations for good practice by CFAI

    - criteria for pogram structure and criteria

- How would/should local programs implement these recommendations?

- What would help local programs collect and evaluate evidence of their performance to the rigorous standards required of other health care programs?

- What do you think is required for successful collaboration at the provincial level? ...at your health authority level? ...at your community level?

- Will the recommendations help promote awareness and understanding of CFAI with key decision-makers?

- What do you think are realistic next steps?