FOOD SECURITY FOR FIRST NATIONS AND INUIT IN CANADA
BACKGROUND PAPER

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for

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Table of Contents Page

Executive Summary

Food insecurity is an urgent issue for First Nations and Inuit in Canada. The available evidence suggests that all aspects of food insecurity are worse for First Nations and Inuit than for other Canadians. Food insecurity is yet another manifestation of the "yoke of colonialism" that is a result of economic, political and social inequities arising from the history of relations with the state. The purpose of this paper is to review the literature on food security for First Nations and Inuit to inform the development of a food security intervention framework for the Food Security Reference Group.

As endorsed by the Canadian Government, food security is defined as *existing when 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.* The Food and Agriculture Organization of the United Nations (FAO) has declared that the four pillars of food security area availability, access, utilization, and stability of supply. The first three of these have received the most attention in the Canadian context.

Canada has made many international commitments to promote food security for all Canadians, beginning with the International Declaration of Human Rights in 1948, and including six such commitments since 1989. In 1998, the Canadian Government published *Canada's Action Plan on Food Security,* which included specific recommendations and actions for Aboriginal communities. However, there is little evidence that these numerous international commitments impact national policy formulation on food security.

There are unique food security considerations for First Nations and Inuit related to the harvesting and consumption of country or traditional foods, which impacts the commonly considered dimensions of food security (access, availability, supply and utilization). Country or traditional food is more nutritious and more nutrient dense than market food, and remains important to the diet quality of First Nations and Inuit. Moreover, food obtained from traditional food systems links the environment and human health, and is central to cultural and personal identity. Food security for First Nations and Inuit must take into account both the market food system and traditional food systems.

I propose that "cultural food security" is another level of food security for First Nations and Inuit, beyond individual, household and community food security, because the ability to access sufficient and safe traditional/country food is integral to cultural health and survival. Cultural food security would emphasize the ability of First Nations and Inuit to reliably access important traditional/country food, through traditional harvesting methods, to ensure the survival of their cultures. Indicators of cultural food security might include the levels of traditional food knowledge, access to traditional food systems, and the safety of traditional/country food.

Traditional food provisioning, and thus food security, is threatened by a number of factors, including: access to traditional lands; environmental contamination of the food supply; extinction of species; decreased density of species; changes in animal migratory patterns; decreased transfer of traditional knowledge to young people; a decrease in time and energy available for harvesting due to paid employment; loss of taste for traditional foods; lack of money for hunting and fishing expenses; not having someone in the family to harvest; and disincentives built into social assistance programs.

Understanding what food security means for First Nations and Inuit, and the policy implications of food insecurity, is complicated by the diversity among Aboriginal people in Canada and their diversity of food consumption patterns. It is likely that there are significant differences by age; between men and women; and among those living in urban areas versus rural versus remote communities.

National health surveys, such as the *National Population Health Survey (NPHS)* that have measured levels of food insecurity show disturbingly high levels of food insecurity in off-reserve Aboriginal households, approximately three times the rate for other Canadians. There are limited data on food insecurity for on-reserve Aboriginal people; published studies have used a variety of measurement tools and found wide ranges of rates of food insecurity (from 21 to 83%). Though limited, these data suggest very serious problems of individual and household food insecurity among Inuit and First Nations living on reserve.

Key factors affecting food security for First Nations and Inuit include: high rates of poverty and unemployment; environmental contamination of the food supply and global climate change; access to the land; loss of traditional knowledge; the cost, availability

and quality of commercial market foods in isolated communities; food sharing networks; the processing, marketing and sale of country/traditional food; and the prevalence of other pressing social issues, such as substance abuse, lack of clean water, inadequate housing, and so on.

There are research gaps in each of these areas, including the conceptualization of food security for First Nations and Inuit and the development of an appropriate measurement tool, as well as understanding rates of food insecurity among Inuit and First Nations living on reserve. Research gaps also exist in the areas of the relationship between country/traditional food and food security; food sharing; environmental contamination; the marketing and sale of country/traditional food; and the Food Mail program.

The development, implementation and evaluation of effective policies, strategies and program will depend, in part, on filling the existing research gaps and on the full involvement of First Nations and Inuit.

1.0 Introduction

Food insecurity is an urgent issue for First Nations and Inuit in Canada. As this paper will demonstrate, the four pillars of food security (Food and Agriculture Organization of the United Nations, 2005)—access, availability, supply, and utilization—are all under siege. Just as Aboriginal people in Canada "tend to bear a disproportionate burden of illness" (Newbold, 1998), and fare worse for social determinants of health than non-Aboriginal people, the available evidence suggests that rates of food insecurity are worse for Aboriginal people and have developed out of a similar context.

Economic, political and social inequities, originating in the history of Aboriginal relations with the nation-state, form the context of Aboriginal health inequities (Adelson, 2005) and food insecurity. The history of Aboriginal-state relations is one of colonialism, racism, paternalism and the intended assimilation of Aboriginal cultures through state polices and programs, such as the forced relocation of people from their traditional lands and the removal of children from their families to residential schools (Adelson, 2005; Cunningham & Stanley, 2003; Silver, 2006; Smylie, 2000). The key to restoring the health of Aboriginal people and their communities is to transform their relationship with the state through Aboriginal self-determination (Smylie, 2000). As Adelson (2001) has stated forcefully,

> real social or health improvements will only take place in conjunction with the attainment of economic and political autonomy on an Indigenously controlled land base. Until any of these processes of autonomy are fully realized, the 'yoke of colonialism'—manifested in political alienation, poverty, despair, substance abuse, violence, and suicide—will continue to plague far too many Indigenous Canadian communities (p. 76, citing O'Neil, 1993).

Food insecurity is among those manifestations of the "yoke of colonialism" that will require economic and political autonomy to be significantly improved.

This document presents a background paper for food security for First Nations and Inuit in Canada. I was asked to prepare this background paper by the First Nations and Inuit Health Branch for the Food Security Reference Group, to assist in the development of a food security intervention framework. In this paper, I review conventional understandings of food security and the Canadian government's commitments, made in the international political arena, to ensure food security for all Canadians, and for Aboriginal people in particular. I then consider the unique aspects of food security for Aboriginal people, and the factors that affect Aboriginal food security. Finally, I end the document with the research gaps that need to be filled to get a better understanding of food security for First Nations and Inuit, so that efforts to improve food security will be successful.

2.0 Defining Food Security

The Canadian Government has endorsed the definition of food security that was developed at the World Food Summit in 1996:

> Food security exists when 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 (Agriculture and Agri-Food Canada, 1998).

Although this is a commonly accepted and used definition of food security, different researchers, activists and practitioners understand and use the term in different ways (Lezberg, 1999; Power, 1999). Not only has the term has become an umbrella for a variety of concepts, but it can also be considered at multiple levels, including the individual, household, community, region, nation, or world (Tarasuk, 2001). *Canada's Action Plan for Food Security* (Agriculture and Agri-Food Canada, 1998) includes such disparate issues as food access, trade, emergency prevention and preparedness, the promotion of investment in the agri-food sector, and sustainable agriculture and rural development, but does not have a conceptual framework to unite them all (Power, 2005a). Such a proliferation of ideas signified by the same term is problematic because

the way we understand and define an issue determines how we go about solving it (Poppendieck, 1995; Tesh, 1988)[1].

In the past, Canadian research, policy, and practice emphasized one of two main aspects of the definition of food security: access or availability. Those concerned with access issues have focused on the economic ability of individuals and households to purchase food in our market system. In this analysis, the main cause of food insecurity is inadequate income, or poverty, and the solution is social justice. This aspect of food security is known as "individual and household food security", and it is what is measured in surveys such as the *Canadian Community Health Survey (CCHS).*

Those concerned with availability have focused on the production and supply of food, with a critique of the dominant industrial agricultural model because of its environmental unsustainability and its destructive effects on family farms and farming communities, and its harmful health effects (e.g., the contribution of the overuse of antibiotics to antibiotic resistant bacteria). In this analysis, all Canadians are food insecure because of our heavy reliance on imported foods, the environmental unsustainability of our current system, and the unhealthiness of agricultural production methods. In this analysis, re-localizing food production, and using environmentally sustainable production methods in small-to-medium sized production units will promote food security for all.

More recently in Canada, with public health alarm about "the obesity epidemic" and its health sequelae, food security has also come to incorporate aspects of healthy nutrition policy and food selection; e.g., making healthy foods available in Canadians' environments, such as their neighbourhoods, schools and workplaces. This matches international perspectives, notably the *Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security* (Food and Agriculture Organization of the United Nations, 2005), which declares that the four pillars of food security are availability, stability of supply, access, and utilization (where utilization presumably incorporates "healthy food choices").

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[1] While the definition of a problem affects the solution, Poppendieck (1995) also argues, convincingly, that the nature of the available solution for a problem also affects the way the problem is defined and understood. She illustrates how once a solution for solving a problem has caught public attention, other ways of understanding and solving the problem are ignored.

Food security has been recognized as an important social determinant of health (Dietitians of Canada, 2005; McIntyre, 2004). At the individual and household levels, it is also directly related to income, one of the most important social determinants of health. Social determinants of health are fundamental components of the Public Health Agency of Canada's Population Health Approach, which is "an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups… An underlying assumption of a population health approach is that reductions in health inequities require reductions in material and social inequities" (www.phac-aspc.gc.ca/ph-sp/phdd/approach/index.html). As such, the Population Health Approach can be said to address the social determinants of health, thus reducing health inequities, through the pursuit of social justice (Power, 2005a).

3.0 Canada's International Commitments to Food Security

Canada has made many international commitments related to the achievement of food security for all Canadians, including First Nations and Inuit (Riches, 1997, 2002; Riches *et al.*, 2004). These include:

- *International Declaration of Human Rights (1948)*
- *International Covenant on Economic, Social and Cultural Rights (1966)*
- *International Covenant on the Rights of the Child (1989)*
- *World Declaration on Nutrition (1992)*
- *World Summit for Social Development (1995)*
- *Declaration on World Food Security (1996)*
- *Canada's Action Plan on Food Security (1998)*
- *Declaration on World Food Security—five years later (2002)*

For example, Article 25 of the *International Declaration of Human Rights* states:

> *Everyone has the right to a standard of living adequate for the health and well-being of himself [sic] and of his [sic] family, including food, clothing, housing and medical care and necessary social services….*

Commitment Two of the *Declaration on World Food Security* states:

> *We will implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization.*

Canada has also made commitments specifically to its Indigenous Peoples, for example, in the *International Labor Organization (ILO) Convention 169* (1989), which states that Indigenous People's land rights are related to food security; and in its participation in and support of the *UN Permanent Forum on Indigenous Issues*, which advises the UN Economic and Social Council on Indigenous issues related to economic and social development, culture, the environment, education, health and human rights.

In Canada's *Action Plan for Food Security* (Agriculture and Agri-Food Canada, 1998), Aboriginal people, particularly those living in remote communities, were singled out as experiencing

> all or most aspects of food insecurity, due to low incomes, safety risks due to pollutants in the traditional food supply, quality problems associated with inappropriate shipping, handling and home preparation of commercial foods, and disruptions to access caused by interruptions in shipping or changes in animal migratory patterns. The cost of commercial food is high, as is the cost of supplies for hunting and fishing (Agriculture and Agri-Food Canada, 1998).

The ten Canadian priorities identified in the *Action Plan* include the reduction of poverty; defining and implementing the right to food; emphasizing environmentally sustainable food production practices; and ensuring the traditional food acquisition methods of Aboriginal communities. Strengthening food access for Aboriginal communities was seen to lie in reducing environmental contaminants, sustainable management of resources (including fisheries), and appropriate supplementation with high-quality commercial foods (p. 3). The *Action Plan* also identified four key actions to promote traditional food acquisition by Aboriginal communities (p. 16), all of which emphasized the fulfillment of existing agreements and commitments, sharing information and identifying gaps, or working to integrate food security concerns into ongoing work

(e.g., promoting food security in sustainable development activities and health promotion).

Despite these numerous international commitments, there is little evidence that they guide national decision-making and policy formulation. Indeed, at the Federal level, it is difficult to find a copy of the *Action Plan* or someone who coordinates food security issues (Koc, 2006). The Food Security Bureau of Agriculture and Agri-Food Canada was closed in 2006.

4.0 Considering Food Security from First Nations and Inuit Perspectives

The commonly considered dimensions of food security—access, availability, supply and utilization—are relevant for First Nations and Inuit, and all are under threat. However, there are unique considerations for these dimensions of food security for First Nations and Inuit, related to the consumption of country or traditional food [2]. For example, in terms of the access dimension, food security may be affected by access to traditional/country food, as well as access to market food (Lambden *et al.*, 2006). In terms of the availability dimension, food security for First Nations and Inuit is threatened by the environmental contamination of traditional/country food and the impact of global climate change on ecosystems, which affects the availability and supply of food from the land [3]. Food security for First Nations and Inuit must take into account both the market food system and traditional food systems [4].

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[2] The Inuit call wild-harvested food "country food" or *niqituinnaq*, which translates as "real" or "natural" food (O'Neil *et al.,* 1997). Food harvested from the wild by First Nations people is referred to as "traditional food" (though the term sometimes also refers to foods introduced by Europeans but now considered staples of the diet, such as black tea and frybread.

[3] According to the Royal Commission of Aboriginal Peoples (1996b), the term "land" has a broad meaning to Aboriginal peoples—"not just the surface of the land, but the subsurface, as well as the rivers, lakes (and in winter, ice), shorelines, the marine environment and the air. For Aboriginal people, land is not simply the basis of livelihood but of life and must be treated as such. The way people have related to and lived on the land (and in many cases continue to) also forms the basis of society, nationhood, governance and community" (p. 448).

[4] Kuhnlein and Receveur (1996) define a traditional food system as "all food from a particular culture available from local resources and culturally accepted" (p. 418).

Country or traditional food refers primarily to wild-harvested food such as wild meat, fish, birds, sea mammals, berries and other plants. It is more nutritious and more nutrient dense than market food, and remains important to the quality of the diets of many First Nations and Inuit despite the increased consumption of market foods (Batal *et al.*, 2004; Blanchet *et al.*, 2000; Duhaime *et al.*, 2002; Kuhnlein, 1989, 1992; Kuhnlein & Receveur, 1996; Kuhnlein *et al.*, 1995, 1996; Wein & Freeman, 1995). Significant proportions of First Nations and Inuit still obtain at least some of their food from the land. For example, in 2001, 71% of Inuit households in the Arctic consumed half or more of their meat and fish as country food (Statistics Canada, 2006). Across the Arctic, the same proportion (71%) of Inuit adults had harvested country food in the year prior to the 2001 survey (Statistics Canada, 2006).

However, country/traditional food is important for more than nutrition. Food obtained from traditional food systems links the environment and human health, promoting holistic health; and forms the basis of social activity, social cohesion, and social integration (Duhaime, 2002; Royal Commission on Aboriginal Peoples, 1996c; Willows, 2004). Country/traditional food retains significant symbolic and spiritual value and is central to cultural and personal identity (Adelson, 2000; Borré, 1994; Condon *et al.*, 1995; Duhaime et al., 2002; Guyot *et al.*, 2006; Lévesque *et al.*, 2002; O'Neil *et al.*, 1997; Royal Commission on Aboriginal Peoples, 1996c; Willows, 2004). As Inger Egede has said:

> It is sometimes said 'That you are what you eat.' If this is true then those who eat Inuit foods must be Inuit. Our foods do more than nourish our bodies. They feed our souls. When I eat Inuit foods, I know who I am. I feel the connection to our ocean and to our land, to our people, to our way of life (quoted in O'Neil *et al.,* p. 30).

This means that for First Nations and Inuit, the ability to access sufficient and safe traditional/country food, or food security, is integral to cultural health and survival. The ability to harvest and consume traditional/country food is predicated on the retention of traditional food knowledge, and must respect the knowledge of elders. It is also predicated on access to traditional food systems, and to the land. Thus, we could speak of "cultural food security" as another level of food security, much as we speak of individual,

household, and community food security. Cultural food security would emphasize the ability of First Nations and Inuit to reliably access important traditional/country food, through traditional harvesting methods, to ensure the survival of their cultures. Indicators of cultural food security might include the levels of traditional food knowledge, access to traditional food systems, and the safety of traditional/country food.

The ability to hunt, gather, fish and farm depends on access to traditional lands, access which is often contested and threatened. Traditional food provisioning and thus Aboriginal cultures, are also threatened by a number of other factors, including the extinction of plant and animal species; the decreased density of plant and animal species; changes in animal migratory patterns; decreased transfer of traditional knowledge to young people; a decrease in time and energy available for harvesting due to paid employment; loss of taste for traditional foods due to the availability of industrialized market food; lack of money for expenses related to hunting and fishing, such as equipment; not having someone in the family to harvest; and disincentives to harvesting built into social assistance programs (Chan *et al.*, 2006; Condon et al., 1995; Duhaime et al., 2002; Guyot et al., 2006; Kuhnlein, 1989; Kuhnlein & Receveur, 1996; Kuhnlein et al., 1995, 1996; Lambden *et al.*, 2006; Royal Commission on Aboriginal Peoples, 1996b; Simoneau & Receveur, 2000). The Aboriginal Partners of the Northern Contaminants Program clearly make the link between environmental contamination of their food supplies and cultural survival:

> To us, persistent organic pollutants (POPs), heavy metals and radioactivity in traditional country food is not just an environmental or public health issue but raises questions of our cultural survival. If we lose confidence in our traditional country food we will question whether to continue hunting (Indian and Northern Affairs Canada, 2003a).

Understanding what food security means for First Nations and Inuit, and the policy implications of food insecurity, is complicated by the diversity among Aboriginal people in Canada (Royal Commission on Aboriginal Peoples, 1996a) and their diversity of food consumption patterns (Duhaime *et al.,* 2002). It is likely that there are significant differences by age; between men and women; and among those living in urban areas versus rural versus remote communities.

For example, it is widely observed that younger people eat less country food than older people (Kuhnlein & Receveur, 1996; Kuhnlein *et al.*, 2004). Food security surveys in three northern isolated First Nations and Inuit communities has shown that the levels of food insecurity among children are as high as or higher than levels among adults (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c). This situation is the reverse of food insecure households in the South, where the rates of food insecurity among children are consistently lower than for adults in the same households (Power, 2005a). Anecdotally, this has been explained by the observation that children have not acquired the taste for country/traditional food, preferring market food, and when there is no money for market foods, adults will access supplies of country/traditional food, while the children go hungry because they refuse it. Thus, levels of individual and household food insecurity for some First Nations and Inuit, particularly in isolated areas, may depend on acceptance of and access to country/traditional food.

For those First Nations and Inuit who live in urban areas[5], the meaning and measurement of individual and household food insecurity may be similar to non-Aboriginal populations. In such communities, the diet is likely overwhelmingly based on market food. Thus, as for other Canadians, poverty could be expected to be the most important determinant of individual and household food insecurity. Fitting with the observation that Aboriginal people are among the poorest of the Canadian urban population (Riches et al., 2004), analysis from the 1998-1999 *National Population Health Survey (NPHS)* show that almost three times as many off-reserve Aboriginal households report individual and household food insecurity as non-Aboriginal households (27% vs. 10.4%) (Che & Chen, 2001).

Living in urban areas, far from the land, likely presents unique problems with respect to cultural food security. In particular, access to country food may be even more precarious than for non-urban dwellers. Urban dwellers are most likely dependent on relatives living closer to the land for supplies of country food, and may have difficult burdens of reciprocity. The results of one study of low-income urban Aboriginal women in Winnipeg (Sinclaire, 1997) showed that when the women consumed country food, it

[5] Of the 358,000 First Nations who live in non-reserve areas, approximately 43% live in census metropolitan areas (Statistics Canada, 2002).

was brought or shipped by relatives. However, this rarely saved the women money because they either paid for the food or its shipping, or had nowhere to store it. For these women, poverty affected both their food practices and also disrupted cultural practices of food sharing and reciprocity, which caused some participants great distress.

5.0 Levels of Individual and Household Food Insecurity Among Aboriginal People in Canada

To Canada's shame, Aboriginal people suffer disproportionately from individual and household food insecurity, much as they suffer disproportionately from other health problems. Analysis of the 1998-99 *National Population Health Survey (NPHS)* shows that while 10.4% of Canadians overall were food insecure, 27% of off-reserve Aboriginal people were food insecure [6]. In the 2000/01 *Canadian Community Health Survey, (CCHS)*, 56% of those living in Nunavut (where the population is primarily Inuit) reported food insecurity. Rates in the Northwest Territories and Yukon were also high at 28% and 21% respectively (Ledrou & Gervais, 2005), and likely affect Aboriginal people disproportionately. The 2004 *CCHS* over-sampled off-reserve Aboriginal people; analysis of these food security data is expected to be released in May 2007.

There are limited data on food insecurity for on-reserve Aboriginal people. Surveys of Inuit and First Nation households in three northern and isolated communities, conducted by Indian and Northern Affairs Canada for the *Food Mail Pilot Project* (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c) show appalling levels of individual and household food insecurity in Inuit and First Nations households in three northern and isolated communities: 40% in Kangiqsujuaq, Nunavik, PQ; 70% in Fort Severn, ON; and 83% in Kugaaruk, Nunavut. In an analysis of the food consumption patterns of the Inuit of Nunavik in 1992, 26% of households reported a lack of food in the house (Duhaime *et al.,* 2002). In the early 1990s, Lawn and Langer found that 80% of Aboriginal respondents in the Northwest Territories reported running out of money for food (cited in Duhaime *et al.,* 2002). In a survey of nutrition, food security and health in Repulse Bay

[6] The NPHS did not survey on-reserve Aboriginals.

and Pond Inlet in 1997, approximately half the respondents in both communities reported that there was not enough to eat in the house in the previous month (Lawn & Harvey, 2001). And in the late 1990s, 21% of mothers in Cree communities in northern Quebec, worried that they didn't have enough money to feed their children (Willows *et al.*, 2005). Each of these studies used different measurement tools and indicators, and found a wide range of rates of food insecurity, but it clear that this is an urgent issue for First Nations and Inuit in Canada.

6.0 Key Factors Affecting Food Security for First Nations and Inuit

6.1 Poverty & Unemployment

In its concluding observations in May 2006, the UN's Committee on Economic, Social and Cultural Rights noted with concern the high poverty rates among Aboriginal people (United Nations Economic and Social Council, 2006). In 1996, 43% of Aboriginal people lived in poverty (National Anti-Poverty Organization, 2003), compared to a poverty rate of 18.5% for all persons in Canada that year (National Council of Welfare, 2004)[7]. In 2000, 42% of Aboriginal people in cities lived in poverty, compared to an average rate of 18% (Heisz & McLeod, 2004). And in 2001, 40% of off-reserve Aboriginal children lived in poverty compared to 18% of all children (Campaign 2000, 2006). In other words, poverty rates among Aboriginal people are consistently at least double that of the Canadian average. "In 2003, Canada's Aboriginal people would rank 78th on the UNDP's Human Development Index" (National Anti-Poverty Organization, 2003).

Consistent with higher levels of poverty among Aboriginal people, unemployment rates are also high. Between 1991 and 2001, unemployment rates for Aboriginal people were consistently about two-and-a-half times the rate for Canadians overall (Mendelson,

[7] The National Council of Welfare (NCW) provides annual reports on poverty rates in Canada, using Statistics Canada income surveys. However, these surveys do not include residents of the Yukon, the Northwest Territories and Nunavut, nor do they include Aboriginal people living on reserves. Because of the limited data, the NCW does not include poverty among Aboriginal people in its report.

2004). In 2001, the overall Aboriginal unemployment rate was 19.1%, compared to 7.4% for Canadians overall. However, unemployment rates for Aboriginal people vary dramatically by area of residence. For example, in 2001, unemployment rates were as follows: 14% for large urban centres; 18% for rural and small urban centres; and 28% on reserves (Mendelson, 2004). Some reserves have much higher rates of unemployment. In the baseline surveys for the *Food Mail Pilot Projects* (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c), lack of employment was the social issue of greatest concern, with at least 75% of respondents in each community expressing "extreme concern". The Royal Commission on Aboriginal Peoples (Royal Commission on Aboriginal Peoples, 1996b) details the failure of economic development models in the past, and provides numerous suggestions for improvement.

As for other Canadians living in poverty, lack of financial resources adversely affects access to the purchase of market foods. However, income also appears to affect the ability of First Nations and Inuit to access country foods, due to the expense of purchasing and maintaining equipment and supplies (Chan *et al.,* 2006; Condon *et al.,* 1995; Duhaime *et al.,* 2002; Kuhnlein & Receveur, 1996; Lambden et al., 2006; Lawn & Harvey, 2001; Myers, 2002). Among the Inuit of Nunavik, Duhaime *et al.* (2002) found that the households that consumed the most country foods contained a father who didn't work and a mother who had paid employment. They concluded that "the presence of the father is thus an influential factor, but not a sufficient one, since if the household lacks monetary resources or if the father's occupation limits the time available for food production, the consumption of country foods is generally less" (p. 112). In their survey of Inuit, Dene/Métis and Yukon First Nations women in 44 Arctic communities, Lambden *et al.* (2006) found that up to 40% of women thought that fishing was unaffordable and up to 46% considered hunting to be unaffordable. Inuit women considered hunting and fishing the least affordable; Yukon First Nations the most affordable. In 1989, a report by the Government of the North West Territories estimated that it would cost a hunter $5000 to $10,000 per year for equipment, fuel and supplies (Myers, 2002). However, hunting and fishing provides meat and fish that is generally less expensive than comparable market food (Duhaime, 2002). In 1989, it was estimated that it cost hunters $1.01 to produce $10.54 of food (Myers, 2002) suggesting that hunting is a

relatively economical means of providing protein. Thus, while hunting and fishing are not inexpensive activities, it seems that lack of income to participate in such activities is more important than their cost *per se.* This pricing only accounts for food costs and does not take into consideration the perhaps incalculable value of hunting and fishing for cultural, social and spiritual purposes.

Income is the first of the Public Health Agency of Canada's determinants of health (www.phac-aspc.gc.ca/ph-sp/phdd/approach/index.html); poverty is widely recognized as having direct and indirect effects on health and nutrition (Power, 2005b). However, the authority to ameliorate poverty lies outside the jurisdiction of government health departments and public health units. This complicates policy-making and implementation, though at least in the case of First Nations and Inuit, only one level of government, the federal level, has primary responsibility. Levels of individual and household food insecurity are unlikely to be significantly impacted as long as poverty remains so high among First Nations and Inuit.

6.2 Food Sharing Networks

As one might expect in hunting and gathering cultures, in which food has traditionally not been commodified, food sharing reflects and is an important part of cultural values (Chan *et al.,* 2006; Freeman, 1988). In the North, the institution of food sharing is one of the most striking aspects of Inuit culture; it is the basis of spiritual and social life, promoting social cohesion and thus survival in a harsh land (Lévesque et al., 2002). In 2001, 96% of Inuit households reported sharing country food with other households (Statistics Canada, 2006), making the practice "an indispensable foundation of food security at the individual, household, local, and regional levels" (Duhaime, 2002, p. 72). Refusal to share game is "considered a deadly breach of etiquette and Inuit values" (Borré, 1994, p. 40. As Freeman (1988) notes, food sharing is an integral component of the complex activity of hunting, supported by values and attitudes that make sense within a particular social framework, and reflecting the conditions in which people live.

Among the Inuit, food distribution follows a complex logic, involving a number of variables. These include the size of the harvest and the anticipated size of future harvests, the species taken and the quality of the meat, the type of hunting, the social status of

those involved, the size of the hunter's extended family, the amount of food received from other households, and the generosity of the hunter (Condon *et al.,* 1995; Lévesque et al., 2002). In their study of the Inuit community of Holman, Condon, Collings and Wenzel (1995) found that the most common form of sharing was one of generalized reciprocity between relatives and friends. In Holman, food sharing between socially distant relatives was unusual and not a highly valued exchange (Condon *et al.,* 1995, 1998). This would also seem to have been the case in Kangiqlugaapik, on North Baffin Island, where Borré (1994) found that households with the loosest connections to their extended families suffered the most economically and nutritionally when the community came under severe economic stress. In Holman, the most active hunters not only gave away more food but also received more food from others, indicating the importance of mutual exchange (Condon *et al.* 1995). This complex economy of reciprocity may have important implications for households and extended families with the fewest resources—they would be less likely to be the recipients of food because they would be unable to reciprocate. As Chan et al. (2006) note, "the effectiveness of social networks as compensation for lack of economic resources is unclear" (p. 425).

The *Northern Quebec Hunter Income Support Program* and *The Nunavut Harvester Support Program* have provided institutional support for community food sharing (Chan *et al.,* 2006; Myers, 2002; Royal Commission on Aboriginal Peoples, 1996b). These programs provide funds to purchase harvested food and to buy equipment, such as boats, for communal use. The harvested food is distributed free of charge to Inuit who cannot hunt, both in the north and the south (Chan *et al.,* 2006; Royal Commission on Aboriginal Peoples, 1996b). In 2002, 40% of household in Kangiqsujuaq, Nunavik (Québec) reported income from the *Hunter Support Program*; 94% of households had access to country food most of the time, and 32% used the community freezer program (stocked by the *Hunter Support Program*) when they were unable to afford enough food (Lawn & Harvey, 2004). Although food insecurity in this isolated community was still intolerably high (at 40%), it was considerably less than the other two communities surveyed for the *Food Mail Pilot Project* (70% in Fort Severn and 83% in Kugaaruk) (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c) where community freezers did not exist (though it is impossible to say from the available data whether community freezers are

responsible for the lower rates of food insecurity). In an analysis of data from Nunavik Inuit ten years earlier, Duhaime et al. (2002) found that the community freezer played an important role in increasing the proportion of country food in the diet, especially for households where there were no males or male heads of household. However, they were unable to assess the link between sharing practices, use of the community freezer and poverty. Chan *et al.* (2006) found that focus group participants in Nunavut believed there were several inadequacies with the *Nunavut Harvester Support Program,* notably that funding does not cover the hunters costs, the distribution of the harvest is not enforced, the needs are greater than current funding levels and the hunting is not frequent enough.

6.3 Environmental Contamination and Global Climate Change

The Arctic environment is particularly sensitive to airborne environmental contamination (particularly Persistent Organic Pollutants or POPs), climate change, and contamination from human industrial activities, such as those related to resource extraction, hydroelectric projects and the military. There are large bodies of literature relevant to these topics (Kuhnlein & Chan, 2000; Van Oostdam *et al.*, 2005); I will not attempt a comprehensive review here.

Global climate change is already having profound effects on the Arctic, as temperatures rise. This is already leading to glacier melts, thinning ice, rising sea levels, reductions in habitat and changes to migratory patterns for birds and animals such as reindeer, musk ox, caribou, seal, walrus, and polar bear. Clearly such changes disrupt the supply of country/traditional food and affect cultural food security for First Nations and Inuit. Guyot et al. (2006) has documented changes to the traditional food harvest resulting from climate change in two northern Aboriginal communities.

Airborne contamination is a particular concern in the Arctic because POPs tend to accumulate and concentrate in polar regions, due to global patterns of wind and water circulation. They accumulate in the food chain and are then consumed by those at the top, humans. In humans and animals, POPs can cause numerous adverse health effects, including disease, birth defects and death. Studies of human tissue have found elevated levels of contaminants in Inuit in the Canadian north (Kuhnlein & Chan, 2000). As Willows (2004) states:

> There is a great deal of uncertainty about the health effects of contaminants and factors that must be taken into consideration: the level of contaminants, the number of different types of contaminants that are present, and how the contaminants, as they exist in food, are modified by each other and by nutrients and antioxidants in food (p. 36).

Eliminating particular country foods because of contamination must also be weighed against the nutritive, physical, social and cultural benefits (Kuhnlein & Chan, 2000; Willows, 2004). This is a very complex issue, requiring more research, but also speaks profoundly to the need for global action to reduce eliminate POPs and restrict other environmental contaminants.

Aboriginal reactions to knowledge or perceptions about contamination in their supplies of country food are complex (Kuhnlein & Chan, 2000; O'Neil *et al*., 1997; Willows, 2004). In the baseline surveys conducted for the *Food Mail Pilot Projects* (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c), the percentage of respondents who were "extremely concerned" about the safety of country food ranged from approximately 20% in Fort Severn and Kugaaruk to approximately 45% in Kangiqsujuaq.

Contamination of the food supply is not limited to the north. For example, in the 1960s, the Ojibwa people of the Grassy Narrows and Whitedog reserves were poisoned from high levels of mercury in their staple food, fish. The mercury was released into the English-Wabigoon River System by a chemical plant involved in pulp and paper operations upstream from the reserves (Bray, 2006). In the Great Lakes region, there are currently fish consumption advisories for all of the Great Lakes involving five primary contaminants: mercury, PCBs, chlordane, doxins, and DDT. Advisories recommend limited consumption of specific sizes, species or fish from specific water bodies, particularly for pregnant and nursing women, and children (US Environmental Protection Agency, 2006). Clearly this adversely affects individual, household and cultural food security.

6.4 Access to the Land

Over the past fifteen years, the Supreme Court has consistently upheld the rights of First Nations and Inuit to hunt and fish in order to maintain traditional lifestyles and diets, both on and off traditional lands (Riches *et al*., 2004). Access to the land for hunting, fishing and gathering activities is key to food security for First Nations and Inuit (Thériault *et al.*, 2005). Riches *et al.* (2004) maintain that as Aboriginal people increasingly move to self-government, the management of fish and wildlife must also be turned over to bands in order to fulfill these hunting and fishing rights.

6.5 Traditional Knowledge

The ability to harvest and prepare traditional/country food depends on traditional knowledge, which, in oral cultures, is lost with disuse. The transmission of traditional knowledge among First Nations and Inuit in Canada was significantly disrupted by residential schools, which took children away from their families at ages when they would be learning traditional skills and knowledge. The loss of the knowledge and skills required to harvest and prepare traditional/country food has accelerated as First Nations and Inuit become more urbanized, take on paid employment, and replace traditional/country food with commercial market foods (Kuhnlein, 1993; Kuhnlein & Receveur, 1996). As is common in marginalized groups, young people often wish to identify with the dominant, White European culture and turn away from traditional ways and traditional foods. The loss of traditional knowledge threatens First Nations and Inuit cultural identity and food security, and means the loss of ways of living that are in harmony with nature and the land.

6.6 Cost, Availability and Quality of Commercial Market Foods in Remote Communities

In remote communities, the cost of purchasing market food can be prohibitive due to shipping costs. To help offset shipping costs in isolated communities, the Canadian Government has run the *Northern Air Stage Program*, commonly known as “Food Mail”, for almost forty years. In 1986, the program expanded to include a transportation subsidy to Canada Post to ship food by air. In 1991, the Department of Indian Affairs and Northern Development (DIAND) (now Indian and Northern Affairs Canada, INAC) took

over responsibility for the administration of the program, and has since focused the subsidy on nutritious perishable foods (e.g., milk, vegetables, fruits, meat and bread), with the aim of improving nutrition and health in isolated communities. Since 1993, nutritious perishable foods can be shipped as food mail for $0.80 per kilogram plus $0.75 per parcel. The program also includes some non-perishable food, such as flour, rice, pasta, canned soup and canned vegetables, and essential non-food items, such as clothing, which are shipped at higher postage rates. Food with little nutritional value, alcohol and tobacco are not included (Indian and Northern Affairs Canada, 2004a).

Even with the subsidy, in 2004 INAC reported that a family of four in most isolated communities would spend between $230 and $300 per week to buy a basic nutritious diet, compared to $140 to $160 in cities in southern Canada (Indian and Northern Affairs Canada, 2004a). In the communities included in the *Food Mail Pilot Project* [8], before the *Pilot Project* was put in place, a family of four on social assistance in Kangiqsujuaq would spend 85% of after-shelter income on a basic nutritious diet, 91% of after-shelter income in Kugaaruk, and 102% of after-shelter income in Fort Severn (Indian and Northern Affairs Canada, 2003b, 2004b, 2004c). This figures point to the shockingly inadequate levels of social assistance in these communities. They also suggest that no matter how low the shipping rate for nutritious perishable foods, the rate decrease, as important as it is, in-and-of-itself will not be enough to combat the high levels of individual and household food insecurity in these communities.

A number of other factors also increase retail costs in the north, including increased warehouse costs to take advantage of lower winter road freight rates; finance costs for carrying large quantities of inventory; the increased costs of maintenance and repair; higher rates of spoilage; higher building costs and utility costs; and lack of competition (Northern Food Prices Project Steering Committee, 2003).

Problems other than cost are also an issue for market foods in remote communities. These include poor quality, lack of variety, and poor availability of the foods. The poor

[8] The Food Mail Pilot Project involved three communities, Fort Severn, ON, Kangiqsujuaq, Nunavik, and Kuugaruk, Nunavut, and involved reducing the rate for shipping the most nutritious perishable foods from $0.80 to $0.30 per kilogram, plus $0.75 per parcel. The Project also involves nutrition education and retail promotion of healthy foods.

quality of perishable market food may reflect poor handling and storage procedures, during shipping and at the grocery stores. There are other issues related to the retail environment, such as prices not always being posted. The *Food Mail Pilot Project* also includes nutrition education, including in the grocery stores, to help raise awareness of healthy food choices and of the foods covered by the *Pilot Project*; and retail training in proper food handling and storage. It thus has addressed the four pillars of food security: availability, stability of supply, access, and utilization.

6.7 The Processing, Marketing and Sale of Country/Traditional Food

The processing, marketing and sale of country/traditional food is potentially an important way to improve food self-sufficiency, which has been identified as key to self-reliant communities (Duhaime & Bernard, 2002; Myers, 2002; Royal Commission on Aboriginal Peoples, 1996a). The processing, marketing and sale of country/traditional food can provide opportunities for First Nations and Inuit to earn income, thus improving individual and household food insecurity; improve nutritional health by distributing more nutrient dense foods; enhance cultural food security; promote sustainable economic development; and sustain the traditional economy (Duhaime & Bernard, 2002; Myers, 2002). For example, in Greenland, government investment to promote the production, commercialization and distribution of country food resulted in a dramatic increase in sales and consumption (Duhaime & Bernard, 2002). However, cultural constraints against the marketing and sale of country food are different for Greenland Inuit than those in North America, where the marketing and sale of country food is often considered taboo (Duhaime, 2002). In Condon's study in Holman, Inuit never sold food to each other, though they did sell country food to transient construction workers or to the Co-op Hotel (Condon et al., 1998). Some focus group participants in the research conducted by Chan et al. (2006) thought that Inuit should share, not sell, country food, but the majority thought that country food should be obtained and distributed through the Hunter Trapper Organization, to ensure that those who most need it (i.e., those with the lowest incomes) could obtain it.

Myers (2002) notes that country stores, such as those in Cambridge Bay and Pond Inlet, provide a way to continue traditional ways and values, while also linking

communities to the market economy. They purchase meat and fish from hunters and fishers, process it into new and traditional products, and sell it locally and to other communities. Thus they have multiple effects on food security. The marketing and sale of country/traditional food in urban food stores could help enhance cultural food security for urban-dwelling First Nations and Inuit.

6.8 Prevalence of Other Pressing Social Issues

Accompanying the appalling rates of poverty and unemployment, First Nations and Inuit communities often suffer high rates of other problems, including issues related to housing, family violence, low rates of secondary and post-secondary education completion, substance abuse, lack of clean water, etc., etc. Some of these issues compound food insecurity and poor nutrition; for example, healthier eating habits are associated with higher levels of education (Power, 2005b). In terms of health promotion, some communities may consider these other social issues to need more urgent attention than food security. However, particularly in First Nations and Inuit communities, the holistic health promoting effects of harvesting and preparing country food could be incorporated into programs to address these other issues, to assist in individual and community healing, and promote individual, household, and cultural food security simultaneously. In other words, in keeping with the recommendation from *Canada's Action Plan on Food Security*, it is important to look for ways to integrate food security into other ongoing work.

7.0 Research Needs

7.1 Conceptualizing Food Security for First Nations and Inuit

What does food security mean for various First Nations and Inuit? This research will need to consider age, gender, place of residence (urban, rural, rural-remote), and ethnic identification. Such research could proceed along the lines of Radimer et al., (Radimer *et al.*, 1990; Radimer *et al.*, 1992) which formed the original basis of the food security measurement tool, now known as the *U.S. Food Security Survey Module,* which is also used in Canada, for example in the Canadian Community Health Survey. This research

could form the basis of a supplemental tool to measure the unique aspects of food security for First Nations and Inuit (though it would be important to ensure that rates of food insecurity among First Nations and Inuit could be compared to those for non-Aboriginal populations). It could also be used to inform policy and program decisions, so that food security interventions could be more effective and could be appropriately evaluated.

7.2 Rates of Individual and Household Food Insecurity for Inuit and First Nations living on reserve

First Nations living on reserve and Inuit have generally been excluded from national health surveys, so there is little known about rates of food insecurity in these communities. As reviewed above, the available evidence suggests horrendously high rates of individual and household food insecurity in northern and isolated Inuit and First Nations communities and in Nunavut. Mounting an effective policy response to individual and household food insecurity for Inuit and First Nations living on reserve will require information about the nature and the extent of the problem. There may be future opportunities in the *First Nations Regional Longitudinal Health Survey (RHS)* to include questions on food security, which would provide valuable and much needed data about rates of food insecurity for First Nations living on reserve.

7.3 Country/Traditional Food and Food Security

Given the centrality of country or traditional food to individual and household food security, the nutritional status, and cultural survival for First Nations and Inuit, it is important to more fully characterize the relationship between country and traditional food and food security. For example:

What is the cost of country/traditional food compared to the cost of market food in various parts of the country? How do these costs compare when nutrient density is taken into account?

What is the relationship between the consumption of country/traditional food and food insecurity?

What is the relationship between the hunter support programs and food security? Who benefits from hunter support programs? How might they be expanded?

What is the relationship between community freezers and food security?

What facilitates the acceptance of country/traditional food among children and youth?

7.4 Food Sharing

Food sharing has the potential to alleviate food insecurity; however, it is unknown to what extent and under which conditions. For example:

What is the impact of food sharing on food security? Under what conditions does food sharing flourish or fall apart? Is anyone left out? Why?

What is the role of food sharing for First Nations?

Does food sharing extend to those living in cities? What are the mechanisms of reciprocity?

7.5 Environmental contamination

Environmental contamination of country/traditional food is one of the most significant threats to cultural food security. I have not attempted an exhaustive review in this document because of the extensive body of literature in this area. Ongoing research, for example, under the Northern Contaminants Program (NCP) and by Centre for Indigenous People's Nutrition and Environment (CINE) at McGill University, is addressing the complex questions of how First Nations and Inuit assess the benefits and risks of traditional/country food and how scientific and lay perceptions of risk can be brought together to promote health. At the policy level, the question remains of how to move from research to effective action, on a global scale, to limit environmental contamination.

7.6 The Marketing and Sale of Country/Traditional Food

The marketing and sale of country/traditional food may be able to play a role in promoting cultural food security, better nutrition, and community economic development. What marketing opportunities exist to sell locally harvested food to urban centres, other First Nations and Inuit communities, and community-based programs and facilities, such

as the Canada Prenatal Nutrition Programs, schools, child-care facilities, and health care facilities? How do government food safety and inspection regulations hinder the development of these initiatives?

The following research questions are quoted from Myers (2002), p. 100

Does selling country food impinge on traditional food-sharing systems?

Does selling country food somehow exclude or disenfranchise some members of the community?

Will having a country food store in a community improve the nutrition and health of its residents?

What are the employment and income benefits from country food stores?

Will such a store help hunters, trappers and fishers continue their tradition pursuits?

How much will the community economy save, by being able to replace imported foods, at least to some degree?

What are the resource limits that must apply to country food products?

And what kinds of products will appeal to northern and southern customers?

Will the ability to sell country foods enable those who wish, to continue with their traditional domestic harvest?

7.7 Food Mail

The Food Mail program has been and continues to be important in reducing the prices of healthy market food in remote and isolated communities. Could it be used to promote the consumption of country/traditional foods as well? How can the Food Mail program be re-conceptualized as one component of a comprehensive health promotion/community development/community economic development strategy that also addresses environmental sustainability, cultural integrity, and food self-sufficiency?

7.8 Other

What is the feasibility of community-based non-conventional food activities/business, such as greenhouses, to improve food security in remote communities? (see for example, (Northern Food Prices Project Steering Committee, 2003)).

What are the characteristics of communities that have lower rates of food insecurity? What lessons can be learned from these communities and applied to others? How might First Nations and Inuit communities share their food security stories (successes and mistakes)?

How can food security activities be effectively integrated into other ongoing community-based programs and institutions?

How might food security policies and programs be coordinated across Government departments?

8.0 Conclusion

As I have outlined above, the threats to food security for First Nations and Inuit are multi-faceted, complex, and urgent. While we have some research about the nature and extent of the issues, many gaps remain. The development, implementation and evaluation of effective policies, strategies and programs will depend, in part, on filling these knowledge gaps. The complexity of the issues suggests that research, policy and programs are best tackled in multidisciplinary, multi-departmental ways. Research, policy development and programs can only be undertaken with the full collaboration of First Nations and Inuit.

As Levi (2007) has noted, the seriousness and urgency of food security problems among Aboriginal people has led researchers to focus on the problems, to the neglect of the actions and programs that Aboriginal people are already carrying out to improve their own food security. The agency, resilience, leadership and creativity of First Nations and Inuit communities in managing serious social, political, and health issues, such as food security, must not be overlooked. Enhancing the ways for First Nations and Inuit communities to share their food security projects with each other and beyond should be a priority.

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