Local Capacity to Combat Food Insecurity in Rural North Central Washington

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INTRODUCTION

Food is one of the most basic necessities allowing a population of any size or shape to lead a healthy, productive life. When there is a lack of food available for any group of people, it becomes one of the most pressing social concerns. Consequently, food—or the lack thereof—is one of the first openings to political discourse on inequalities as well as to popular forms of resistance. People will go to desperate measures to get food and water, recently demonstrated by the food riots around the world due to the soaring costs of basic foods. Last April, riots in southern Haiti resulted in the death of five people and over twenty wounded as protests raged over the high price of basic food such as rice, beans, and fruit. Though many developed nations have avoided this kind of violent petition, their populations are nevertheless feeling the weight of increasingly low access and affordability of food, including the United States.

Of course, widespread agro-industrialization, which has reached both developed and developing countries in varying degrees, has been associated with an increased agricultural yield significantly in almost every area of the world leading to improved food availability and affordability (Ohara 2001). The food system is much more capital intense, consolidated, and vertically integrated (Feenstra 2002) than it was a few decades ago. However, though many assume that the modern, industrialized system of agricultural production leads to adequate food supply and affordability for everyone, in actuality it has not eradicated food insecurity amongst many groups of people, even in the most affluent nations.

In the US, food insecurity is defined as "a condition in which households or individuals are uncertain of having, or unable to acquire enough food to meet the needs of all their members due to insufficient funds or other resources for food" (Nord et al. 2006). The term food insecurity refers not only to food shortages but also to anxiety about food shortages within the

household, abnormal eating patterns to cope with shortages and the need to use socially unacceptable procurement strategies such as participation in the Food Stamp Program, using a food pantry, buying food on credit or even stealing (Wu and Schimmele 2005).

In 2006, according to Nord et al. (2006), 35.5 million people in the United States were food insecure, including 12.6 million children. Studies have repeatedly shown that children from chronically food insecure households show more physical, behavioral, emotional, and academic problems than children from similar low income households whose families were reportedly food secure (Winne 2008; Siefert et al. 2001; Murphy et al. 1998). Several examples include increased prevalence of iron-deficiency anemia in food insecure children (Skalicky et al. 2005), and higher levels of hyperactivity, absenteeism, and tardiness among hungry/at-risk children than not-hungry children (Murphy et al. 1998). There are also associations between food insecurity and lower math scores and ability of children to get along with others (Murphy et al. 1998). These studies suggest that food insecurity can be holistically detrimental to an individual's—especially a young child's—well being.

Another concern about the modern, industrialized food system is the growing disconnect between locality and population. With consumers becoming more distanced from their sources of sustenance, questions of nutritional value, quality, and availability are being raised. There are worries that consumers have become "passive recipient in a rather homogenous system of nutrient distribution in which real food is almost considered a luxury—for upper and middle classes" (Feenstra 2002). If one views food as a human right, these rifts in the food system are surely marginalizing vulnerable groups, especially low-income citizens. This separation of the lower classes from their sources of food may be linked to food insecurity for this group. While the agriculture industry becomes more capital intense and consolidated, lower classes may find

themselves on the bottom end of the food gap—an end where highly processed, calorically dense, and unhealthy foods are the only things available and/or affordable.

In the US, as in other developed nations, factors contributing to food insecurity are myriad and contextual. Also, many believe the ripples of globalization are causing neglect of social issues and eroding federal and state appropriations to social welfare. This can be seen in budget cuts to the federally funded Food Stamp Program due to the assumption that the private emergency food network—mainly food pantries and soup kitchens—will pick up the slack. It is helpful to overview a brief history of the Food Stamp Program to trace how responsibility has shifted to food pantries and why local food safety net providers are experiencing strain (Garasky et al. 2004).

Starting in the 1980s benefits to the Food Stamp Program, the largest federal food assistance program, were significantly cut. Simultaneously, legislation allowed for the distribution of surplus commodities to private networks that support populations at-risk for food insecurity (Bhattarai et al. 2005). Therefore, the responsibility of feeding the hungry fell increasingly on the shoulders of the private emergency food assistance network. The size and client base of food distribution centers, food pantries, and soup kitchens grew, due in part to a faltering economy, and these organizations found it hard to accommodate an increasing demand with a decreasing supply of food (Allen 1999). Bhattarai et al. discovered that food pantries "were clearly serving more chronic cases as opposed to the emergency cases they were created to serve" (2005). It follows that an important indicator of food security in a locality is the capacity of a food pantry in feeding the most vulnerable groups in the community.

The goal of my research has been to investigate the real conditions of food insecurity in rural areas with an eye towards improving food security to at-risk populations in those areas. I

have chosen rural North Central Washington (NCW) as the location of analysis. To measure the feasibility of improving food security in rural NCW I will focus on the three main challenges food pantries face in adequately serving their clients. By gauging how these challenges are being met or not met by the food pantries I will develop a preliminary assessment of food security. It also will be easier to develop strategies for stemming the problem of food insecurity. The three challenges investigated are: (1) *Nutritional Content:* Increasing cases of obesity and diet-related diseases trigger concern about the availability and affordability of nutritious choices available to the low-income population, especially fruits and vegetables, (2) *Rural Limitations:* In many cases, rural people face challenges accessing high-quality, low-cost, fresh food which may debilitate rural food pantries themselves in food procurement, and (3) *Community Support*: Lack of community support in food security efforts may be further impairing the capacity of local food pantries to provide for their clients. A brief review of the literature will give substance to these three concerns and provide a basis for formulating the research questions. The review will also provide a theoretical basis for interpreting data and formulating conclusions.

LITERATURE REVIEW

Nutritional Content

As obesity and other diet-related diseases are plaguing the country, concern is directed towards the high availability, affordability, and palatability of sweets and fats. Consumption of fruits and vegetables have been linked to reducing the risk of many diet-related diseases including heart disease, stroke, some forms of cancer, and pregnancy complications (Hyson 2002). The rising cost of accessing micronutrients, which are abundant in vegetables, present risks of iron deficiency anemia for those who cannot afford these foods, especially among low-income school-aged children as demonstrated by Skalicky et al. (2005). It has been shown that

regular consumption of fresh fruits and vegetables has been associated with a decreased risk of diabetes, cardiovascular disease, cancer, and obesity (Hendrickson et al., 2006). Unfortunately, low-income individuals consume less fruits and vegetables than is recommended, which may be one of the causes of the disproportionately high number of diet-related diseases in low-income populations. Koh and Caples (1979) found that fresh produce was greatly desired by poor residents but was not regularly purchased because they were seen as impractical and unaffordable means of satisfying hunger, and therefore foods with higher fat and starch content were more likely to be purchased. Rose and Oliveira found that for adult women, food insecurity was linked to reduced intake of several nutrients including energy, magnesium, folate, iron, and vitamins A, E, C and B (1997). Elderly people in the food insufficient group were also more likely to have low intakes of eight nutrients, including protein, calcium, and vitamins A and B (Siefert et al. 2001; Tarasuk and Beaton 1999; Kendall et al. 1996). Clearly, improved access to fruits and vegetables for vulnerable groups of people is needed, especially for low-income, women, elderly and children.

The source of food, type of food, and also how the food is prepared can have substantial influence on how a person will eat for the rest of their lives. For example, Richards and Smith (2007) found that the way meals are prepared at shelters has an affect on food choices, including homeless children. Because instilling good eating habits to any population at-risk for diet related diseases is imperative to reversing the cycle of disease and food insecurity within a community, and as many at-risk groups get their food from food pantries, understanding how food pantries source and prepare foods becomes crucial for understanding food security issues.

However, it may be questionable whether food pantries and other public and private programs are actually improving nutrition in the food insecure population due to the quality and

type of canned and processed foods common in food pantries. These foods tend to be high in saturated fat, sugar, and sodium and may therefore be unhelpful in combating diet-related diseases. Akobundu et al. (2004) found a lack of fruit, dairy, and other sources of vitamins A and C and calcium in food pantries, and concluded that creative strategies were imperative in procuring these resources in individual communities. It has been suggested that an answer to this problem is to establish a more localized food system geared toward making fresh and healthy foods more available to vulnerable populations, although this would be dependent on developing connections between local food system participants and at-risk populations.

The Community Food Security (CFS) movement seeks to re-link producer and consumer and improve economic viability, social justice, and environmental sustainability (Winne 2008), and resist the "atomistic, commodified relationships typical of conventional agricultural marketing" (Selfa and Qazi 2005, p. 452). This movement emphasizes improving the types and amount of food available to low-income people but several critics believe its goals of supporting local as well as low-income may not be complementary (Allen et al. 1999). Higher prices for organic foods, for example, will not lead to increased consumption of these foods in the low-income population. Furthermore, reducing federal spending and making localities responsible only for the issues that arise within their own geographical boundaries, in a nation where income and race are often defined geographically, can become dangerous. Allen et al. (1999) questions whether local alternatives can help alleviate a problem (i.e., poverty and food insecurity) which is anchored in larger and more global economic, political and social structures. While relocalization of food has increased diversity in how people get their food, many question if it is possible to effectively combat food insecurity with fragmented and diverse local food movements.

The review presented in this section leads to several questions about nutritional content in food pantries. Firstly, are food pantries receiving enough nutritious foods and where are these foods coming from? In relation, what foods are most lacking and how (if at all) are food pantries procuring this high-demand food? Local food initiatives are also examined in this section. The question is whether/how local food initiatives such as Farmers Markets and CSAs, which promote fresh, healthy and locally grown products, are doing anything to support these food pantries. In other words, is the answer to food security in rural areas more access to local foods? There are several different explanations for the dearth of fruits and vegetables in rural food pantries. In the next section I draw from literature concerning one explanation—that fresh food is lacking in rural areas due to low availability and affordability.

Rural Limitations

Certain unique characteristics of rural areas create a challenging environment for poverty reduction in general: the availability of childcare, transportation, and information technology is lower, rural adults are less likely to have a college degree, education systems are more likely to be substandard, and local formal economies and labor markets are often weak (Pickering et al. 2006). Pickering et al., in a study of eight rural and impoverished counties across the US, notes that a common thread to the problem of poverty in these areas is that rural localities "have not been integrated into the contemporary global capitalist system of accumulation in a way that benefits large segments of their populations" (2006, p. 111). In the same way, Sumner (2005) claims that economic restructuring in industrialized countries, characteristic of an increasingly global economy, hits rural populations the hardest. Almost 18% of all rural households with children are food insecure, which adds up to about 1 million children (Nord et al. 2006). Persistent poverty and degree of rurality are also linked. Nearly 28% of the people living in

completely rural counties live in persistent poverty counties (Pickering 2006). In contrast, 7.5% of the people living in the most urban rural areas live in persistent poverty counties (Pickering 2006).

One explanation for the prevalence of food insecurity in rural areas is that quality produce, which is one of the most important sources of nutrients, is one of the foods least accessible via major retail outlets in many areas, especially in rural localities. The creation and perpetuation of food deserts in the United States have links to the industrialization of the food retail system. Food deserts can be defined as "areas of relative exclusion where people experience physical and economic barriers to accessing healthy food" (Morton et al. 2005, p. 96). In the US, food deserts are found most often in central cities and rural areas (Lyson et al. 2007). Many believe that the recent proliferation of supercenters will intensify the food desert problem. Supermarkets and supercenters are at a distinct economic advantage because their buying power makes it impossible for many small scale grocers to compete. Residents outside of the supermarket radius are then geographically and financially excluded from accessing low-cost, high-quality food at these centers and instead must settle for small convenience stores, gas stations and local restaurants (Blanchard and Matthews 2007; Lyson 2007).

Supermarkets, particularly chain supermarkets, do tend to stock more healthy options and offer them at a lower cost than smaller and independent retail outlets (Powell et al. 2006). However, several studies have supported the finding that many rural areas are characterized by higher food prices, less variety, and lower quality fresh produce and meat compared to suburban and urban stores (Kaufman 2000; Winne 2008). In fact, supermarket availability has been associated with more fruit and vegetable intake, more healthful diets and lower rates of obesity (Morland et al. 2002). This suggests that lack of supermarkets may be a more prominent cause

of food insecurity in rural areas. If true, this may contradict some of the arguments that promotion of local foods is the main answer to food security.

Again, degree of rurality can make a difference. Rural counties with no cities over 2,500 persons and not adjacent to a metropolitan area cite the most challenges to food access (Blanchard and Lyson 2007). Also, in a study by Morland et al. on food affordability, rural and urban participants were much more likely to report problems with food affordability than were participants from suburban neighborhoods (2002).

Access to low-cost food in many rural localities requires transportation. This may 'distance' certain populations such as the poor, disabled, and the elderly (Lyson 2007), as well as rural populations in general, particularly as energy prices rise. Over 70% of the low-income population travel thirty or more miles to access high-quality, low-cost groceries (Kaufman 1998). In several studies on rural food deserts, low-income participants could rarely afford to travel that distance to high-quality and low-cost food stores. Other vulnerable groups such as the elderly, disabled, and low-income populations simply had no choice but to use local outlets (Garasky et al. 2004; Kaufman 1998; Morton et al. 2005; Morland et al. 2002; Blanchard and Matthews 2007). Transportation issues are obviously a problem for food insecure individuals, especially when the vast majority of food pantry clients do not own vehicles (Blanchard and Matthews 2007).

This section's review leads to another set of questions related to the challenges of rural food pantries: Are NCW food pantries overcoming the limitations faced by rural areas in providing for their clients? More specifically, are food desert effects such as low access to high-quality, low-cost food a concern for the locations studied? Is the main answer to improved food security in rural areas more access to local foods as addressed in the nutritional content section or

could the answer be more public support for a chain supermarket? The answer to this question could provide insights on the importance of social capital in being able to solve, or perhaps not solve, food insecurity in rural areas. The next section on community support outlines the existing literature on social capital.

Community Support

Martin and Ferris (2007) found that social capital at both the household and community level is significantly associated with household food security while controlling for socioeconomic status. Social capital, which was also cited as an essential element for the success of local food initiatives, is by no means absent in rural communities. Thomas Lyson (2007) even argues that rural areas on average have higher levels of social capital and civic engagement. As an example, Morton et al. (2001) reported that the rural church plays a central role in developing local food pantries and organizing outreach efforts.

Thus, important questions to pose relate to how important community support is in decreasing food security: How do food pantries rate their community support and how is this increasing effectiveness of serving food pantry clients? Is social capital associated with overcoming food pantry challenges? I will also examine if the answers to these questions differ between rural and very rural areas, which may show whether degree of rurality plays a significant role in the capacity of food pantries to provide for their clients.

DATA AND METHODS

Knowledge of how the emergency food assistance network is faring in NCW is important to enhancing community food security in the region and to answering questions about the potential role of social capital in improving food access. Increased awareness of the condition of

food pantries will assist community decision making as well as aid in policy planning at the local, state, and federal level.

Given this, I decided to interview food pantry directors in four rural counties in NCW in order to investigate nutritional content of their pantries, if local food initiatives were contributing to the pantry supply, if rural limitations were impeding the functionality of their organization, and how/whether social capital could address these challenges.

The four counties investigated were Chelan, Douglas, Grant and Okanogan. These four counties are all on the east side of the Cascades and are largely agriculturally based. NCW was chosen as the region of analysis due to the lack of previous research on the emergency food assistance network in the area. Also, all four counties reported growing poverty rates between 2001 and 2005 and each had higher poverty rates than the Washington average. Poverty and food insecurity are often parallel problems, which suggests that food insecurity in the region has also increased, though data is not available on food security rates for individual counties. All counties are categorized as rural counties with no central cities over 50,000, but their economic, social, and geographical characteristics differ substantially between counties. More information on each of these four counties is presented in the next section.

In-depth interviews of food pantry directors were conducted in the 16 locations noted in Table 1. "Food pantry clients are often the most vulnerable households in a community; they lack financial and social resources that can help them solve problems related to food acquisition," (Garasky et al. 2004, p. 42). Therefore, food pantry clients themselves and the people who run them know the challenges, needs, and successes of these organizations. Because it was almost impossible to interview food pantry clients due to privacy issues, I chose to interview the directors. I had hoped to interview food pantry clients because I wanted to know

how the low-income population accessed food from many different sources, not just food pantries. However, food pantry directors were very reluctant to allow me to speak to their clients or to give any information about their clients due to the delicateness of their relationship. These barriers prevented me from interviewing clients directly. However, I gained valuable information from the directors about food procurement strategies. Therefore, personal interviews of food pantry directors and a subsequent tour of the food pantries were conducted in all food pantries except in the case of Conconully, where a phone interview was conducted.

I chose the informants based on geography. I contacted almost every food pantry in the four counties and I was able to interview more than half of them. I interviewed directors from varying degrees of rurality—from Conconully (pop. 185) to Wenatchee (pop. 35,437). The interviews were conducted between May 20 and July 20, 2008 and the duration of interviews ranged from 15 minutes to an hour, with the same questions asked (see Appendix A for full list of questions).

While food pantry directors would likely answer some questions differently than food pantry clients, they do offer direct insight into the challenges of the food pantry network. Questions were formulated to address the three challenges of rural food pantries: *Nutritional Content, Rural Limitations,* and *Community Support*. All interviews were taped, with the permission of the interviewee, and these tapes were then transcribed and the content was analyzed to provide the basis for the following discussion, using my own categorizations.

RESULTS AND DISCUSSION

A brief description of each county investigated will provide some context of the food system as well as demographic and geographic details. First, Chelan County is characterized by tree fruit production (specializing in apples, pears, and sweet cherries) with a central city of

Wenatchee located on the west side of the Columbia River. Export-oriented and industrialized agricultural is characteristic of the county (Ostrom and Jussaume 2007) with "a century-long history of smaller, family-run orchards and cooperative grower-shipper arrangements" (Selfa and Qazi 2005). The population, according to the 2006 Census Bureau was 71,034. The poverty rate (13.9%) was higher than the Washington average (12%), as were the poverty rates of each of the other three counties observed.

Douglas County is also dominated by tree fruit production and some grain production on the plateau. East Wenatchee, the second largest city in all three areas observed, is located in Douglas County and is situated opposite Wenatchee on the east side of the Columbia River. The population for the entire county was 35,772 in 2006. Douglas County had a poverty rate of 15.1% in 2005 (US Census Bureau).

Grant County is an agriculturally diverse arid county specializing in everything from tree fruit and wine grapes to wheat and row crops with the largest city being Moses Lake. The 2006 population estimate was 82,612. Grant County had a poverty rate of 17.3% in 2005 (US Census Bureau).

Okanogan County also specializes in tree fruit and grain crops but it is the most rural and most impoverished of the four counties analyzed. Its population in 2006, according to the US Census Bureau was 40,040. Okanogan County had a poverty rate of 17.8% in 2005 (US Census Bureau), which was 35% higher than all other rural counties in Washington state, and had the lowest median household income in the state at $30,339. Even more important to acknowledge for the purpose of this study is that one in four people in Okanogan County relies on the food pantry system for extra food during any given month, mostly elderly and families with young children according to Lael Duncan, director of the Okanogan Community Action (Thew 2007).

The Children's Alliance also found that Okanogan County had the highest poverty rate (25%) among school-aged children (2004).

Data from the Current Population Survey (CPS) defines rural counties as those which do not have any cities with at least 50,000 people. Therefore, every food pantry location is located in a rural county, though there is a large range in population and access to supermarkets of each city. For the purpose of comparison within the region itself I classified all towns below 2,500 people as *very rural*; and all others as *rural*. Omak, Moses Lake, Ephrata, Wenatchee (4), and Quincy were classified as *rural* and Nespelem, Tonasket, Bridgeport, Okanogan, Quincy, Twisp, Waterville, and Conconully were classified as *very rural*. Table 1 gives basic demographic data of the food pantry locations. The towns are organized from lowest population, starting with Conconully, to greatest population, which was Wenatchee.

Table 1: Demographics of Food Pantry Locations

Location	Population (2000 Census)	Poverty Rate (%) (2000 Census)	Number Served (2007)	Existence of Chain Supermarket?
Conconully	185	18.7	2,688	No
Nespelem	212	16.9	8,400	No
Twisp	938	19.8	5,832	No
Tonasket	994	23.1	25,704	No
Waterville	1,163	7.5	3,228	No
Leavenworth	2,074	8.3	5,284	Yes
Bridgeport	2,059	33.2	6,040	No
Okanogan	2,484	24.3	31,716	No
Omak	4,721	25.3	31,776	Yes
Quincy	5,044	20.9	9,000	No
Ephrata	6,808	12.9	13,250	Yes
Moses Lake	17,272	15.1	8,400	Yes
Wenatchee	35,437	15.3		
Women's Resource Center			10,255	Yes
St. Vincent de Paul			21,853	Yes
Salvation Army			2,400	Yes
Wenatchee Food Pantry			38,349	Yes

Note. Data received from 2000 Population Census for Populations and Poverty Rates, individual food distribution centers for Numbers Served, and personal observation for Existence of Chain Supermarket.

When asked where each food pantry got its food, the five main sources reported by the interviewees were: (1) Second Harvest (a nationwide program which distributes food from national product donors, US government programs like TEFAP, local product donors, and purchased foods); (2) USDA Commodity Food Distribution Program (CFDP) (a nationwide program receiving money from Congress, surplus-removal and price-support activities which is then directed toward state agencies which distribute to local outlets); (3) NW Harvest (a statewide program that distributes food to local outlets); (4) chain supermarket donations; and (5) community donations. Within the category of community donations I included a broad array of sources including food drives, local processing plants, local grocery stores, local farmers, gardeners or gleaners, community gardens, and local monetary donations. Table 2 shows the percentage of food that pantries received from each source with comparisons between rural and very rural locations.

Table 2: Food Pantry Sources

Program	**Total # (out of 16)**	**# Rural Pantries (out of 8)**	**# Very Rural Pantries (out of 8)**
Second Harvest	**12** (75%)	7 (88%)	5 (63%)
USDA CFDP	**5** (31%)	2 (25%)	3 (38%)
NW Harvest	**15** (94%)	8 (100%)	7 (88%)
Chain Supermarkets	**10** (63%)	8 (100%)	2 (25%)
Community Donations	**16** (100%)	8 (100%)	8 (100%)

Table 2 shows that community donations are seen in every community observed which shows at least some level of local support for rural and very rural food pantries. Secondly, apart from the broad category of community donations, NW Harvest is the most noted supplier of food for these food pantries serving all but one of the 16 food pantries observed, followed by Second Harvest, chain supermarkets and the USDA Commodities Program. This is supported by one

food pantry director: "I love NW Harvest. They beat fed and state all to hell, they're not even close."

It is also notable that chain supermarkets serve two of the eight very rural areas as opposed to all of the rural areas—which is understandable due to the fact that every very rural locality except one lacks a chain supermarket. Therefore, every location which did have a chain supermarket (and one location 4 miles from a chain supermarket) received food from the supermarket. This shows how important these donations are to the quality of distribution of food pantries. This also presents an extra troublesome problem for those very rural locations which do not have a supermarket in close range. Firstly, the food pantry isn't able to receive those potential donations. Secondly, for individuals who do not own a reliable vehicle (which Blanchard and Matthews (2007) found to be the vast majority of food pantry clients) as well as rising fuel prices, they have no other choice but to buy food from the smaller convenience stores, gas stations, restaurants, or independent grocery stores that exist in their locality. In this sort of circumstance, as outlined in the literature review, nutrition, quality and cost become a concern.

A rather conclusive finding was that the client base of food pantries in NCW is growing in almost every food pantry observed. Interviews showed that 14 out of the 16 food pantries or 88% cited the client base growing in the last year. The other two which did not cite a growth in clients did not necessarily communicate a decreasing number of hungry people—one of them cited a steady client base and the other cited a decreasing client base due to the transfer of clients from food pantries to the Food Stamp Program. Of the 16 food pantries which cited a growing client base, ten cited the economy in general as the reason of growth, seven cited fuel prices and three cited food prices. Housing costs and the decrease in the fruit industry were also mentioned,

suggesting that increasing food insecurity is contingent on treating other social issues simultaneously.

To compound the problem of the growing client base, it was also conclusive that donations from community, private and public sources were waning: 12 food pantry directors believed donations were waning, two said they didn't know, and the remaining two said that donations were staying steady or increasing. The economy affects the numbers both of those needing food and of those able to donate food.

Nutritional Content

Because health status has a significant effect on educational achievement and quantity and quality of labor (Joffe 2007), poor nutrition, unemployment, and poverty are part of a mutually reinforcing cycle. The availability of healthy food plays an essential role in combating these diseases in the population in grocery stores and food pantries alike. As mentioned above, highly processed, non-perishable items, which are most likely to find their way to food pantries, are often high in saturated fat, sugar and sodium.

Interviews were formulated to find answers to these questions regarding nutrition: What foods are most lacking in food pantries and how/from where are they procuring this high-demand food? Also, are local food initiatives, which promote healthy and fresh foods, contributing significantly at all to food pantries, and if so, what are the most cited sources of local foods. Table 3 shows the results of the 16 interviews (one location could have cited multiple food types lacking).

Table 3: Types of Foods Most Lacking in Food Pantries

Type of Food	Total # (out of 16)	Rural # (out of 8)	Very Rural # (out of 8)
Fresh/Frozen Meat	**12** (75%)	7 (88%)	4 (50%)
Fresh/Frozen Produce	**7** (44%)	1 (13%)	6 (75%)
Dairy/Eggs	**3** (19%)	0 (0%)	3 (38%)
Whole-grains	**1** (6%)	0 (0%)	1 (6%)

Table 3 shows that the foods cited as most lacking in food pantries were fresh or frozen meats, followed by fresh or frozen produce, dairy products and eggs, and finally whole-grain breads which was cited by one food pantry director. More rural food pantry locations cited fresh or frozen meat as lacking as did very rural and conversely, a significantly larger number of very rural food pantries cited fresh or frozen produce as lacking than did rural food pantries suggesting a food desert effect pertaining to fresh fruits and vegetables particularly for very rural areas. The benefit of fresh fruits and vegetables to an individual's health may not reach those getting food from food pantries and/or the food insecure in very rural places across the NCW despite the agricultural abundance in those very same areas. This suggests that the amount of fruits and vegetables produced in a given area is not necessarily conducive to an increased amount available in food pantries, but the validity of this observation demands further study and corroboration.

From conversations with food pantry directors, it seems that in the attempt to decrease food insecurity, instead of merely giving food away, food pantries must take into account how to promote a knowledge and practice of healthy eating. Various nutrition programs that teach storage, cooking and appropriation of healthy foods were cited by interviewees as important and should be explored by food pantries and expanded by federal and state policy. Some of the nutrition programs cited by food pantry directors included basic food demonstrations on how to

cook with commodity foods provided by the WSU Extension Service (Nespelem), as well as "Grow-a-Row" program in Twisp (organized by the area churches), and a Family Nutrition Program coordinated by the Women's Resource Center in Wenatchee. Interviewees suggested that a more holistic approach to increasing food security, not just giving food away, would be valuable. However, a large pool of resources and community support is needed to make these efforts work.

An evaluation of where food pantries get their high-demand foods might aid in future procurement of these foods. Table 4 outlines where food pantries get their high-demand food. (Individual food pantries might have cited several different sources for each high-demand food).

Table 4: Sources of High-Demand Food

Source	**Meat (# who cited food out of 16)**	**Fruits/Vegetables (# who cited food out of 16)**	**Dairy/Eggs (# who cited food out of 16)**
Second Harvest	**4** (25%)	**1** (6%)	**0** (0%)
NW Harvest	**12** (75%)	**15** (94%)	**0** (0%)
USDA CFDP	**1** (6%)	**1** (6%)	**1** (6%)
Chain Supermarkets	**1** (6%)	**1** (6%)	**4** (25%)
Community Donations	**3** (19%)	**14** (88%)	**3** (19%)
Lacks type of food completely	**2** (13%)	**0** (0%)	**8** (50%)

The data suggest that NW Harvest is cited by most food pantry directors as the leader in provision of meats, fruits and vegetables. Community donations, usually in the form of individual gardener donations, are cited quite often for fruits and vegetables, and Second Harvest also provides some meat and produce. It was surprising that half of all food pantries observed did not receive any dairy or eggs. Those that did, received these foods from supermarkets or community donations (local dairies), and one food pantry received cheese, milk and eggs from the USDA Commodity Program, perhaps having different access due to tribal affiliations.

NW Harvest exhibited an impressive distribution of fresh/frozen meat and produce, greatly exceeding other sources. This is seen in their mission statement on nutrition: "We strive to be the most efficient hunger response program in the state of Washington….Knowing that good nutrition is key to health, Northwest Harvest is committed to providing the freshest, most nutritious food possible to our clients. Fruits and vegetables account for 40% to 50% of the food we distribute" (Northwest Harvest). Because the category of community donations included a broad array of food sources, I give a breakdown of what sources were the most supportive of food pantries in Table 5.

Table 5: Breakdown of Community Donation Sources

Community Source	Total (%)	Rural Locations Surveyed (%)	Very Rural Locations Surveyed (%)
Food Drives	**16** (100%)	8 (100%)	8 (100%)
Local Processing Plants	**8** (50%)	5 (63%)	3 (38%)
Local Grocery Stores	**4** (25%)	2 (25%)	2 (25%)
Local Farmers/Roadside Stands	**8** (50%)	5 (63%)	3 (38%)
Local Gardeners	**12** (75%)	7 (88%)	5 (63%)
Local Gleaners	**1** (6%)	1 (13%)	0 (0%)
Community Gardens	**1** (6%)	1 (13%)	0 (0%)
Local Monetary Donations	**16** (100%)	8 (100%)	8 (100%)
Farmers Market	**1** (6%)	0 (0%)	1 (13%)

It is evident from the data in Table 5 that food drives and monetary donations are the most cited sources of provision of local donations and cited by every food pantry observed. Local gardeners contributed some produce to food pantries in the majority of communities surveyed. Excess zucchinis, tomatoes, cucumbers, and even watermelons were cited as occasional contributions from individual gardeners, though these donations were small, sporadic and seasonal. Local processing plants were also cited often but were restricted to Grant County where processing plants are abundant as well as several dairies and apple and pear

packinghouses in Chelan and Okanogan counties. The advantage of receiving from large processing plants or packinghouses is that they are likely to contribute in very large quantities. Donations may come in the form of several overflowing apple bins or, as one food pantry director recalled, “1,400 pounds of shaved carrots—one big glob ice cube of carrots.” This suggests that the local political economic context is perhaps the most important indicator in how much extra food, especially produce, is available to food pantries. Because Moses Lake, Quincy and Ephrata are located close to many processing plants they receive more of these donations. For example, the Moses Lake food pantry director said, “…as far as having a food pantry this is probably the best spot to have because of the processing plants.”

However, this source of provisions is being affected by fuel prices. Proximity becomes an issue when evaluating the reach of processing plants. In the past, processing plants could afford to transport excess food to distribution centers or food pantries in nearby locations, or food pantries themselves would go pick up the goods. With the cost of fuel soaring, this is no longer feasible. One Wenatchee food pantry director described the dilemma: “And the Quincy Farms we really relied on for potatoes, corn and onions, they can’t afford the gas to bring the trucks down. There is no shortage of food. The problem is distribution. That’s always been the problem. Because of distribution it’s going someplace else, because of the price of gas, there’s food in Issaquah every month that we would love to have but we can’t get it because of the gas prices.”

Local farmers and roadside stands showed decent support of food pantries—five of the eight rural locations and three of the eight very rural locations cited donations from these sources. Local grocery stores showed little support—with only four of the sixteen food pantries receiving donations from local, independent grocers. Many very rural food pantry directors

found it understandable that independent grocery stores had little resources to donate due to the level of competition and the more challenging task of keeping afloat in very rural areas. Lack of local grocery store support may also add to the argument that "relocalization" of food may not necessarily be helpful to food pantries. Gleaner contributions were mentioned in only one location where a small organization coordinated the gleaning of onions, corn and potatoes and community garden contributions were also mentioned in only one location. These were the least cited community source of donations, suggesting that organized harvesting in rural and very rural locations may be challenging. One food pantry director commented on this trend: "There is no other community garden, there have been several people who have tried but you have to have volunteers to do this and you have to do it from sowing to harvest. People lose interest. People want to plant but they don't want to weed, or they want to do the harvesting but not too much. The weirdest thing is community gardens work great in cities; they don't work in rural areas. The ironic part is that the city is doing the opposite. They're tearing out asphalt and putting in gardens. And a lot of it people just take it for granted. Well, we are agriculturists, it's gotta be somewhere. Well…it's not." This may suggest the necessity of extensive social capital for a community garden to flourish.

One last finding for this section was that only one of the food pantries in both rural and very rural localities received food from farmers markets. In fact, many food pantry directors communicated that the farmers markets were rather uncooperative: "We used to get all the leftovers from the Farmers Market, we're not getting anything this year, and that was a great source for us. We would get about 5,000 pounds of produce every summer. Because of their politics, and because they didn't like certain people, they split, so there is no food to give out."

Another food pantry director communicated a similar concern: “I’m trying to get the Farmer’s Market to donate but they don’t, they won’t. It’s all shipped back to Wenatchee.”

The lack of nutritious choices in food pantries is just one of the problems related to food acquisition in North Central Washington. The literature expresses limitations facing rural food pantries exclusively, including the unavailability or non-affordability of healthy foods such as produce and dairy products in rural locations. The next section will describe the data collected for the purposes of examining limitations faced by rural food pantries.

Rural Limitations

In investigating whether rural areas face extra challenges in feeding their populations, it also seemed important to test if degree of rurality made a difference. One of the questions asked was, “What is the greatest challenge of the emergency food assistance network in your area?” Three rural food pantries cited distribution as the greatest challenge and three cited low awareness of resources; two said they didn’t know. Six of the eight very rural food pantries cited food desert issues (transportation, low-quality food, limited choices, and high prices of healthy food) as the greatest challenge. The remaining two said that they didn’t know. It seems, as Morton et al. (2005) have suggested, that while the food desert effect may not be the direct cause of food insecurity, it “frames the condition under which disadvantaged communities must expend greater resources to obtain food through normal sources” (2005, p. 109).

Additionally, Labao’s research hints that rural food deserts will elongate the inequality cycle unless action is taken cooperatively by community, state and federal stakeholders to solve the problem of food availability and affordability. The Bridgeport food pantry director explained it like this: “When you get into this rural area, transportation to where you get more reasonably priced foods is difficult. There is no public transportation. So getting to a place where you can

get less expensive food such as Wal-Mart—that's in Omak or Chelan, Wenatchee is even farther. We are pretty much locked into whatever the local market charges. Bridgeport is in a tough place because it's at the north end of Douglas County so geographically we are very isolated from the main population base where social services are based. So we get the short end of the stick up here." For Bridgeport, as many other very rural areas, economic and geographic boundaries are hindering efforts to increase food availability and affordability, giving evidence to the existence of food deserts in very rural NCW.

Community Support

Community support is essential to the functioning of every food pantry, especially in places where federal and state support is most lacking. I investigated how and to what extent community support would enhance efforts to increase food security. Firstly, I asked the question, "How would you rate community support of the food pantry?" Table 6 shows the results.

Table 6: Community Support

Community Support	**Total # (out of 16)**	**# Rural (out of 8)**	**# Very Rural (out of 8)**
Good	**9** (56%)	2 (25%)	7 (88%)
Decent	**4** (25%)	4 (50%)	0 (0%)
Poor	**3** (19%)	2 (25%)	1 (13%)

The data suggest that the majority of locations interviewed believed community support to be good or decent. It was interesting, however, to see the difference between rural and very rural areas concerning perceptions of community support. When asked if community support was good, decent, or poor seven of eight very rural areas cited community support as being good (88%) as opposed to two of eight (25%) directors in rural areas. The Conconully food bank director, which happens to be the most rural food pantry location, said: "…community support is

overwhelming; there is so much support even though the town is so small. If someone needs something the phone calls start." From the interviews, it seems that social capital is much more vibrant in very rural communities for several reasons. The community may be more aware of the food insecure population because interactions are much more common and social networks are smaller and tighter. Therefore, communities may be more willing, or more obligated, to provide for their neighbors.

The director of the Leavenworth Community Cupboard, a food pantry directly affiliated with a church, explained it like this: "I think we have to rely on each other. Because it's a small tourist town and so most of the families here are business owners and workers. And so we have our, family hangouts, well there's a lot of churches so there's a lot of involvement there. And this is church-based, it's a non-profit Christian organization. And so pastors will ask me, hey Debbie, what do you need and then they put it in their church bulletins. All the families kind of know each other, it's just kind of unique." From the interviews, 13 of the 16 food pantries (rural and very rural) were supported by, but not directly affiliated with a church. Only three were directly affiliated with a church. This supports Molnar's (2001) conclusion that the rural church plays a significant role in resourcing food pantries whether it is in the form of food or volunteers.

In contrast, not all people have the means to donate. Along with independent grocery stores, farmers are also struggling to survive and may not be able to donate consistently to food pantries. Between 1997 and 2002, Washington lost 4,000 farms (Ostrom and Jussaume 2007). Every apple not marketed is a loss in income. Therefore, it is hard to expect farmers to offer a portion of their crop to a local food pantry, however idealistic it may seem. Increasing agro-industrialization may make this even harder to expect. One food pantry director noticed the change in local thinking: "Also, [—] which is the largest grower in our area has been taken over

by [—'s] grandson. He's not a local thinker and so what used to go in cold storage and then came to us now goes to other areas. He can get ten cents on the dollar which is nothing but it's better than nothing on the dollar, because giving to us it's free. So we've lost a lot of local, because of a variety of things. One, economics; two, community gardens just don't work we can't get the volunteers, and three, the Farmers Market is just not accessible to us anymore." This may suggest that increasing globalization or agro-industrialization is undermining social capital in rural areas and possibly elsewhere.

While local initiatives are sprouting up all over the country, largely in resistance to globalization and industrialization, it seemed from the interviews that the local food mindset in NCW was not robust. Again, only one food pantry received donations from a Farmer's Market and none received food from CSAs. This may be due simply to the fact that local initiatives, especially CSAs, are not as common as in other areas of the state. Ostrom and Jussaume (2007) found that those who have the ability and resources to produce fresh fruits and vegetables and those who have access to consumer markets in *urban* areas are most likely to market directly.

On another note, the interviews conveyed sentiment that community awareness of the limitations of food pantries and the condition of those they served could be improved. One food pantry director explained, "Well, it's hard to say. I think that as far as awareness of the plight of the poor, I think we are miserable at it. Wenatchee doesn't want to know that there is this population. Those who do know are supportive, and they do what they can do. But when you don't want to hear something you won't hear it."

Further research would test if there was an association between levels of community support for alternative agricultural production systems like CSAs and Farmers Markets and the effectiveness of efforts to address local food insecurity. In other words, does support of the

community actually increase quantity and quality of food distributed? And furthermore, do higher levels of community support translate to decreased levels of food insecure households?

CONCLUSION

The focus of the interviews was to determine how/whether a community could improve food security for at-risk, rural populations in NCW and elsewhere. The method of reaching this goal was to ask whether certain challenges specific to food pantries could be addressed and possibly overcome. These questions were: (1) How and from where are food pantries procuring nutritious, high-demand food such as fresh produce, dairy products and meat products? Related to this nutritional question is whether local food initiatives, which promote fresh and healthy local products, are also providing for food pantries and thus reaching at-risk populations in a significant way? (2) Are rural NCW communities facing food desert effects including low access to low-cost, high quality food? (3) Is community support lacking or robust in NCW communities and how and to what extent does social capital aid in improving food security?

The interviews I conducted suggest that while many challenges still plague community food pantries in rural NCW, there is at least decent capacity of food pantries to provide for their clients even in the most rural areas. Results showed that community donations and NW Harvest are the most cited forms of provision for food pantries in rural NCW suggesting that local solutions may be the most available sources of support. However, political, economic and geographical context is the most important indicator of how, and to what extent, food pantries are able to adequately feed their populations. Nearby processing plants and chain supermarkets willing to donate seem to be the most beneficial sources of provision.

Concerning the question of nutrition, in an era where healthy food is an essential tool to combat diet-related diseases such as heart disease and diabetes, food pantries would benefit their

clients if they stocked more nutritious food. Fresh or frozen meat and fresh or frozen produce were, by a large margin, the most lacking type of food available for distribution. Again, NW Harvest and community donations were the largest contributors of healthy foods. The study showed that local alternatives, at least in rural NCW, such as Farmers Markets, community gardens, and CSAs were largely nonexistent in very rural areas and in rural areas where they did exist, they showed poor support of the food pantries. Though local food alternatives have the potential to thrive in communities and benefit different groups of people, it is improbable in the areas observed that these kinds of alternatives can make large strides in closing the food gap. Therefore, it is imperative that efforts from below are met by a broader commitment on state and federal levels to support just and sustainable communities and ensure that "economic integration does not result in social disintegration" (Rodrik 1997, p. 316). This study shows that while local food alternatives may increase the diversity of choices for the middle and upper classes, they cannot make lasting structural changes which allow the rural low-income population to actually have these choices. Hinrichs (2000, p. 298) sees the incongruity in the local food movement as well, cautioning that "direct marketing remains tinged with both marketness and instrumentalism does not necessarily or fundamentally challenge the commodification of food." In other words, local food initiatives are still trapped within an economic frame. As DeLind suggests there is an inherent incongruity in equating production and consumption with citizenship. This does not mean that local initiatives do not have value for helping food pantries. It only means that they have not proved to be the most effective answer to the increasing community food security in rural areas.

Rural areas often face certain limitations unknown to many urban and suburban areas. The interviews suggested that very rural NCW residents face food desert challenges in that they are isolated from supermarkets with high-quality, low cost foods as well as other social services.

Another question was whether/how community support (i.e., social capital) would aid in decreasing food insecurity. While very rural areas demonstrated much more community support than rural areas, it seems that immediate and piecemeal provision was more common than holistic, long-term efforts to actually reverse the problem of food insecurity. While social capital—i.e., basic reciprocity among neighbors and civic engagement—are effective ways of chipping away at the food security problem, without basic resources it is hard to mobilize this capital into effective initiatives. The results suggest that it takes extraordinary social capital to really change the face of local food pantries and how they serve their clients. This level of social capital was demonstrated in one of the 16 communities.

This organization called "The Methow Cove" is located in Twisp, Washington. Out of the 16 Food pantries observed, several showed promise with local engagement. None, however, compared with the Cove, which seemed to be an archetypal organization incorporating both federal appropriations with a remarkable amount of community investment. The Cove is located on Main Street in a coffee-shop atmosphere where clients are called "neighbors in need." This organization acts as a multiservice organization where food programs, volunteer organization for shut-in seniors, emergency financial aid, and adult family home programs are incorporated into one integrated organization. Another creative program was the "Grow-a-Row" initiative where seeds are provided to the community, including food pantry clients, in exchange for a portion of the crop. There are also ample donations from the community, including a couple dozen tomato plants donated from one creative individual so clients could produce their own food. Clients

normally receive one bag full of commodities and one produce bag every week. On the day observed, the produce bag was filled with lettuce, spinach, radishes, apples, onions, as well as mounds of garlic and rhubarb available if requested. This exemplifies the potential of a community that is committed to serving its vulnerable populations. Said one Okanogan County food pantry director, "If all our food pantries could work like [The Cove] it would be great. Their volunteer base is just unreal; it's a tight-knit valley." I suggest a more extensive case study on the Cove in order to see how this organization overcame a disadvantageous location for a food pantry where no chain supermarkets or processing plants exist, and how social capital can compensate. This case might even present an example that is contrary to my other results, in that social capital was actually more important to increasing food insecurity than were resources associated with geography and political economy. It may also be that a certain "critical mass" of social capital is needed to establish the kind of organization that was observed in the Cove.

For further research I suggest exploring whether multiservice agencies are better equipped to serve their populations than independent food pantries. The Women's Resource Center in Wenatchee is also an example of a multiservice agency that works on enabling their clients in a more holistic way. They noted such things as housing programs, domestic violence recovery programs and nutrition/cooking education. The director of this organization said this regarding the structural limitations of the modern food pantry:

> "There's federal money out there for food pantries and so they become a food pantry to get the cash, their interest is not necessarily about feeding the people. And again we can afford to do this because we are a multiservice agency, we do a variety of things, we work with the clients as a whole, so we're not a two hour, one day a week food pantry let's throw out some food in a warehouse, grab you box and go home, we'll never see you again. We know our clients. We know what their needs are, we help them in other areas as well and we're here all the time."

It may be that multiservice agencies build up extensive social networks of support that are necessary to effectively combat food insecurity, where isolated food pantries in small rural towns cannot. Food insecurity is tightly related to the broader problem of poverty where housing, medical insurance, fuel, and other issues are related to how much food is procured in a family. Therefore attacking these problems with a holistic, integrated program may lead to more effective amelioration of the food problem.

It is evident that local communities have remarkable potential to provide for their needy populations but there are many areas where local food pantries fall short due to either low nutritional content, rural limitations, or lack of community support (or all of the above). These are issues which the community itself can begin to confront. However, as with many social issues, it seems that a broader support structure, i.e., state and federal support, needs to be established. As Allen et al. communicated, "While problems of food security are manifest at the local level, they are not necessarily caused at the local level but rooted in larger, often global, political economic structures" (1999).

APPENDIX A: Interview Questions

1. About how many clients do you serve each month?

2. Is there a part- or full-time paid staff person here?

3. Is the number of clients growing, staying consistent, or waning?

4. Why do you think this is happening?

5. Who provides food for this food pantry?

6. Do you receive any locally produced food?

7. Do you receive food from local farmers?
   Local farmers markets?
   Local grocers?
   CSAs?
   Community gardens?
   Individual gardeners?

8. If so, where do you get your fresh fruit?
   Fresh vegetables?
   Dairy and eggs?
   Meat?

9. What foods do you believe are most lacking?

10. How would you rate community support of the food pantry?

11. Do you believe donations are growing, staying consistent, or waning?

12. Is the food pantry affiliated with a church?

13. Is the food pantry affiliated with any other civic organizations?

14. What do you believe is the most pressing problem with the food system in the region that affects the food pantry?

REFERENCES

Akobundu, Ucheoma O., Nancy L. Cohen, Mary J. Laus, Marsha J. Schulte, and Margaret N. Soussloff. 2004. "Vitamins A and C, Calcium, and Fruit, and Dairy Products are Limited in Food Pantries." *Journal of American Dietetic Association* 104: 811-813.

Albrecht, D.E. 1998. "The Industrial Transformation of Farm Communities: Implications for Family Structure and Socioeconomic Conditions." *Rural Sociology* 63: 51-64.

Allen, Patricia, Margaret FitzSimmons, Michael Goodman, and Keith Warner. 1999. "Shifting Plates in the Agrifood Landscape: the Tectonics of Alternative Agrifood Initiatives in California." *Journal of Rural Studies* 19: 61-75

Bhattarai, Ghandi R., Patricia A. Duffy and Jennie Raymond. 2005. "Use of Food Pantries and Food Stamps in Low-Income Households in the United States." *Journal of Consumer Affairs* 39: 276–298

Blanchard, Troy and Thomas Lyson. 2001. "Access to Low Cost Groceries in Nonmetropolitan Counties: Large Retailers and the Creation of Food Deserts." Food Assistance Small Grants Program. http://srdc.msstate.edu/measuring/blanchard.pdf

Blanchard, Troy and Todd L. Matthews. 2007. "Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America." *Remaking the North American Food System*, ed. C. Clare Hinrichs and Thomas A. Lyson, 201-215. Lincoln, NE: University of Nebraska Press.

Bourdieu, P. 1986. "The Forms of Capital." *Handbook of Theory and Research for the Sociology of Education,* ed. J.G. Richardson, New York: Greenwood, pp 241-258.

Children's Alliance. 2004. "Hungry in Washington: New USDA Data Shows Some Improvement in Hunger and Food Insecurity in Washington State." http://www.childrensalliance.org/childfacts/hunger.cfm

DuPuis, Melanie E. and David Goodman. 2005. "Should We Go 'Home' to Eat?: Toward a Reflexive Politics of Localism." *Journal of Rural Studies* 21: 359-371.

EFNEP. 2008. "Defining the Problem." http://www.csrees.usda.gov/nea/food/efnep/pdf/2006_impact.pdf

Eisinger, Peter. 2002. "Organizational Capacity and Organizational Effectiveness among Street-Level Food Assistance Programs." *Nonprofit and Voluntary Sector Quarterly* 31: 115-130.

Feenstra, Gail. 2002. "Creating Space for Sustainable Food Systems: Lessons from the Field." *Agriculture and Human Values* 19: 99-106.

Garasky, Steven, Lois W. Morton and Kimberley Greder. 2004. "The Food Environment and Food Insecurity: Perception of Rural, Suburban, and Urban Food Pantry Clients in Iowa." *Family Economics and Nutrition Review* 16: 41-48.

Gills, Barry K. 2000. "Introduction: Globalization and the Politics of Resistance." In *Globalization and the Politics of Resistance,* ed. Barry K. Gills, 3-11. New York: Palgrave.

Hendrickson, Deja, Chery Smith and Nicole Eikenberry. 2006. "Fruit and Vegetable Access in Four Low-Income Food Deserts in Minnesota." *Agriculture and Human Values* 23: 371-383.

Hinrichs, Clare C. 2000. "Embeddedness and Local Food Systems: Notes on Two Types of Direct Agricultural Markets." *Journal of Rural Studies* 16: 295-303.

Hyson, D. 2002. "The Health Benefits of Fruits and Vegetables: A Scientific Overview for Health Professionals." *Produce for Better Health Foundation.* http://www.5aday.org/news/research_doc2002.html.

Joffe, M. 2007. "Health, livelihoods, and nutrition in low-income rural systems." *Food Nutrition Bulletin* 2: 227-236.

Kaufman, P.R. 2000. "Consolidation in Food Retailing: Prospects for Consumers & Grocery Suppliers." *Agricultural Outlook,* Economic Research Service (USDA). http://www.ers.usda.gov/publications/agoutlook/aug2000/ao273g.pdf

Kendall, Ann, Christine M. Olson and Edward A. Frongillo. 1996. "Relationship of Hunger and Food Insecurity to Food Availability and Consumption." *Journal of American Diet Association* 96: 1019-1024.

Koh, E.T. and V. Caples. 1979. "Frequency of Selection of Food Groups by Low-income Families in Southwestern Mississippi." *Journal of American Dietetics Association* 74: 660-664.

Lyson, Thomas A. 2007. "Civic Agriculture and the North American Food System." *Remaking the North American Food System*, ed. C. Clare Hinrichs and Thomas A. Lyson, 19-32. Lincoln, NE: University of Nebraska Press.

Maretzki, Audrey N. and Elizabeth Tuckermanty. 2007. "Community Food Projects and Food System Sustainability." In *Remaking the North American Food System*, ed. C. Clare Hinrichs and Thomas A. Lyson, 332-344. Lincoln, NE: University of Nebraska Press.

Martin, Katie S. and A.M. Ferris. 2007. "Food Insecurity and Gender are Risk Factors for Obesity." *Journal of Nutrition Education and Behavior* 39: 31-6.

Morland, Kimberley, Steve Wing, Ana Diez Roux, and Charles Poole. 2002. "Neighborhood Characteristics Associated with Location of Food Stores and Food Service Places." *American Journal of Preventative Medicine* 22: 23-29.

Molnar, J.J., P.A. Duffy, L. Claxton, and C. Bailey. 2001. "Private Food Assistance in a Small Metropolitan Area: Urban Resources and Rural Needs." *Journal of Sociology and Social Welfare* 28: 187-209.

Morton, Lois W., Ella A. Bitto, Mary J. Oakland and Mary Sand. 2005. "Solving the Problems of Iowa Food Deserts: Food Insecurity and Civic Structure" Rural Sociology 70: 94-112.

Murphy, Michael J., Cheryl A. Wehler, Maria E. Pagano, Michelle Little, Ronald E. Kleinman and Michael S. Jellinek. 1998. "Relationship between Hunger and Psychosocial Functioning in Low-Income American Children." *Journal of American Academy of Child Adolescent Psychiatry* 37: 163-170.

Nord, Mark, Margaret Andrews and Steven Carlson. 2006. "Household Food Security in the United States." Economic Research Report No. 49, USDA.

Northwest Harvest. 2008. "Who We Are." http://www.northwestharvest.org/

Ohara, Sabine U. and Sigrid Stagl. 2001. "Global Food Markets and Their Local Alternatives: A Socio-Ecological Economic Perspective." *Humanities, Social Science, and Law* 22: 533-554.

Ostrom, Marcia R. and Raymond A. Jussaume, Jr. 2007. "Assessing the Significance of Direct Farmer-Consumer Linkages as a Change Strategy in Washington State." *Remaking the North American Food System*, ed. C. Clare Hinrichs and Thomas A. Lyson, 201-215. Lincoln, NE: University of Nebraska Press.

Pickering, Kathleen, Mark H. Harvey, Gene F. Summers, and David Mushinski. 2006. *Welfare Reform in Persistent Rural Poverty*. University Park, PA: University of Pennsylvania Press.

Powell, Lisa M., Sandy Slater, Donka Mirtcheva, Yanjun Bao and Frank J. Chaloupka. 2006. "Food Store Availability and Neighborhood Characteristics in the United States." *Preventive Medicine* 44: 189-195.

"Program helps seniors buy fresh produce." 2007. *The Omak-Okanogan County Chronicle*. March 16, Online Ed.

Richards, Rickelle and Chery Smith. 2006. "The Impact of Homeless Shelters on Food Access and Choice among Homeless Families in Minnesota." *Journal of Nutrition Education and Behavior* 38: 96-105.

Rodrik, Dani. 1997. "Has Globalization Gone Too Far?" In *The Global Transformations Reader*, ed. David Held and Anthony McGrew, 379-383. Cambridge: Polity Press.

Rose, Donald and Victor Oliveira. 1997. "Nutrient Intakes of Individuals from Food-Insufficient Households in the United States. *American Journal of Public Health* 87: 1956-1961.

Selfa, Theresa and Joan Qazi. 2005. "Place, taste, or face-to-face? Understanding producer-consumer networks in "local" food systems in Washington State." *Agriculture and Human Values* 22: 451-464.

Siefert, Kristine, Colleen M. Heflin, Mary E. Corcoran and David R. Williams. 2001. "Food Insufficiency and the Physical and Mental Health of Low-Income Women." *Women and Health* 32:

Skalicky, Anne, Alan F. Meyers, William G. Adams, Zhaoyan Yang, John T. Cook, Deborah A. Frank. 2005. "Child Food Insecurity and Iron Deficiency Anemia in Low-Income Infants and Toddlers in the United States." *Maternal and Child Health Journal* 10: 177-185.

Sumner, Jennifer. 2005. *Sustainability and the Civil Commons: Rural Communities in the Age of Globalization.* Toronto: University of Toronto Press.

Tarasuk, Valerie S. and George H. Beaton. 1999. "Women's Dietary Intakes in the Context of Household Food Insecurity." *Journal of Nutrition* 129: 672-679.

Thew, Chris. 2007. "County faces challenges." *The Omak-Okanogan County Chronicle*, Sept. 5, Online ed. <http://www.omakchronicle.com/archives/db_stories.asp?story=20070905A01-06>

US Census Bureau. 2008. State and County Quickfacts. http://quickfacts.census.gov/qfd/states/53/53047.html

USDA. 2008. Economic Research Service: Measuring Rurality: What is Rural? www.ers.usda.gov/briefing/Rurality

Winne, Mark. 2008. *Closing the Food Gap*. Boston: Beacon Press.

Wu, Zheng, and Christoph M. Schimmele. 2006. "Food insufficiency and depression." *Sociological Perspectives* 48: 481-504.