Urban and Rural Food Deserts in Nebraska

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Introduction

Food deserts are a growing policy problem in rural and urban areas. There is, however, little agreement on what constitutes a food desert or their characteristics. Therefore, data about food deserts, while growing, remains limited. This is especially true for incipient food deserts—areas that could potentially become food deserts if grocery stores close and other means of accessing fresh, healthy foods becomes limited. Food deserts raise a range of policy questions related to health, social equity, and sustainability.

This policy brief draws on data collected by the United States Department of Agriculture’s Economic Research Service (USDA ERS) and academic research as well as sheds some light on food deserts in the state of Nebraska. The purpose of this brief is to define food deserts, discuss the characteristics of food deserts, and outline some of the impacts of living in a food desert.

Definition of Food Deserts

The term “food deserts” was first used in Scotland in the 1990s, and the term spread to the United States shortly thereafter. Although there is disagreement over its definition, the USDA defines food deserts as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable food options (sometimes referred to as a “food swamp”). The concept of ‘food deserts’ encompasses several aspects of food access: retail availability of fresh foods, economic affordability, and cultural acceptance of available foods.

The Food, Energy, and Conservation Act of 2008 defines a food desert as an “area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower income neighborhoods and communities.” The USDA Agricultural Marketing Service refines this definition by stating that, “Census tracts qualify as food deserts if they meet low-income and low-access thresholds:

1. They qualify as "low-income communities", based on having: a) a poverty rate of 20 percent or greater, OR b) a median family income at or below 80 percent of the area median family income; AND

2. They qualify as "low-access communities", based on the determination that at least 500 persons and/or at least 33% of the census tract’s population live more than one mile from a supermarket or large grocery store (10 miles, in the case of non-metropolitan census tracts).”

The USDA estimates that more than 23.5 million people live in food deserts. More than half of those individuals are low income.

Most discussions of food deserts focus on urban areas, yet the Great Plains states exemplify rural aspects of food deserts and modern food insecurity. The USDA estimates that portions of 188 counties
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in the Plains states (IA, KS, MO, NE, and SD) are food deserts, where residents (including at least 64,500 low-income individuals) must travel over 10 miles to access fresh foods. In addition, these locations often have higher than average populations of people 65 and older, making a trek to a full service grocery store, at best, difficult. Strengthening local food systems in food desert areas is highly dependent on building and maintaining community engagement. Figure 1 includes census tracts in which at least 500 people or 33% of the population lives farther than one mile (urban) or 10 miles (rural) from the nearest supermarket. These areas, which are USDA defined food deserts, are shown in purple.

Figure 1. Food Deserts in the United States

Source: USDA Food Access Research Atlas, 2010

Characteristics of Food Deserts

Researchers have identified the following characteristics of food deserts: access, affordability, and low-income and other socio-economic disparities.

Access

Access refers to how close an individual lives to healthy foods. Although measurements vary, the USDA maintains that a food desert exists if individuals live more than one mile from a grocery store in urban areas and more than 10 miles from a grocery store in rural areas. Rural communities with small populations often do not generate sufficient demand for local grocery stores to stock a large selection, which could result in residents traveling outside the community to seek retailers with larger selection.

Figure 2 illustrates the number of supermarkets and grocery stores in the country by county. Grocery stores include establishments generally known as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables;
and fresh and prepared meats, fish, and poultry. Included in this industry are delicatessen-type establishments primarily engaged in retailing a general line of food. Convenience stores, with or without gasoline sales, are excluded. Large general merchandise stores that also retail food, such as supercenters and warehouse club stores, are excluded.

**Figure 2. Grocery Store Availability**

Source: USDA Food Environment Atlas, 2011

In addition, low availability of vehicular transportation has been identified by the USDA ERS as a variable that may contribute to food deserts. More often than not these individuals are low-income and do not have reliable transportation since there are no buses or cabs available to take them to a store from their homes. Rural census tracts with higher than average ages may also be at risk of becoming rural food deserts as older individuals reduce their use of vehicles. Figure 3 shows the percentage of housing units in a county without a car and more than one mile from a supermarket or large grocery store.

**Affordability**

Along with access, affordability of food is an important component of food deserts. Individuals will often adjust the types of foods they purchase based on availability. Food is one of the more discretionary items in a household’s budget, so many individuals adjust their food purchases according to price. Furthermore, some researchers have found that healthier foods are often more expensive to purchase than low-nutrient foods (Shaw, 2006).
Food insecurity is on the rise, and food deserts and food insecurity often go hand-in-hand. The USDA estimates that approximately 9 out of 10 Americans are able to put food on the table daily. Many others, however, are food insecure, which the USDA defines as not having enough food for an active, healthy life.

The USDA notes that in the first decade of this century, food insecurity rates rose in 41 states. In the other nine, the numbers stayed flat. In 2012, an estimated 49 million people lived in food insecure households, including approximately 33.1 million adults and 15.9 million children. Furthermore, the USDA states that, “In 2012, households that had higher rates of food insecurity than the national average included households with children (20.0 percent), especially households with children headed by single women (35.4 percent) or single men (23.6 percent), Black non-Hispanic households (24.6 percent) and Hispanic households (23.3 percent)” (Coleman-Jensen, Nord, & Singh, 2013). Food security is strongly associated with income, although other household circumstances and federal, state, and local government policies and economic conditions matter.

Figure 4 shows the change in food insecurity from 2007-09 to 2010-12. Nebraska experienced a 1.1-3.0% increase in the occurrence of food insecurity during this time period.

Figure 5 shows low-income census tracts where a significant number or share of residents is more than one mile (urban) or 10 miles (rural) from the nearest supermarket.
Figure 4. Household food insecurity (%), 2007-09 to 2010-12

Source: USDA Food Environment Atlas, 2014

Figure 5. Low-income census tracts where a significant number or share of residents is more than one mile (urban) or 10 miles (rural) from the nearest supermarket

Source: USDA Food Access Research Atlas, 2010

As rural communities continue to change and face challenges such as population loss, lower than average household incomes, and aging citizens, the number of institutions in small towns is also declining. Rural grocery stores are one of the most important institutions to sustain small towns. Not
only do they provide sustenance, but they also provide jobs and a local gathering place important to small town life. When the grocery store closes, the individuals in those communities quickly become food insecure. Towns can often withstand the loss of some of their other institutions, but the closing of a grocery store makes it quite difficult to remain viable. Depopulation of rural communities often occurs when lack of access to grocery stores, coupled with low access to jobs and schools, contribute to individual decisions to relocate out of the community. Figure 6 shows the nonmetropolitan population change from 2010-2013.

**Figure 6. Nonmetropolitan population change, 2010-2013**

![Map showing nonmetropolitan population change, 2010-2013](image)

Source: USDA Economic Research Service using data from the U.S. Census Bureau

**Impacts of living in food deserts**

Researchers have attempted to measure the health impacts of living in a food desert and have found that higher rates of chronic diseases, such as diabetes and adult and childhood obesity, have been associated with lower access to affordable, healthy foods (Gittelsohn et al., 2009). At first glance, the connection between food deserts and obesity may seem ironic, but researchers have identified and documented a number of risk factors. For example, low-income neighborhoods may lack farmers markets and grocery stores that provide fresh fruits and vegetables (Beaulac, Kristjansson, & Cummins, 2009; Larson, Story, & Nelson, 2009), but offer a great number of fast food restaurants (especially near schools) (Fleischhacker, Evenson, Rodriguez, & Ammerman, 2011). Furthermore, when healthy food is available, it is often more expensive and of lower quality than other foods (Drewnowski, 2010). Combined with more typical risk factors, such as sedentary lifestyles and increased portion sizes, that many Americans face, these and other risk factors that are unique to those living in food deserts translate to higher levels of obesity over time.
In rural areas, individuals also struggle to maintain healthy diets when they do not have access to a nearby supermarket. In a study of food consumption in four rural Iowa counties, Morton and Blanchard (2007) found that a large share of residents without access to a nearby supermarket did not consume adequate amounts of fresh fruits, vegetables, dairy, or protein.

Summary

- There is little consensus about the definition of a food desert or their characteristics. Furthermore, little is known about incipient food deserts—those areas that are about to become food deserts. The USDA has provided a definition of food deserts and is collecting data based on this definition. However, more research needs to be conducted.
- Food deserts encompass issues related to health, social equity, and sustainability, among other things.
- The USDA estimates that more than 23.5 million people live in food deserts. More than half of those individuals are low income.
- The USDA estimates that portions of 188 counties in the Plains states (IA, KS, MO, NE, and SD) are food deserts, where residents (including at least 64,500 low-income individuals) must travel over 10 miles to access fresh foods.
- Many individuals in food deserts do not have access to private or public transportation.
- Food insecurity rates are rising, and rural areas are experiencing depopulation and/or an aging population. Both can contribute to the rise of food deserts.
- Researchers have attempted to measure the health impacts of living in a food desert and have found that higher rates of chronic diseases, such as diabetes and adult and childhood obesity, have been associated with lower access to affordable, healthy foods.
- Sustainable food systems must be developed in rural and urban areas. Strengthening local food systems in food desert areas is highly dependent on building and maintaining community engagement.

Implications for Nebraska

- According to the USDA’s definition of food deserts, Nebraska contains both urban and rural food deserts. If the trends of food insecurity and depopulation continue to increase, Nebraska will face more food deserts and possible increases in health problems associated with food deserts.
- The existence of food deserts indicates that we must build more sustainable food systems in rural and urban areas in Nebraska.
- As a result of depopulation and an aging population, Nebraska may see an increase in incipient food deserts. More research should be conducted to determine their characteristics and ways of addressing this issue.
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- Lack of public or private transportation options means that many Nebraskans who live in food deserts shop at small grocery or convenience stores that do not offer a large selection of fresh, healthy foods.

References


