



## CLOSING NEW MEXICO'S RURAL FOOD GAP

**Farm to Table**  
**The New Mexico Food and Agriculture Policy Council**

<http://www.farmtotable.info/>

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## Farm to Table

### ***Where Agriculture Meets Healthy Children and Communities***

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All photos by Clay Ellis

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***“The help is so very much appreciated. When you have food, you feel rich my 3-year-old says. I’m a rich mom after we’ve bought groceries.”***

***“My mom taught in a boarding school on the reservation for 10 years and the nearest grocery store was 53 miles away.”***

***“People say, ‘Give me \$10 and I’ll take you to the store.’ The car doesn’t run on air, you know.”***

***“I talk a lot with the counselor at the school and my lunch buddy...the biggest meal that is eaten is Monday morning when the kids come back to school because mom and dad have been at the casino all weekend, and they haven’t fixed a meal. So, that’s a big thing. And, they’re starving – on Monday morning the cafeteria ladies say we have the biggest amount of non-waste because the kids are starving.”***

***“And look at what a treasure this whole valley is...and everything grows.”***

***“You have things that have created diabetes because our diets have changed; it’s Wal-Mart based; it’s Lowe’s based. Any ‘super-space’ is not based on the indigenous food of the people that are here. For hundreds of years, we didn’t used to have these diseases. Now we’ve got it, we keep the medical field occupied, the health practitioners occupied. We’re sick people.”***

***“When you lose the land, you lose agriculture. When you lose agriculture as a way of life, you lose traditional food. When you lose traditional food, you lose culture and identity.”***

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# Executive Summary

Since the federal War on Poverty we have known about the problems of poverty and hunger. While there have been improvements, poverty and hunger continue to affect far too many New Mexico residents. This project seeks to bring community solutions to the table by using a “systems approach” to incorporate health, agriculture, poverty, transportation, and food stores into our understanding of the accessibility of nutritious food in rural communities. Of particular interest are fresh fruits and vegetables because they are very important to good health. We hope the soaring cost of diabetes and obesity will finally provide the impetus to create workable solutions to food access in rural New Mexico.

A food gap describes the difficulty in obtaining healthy food because of transportation or financial limitations. This added burden for rural, low-income, and under-served areas is linked with poor health outcomes. Local and regional agricultural production is a valuable partner in reducing the food gap.

The tragically high rates of food insecurity and hunger in New Mexico, prompted the New Mexico Food and Agriculture Policy Council and Farm to Table to begin this project as well as by skyrocketing diabetes and obesity rates in the state. Focus groups were conducted in four counties with a diverse group of community residents. Residents were asked to share information and thoughts about access to grocery stores, transportation difficulties, agriculture, school food, community programs, and farmers’ markets.

## Transportation

The scarcity of grocery stores and the lack of public transportation can create considerable challenges to getting healthy and affordable food in the rural areas of Northern New Mexico. Bernalillo County, which includes Albuquerque, has almost 100 times as many grocery stores per square mile as rural Mora County. The lack of grocery stores creates a situation in which food choice is limited, and long driving distances to grocery stores are common. In our focus groups, the average drive to the store was just under one hour round-trip, and the longest reported drive was four hours round-trip. This situation is especially difficult for low-income residents who have difficulty affording reliable transportation or the high fuel costs needed to travel the long distances. Many residents reported hitchhiking as a common way to deal with this situation.

Long distances and a lack of public transportation can be especially difficult for seniors, as well. Many seniors rely on friends and family to drive them, but living long distances from grocery stores can make this difficult. Seniors often rely on senior center vans to help out. As one focus group participant said, “Then there are the rural communities that they [senior center vans] are trying to serve as well. So they have to go up and down all these little back roads picking up the elderly and taking them to the stores that they want to go to” [Rio Arriba]. In fact, senior center vans are the only form of subsidized transportation in many rural areas.

Only 42% of our focus group participants said that public transportation was available in their communities. Of the existing public transportation, focus group members said that it was generally used and appreciated. Some residents in San Juan County suggested

that bus routes needed to have more frequent routes and needed to travel to more rural communities.

Long distances and lack of public transportation also affect people's access to food by limiting their access to Food Stamps. Dulce, for example, is 40 miles from the nearest office in Tierra Amarilla. The Food Stamp Outreach Project, conducted by New Mexico Human Service Department and New Mexico Association of Food Banks, found that there was a huge demand for access to Food Stamps in this area. While the project was still in place in Rio Arriba County, the outreach workers averaged 16 new applicants per day when they went to Dulce.

### **Grocery Stores**

One part of a food gap is when grocery stores are too few and far between. Another part, however, is when grocery stores do not or cannot provide the services that local residents want and need. Residents reported varying degrees of importance for affordability, convenience, and service/quality. Many community members reported traveling in order to get a wider selection, better prices, and higher quality products. For low-income families, however, "it doesn't matter, though, the bottom line is that price is everything" [Rio Arriba].

### **Community Programs**

We were reminded that, "It's really hard to feed your family nutritious food on a budget. Food Stamps are the best thing to have for me" [San Juan]. However, many residents say the benefits are often not enough. Community members emphasized the importance of Food Stamps and the continuing need for emergency food programs. Current programs (such as Food Stamps, food pantries, and WIC), which "are used a lot" [Mora], were generally well regarded and are thought of as important and needed. Senior centers are an important part of the safety net for the elderly and often provide the only full meal of the day for low-income seniors. There is still work to be done in getting the word out about programs. At each focus group, community members consistently recommended classes to teach cooking skills.

### **School Food**

No question we asked resulted in a more forceful answer than the chorus of "*No!*" that we got every time we asked, "Do children generally enjoy the school meals?" However, school meals are very important in improving nutrition and reducing hunger, and school food service personnel have very little money for food and staffing. In 2005-2006 food and salaries had to come from the federal reimbursement of \$2.32 (Free Lunches), \$1.92 (reduced price lunches), and \$0.22 (paid lunches).<sup>1</sup> Participation in summer school lunch programs is related to lower levels of food insecurity among children in U.S. states.<sup>2</sup> The School Lunch Program has its origins as a nutrition program from World War II during which, "Over 15 percent of the first million men called under Selective Service were unfit, for causes due to poor nutrition."<sup>3</sup> Like military rations, school food provides a mostly balanced meal – the taste and quality, though, may be less than desirable. Participants told us about the importance of school food and how it needs to be improved. Not a single participant believed that "food grown around here" is served in schools; in fact, one community member quipped, "They don't serve food grown anywhere" [San Juan]. Virtually all community members were supportive of serving

“food grown around here” in the local schools. The “Backpack Program,” which sends backpacks of food home with eligible students on weekends, can be an excellent tool against childhood hunger. The importance of school food was reiterated to us by the statement, “how are we not recognizing this as an essential part of the care of our children? We research it and then we just blow it off” [Mora].

### **Farming, Ranching, and Farmers’ Markets**

In a day and age in which most people don’t know where their food comes from, it is easy to forget that one of the best ways to provide more healthy foods in communities is by helping the communities grow their own food. Farmers’ markets and other local distributions of food can be a very good source of healthy foods, such as fresh meats, fruits, and vegetables. Indeed, farmers and ranchers are a very valuable partner in fighting food insecurity in communities. However, in order for farming and ranching to be financially viable, many focus group participants reported a need for more opportunities for farmers and ranchers. Recommendations fell mostly within five main categories: 1) greenhouses to extend the season, 2) processing and packaging facilities to add value to their foods, 3) local businesses and schools that are willing to buy local food, 4) better water resources, and 5) adding a farmers’ market to their community or improving the current one.

Farmers’ markets were generally seen as “a wonderful way of getting that fresh produce to the families that need it” [Rio Arriba]. Many participants said positive things about the WIC Farmers’ Market Nutrition Program, but several also noted the negative effects of not being able to use food stamps at farmers’ markets. Residents also mentioned the need for intergenerational programs to get the youth involved in farming and ranching, and some recommended that the farmers’ market would be a great setting for such programs.

### **Traditional Food**

Many traditional foods in Northern New Mexico have been found to be very nutritious and part of a balanced and healthy diet. For instance, green *chile* is known to be high in vitamin C, and the Navajo practice of adding juniper ash to blue corn mush has been found to provide an excellent source of calcium.<sup>4</sup> In some areas, declining availability of these foods due to decreases in traditional farming and ranching, and more reliance on less healthy foods from commodity programs, convenience stores, and fast food restaurants contribute significantly to the “food gap” among low-income residents.

In our focus groups, many residents discussed the importance of traditional foods to overall health of their communities. However, several people reported that they had trouble getting certain traditional foods, due to travel distance, inconsistency of availability at local stores, and price. Foods that were mentioned as difficult to get included pre-cooked ground corn, mutton, and *calabacitas*. Several others reported that traditional foods were still eaten frequently and were very important in local events. Many residents said that more education for youth about traditional foods was needed. One person put it this way, “We’ve lost a lot of traditional food for the fact that we don’t know how to cook it.” [Rio Arriba].



## **Price and Availability**

In order to compare the price and selection of rural stores to stores located in regional centers (cities having two or more supermarkets), a market basket price survey was conducted in 27 stores located in 18 towns. A few stores located in small towns have prices competitive with those located in regional centers, but overall prices are considerably higher in smaller towns, smaller stores, and in stores more than twenty miles away from another store.

There is a strong inverse relationship between population and price of the market basket. Seven of the nine most expensive stores are located in towns under 2,000 people. Eight of the nine least expensive stores are located in towns of over 9,000 people. There is also a strong inverse relationship between store size and price. Stores classified as small grocery stores were 70% more expensive for the market basket on average than large supermarkets and supercenters. Stores located more than 20 miles away from another grocery store also tend to be much more expensive. These stores are 31% higher than stores located in regional centers. This means that residents of these small towns have a choice between paying a 31% premium for groceries or traveling at least 40 miles round-trip.

Large grocery stores, supermarkets, and supercenters also have a much better selection of items than small grocery stores. Small grocery stores more than 20 miles from another store were missing 23.0% of all items surveyed. Large grocery stores, supermarkets, and supercenters were missing only 1%. Availability of fruits and vegetables is also much lower in small rural stores. Small grocery stores were missing 18.9% of fruits and vegetables listed in the market basket. Large grocery stores, supermarkets, and supercenters were missing less than 1% on average.

## **Recommendations**

The core recommendations from community members and local organizations include: building better transportation networks to improve accessibility of residents to grocery stores, developing food stores in rural areas that provide affordable and nutritious foods, developing more value-added agriculture business opportunities, creating more opportunities for farmers and ranchers to sell their products locally, increasing the number of cooking and nutrition education classes, and advancing the nutritional health of children through improving the school meal programs.

It is vitally important to the health of New Mexico that further work be done to assess and close the rural food gap. We would urge policymakers and state government to consider replicating this study in other areas of the state. Additionally, this study can be used as a beginning for building community partnerships to close the food gap where there is both interest and resources. Community members provided us with many recommendations that we are pleased to present. Further research should build on these recommendations to better understand, clarify, and discover workable solutions for the problems of the rural food gap. In conjunction with County Health Councils, local organizations should begin to address the rural food gap and better understand its nuances.



# Why Assess the Rural Food Gap?

When most people think of hunger and food insecurity in America, they conjure up images of homeless people walking into soup kitchens in inner cities. Rarely does one's conception of hunger include America's rural areas, however. Instead, the idea of "Rural America" conjures up images of the family farm, with pigs and chickens, horses and cows. This is not quite an accurate picture. In 1800, approximately 95% of Americans lived on small farms,<sup>5</sup> but the number of farms in this country peaked by 1935,<sup>6</sup> and today, only 2% of the nation's rural population earn their primary income from farming.<sup>7</sup> More accurate images of "Rural America" should include poverty, limited economic opportunity, and yes, hunger. Since the 1960s, when the Census Bureau first started measuring poverty, poverty rates have always been higher in rural areas than in cities. Rural counties are also much more likely to have persistent poverty (a poverty rate of 20% or more for the last 30 years). In fact, 88% of "persistent poverty counties" in the United States are rural.<sup>8</sup>

Unfortunately, New Mexico also follows this trend. New Mexico has 19 non-metro counties that are classified as "high poverty," or having poverty rates over 20%.<sup>9</sup> Moreover, the state has 12 counties that are classified as having persistent poverty and 10 of these are rural. These counties suffer especially from a lack of job opportunities, and the combination of isolation and poverty makes low-income residents especially reliant on public and private assistance. Meanwhile, these assistance programs struggle to serve rural residents, due to the vast distances between people and communities.

New Mexico's food insecurity and hunger rates are among the highest in the nation. According to the latest U.S. Department of Agriculture (USDA) report on food security from December 2004, New Mexico has the second highest level of food insecurity at 15.8%, far above the national average of 11.4%.<sup>10</sup> It also has the third highest level of hunger at 4.9%, significantly above the national average of 3.6%.<sup>11</sup>

Not only does New Mexico suffer from high rates of poverty, food insecurity, and hunger, it also has high rates of obesity and diabetes. Odd as it may seem, the same counties that suffer high rates of poverty also tend to have very high levels of obesity and type 2 diabetes as well. This paradox can be explained by the fact that poor nutrition is related to the access to, or availability and affordability of, healthy food.

In response to these skyrocketing obesity and diabetes rates in New Mexico, especially on Native American Nations, some health researchers have attempted to look at societal factors such as socioeconomic status, access to health care, language barriers, and cultural differences. Largely absent from these studies, however, have been the connection of socioeconomic status to access to a nutritious food supply. The Navajo Health and Nutrition Survey declared, "In future surveys, researchers might test alternative questions such as the distances from residences to grocery stores, trading posts, and health care facilities...and transportation available to household members."<sup>12</sup>

This project has chosen four "persistent poverty counties" in Northern New Mexico that are largely rural in nature, namely Mora, Rio Arriba, San Juan, and McKinley. This area includes the Native American Nations of the Jicarilla Apache, Navajo (Diné), Ramah, Ute and Zuni, San Juan, and Santa Clara Pueblos. Although New Mexico has been gaining population in recent decades, rural areas in these four counties have seen a

considerable loss of population to regional centers such as Farmington, Gallup, and Albuquerque. These counties have maintained very high poverty rates, especially childhood poverty rates, while seeing drastic increases in diabetes rates. In fact, we have included counties with four out of the five highest diabetes rates in the state.

Mora County is a very rural county that is designated as a frontier county by the U.S. Census Bureau (less than 7 people per square mile), averaging only 2.7 people per square mile.<sup>13</sup> Once an area of over 13,000 people<sup>14</sup> it has decreased to about 5,000 people spread out over roughly 2,000 square miles.<sup>15</sup> This was largely due to decreases in mining, farming and ranching. In fact, Mora County was actually one of three counties in New Mexico that had negative farm earnings in 2000.<sup>16</sup> Meanwhile, the county has a 25.4% poverty rate<sup>17</sup> and a 28.9% child poverty rate.<sup>18</sup> The adult diabetes rate is 9.2%, tying for 5<sup>th</sup> highest in the state.<sup>19</sup>

Rio Arriba County is also nearly classified as a frontier county, averaging exactly 7.0 people square mile<sup>20</sup> and it contains very large areas that are absent of cities or even towns. It has seen steady population growth throughout the twentieth century, but between 2000 and 2004, the county population decreased by 1.2%.<sup>21</sup> The county has a 20.3% poverty rate<sup>22</sup> and a 23.0% child poverty rate.<sup>23</sup> It also has the fourth highest diabetes rate in the state, 9.9%.<sup>24</sup>

Although San Juan County has recently become a metropolitan county as Farmington's estimated population has risen above 50,000, it has historically been considered a rural county, and population density outside of Farmington remains low. With the discovery of oil, and the subsequent development of the oil business, San Juan County has seen population and business growth over the last century. However, this growth has failed to reduce poverty in the county. It currently has a 21.5% poverty rate<sup>25</sup> and a 26.7% child poverty rate.<sup>26</sup> It also has the third highest diabetes rate in the state at 10.4%.<sup>27</sup>

McKinley County has an average of 13.7 people per square mile.<sup>28</sup> Like San Juan, McKinley has also seen population growth over the last one-hundred years, but much of this growth has been to the city of Gallup, and recently the county has lost population, decreasing 3.2% between 2000 and 2004.<sup>29</sup> While the tourism industry helps bring people and money to the county, it has done little to alleviate poverty and improve health. McKinley County has among the worst poverty in the nation, with a devastating 36.1% poverty rate<sup>30</sup> and a 44.3% child poverty rate.<sup>31</sup> The county also has the highest diabetes rate in the state at 13.6%.<sup>32</sup>

Since access to food stores is only one aspect of food security within these counties, we have designed this project in order to gather information about many aspects of communities including farming and ranching, traditional foods, farmers' markets, nutrition programs, school food programs, and other community programs. We have included input from community members through focus groups and community organizations in the gathering of information and the development of recommendations.

We set out not only to identify the challenges to securing nutritious foods within four rural counties of Northern New Mexico, but to also engage the citizens, agencies, organizations, and businesses within New Mexico to actively work together to address these issues.

# Food, Hunger, and Place in New Mexico

*Bizcochitos*, blue corn mush, *menudo*, and green *chile* all remind us that food is connected to our communities and state. Everyone who has ever traveled more than a county or two away from home sees how richly food is connected to place. We can find our food heritage in the state's many vibrant farmers' markets, restaurants, and in our homes. However, the place – New Mexico – is changing. And with the changes in population and business come changes in how grocery stores sell groceries, how farmers farm, and how communities maintain their food security and “food sovereignty.”

New Mexico's unfortunate position as one of the states with the highest levels of food insecurity (third, on average, after Mississippi and Texas between 2002 and 2004)<sup>33</sup> and hunger (sixth) impelled this project. This project and the many New Mexican voices you will find throughout it supplement two other state reports that inspired our work. New Mexico Voices for Children's Bare Bones Budget detailed how government programs intended to alleviate poverty do not provide enough money to cover the high cost of living in the state. The New Mexico Task Force to End Hunger's Together We Can, which came out of the 2004 Governor's Hunger Summit, calls for continued action to reduce the high rates of food insecurity and hunger here in New Mexico. Both were highly informative in designing this project.

With that background, which you will find further described below, we then went out into the community and asked residents of four counties to share advice and information

***“And look at what a treasure this whole valley is...and everything grows” [Rio Arriba].***

about access to quality, nutritious, and affordable food. In particular we were interested in access to fruits and vegetables, which have been linked to good health. So, while you can read about the theories and the history below,

the focus of this report is on what residents of four counties in Northern New Mexico shared with us in focus group meetings as well as a thorough price survey.

## First, What Is a “Food Gap?”

We want to spend a few pages exploring just what is a “food gap;” what does a food gap mean; changes in New Mexican agriculture; changes in grocery store retailing; and, what other communities have found about their own “food gaps.”

The food gap is a way of thinking about access to food and its implications for health and wellbeing. A food gap is the extra space between people and food. Or it can be financial: the difference between having money for food and not having enough. Either way, the food gap is what keeps people from eating healthy foods like fresh vegetables and fruits. The greater the distance – either financial or spatial – between community members and food then the closer those community members are to hunger, food insecurity, and/or a less-healthy diet.

A similar, but different, term is “food desert,” which is an *area* where there is less access to nutritious and affordable food. There can be a food gap in an area that has only an

expensive grocery store that community members cannot afford, but a “food desert” is an area with too few sources of healthy, affordable food.

Sociologists and nutritionists at the University of Iowa have a particularly helpful definition. They note, “When the normal food system is unevenly distributed, areas of concentration and food deserts are created. Food deserts are places where few or no consumer food stores are available.”<sup>34</sup> That definition is part of the food gap. We would add that the food gap may exist where there are food stores but those food stores are inadequate for local residents. The food gap can be the failure of stores to meet the needs and desires of local customers.<sup>35</sup>

A food gap exists when one or more of the following are true:

- There are not enough stores
- Stores do not meet the needs of local residents
- There are not affordable fresh fruits and vegetables
- Stores are not accessible via transportation networks
- Foods are not affordable to portions of the population

A lack of stores means that grocery store trips are likely to be fewer and farther between. Transportation costs will be higher, and fresh fruits and vegetables may not last the time between trips. Communities have found that stores are concentrating in suburban areas. A historical example is Hartford, Conn., which found that 11 of its 13 chain supermarkets that were operating in the city in 1968 had closed by the mid-80s at the same time that new stores were opening in the suburbs.<sup>36</sup>

Stores that do not meet the needs of local residents may stock few and/or low quality items. The prices may be too high or there is simply not enough selection. A 1989 study titled Higher Prices, Fewer Choices: Shopping for Food in Rural America found that, “23 percent of the small/medium stores did not stock any fresh vegetables. An additional 35% of these stores only carried between one and four fresh vegetables and those most frequently stocked were onions and potatoes.”<sup>37</sup> USDA research found that rural areas have higher prices (4% on average) and smaller stores with less selection than does the nation as a whole.<sup>38</sup>

The lack of affordable fresh fruits and vegetables can have an impact on health, as we will explore later. A recent USDA-funded study found that children who live in cities with higher food prices are more likely to be overweight.<sup>39</sup> Here in New Mexico, researchers from UNM and Diné College found that many healthy foods are simply not available at many stores on the Navajo Reservation.<sup>40</sup> There may be room to partner with grocery stores in improving access to fresh fruits and vegetables, as the New Mexico Grocer noted, “produce is the number one reason consumers choose one supermarket over another.”<sup>41</sup>

Stores that are not accessible via transportation networks add a barrier for seniors who do not drive and for families without a car. In rural areas, according to the USDA, only 31% of Food Stamp recipients shop in their own neighborhood compared with 71% in urban areas. The two most commonly given reasons for not shopping locally in rural areas were: “No stores close by” (59%) and “High prices” (46%).<sup>42</sup>

Stores that are not affordable to portions of the population can increase the risk of food insecurity, cause people to purchase less healthy foods, and force families to travel farther to purchase their food. This is particularly important for low-income families. Elderly residents may have their budgets severely limited by the cost of prescription drugs. Migrant and seasonal farmworkers have high rates of food insecurity because of the seasonal nature of agricultural work. (On the Texas-Mexico border the food insecurity rate for children of migrant workers is 44%.<sup>43</sup> It is similar in the Southeast U.S.,<sup>44</sup> and we can assume that it is unfortunately similar in New Mexico.)

### What Is Food Security?

Food security is commonly defined in two ways. The first is a technical definition used by the USDA's Food Security Core Module to determine if people are food secure, food insecure, or food insecure with hunger. USDA defines food security as, "at a minimum (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)."<sup>45</sup> Most statistics about hunger and food insecurity come from this 18-question survey or an abbreviated 6-question survey.

Less technically, food security is often described as having five A's: availability, accessibility, acceptability, adequacy, and agency.<sup>46</sup> Food must be present for purchase. It must be relatively easy to get to. It must be accepted as a food; for example, horsemeat is not acceptable to many people. There must be enough food. Agency refers to policies that affect whether people are food secure or not.

### The Changing Face of Grocery Stores

New Mexico Magazine profiled the loss of trading posts in rural communities in 1994, noting that, "there are a few of the old-style trading posts that persevere, as vital as ever to their small communities."<sup>47</sup>

Grocery stores, which were once present in most small towns have become more centralized in regional centers. New Mexico Magazine describes the challenges faced by and the benefits of "Mom & Pop Stores" in a 1997 article: At Adelo's Town and Country in Pecos, New Mexico, "If someone were sick, we'd still deliver their groceries to them," noted George Adelo, Sr.<sup>48</sup> Local stores have long been a source of community news, civic help, and social space -- not to mention food. With larger chain-stores claiming consumer dollars, local stores have often changed their business models and added new services or been forced out of business.

Of course, the changing face of retail grocery stores is nothing new. Back in 1931, Albuquerque, then with a population of about 35,000 people, had approximately 95

***Bigger grocery stores bring better prices and more selection. However, they often put small stores out of business, which leaves rural communities without nearby stores.***

grocery stores of which only about one-fourth were chains.<sup>49</sup> In 1923, there were only three chain stores. Engaging in a national debate about the value of chain stores, a UNM masters degree candidate named Myrtle Rush surveyed 200 homemakers, finding that 54% of the homemakers surveyed in Albuquerque preferred chain stores. The most common reason given was: "money saved by buying at chains." She noted, "Chain stores also select carefully the type of good which they are going to handle. Quick

turnovers constitute one of the main methods by which they aim to reduce costs.” Presciently, she noted that chain stores have continued to reduce costs by “division of work and specialization.”

Given this efficiency, Myrtle Rush argued in 1931, “Naturally the chain store has found it easy to leave behind all but the most alert of the individual store owners.” However, “The independently owned store has held its own with the [higher income] group and seems in no danger of losing its advantage.” Sixty-one years later, the New Mexico Business Journal agreed with this assessment in an article about small grocers.<sup>50</sup>

The grocery store business has drastically changed, and it continues to change with “supercenters” replacing large chain stores. These changes lead to fewer small grocery stores. While large stores usually mean lower prices and better selection, they tend to put small stores out of business – leaving large areas with no local grocery stores.

### Changes in Agriculture

As grocery stores have centralized, the farming system also began to change in New Mexico. The Depression hit New Mexican farmers as it hit many other parts of the country. Railroads brought cheaper wheat from the Midwest, causing New Mexico’s productive wheat industry to go into decline. (Mora County’s wheat was the “Best of Show” at the 1932 World Fair.)<sup>51</sup> Then, during World War II, industrialized food production began to be considered a necessity. The U.S. Department of Agriculture and the War Manpower Commission wrote, “Food is a weapon of war. As much so as tanks or guns. For wars are won on full stomachs and lost on empty ones. In 1943 our food needs will be greater than ever before in our history. And they cannot be met merely by growing more food.”<sup>52</sup> This need for industrialized agricultural production (and the



*Fred Martinez’s apples fresh from the field, Rio Arriba County*



increased processing of foods) is visible through the following decades with the continued introduction of chemical fertilizers and “fencerow-to-fencerow” production.

Northern New Mexico has a growing number of farms with the possible exception of McKinley County.\* Mora County has gone from 398 farms in

***Agriculture in Northern New Mexico is a valuable, and growing, partner in improving access to food.***

1992 to 410 in 2002. For Rio Arriba, the numbers go from 964 to 988; San Juan, 641 to 808; and, in McKinley drop from 213 to 150 (data on the reservation not included) during the same time period.<sup>53</sup> During this same time small family farms, farmers who had been struggling to remain afloat, were able to participate in and promote direct marketing opportunities such as farmers’ markets and “farm-to-school” programs.

Families with vegetable gardens often, as common sense would suggest, share extra produce with neighbors in rural areas.<sup>54</sup> This contribution from family farms or individuals’ gardens is useful in adding to the availability of fresh produce and in reducing the risks of food insecurity. One community member reminded us of this, saying, “There’s nothing sadder than zucchini season, because everybody has zucchinis and they all want to give their zucchinis to someone else, but they all grow them” [McKinley].

Agriculture in Northern New Mexico is a valuable, and growing, partner in improving access to food.

### **Food Sovereignty and New Mexico’s Pueblos and Tribal Nations**

Federal “Indian Policy” long sought to change Native American traditions along with diets. One Secretary of the Interior celebrated the destruction of buffalo herds in the Plains, declaring “I would not seriously regret the total disappearance of the buffalo from our Western prairies, in its effect on the Indians.”<sup>55</sup>

First Nations Development Institute’s Food Sovereignty Assessment Tool notes that until the 1950s, “malnutrition and hunger were the primary food issues facing tribes.”<sup>56</sup> (It is a problem that has been slow to improve. CBS News’ Charles Kuralt narrated a 1968 documentary called “Hunger in America” that showed babies in Indian Health Service hospitals on the Navajo Reservation with forms of malnutrition, “not supposed to exist in the United States.”<sup>57</sup> In 2003, the rate of food insecurity for American Indian households with children was 26.1%.<sup>58</sup>) With drastically high rates of diabetes in the Pueblos and First Nations, the availability and accessibility of fresh fruits and vegetables is pressingly important.

***“Food sovereignty” is a community’s control over its own food production and consumption.***

Because of this legacy with food, the concept of “food sovereignty” is useful as another component of the

food gap. Food sovereignty is a community’s control over its food production and consumption. Often food sovereignty also implies the power to maintain or return to traditional healthier diets. Communities without control over food cannot easily reduce

\* New Mexico Department of Agriculture does not include farms on reservations or Pueblos for county-level information, so interpretation is difficult.



the food gap. Part of the work to reduce the food gap includes communities' moves towards food sovereignty.

While USDA commodity food distributions were much appreciated by participants in our focus groups, these distributions have a legacy and a history of taking food sovereignty away from Pueblos and First Nations.

The loss of this independence can be seen in the Tohono O'odham of Arizona who were virtually self-sufficient in food production until the 1950s. Cultivation went from over 20,000 acres in the 1920s to 2,500 in 1949 to less than 25 acres in 2002.<sup>59</sup> Diabetes skyrocketed as cultivation plummeted and healthy fruits and vegetables were replaced with USDA commodity food.

New Mexico communities' traditional foods – like in many other communities in the United States – relied on local agricultural production and regional sources of food. In New Mexico corn, squash, *piñones*, local crop varieties, fruit trees, and animals provided healthy foods for centuries. Some of this food heritage is still used both in the Pueblos and off. Nutritionists from Taos Pueblo, for example, published an article in the journal *Nutrition Today* about the many ways traditional foods continue to be used.<sup>60</sup>

***“When you lose the land, you lose agriculture. When you lose agriculture as a way of life, you lose traditional food. When you lose traditional food, you lose culture and identity.”***  
– New Mexico Tribal Extension Task Force

Commodity food essentially comes from the surpluses of the U.S. agricultural system. Commodity food programs have two goals, to reduce hunger and to support the agri-business system. This does not lend commodity food to being nutritionally optimal. Nor does it lend itself to preserving community food heritage. Of course, commodity food is very important in reducing immediate hunger. However, in looking at the rural food gap, commodity distributions are problematic because they provide food though they do not significantly improve access to healthy fruits and vegetables.

Food sovereignty is helpful in thinking about how New Mexico communities can have the power over the food that is grown, sold, cooked, and eaten to improve nutrition and maintain heritage. First Nations Development Institute underscores that, “the last 200 years of federal policy toward Native Americans has reduced their control of land, disrupted traditional agricultural practices, and dramatically changed diets.”<sup>61</sup> Food sovereignty is about reclaiming the community's control over healthy food. The legacy of federal “Indian Policy” makes food sovereignty particularly useful for Pueblos' and First Nations' work to reduce the food gap. However, food sovereignty is important for all New Mexico communities.

### **Food Gaps in Other States**

In examining the possibility of a food gap in Northern New Mexico, we first looked at other communities' work on documenting and reducing food gaps. Early research started with the premise that “the poor pay more” for food, particularly in urban city centers and rural areas. Community leaders and researchers then began to explore transportation and the spatial accessibility of affordable grocery stores. Current research and

community action are looking at the effect of race and ethnicity on the location of food stores as well as how access affects health.

Particularly striking research from the University of Michigan and the University of North Carolina has found that race and ethnicity, *even when income and economics are the same*, are a factor in the siting of grocery stores. Wealthier neighborhoods in a four-state study had more grocery stores, as one would expect. However, the same study found that there are four times as many grocery stores in “white neighborhoods” than in “black neighborhoods.”<sup>62</sup> This imbalance remains even when economics (median home value, in this case) were controlled for. In a separate study in Detroit, the poorest neighborhoods had the largest racial difference in access to grocery stores. African American neighborhood residents had to travel an average of 1.1 miles further to the grocery store than residents in white neighborhoods of the same economic status.<sup>63</sup> (For residents without a car this can represent a significantly longer travel time.)

New Mexico is, of course, quite different from metropolitan Detroit. However, problems with easy and local access to quality, nutritious food that meets the standards of residents has been found to be a problem in many different areas including: rural Iowa,<sup>64</sup> rural Scotland,<sup>65</sup> the Navajo Reservation, New Mexico’s Doña Ana County,<sup>66</sup> and rural Ireland.<sup>67</sup>

On the Navajo Reservation, students and professors of Diné College and UNM visited stores and looked for healthy foods. One percent milk was available at only 8.7% of stores on the Reservation. Only 52.2% of the 45 stores surveyed stocked fresh oranges.<sup>68</sup>

As we read through the studies and research it became clear that grocery stores are not randomly scattered across the country. Instead they tend to follow the patterns of power and affluence.

### **The Effects on Nutrition and Health**

There is literally an epidemic of type-2 diabetes and obesity sweeping the nation. Obesity rates have skyrocketed since 1990, as shown in two Centers for Disease Control graphics below. One focus group participant brought these statistics home to us when she told us, “I was volunteering in a pediatric clinic [...] It would break your heart to see these children. Where diabetes is when we’re 60, 65 years old – we eat lousy and now we get it. But, if we’re careful we’ll be able to manage it. But, these are eight-year olds, these are six-year olds with type-2 diabetes. It’s rampant in Northern New Mexico” [Rio Arriba, nurse].

Obesity is linked with diabetes, and diabetes prevalence has increased some 40% in the last ten years and is expected to increase another 165% between 2000 and 2050.<sup>69</sup> Diabetes is estimated to cost the U.S. some 92 billion dollars in added medical expenses plus 40 billion dollars in lost productivity yielding a total cost of 132 billion dollars annually.<sup>70</sup> In New Mexico, the Department of Health estimates that diabetes costs the state \$1.1 billion per year including the costs of diabetes-related amputations.<sup>71</sup> This, it should be noted, does not include the individual suffering caused by the disease. The New Mexico Department of Health conservatively says that according to research, “1 case of diabetes out of 7 could be prevented through exercise and diet,” which would result in an annual savings to New Mexico of \$128,163,951.<sup>72</sup> One out of seven is

probably a significant underestimate, as reputable studies have found that up to 58% of diabetes cases can be prevented through improved diet and exercise.<sup>73,74</sup>

Access to nutritious and affordable food, particularly fresh fruits and vegetables, and the “foodscape” or “food environment” are related to health.<sup>75</sup> Both diabetes and obesity are related to nutrition, sedentary lifestyles, and, to a lesser extent, genetic predisposition.<sup>76,77,78,79</sup> The food gap, with its effect on health and nutrition, is important to the health of New Mexico.

### Obesity Trends\* Among U.S. Adults

**BRFSS, 1990**

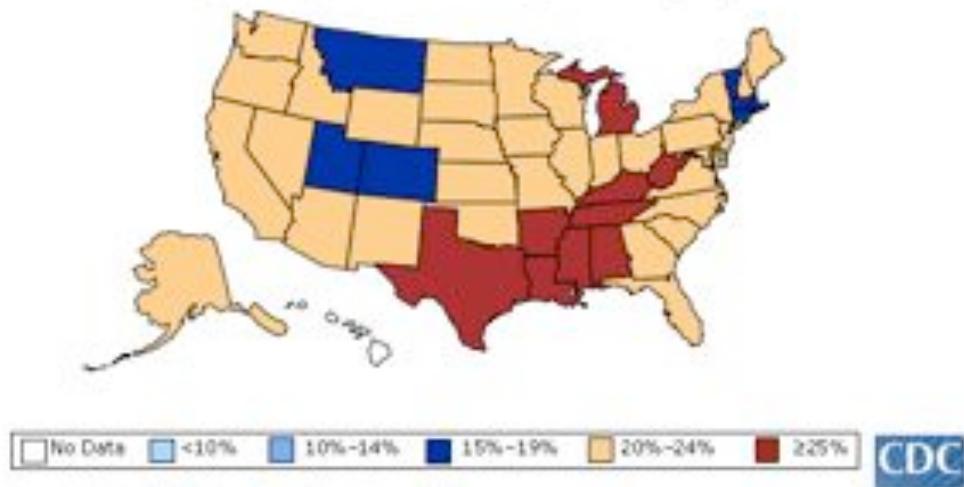
(\*BMI ≥ 30, or ~ 30 lbs overweight for 5' 4" woman)



### Obesity Trends\* Among U.S. Adults

**BRFSS, 2004**

(\*BMI ≥ 30, or ~ 30 lbs overweight for 5' 4" person)



Source: Behavioral Risk Factor Surveillance System, CDC.

The rural food gap can affect fruit and vegetable consumption. People with good nutrition tend to eat more fruits and vegetables, which are associated with diabetes prevention. The more fruits and vegetables a person eats, the less likely that person is to develop diabetes. The same is also true of strokes.<sup>80</sup> This is what is called a *dose-response relationship*, meaning that eating some fruits and vegetables is related to some protection from diabetes, and eating lots of fruits and vegetables is related even more protection from diabetes.<sup>81</sup> USDA-funded research found that in cities with higher fruit and vegetable prices, schoolchildren are more likely to be overweight.<sup>82</sup>

Eating enough fruits and vegetables is a problem in New Mexico. In a survey of New Mexican schoolchildren, the Public Education Department and the Department of Health reported that, “83% of 2003 [New Mexico Youth Risk and Resiliency Survey (NM YRRS)] respondents reported not eating five or more servings of fruits and vegetables a day, on average, over the past seven days. Thirty-four percent of 2003 NM YRRS respondents ate no green salad in the last seven days, 17% ate no fruit, and 21% ate no other vegetables in the same time period.”<sup>83</sup>

### **How Is Obesity Related to Hunger and Food Insecurity?**

It may not seem logical, but food insecurity is related to obesity. To simplify, families who are unsure of where their next meal will come from tend to buy foods that are more filling and cheaper. These cheaper foods are more likely to be processed as well as high in fat and sugar. Children who do not know where their next meal will come from may also try to eat more during meals.

*For more information see:*

<[http://www.frac.org/html/hunger\\_in\\_the\\_us/hunger&obesity.htm](http://www.frac.org/html/hunger_in_the_us/hunger&obesity.htm)> from the Food Research and Action Center.

***The New Mexico Department of Health says that according to research, “1 case of diabetes out of 7 could be prevented through exercise and diet,” which would result in an annual savings to New Mexico of \$128,163,951.***

It is important to remember that while poor health and nutrition levels are an important effect of the food gap, time and money may also be fundamentally important factors. Take, for example, transportation. Difficulties with transportation can affect how people access food. Transportation is mainly a problem for people who have less income and cannot afford expensive gas prices or taxi rides as we will discuss below.

### **How We Did This Project**

We wanted to include many different types of communities in Northern New Mexico in this project. Mora, Rio Arriba, San Juan, and McKinley Counties were selected because they are diverse counties with richly different histories. We wanted to hear from people who could give us suggestions and thoughts from many different communities, including some of the poorest in the region. Interviews were conducted with community leaders and service providers in each county, as well.

In order to facilitate a community discussion about access to food and to capture information accurately, we developed a focus group survey. The script contained questions in six categories and space for answers. The design was done with extensive help and input from Dr. Samuel Suina of the New Mexico Tribal Extension Task Force. We also referenced other surveys and focus groups, particularly First Nations Development Institute's Food Sovereignty Assessment Toolkit and work from the University of Iowa. A Project Advisory Team (PAT) also reviewed and edited the document.

Focus groups were organized by contacting local agencies or individuals who would be able to provide a space and bring people to the table. These included a senior center, a nutrition education class at a woman's shelter, a community college, and a community member involved with the local farmers' market. The focus groups had between six and fifteen participants.

After our first focus group in Mora, we revised the document to reduce the number of redundant and unnecessary questions.

All four focus group meetings, one per county, were recorded with the permission of participants. These recordings and individual interview notes were transcribed. The focus group survey form was tabulated into a Microsoft Excel spreadsheet. This document contains graphs from the tabulated data as well as representative quotes summarizing the general themes and recommendations we were given in each community. We have tried to be as true to the intent of participants' quotes as possible. Individual interviews and smaller group discussions with seniors and service provider added to the diversity of information we received.

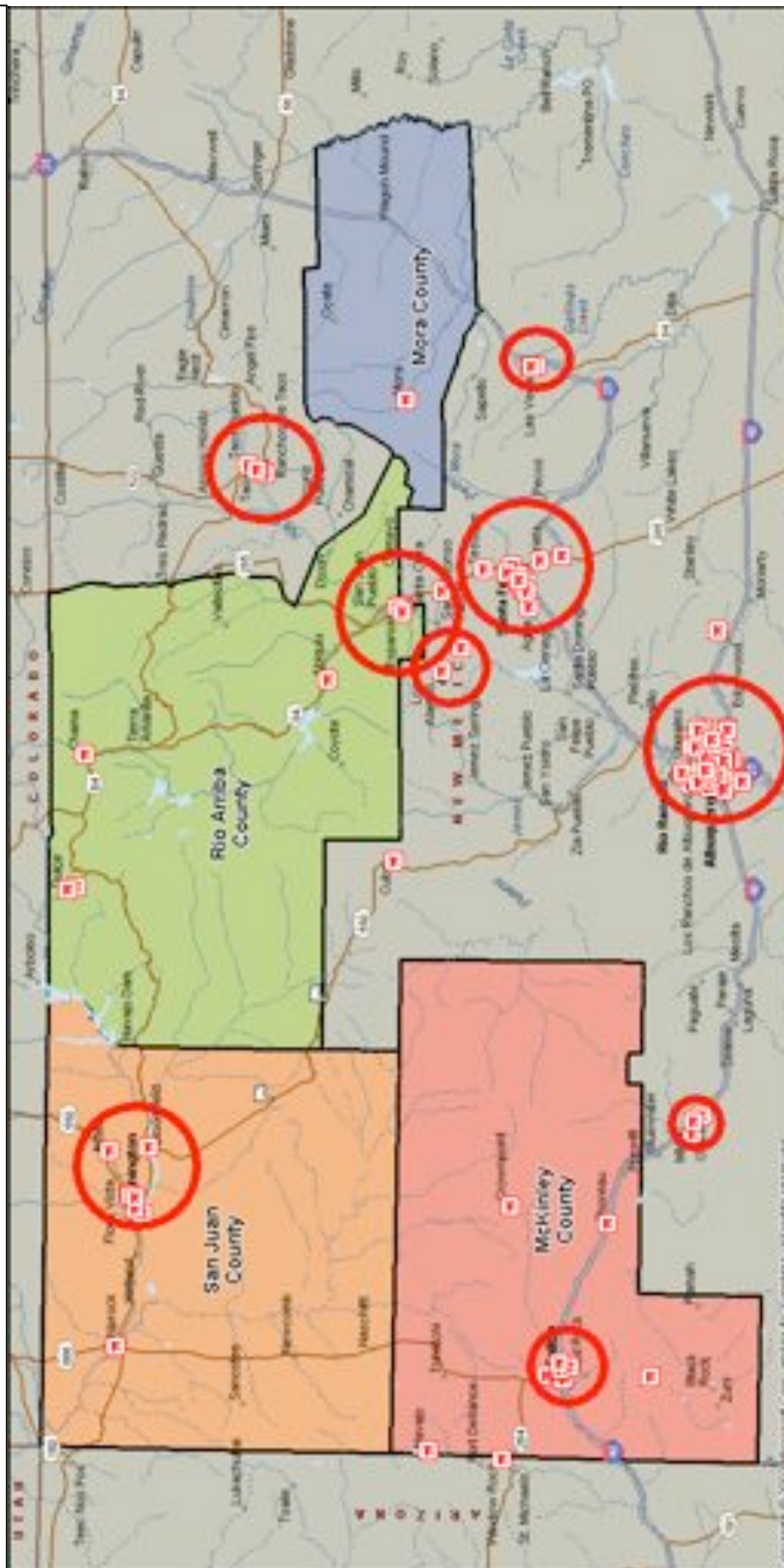


*Northern New Mexico organic wheat is used in NATIVO bread from Cloud Cliff Bakery*

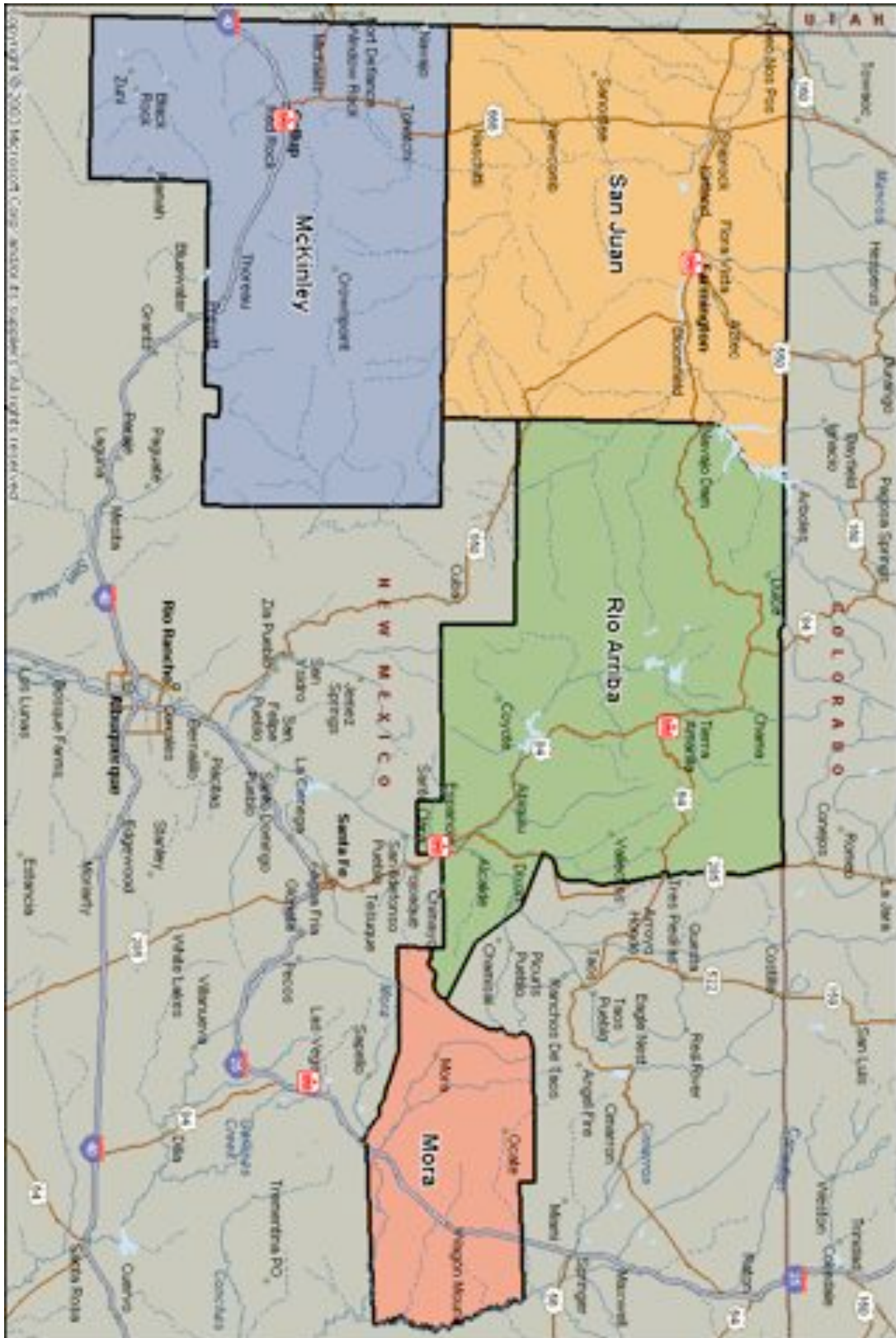


### Distribution of Grocery Stores

Red circles indicate regional centers; carts are grocery stores; white flags are trading posts with fresh produce



## Food Stamp Office Locations

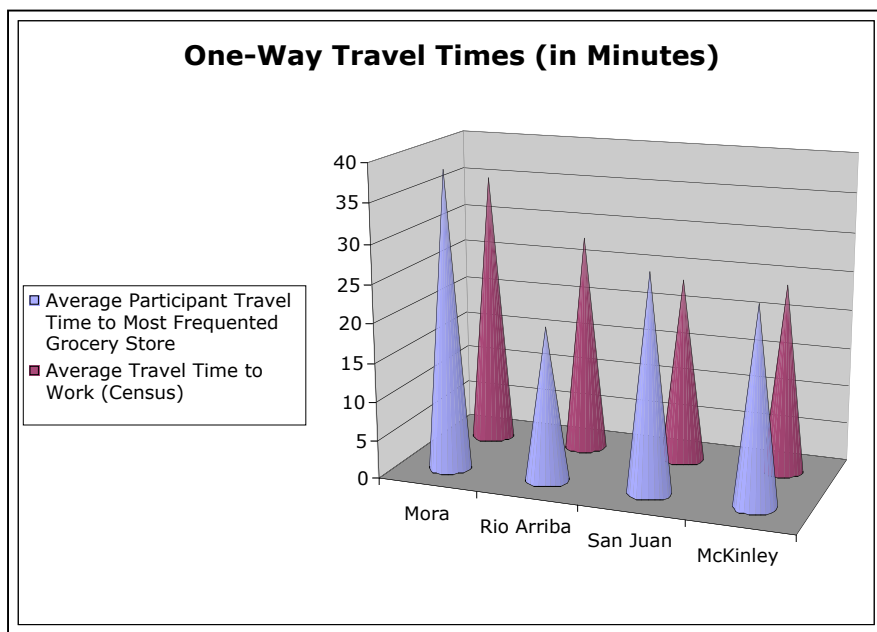




## Transportation

As the previous maps indicate, rural residents of these four counties typically travel much further to grocery stores, farmers' markets, and food stamp offices than their urban and suburban counterparts. These rural areas generally have less access to public transportation as well. For people who have their own private transportation, just getting to the grocery store can be difficult and expensive. For those that do not have transportation, food shopping can be a serious challenge. Many low-income people in these areas have difficulty affording electricity and running water, much less a reliable vehicle to drive. National data on transportation on Native American Reservations and Pueblos shows that even if families own a vehicle, they may still have transportation difficulties. The Evaluation of the Food Distribution Program on Indian Reservations in 1990 found that one-sixth of households reported that they "very often had difficulty getting where they needed to go because of problems with their cars or trucks."<sup>84</sup> They also found that "[m]ore than half of all households that owned a vehicle reported that they sometimes could not travel because they lacked money to buy gas."<sup>85</sup>

In each of our focus groups, we asked participants how long it takes to get to the grocery store they go to most often. Participants' answers were averaged by county. Distances to most frequented grocery stores closely followed census data on average time to work. The longest travel time was two hours one-way, mentioned by two people, one in Mora County and one in McKinley County.



Mora County had the highest average travel time at 38 minutes, and the average of all the counties was 29 minutes.

Some of the most dramatic distances mentioned in our focus groups were on the Navajo reservation:

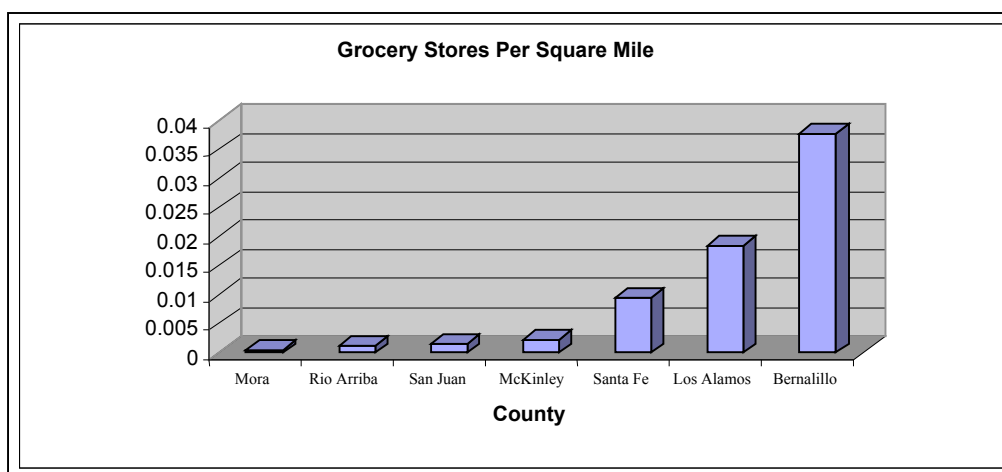
"My mom taught in a boarding school on the reservation for 10 years and

the nearest grocery store was 53 miles away" [San Juan]. Others reported that, on the reservation, people often travel 30 to 70 miles to go grocery shopping.

### Fewer Choices

Rural residents not only travel long distances to get to a grocery store, they also have very few grocery stores to choose from. This may seem logical. Urban areas have more people and should therefore have more grocery stores. However, an individual

living in a rural area of Northern New Mexico still suffers from an shockingly lower number of stores within driving distance. For instance, Bernalillo County, which includes Albuquerque, has nearly 100 times as many grocery stores per square mile as Mora County.<sup>†</sup>



Limiting choices can have drastic effects on health. In a study by the University of North Carolina from 2004, women living more than 4 miles from a supermarket were more than twice as likely to fall into the lowest level of the diet quality index as someone living only 2 miles from the nearest supermarket.<sup>86</sup>

Because people in rural areas have fewer choices within reasonable driving distance, they may be more likely to choose small, rural stores, out of convenience, which generally have lower availability of fresh fruits and vegetables. A study done in 1989 demonstrated that 23% of small to medium sized stores in rural areas didn't carry any fresh vegetables, and 33% didn't carry fresh fruits.<sup>87</sup>

## Seniors

The long distances and lack of public transportation can be especially difficult for the elderly and disabled. Senior center vans can therefore become people's only source of transportation:

"Well, most of our elders, they use that [senior center van] because they don't have a vehicle. Even if they have a vehicle, they don't have their eye-sight or their hearing, and they can't drive anymore. For that reason, I guess, they don't want to keep their vehicles and they just let it go" [McKinley].

In fact, one Thoreau woman said that she usually gets to the grocery store by asking the driver of the senior center van to take her there and wait while she shops. The van is sometimes too busy to wait that long, however, so she is very dependent upon circumstances out of her control.

***One Thoreau woman said that she usually gets to the grocery store by asking the driver of the senior center van to take her there and wait while she shops.***

<sup>†</sup> Grocery stores with more than 2500 sq. feet

But being people's only source of transportation can be very difficult for the senior centers in rural areas, as well:

"Then there are the rural communities that they are trying to serve as well. So they have to go up and down all these little back roads picking up the elderly and taking them to the stores that they want to go to" [Rio Arriba].

"We have just so many miles assigned to the senior center. We have to cut down routes as well. Especially when we are given just so many miles and so much mileage money...so we had to cut back services as well" [McKinley].

In Tohatchi, the senior center gives rides to many seniors and delivers food to 20 homebound people, but there are 20 more on the waiting list. The senior center cooks said that some people just live too far out. The staff delivery person leaves at 11:30 with the food in an insulated warmer bag and does not get back until 1:30 or 2:00, and regulations require that the food be delivered warm. Traveling any further out would cause the food to get too cold by the time it arrived.

### **Transportation to Food Stamp Offices**

Not only are grocery stores few and far between, but so are Food Stamp offices. Dee Apache, the Food Stamp Outreach Project Director with the New Mexico Association of Food Banks, said that in remote areas, people often have difficulty getting to the Food Stamp office. One example she presented was in Dulce, where the nearest Food Stamp office is 40 miles away in Tierra Amarilla. Many people who lack transportation, especially seniors, rely on their family members to give them a ride. But driving all the way to Tierra Amarilla would require family members to take at least a half day off of work, which many are not in a position to do. Dee said that when the Food Stamp mobile eligibility workers went to Dulce and allowed people to apply for Food Stamps without traveling 40 miles, it was amazing how many people took part. She said, "it was by far the busiest town they went to" and they "collected 16 applicants per day."

This is not only in Rio Arriba County. Mora County has no food stamp office at all. Its residents must travel to Las Vegas, in San Miguel County, which is about an hour away from the town of Mora. In San Juan County, the only food stamp office is in Farmington, and in McKinley, the only office is in Gallup. One senior center client in Thoreau said, "To get food stamps, you have to go to Gallup...It's not worth it."

### **Hitchhiking**

A common way for low-income rural residents to deal with this lack of transportation is to hitchhike. We were told that hitchhiking is common in many different areas as a way of getting to the food pantry, to the store, or just getting to town. According to our focus group participants:

"I'm serious. There are some people that have to hitchhike to go to town just to get food" [San Juan].

"All the hitchhikers from where I live, I take them all to

***"People say, 'Give me \$10 and I'll take you to the store. The car doesn't run on air, you know'" [McKinley].***

town, get their stuff, and bring 'em all back. They give me 5 dollars, they give me 10 dollars, they give me groceries...there's Natives out there that don't even have any electricity and water. They don't have no transportation. So, most of 'em, where I come from, they go to Gallup. They go to Window Rock. They hitchhike. They take cans, bags of aluminum cans, just to go to the nearest aluminum can store to turn 'em in. Some get alcohol and some get food. But if you give 'em a ride and treat 'em good, they will pay you back more than what they even get for themselves, cause they're so thankful, you know" [San Juan].

"They don't have a car, but they get a ride from family members, or they call a friend or they pay someone" [McKinley].

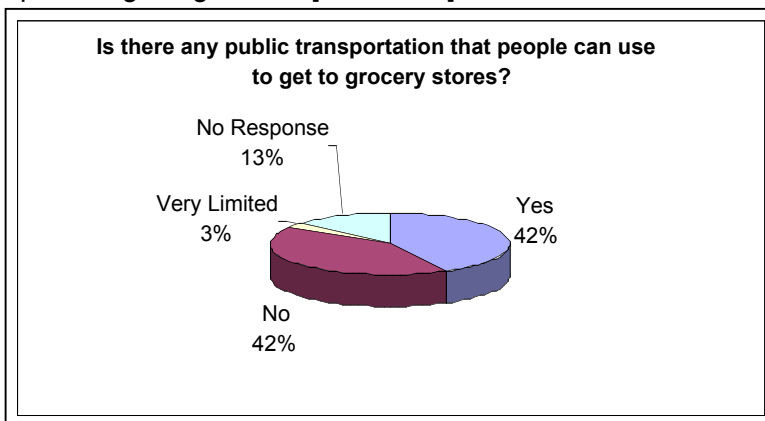
### Public Transit

In our focus groups, many people discussed the need for more public transportation:

"We have no public transportation – that's a big issue" [Rio Arriba].

"It's a big issue especially for our elderly....They have to call and have to wait for an hour and they get tired by then" [Rio Arriba].

"I know if we had public transportation, I would take it, rather than drive my car, with the price of gas right now" [Rio Arriba].



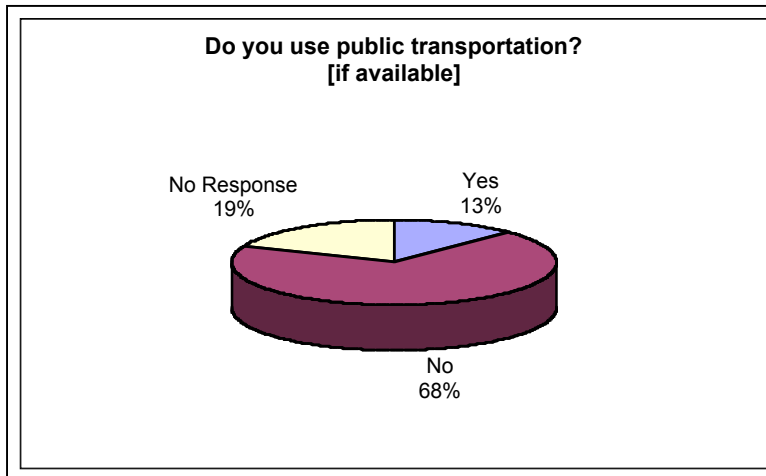
Forty-two percent of our focus group members said that public transportation was available in their communities; however, this number may actually be slightly inflated, because public transportation was broadly defined to include senior center vans, which are not available to the entire population. In Mora County, there was no

mentioned form of public transportation other than the senior center van. In Rio Arriba, the Española Transit was mentioned, but it was said to be "very limited." Of the people that answered that there is public transportation available in their communities, only a few said that they use it.

Focus group members suggested a few reasons why this is the case. In San Juan County, although the Red Apple Transit of Farmington was mentioned as a good source of public transportation, it was suggested that it should have more frequent bus routes.

One focus group participant said she would like Red Apple Transit to be more "like the city in Albuquerque: something that runs every 15 minutes." She said that she currently has to wait "about an hour."

On the other hand, members from our focus group in McKinley County said that the NCI in Gallup has been “an amazing success” and that helps deal with some rural issues because it travels “six miles out of town.”



The Navajo Transit was also seen by participants in McKinley and San Juan Counties as being valuable to rural areas because it travels to many small towns on the reservation. However, one participant mentioned, “We need more transportation like that. We need a bus system that goes everyday, hour-to-hour, from the city [Farmington] to Chinle to

Window Rock...“We need something that runs every hour or two hours. So you don’t have to wait freezing for the bus” [San Juan].

#### **Recommendations on Transportation:**

- + Join with the New Mexico Passenger Transportation Association to advocate for state funding for rural transportation systems
- + Work with local transportation networks to improve current public transportation by including more frequent bus services and more routes to rural communities
- + Work with state and local officials to develop bus routes that include rural communities and towns with food stamp offices



## Grocery Store Preferences

One part of a food gap is when grocery stores are too few and far between. Another part, however, is when grocery stores do not or cannot provide the services that local residents want and need. Residents reported varying degrees of importance for affordability, convenience, and service/quality. Many community members reported traveling in order to get a wider selection, better prices, and higher quality products. For low-income families, “it doesn’t matter, though, the bottom line is that price is everything” [Rio Arriba].

Focus group participants tended to center their grocery store preferences in three areas: affordability, location/convenience, and the quality/services provided. Wal-Mart Supercenters were frequently mentioned by community members who chose stores by affordability as was Albertsons’ Grocery Warehouse in Farmington. Location and convenience were given as reasons by many people who shop at regional chain stores and local stores. Residents who focused most on the quality of goods and services provided often looked forward to trips to a Whole Foods – “it’s like going into a candy store” [Farmington] – or declared admiration for Cid’s in Taos.

Twenty-five percent of participants had a local, independent store as their favorite grocery store compared to 46% who had a chain store as their favorite store. Wal-Mart Supercenters and buyers’ clubs were preferred, as a first choice, by 21%.

Affordability, convenience, and service are important to everyone. Different people, of course, put more emphasis on some of these qualities than others. And there is always cross-over between stores for different products: “[At] Wal-Mart, we’d rather get canned goods, than the meat, but we’d rather go to Grocery Warehouse for meat. It has the best prices” [Farmington]. The reasons people gave for each of these categories are below. What is important for the rural food gap is to know which areas do not have enough choice to be able to choose between stores or to get all of the products and services that are needed and wanted.

Community members who emphasized affordability often mentioned Wal-Mart or national chains: “[Elders] mostly go to Wal-Mart in Gallup...because groceries and things around here are pretty expensive” [McKinley]. Or, we were reminded, “You’re going to have a hard time getting my wife to buy a carton of eggs for \$3.50 when she can get them for 99¢,” [Rio Arriba] during a discussion of the quality of fresh, local eggs. Feeding a family on a limited budget was also emphasized by a participant who noted, “That’s a huge issue, that price. Because you’re trying to feed eight kids and mom and dad, uncles, aunts, whatever. And you need a low price” [Rio Arriba]. It is not just growing families: “A lot of elderly people are on fixed incomes, so they don’t think they can afford to go and shop anywhere else. They don’t try” [Rio Arriba].

Convenience is a major factor in grocery store shopping with community members telling us a variety of reasons, particularly: “the reason we go to Lowe’s is because I know the layout” [Rio Arriba], “it’s just closer to where we are” [San Juan], “Safeway’s just right here” [San Juan], and the convenience of a walkable store: “I like Wild Oats because it’s smaller” [Rio Arriba].



Service and quality came together for community members who were willing and able to travel. “I like Cid’s in Taos mostly because they not only have organic produce, but because they also take the local processors’ [products]” [Rio Arriba]. Or the added benefits of selection and samples were cited for Whole Foods – “If anyone asks my favorite grocery, I always say Whole Foods because Whole Foods has everything I want...if you want a sample. My son says he likes the snacks” [Rio Arriba].

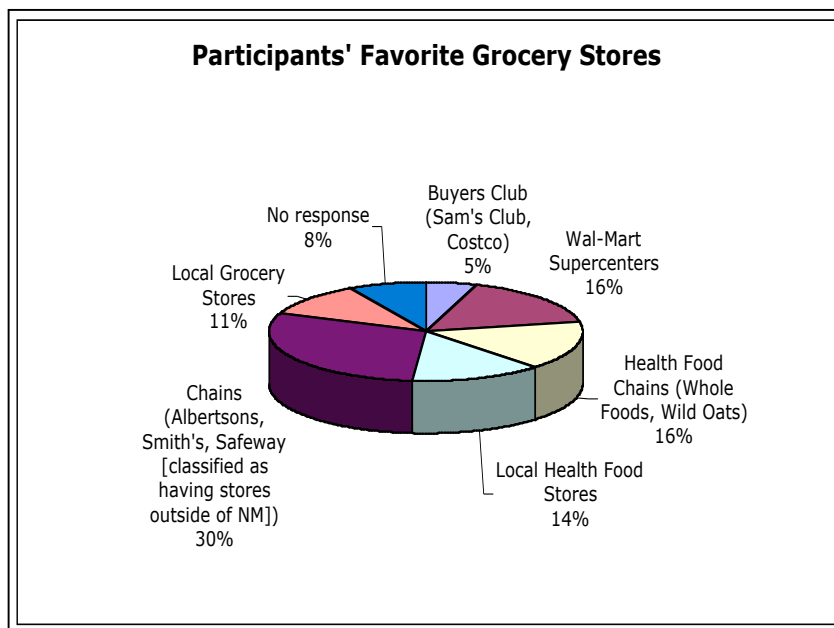
While some participants lamented the loss of local grocery stores and their services as did one San Juan County participant when she reminisced, “wouldn’t you like to just be able to call in a list, like they used to do?” others

were quick to remind us that trading posts and local stores have taken advantage of the local community: “Payday loans and all the rest, but the thing is that many of those trading posts were also little grocery stores, so when they closed down, the market is what closed down” [McKinley]. Some residents specifically disavowed local stores: “I say, you know what, the locals don’t support the people, so I don’t support the locals” [Rio Arriba].

Delivery was mentioned by a few participants as a possibility, in some areas, especially with local co-ops, where they are, “a very, very popular way” [Mora]. “Lots of people used to buy at the buying clubs and they come to you” [Mora]. However, in communities with fewer buying clubs and co-ops, residents were less impressed with the available delivery services: “if you want a salmon steak, you know a fancy steak for dinner, [delivery company] will deliver it to you, but oh my God...The green around it is not lettuce. It’s the money you pay for it” [McKinley].

In another county, a different health provider suggested, “I refer people to different foods and health supplements. But where do they go locally? I mean, I’d love to see the local health food store expand. They don’t have any produce or any meat, they just have frozen foods...If the community center starts making products, I could say to people, ‘Go here, buy these foods’” [Mora].

Local and state government may also want to assess the availability of grocery stores, and, “look at, as a community, how much money is going out of...[a] community rather than being spent here because we don’t have the stores” [Rio Arriba].





### Recommendations on Grocery Stores

- + Support local food centers and production of healthy products
- + Promote local cooperatives that cater to local needs
- + Further assessment by state and local government about the availability of grocery stores and their local economic impact.
- + Encourage the New Mexico Department of Health to include access to food in its goals, such as: “Objective 5: Reduce child and adolescent obesity and diabetes in all populations”<sup>88</sup> in the Strategic Plan for Fiscal Year 2007 and Objective 1.6 of the New Mexico Department of Health’s Cancer Plan 2002-2006: “By 2006, increase the number of persons aged 13 and older following dietary guidelines that recommend eating 5 or more servings of fruit and vegetables per day.”<sup>89</sup>
- + Research viable ways of improving the quality of offerings at small stores following the New York City Department of Health and Mental Hygiene’s lead. (New York City found that only 10% of small stores in some neighborhoods offered green leafy vegetables and only slightly over a quarter sold fresh fruit.<sup>90</sup> The City then partnered with small stores to improve their offerings.<sup>91</sup>)
- + Further link grocery stores with local growers.
- + Research and support incentives that strengthen locally owned businesses.



# Community Programs, Emergency Food, and Entitlement Programs

"It's really hard to feed your family nutritious food on a budget. Food stamps are the best thing to have for me" [San Juan]. Many residents say the benefits are often not enough. Community members emphasized the importance of food stamps and the continuing need for emergency food programs. Current programs (such as Food Stamps, food pantries, and WIC), which "are used a lot" [Mora], were generally well regarded and are thought of as important and needed. There is still work to be done in getting the word out about programs. At each focus group, community members consistently recommended classes to teach cooking skills.

## Food Stamps

Though the Food Stamp Program was the most emphasized program, most community members noted the limits of Food Stamps. "The price of cheese makes me want to cry, even on Food Stamps. \$6.99 for a chunk of cheese" [San Juan]. "The older I get, the less I care about what I eat. I'm sick so I need to eat right now. I have a bad liver. I only get \$18 a month on Food Stamps. So, it's going to be hard to eat right because the produce is so outrageous" [San Juan]. We were reminded that, "there's also an issue...of people on Food Stamps and they can't buy in the farmers' market" [Rio Arriba] because no farmers' markets in New Mexico accept Food Stamps.

***"The help is so very much appreciated. When you have food, you feel rich my 3-year old says. I'm a rich mom after we've bought groceries" [San Juan].***



Pantry clients line up in Albuquerque

## Programs

Current programs were generally well regarded. "Food pantries are the best thing that happened [to the community] and Food Distribution Program, [also]" [McKinley]. "Food banks are excellent" [McKinley]. Federal programs were most frequently commented on, with participants telling us, "Yes – the Food Stamp program does [serve the community]" [San Juan]. "Everybody that I've talked to about the WIC program – everybody really likes it" [Rio Arriba]. However, the feedback was not entirely positive especially regarding commodity food: "they foster dependence; they keep people in captivity" [Mora]. The quality of donated food was also called into question: "That they are very restrictive about getting organic food and much food offered isn't very healthy" [Mora]. And, we were wryly reminded about the selection of commodity foods: "commodities...give us our cheese" [McKinley].

## **Financial Stress on Food Banks**

The financial pressure on food banks and decreasing donation streams were mentioned to us by several people: “[B]ecause of the Gulf Coast situation, we used to give out 13-14 items, and now we can only give out ten...It’s just not there today in the pipeline,” said Jim Harlin, Director of the Community Pantry in Gallup. Sherry Hooper, Director of the Food Depot in Santa Fe, noted that shipments of produce that used to cost \$1200 for trucking are now costing between \$2500 and \$3000 per truck with the cost of gasoline.

## **Senior Centers**

Senior centers, in particular, were well regarded; one community member told us: “The senior center is great” [Rio Arriba]. Seniors we spoke to at a senior center also made the same point and noted that for many of them, the meal at the senior center was the main – or even only -- meal of the day. One client told us that outside of the senior center, “The only time I get a full meal is when my kids take me out to eat on Sundays.”

Many other seniors we talked to ate no other full meals outside of the senior center. One man said he otherwise only drinks Ensure. One lady said she never eats anything more than lunchmeat. Many said that they do not eat any breakfast at all other than the center’s morning snack. A 72-year-old woman remarked that she only gets \$10 in Food Stamps each month, so she works at a local fast food restaurant in order to get by. One senior in McKinley County also said, “If you’re on disability, you only get 10 or 12 dollars from Food Stamps. It’s not worth it.”

## **The Needs of Rural Areas**

Rural areas have different needs than do suburban or urban areas, including transportation costs, eligibility paperwork, and large service areas. “I think eligibility criteria in a really rural area, like the Navajo Nation – eligibility or having to keep records is a disincentive” [McKinley]. “They don’t take into consideration the distance you have to go, you know. All the miles and stuff and all that. If you had to put that down, we’d all be eligible” [McKinley]. Agencies feel the pressure and are sometimes forced to cut services, “We have just so many miles assigned to the senior center. We have to cut down routes as well. Especially when we are given just so many miles and so much mileage money...so we had to cut back services as well” [McKinley].

## **“Publicity, Publicity, Publicity”**

Improving community knowledge of local programs was a common suggestion. “Publicity, publicity, publicity. There are some outstanding programs out there and there’s lots of people that don’t know about them” [McKinley]. “I think a lot of the programs and services need to be publicized” [McKinley]. “[T]here aren’t enough people accessing the Food Stamp Program. There’s a lot of unaccessed funds there. They’re trying to get people to sign up” [Rio Arriba].

## **Building Programs that Work for People**

Beyond publicity, community members recommended making programs more accessible: “If people were really clever at figuring out, advocating for their own rights, they wouldn’t have a lot of the needs they have. You have to figure out how to offer this

to people who are shy in public settings, who are embarrassed talking to officials, who [find it] easy to just put down their head and walk away. So, how do you reach out to them and get them to know this is something you have a right to? This is something you can have and you can have this other thing, too, and you can live for your child. It really needs to be that kind of outreach in a big part of what everybody does [...] People need to have their rights under these food programs explained to them so that they understand that you can get this and, yes, you can get that” [McKinley].

### Teaching Nutrition and Cooking

A recommendation heard in every single focus group and from community members of a range of backgrounds was, “development of nutrition classes” [McKinley], “Traditional cooking classes” [McKinley], “another thing that would help the whole community and the kids is learning how to cook” [Rio Arriba], “Cooking classes” [McKinley], “cooking for children and older people in the community” [Mora], “the food distribution program should actually come in and teach people to cook certain foods, so that it doesn’t sit over there in [storage] for ten years” [McKinley], “teach cooking classes, helping people understand how to cook and the benefit of cooking well and buying better food” [Rio Arriba], and, “you could grow everything in the world that’s wonderful for [young people], but if they don’t know how to cook it...” [Mora]. Cooking classes would also benefit farmers’ markets – “the stuff that’s in abundance at the time or that’s in season, you’re able to show them exactly how you would prepare these things in different ways” [Rio Arriba].

***“I just think that back when I was a kid growing up, we had home ec. You learned how to cook. And, we can teach them all these wonderful things about food and everything, but if they don’t know how to cook, it means nothing. So, we’ve lost so much because we’re not teaching cooking. It shouldn’t just be girls, anymore. It should be boys and girls learning how to cook, how to eat food, how to have a healthy diet, and I think that would solve lots of the issues that we have now in the United States with bad eating habits” [Mora].***

### Seniors’ Income

Christine Bustos, director of the Española Senior Center, when asked what recommendation she would give if she had the ear of policymakers, said, “Basically, the main deterrent for healthy meals is the medical costs [for seniors].” Food Stamp eligibility for seniors is based on gross income, which does not take into account the costs of prescription drugs for seniors on a fixed income, so seniors often find themselves unable to afford medication, bills, *and* food costs.

### Hunger in America?

A mother in a women’s shelter told us just why these programs are so important and so necessary. “Hungry kids, that’s horrible. They have marble floors in all of the buildings in Washington and there’s starving children. I mean, how rich can we possibly be if there’s hungry people?” [San Juan].

### **Recommendations on Programs**

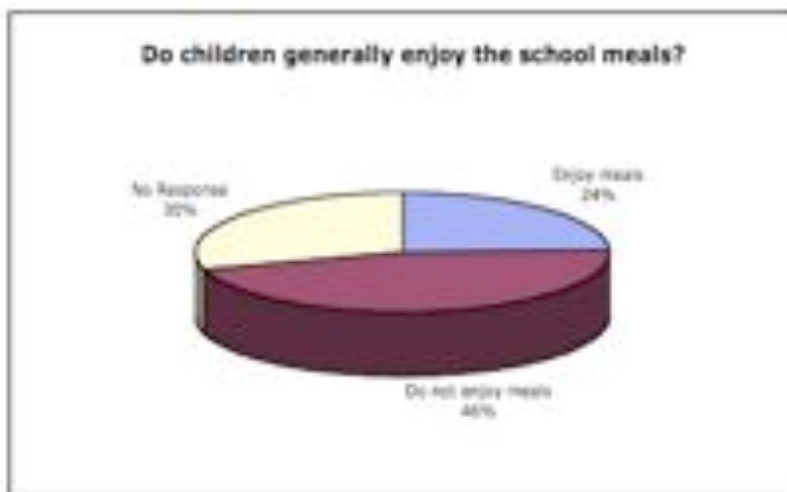
- + Continue to support and improve the Food Stamp outreach program with mobile caseworkers.
- + Respect children's playgroups and elders' friendship groups in meal programs
- + Mandate and fund hands-on nutrition education in schools where over 50% of students are eligible to receive free or reduced price meals. State funds would be used to attract matching funds through the federal Food Stamp Nutrition Education Program. NMSU Extension currently offers these programs in many counties throughout the state. Other programs that could be expanded include Santa Fe's Cooking with Kids and Albuquerque's Kids Cook!
- + Provide more vegetables and less sugared fruits from the USDA commodity program as there is often too much sugar and too many carbohydrates.
- + Promote nutrition standards for senior nutrition programs.
- + Supplement Food Stamps for seniors.
- + Encourage combining summer school lunch programs with senior lunch programs to bring grandparents and grandchildren together. It has been observed that grand parents bring their grand children to the summer lunch program. Some of these grandparents are missing their own senior lunches to take care of their grandchildren. Combining the services could be beneficial to both children and adults.
- + Advocate for the senior farmers market nutrition program.





## School Food

No question resulted in a more forceful answer than the chorus of “No!” that we got every time we asked, “Do children generally enjoy the school meals?” However, school meals are very important in improving nutrition and reducing hunger, and schools are required to follow nutrition guidelines with very little money for food or staff. In 2005-2006 food and salaries had to come from the federal reimbursement of \$2.32 (Free Lunches), \$1.92 (reduced price lunches), and \$0.22 (paid lunches).<sup>92</sup> Participation in summer school lunch programs is related to lower levels of food insecurity among children in U.S. states.<sup>93</sup> The School Lunch Program has its origins as a nutrition program from World War II during which, “Over 15 percent of the first million men called under Selective Service were unfit, for causes due to poor nutrition.”<sup>94</sup> Like military rations, school food provides a mostly balanced meal – the taste and quality, though, may be less than desirable. Participants told us about the importance of school food and how it needs to be improved. Not a single participant believed that “food grown around here” is served in schools; in fact, one community member quipped, “They don’t serve food grown anywhere” [San Juan]. Virtually all community members were supportive of serving “food grown around here” in the local schools. The “Backpack Program,” which sends backpacks of food home with eligible students on weekends, can be an excellent tool against childhood hunger. The importance of school food was reiterated to us, “how are we not recognizing this as an essential part of the care of our children? We research it and then we just blow it off” [Mora].



School meals were generally regarded as not very good, “It’s just awful - except for the bread” [Rio Arriba], and not very nutritious: “TV meals, I guess, is what you could call [them]” [McKinley]. “It’s a lot of fast food” [Rio Arriba]. “My daughter eats pizza every day at school. She’s on the free lunch program, and that’s all they offer: pizza every day” [San Juan]. “It’s not

very good. It’s just a lot of pizza: a lot of high fat” [Rio Arriba]. “Everything is in boxes” [Rio Arriba]. “I often hear that school children don’t eat much of the food” [Mora]. “They don’t usually like the food and when they do, they feel they don’t get served enough” [Mora]. An additional problem was the time provided to eat, “They don’t have enough time to eat. They are rushed through and are eager for recess” [San Juan].

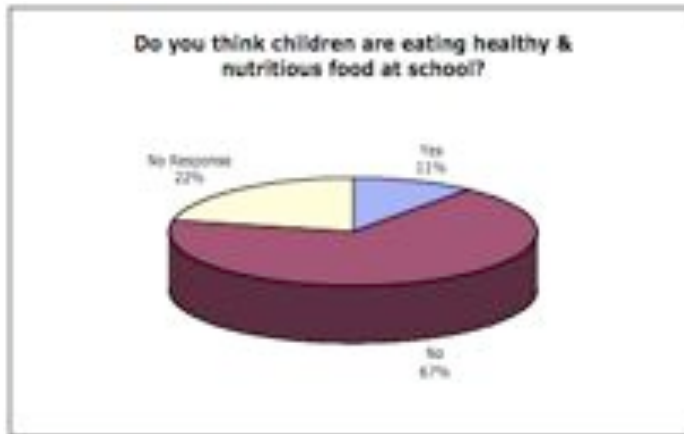


*Eating Apples at Alvord Elementary*

Some participants did offer a defense of school food: “in general they do [like school meals]” [Mora]. “I think the foods have gotten healthier, even if the choice is just salad or a hot lunch” [San Juan].

### Vending Candy and Snacks

And some blame goes to vending machines and items sold outside of the School Lunch Program: “the problem is having a concession stand because they only eat chocolates” [Mora]. Additionally, “The bus driver sells candy on the bus” [Mora]. Another participant told us how food companies and the need for school funding promotes unhealthy foods:



“of course the vending machines are going to go in there because [the school’s] going to grab any bucks that the school can” [Rio Arriba]. This is supported by a state study that found, “95% of principals say the vending machines at their school offer soft drinks, 81% say candy is offered, 69% say fruit juice is offered, and 35% say fruits and vegetables are offered.”<sup>95</sup>

However, the study does not say what form those fruits and vegetables take.

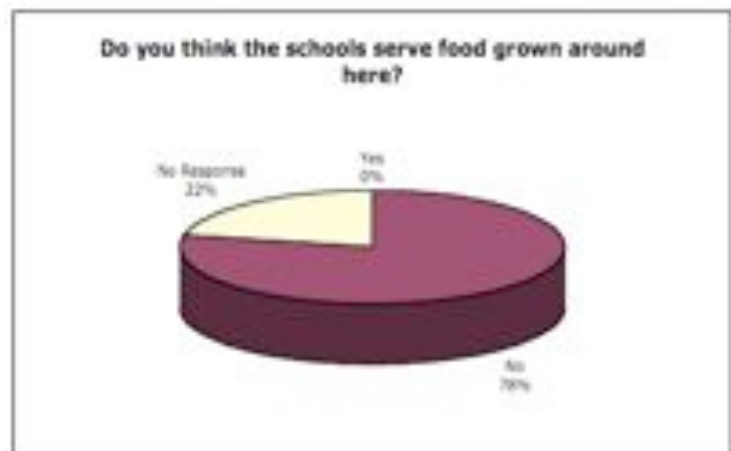
### Reasons for Food Quality

Focus group participants felt that schools provided poor food because, “They’re always worried about test scores” [Rio Arriba], and “The biggest problem is the money – schools think they can’t afford [to pay for quality food]” [Rio Arriba].

***“I talk a lot with the counselor at the school and my lunch buddy...the biggest meal that is eaten is Monday morning when the kids come back to school because mom and dad have been at the casino all weekend, and they haven’t fixed a meal. So, that’s a big thing. And, they’re starving – on Monday morning the cafeteria ladies say we have the biggest amount of non-waste because the kids are starving”*** [Rio Arriba].

### The Importance of School Food

Still, some community members commented on the importance and value of school meals in reducing food insecurity for children. “It’s the healthiest food that they are ever going to get, some of these kids...” [Mora].





## **Sending Nutrition Home: The Backpack Program**

The “Backpack Program” was mentioned as being an excellent possibility for further reducing food insecurity among children without adding stigma. “We did a backpack program where over 160 kids got sent home with backpacks every Friday filled with nutritious foods. Unless they tell someone they are getting these foods, little Johnny who’s sitting next to Sara on the bus doesn’t know Sara’s got the food” [McKinley]. However, some agencies have reported problems getting schools to support the program as well as funding difficulties.

## **Growing Local for Growing Children**

Residents were very supportive of the idea of local and regionally grown food being served in local schools. After being asked for recommendations, a participant told us, “I would say local foods from here to be eaten here – like the schools” [Mora]. Other participants mentioned that they, “Would like to see more homegrown food produce, health options in the schools” [San Juan].

### **Recommendations on School Food**

- + Increase the reimbursement rate for school meals.
- + Increase the size of the Backpack Program and increase funding for the program.
- + Support free breakfast for *all children* in New Mexico’s schools.
- + Implement rules for competitive foods in all NM schools. Foods and beverages should be health-promoting and not detract from school food service’s mission to provide balanced meals to students. A la carte, vending, and fundraising should be held to the same standards.
- + Adopt recess before lunch (RBL) policies in all schools. Studies show that students eat more and the lunchroom is less frenetic. Provide adequate time for students to eat lunch (standing in line does not count).
- + Provide training and incentives to school food service to serve healthy, appealing, locally produced foods.
- + Make sure school food workers are paid a living wage.
- + Link schools to local and regional farms to improve school meal quality.
- + Better inform schools about the availability of “farm to school” programs that are already taking place and encourage their replicability.

## Farming, Ranching, and Farmers' Markets

In New Mexico, the farming and ranching industry, both small and large scale, contribute close to \$3 billion in annual sales, making it the third largest industry in New Mexico.<sup>96</sup> Farming and ranching production not only provides a source of income for rural populations, but it can be a valuable asset to fighting food insecurity in communities. Farmers' markets and produce stands are a good source of fresh fruits and vegetables and other healthful foods. Communities that lack supermarkets but maintain farmers' markets and fruit stands can help fill the "gap" in food access. New Mexico has 45 farmers' markets, of which more than half serve rural communities. Through these markets, close to 1,000 farming and ranching families from rural New Mexico sell over \$3 million in New Mexico grown fruit, vegetables, and other farm products annually.<sup>97</sup>

Low-income families also have access to these nutritious foods through the WIC Farmers' Market Nutrition Program (FMNP). The Special Supplemental Nutrition Program for Women, Infants And Children (WIC) provides nutritious foods, nutrition education, and access to health care to low-income pregnant women, recent mothers, and infants and children at nutritional risk. The WIC FMNP allows WIC participants to get fresh produce from farmers' markets and produce stands through FMNP coupons that are separate from and in addition to WIC checks. Every year, WIC participants spend hundreds of thousands of dollars at New Mexico's farmers' markets.

### Economic Opportunities

In our focus groups, however, many people stated that they would like to see more economic opportunities for farmers and ranchers. Many people suggested that their communities needed processing facilities:

"They're building a community kitchen here. It's a commercial kitchen. The problem is, right now I have a regular kitchen, but I can't sell my bread, I can't sell my muffins, I can't sell anything. It's illegal. Having a legal kitchen will make [a difference]. I know a lot of people who grow their own products that they would love to sell" [Mora].

"We need a processing place... We have nowhere of processing the food for the market or whatever. [They process] corn and wheat and everything you can live off of these days. That's what you need. You need to be cracking corn. That way it becomes a marketable product" [Mora].

Some people in Mora recommended that good lead agencies were needed for these type of agriculture projects and that "land grants [*merced*s] become lead agency for growing...[They] kept us away from this unhealthy living for the longest of times...it worked a hundred years ago."

Others suggested the need for better irrigation systems:

"We tried [planting]. It was too dry.... They used to grow good crops here. My mom used to have a big field, she grew corn, squash, beans, peas, melons, watermelons...She grew a lot of stuff. And that's what we used during the wintertime, and everything was fresh. But right now I haven't seen that in years because of the

condition of the place here now. It's too dry. And then it gets very hot too, so... Nobody hardly has farms anymore" [McKinley].

Although many of these areas remain in great need for more economic opportunities for farmers, there have been some positive projects lately in northern New Mexico. The Taos County Economic Development Center has become a positive model for processing and marketing foods. In 2004, the New Mexico Department of Agriculture assisted a group of fruit growers in the Española, Velarde, and Dixon region to purchase equipment to upgrade fruit packing facilities that are now used by many growers in the region. The growers were also given intensive Good Agriculture Practices (GAP) training to help them improve their handling standards.

**Water in New Mexico is vitally important to agriculture and to communities. New Mexico's *acequia* associations have a long history of bringing communities together to maintain and secure local water resources. Without these community initiatives, small farmers and communities will find their water under threat or simply not find it at all. For more information about *acequias* visit the New Mexico Acequia Association at <http://www.acequiaweb.org/>.**

### Get Youth Involved

Many people identified the need to "mentor young people about farming" [Rio Arriba]. One participant put it this way, "And whatever's growing there, bring it to the farmers' market and bring the kids so they can see the profits they can get out of growing" [Rio Arriba]. Another added, "Exactly! They need to see the potential there is in farming" [Rio Arriba].



*Children learning horticulture at Sweeney Elementary*

Many participants saw the schools as the perfect place for these young people to learn about farming. One community member said that they could teach “more vocational agriculture classes.” Another said the school should “get them involved in working a few hours via the schools with farmers” [Mora].

Others noted how it can be difficult to get young people interested in farming:

“All this is towards teaching the kids ‘cause we’re losing a lot of our culture. Like this Valley, it used to be that the people would plant to make a living but since Los Alamos came along, why, it’s easier to go and work for someone else. We’ve been very fortunate to have Los Alamos otherwise most of the kids would be programmed to go out of the state to work, so...but that’s what we’re trying to do” [Rio Arriba].

### **School Gardens and Community Gardens**

In order to teach students about farming and nutrition, many other people suggested that their communities “get schools to grow gardens” [Mora].

Along with this idea, many people agreed that community gardens would be good for producing healthy food for low-income people and teaching people about growing food:

“Well, I think it would be a good idea to have a community garden. People who have a little bit more land than others [could] have a community garden, so everyone can share on the work and the knowledge” [Mora].

### **Local Food**

One thing that many people suggested would help the farmers and the other community members is to have local food sold and distributed in their communities. This was especially true in Mora. Many agreed that they should have “more locally grown produce in stores,” and many agreed that they could be “serving locally grown foods to schools.” One person said, “We need that [locally grown food in school] here...local produce and local meats” [Mora]. Another added, “Oh yeah, and the best meat comes from around here” [Mora].

The sale of local produce to schools has become a new market for some farmers in some areas of New Mexico. In 2004 more than \$300,000 of New Mexico grown produce was sold to schools.<sup>98</sup> However, this was only in a few school districts, and bringing this to other areas could be beneficial to the farmers and children of these communities.

In order to supply local markets, many residents also suggested that they build “greenhouses to grow more food in the winter for the community to extend the growing season” [Rio Arriba].

“I’d love to see greenhouse agriculture, something that would be developed as a [Navajo Nation] chapter small business...if you could control the climate, you could be getting fresh produce a long time of the year, right from the local community level.... Even if the first outcome of it was that there was more produce available for the members of the community, so that it was healthier, so that they could eat healthier....I would love someday, some of the salads at the [local college], you know, would be buying from a greenhouse at [the local] chapter” [McKinley].



New Mexico has some resources to help communities in this respect. In the last two years, the Alcalde Agriculture Science Center has provided workshops on how to build cost effective greenhouses. They also provide information on what can be grown and how to grow it. In addition, Farm to Table and New Mexico State University created a free video for farmers to learn how to build a greenhouse structure.<sup>‡</sup> The Alcalde Science Center provides some of the most up to date information on the best varieties of fruits, vegetables and herbs that can be grown and successfully marketed in New Mexico.

### **Farmers' Markets**

Another positive trend for farmers in New Mexico has been the growth in the number of farmers' markets. Since 1990, the number of farmers' markets has increased from 18 to 45. Farmers' markets remain absent from many rural areas of the state, however. Only four of twenty-two Native American Nations and Pueblos in New Mexico currently have a farmers' market. Each of the four counties surveyed had at least one farmers' market, but the number and size of these markets varied by county. Participants mentioned many good things that farmers' markets brought to their communities, along with recommendations on how they could improve.

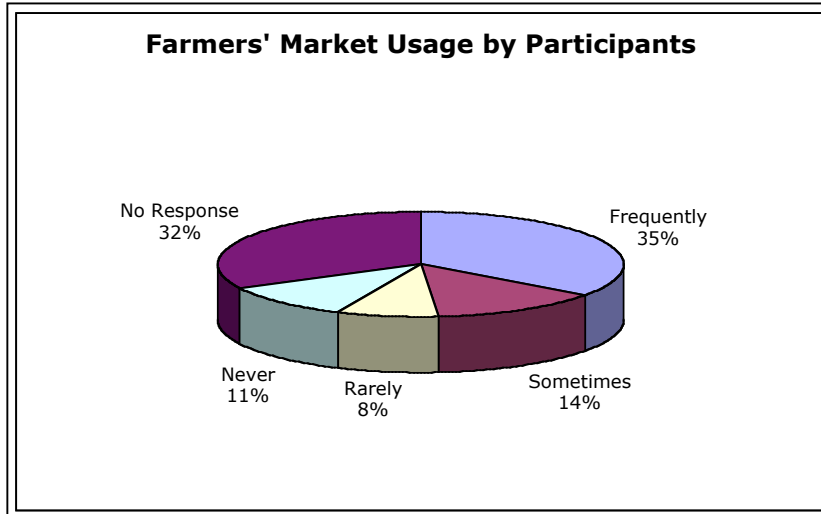


*Abundant fruit at the Española Farmers' Market*

<sup>‡</sup> The Cold-Frame Building video was a project of Farm to Table and was funded by a Western Sustainable Agriculture Research and Education Grant. The videos are available for free from Farm to Table.



Fifty-seven percent of focus group participants said that they go to the closest farmers' market at least occasionally. However, only 35% said that they went frequently. Transportation to farmers' markets was mentioned as an issue. Community members traveled an average of 25 minutes to get to the nearest farmers' market, which is very similar to the average time traveled to participants' most-frequented grocery stores.



We held one focus group in a town that did not have a farmers' market. When those participants were asked if one should be established, most said yes, adding, "It will save gas and time for me" and "[the local town] is a prime area" [McKinley].

The difficulty of finding compatible hours outside of work time was also mentioned. "I

personally haven't been there.... My work hours are long" [Mora].

Some community members noted a lack of selection and size at the smaller farmers' markets. One person stated, "[It's] just a little small" [Mora]. One person in McKinley said, "Selection is a problem." Another simply said that there's "not much there" [Mora].

One person mentioned that there is a "limited number of growers and organic produce. I would go more often if there was food that I eat like yellow corn and leafy greens" [Mora]. Another Mora participant suggested that, "We need more vendors and shoppers!"

Some of the new farmers' markets are still small but are growing very quickly. One participant reported that the Mora Farmers' Market grew by 100% last year alone.

Many others praised farmers' markets for their quality, in particular the "fresh, organic food" [Mora]. One person said, "The food [from the farmers' market] tastes better and it stays fresher longer. My husband notices a huge difference" [Rio Arriba]. Another proclaimed, "Once you get a fresh egg, you don't ever want to go back" [Rio Arriba].

Farmers' markets can also face a variety of difficulties, including specific limits placed on them by location: "I wish there was a place where there was an indoor building where the farmers' market could continue through the winter" [Mora]. "And our farmers' market needs a location that can provide us with bathrooms; it sounds like a detail, but..." [Mora].

In areas where farming is more difficult [outside the river valleys], farmers' markets can face more severe challenges. One participant said they would like to have a farmers' market in their town, "If you can find farmers to grow the food..." [McKinley].

In some areas, especially on the Navajo reservation, flea markets are very popular and can provide fresh foods to the community in a similar way to farmers' markets:

"If you look at the flea market during certain times of year, the flea market doesn't have produce all year long, but, when it has it...reasonable price, local growers. It will be used a lot. Again, you're not gonna find a lot of produce, the tomatoes type of thing, but you'll find the local corn and squash" [McKinley].

Therefore, instead of trying to start a farmers' market in competition with the flea market, communities may wish instead to try to expand the fresh produce offered in flea markets. "I think it's almost a class and cultural thing. People can sort of see the farmers who are a bit...as something...the people involved in organics do. 'That's not us.' But at the Flea Market they say, 'This is our flea market'" [McKinley].

Overall, however, farmers' markets were seen as a valuable way to obtain healthy and nutritious foods for low-income women and children: "It is a wonderful way of getting that fresh produce to the families that need it" [Rio Arriba].

***"[The farmers' market] is a wonderful way of getting that fresh produce to the families that need it" [Rio Arriba.]***

"Cause I know when the WIC women get their farmers' market bucks, we host it right here in this room, so they can go right outside and buy their fresh veggies" [Rio Arriba].

One farmer said, "If I know people are poor, 'WICers', or raising kids...and I give them a break. Give them half price or throw in something extra. If this would get out and people would know about it, they'd shop here. What we need to do is reach more people [about the farmers' market]" [Rio Arriba].

Because food stamps aren't accepted at any of these farmers' markets, low-income people often feel that farmers' market prices are too high. As one participant mentioned, "They [local residents] said that they don't shop at the farmers' market. It's too expensive. And, I said, 'they have fresh produce and everything,' but no they said they'd rather shop at the Wal-Mart" [Rio Arriba]. A farmer remarked, "I tell them to go home and taste the difference," and another replied, "But, they don't care about taste. They care about that price" [Rio Arriba].

Farmers' markets were also seen by some as not advertising to the community enough:

"And, also, they [local residents] didn't know where the farmers' market was. They didn't know the hours of the farmers' market. 'Cause I asked them why they didn't go to the farmers' market. And they said, 'well, where is it?' They didn't know where it was, they didn't know the hours" [Rio Arriba].

"You know, also having a list of the farmers in the area. People asked me, 'well, where do you buy?' when I was telling them about farmers and organic produce. And they said, 'well, how did you know these people are organic farmers?' And, I said because I go to the farmers' market and I see their sign. And I get to know

***"Tell people, when the farmers' market is here -- put a sign on the back of the tractor and ride it down the street, so people can see" [Rio Arriba].***

them. So I know they're organic farmers. And I'd name all the farmers in the area" [Rio Arriba].

Many people in Rio Arriba also saw farmers' markets as a way to teach nutrition and get young people involved in agriculture:

"Well, I wish they'd have it like the farmers' markets: the Friends of the Farmers' Market would set up a little stand. And you'd learn how to cook some things – oh, this is what a leek looks like – and things that you don't get at the grocery store, you know?"

"In fact we're getting ready to start doing that here.... So we'll be doing a little bit more of the [cooking] demonstrations with the WIC program in particular. That's a really good way of getting the younger – the little kids – and the moms...as well, to buy into locally grown [food]."

"And the stuff that's in abundance...or that's in season, you're able to show them exactly how you would prepare these things in different ways."

#### **Recommendations on Farming, Ranching, and Farmers' Markets**

- + Provide funding to install EBT or Smart Card readers at Farmers' Markets
- + Advocate for a Senior Farmers' Market Nutrition Program in New Mexico
- + Provide necessary assistance to establish Farmers' Markets on Native American Reservations and Pueblos
- + Support greenhouse projects to increase agriculture viability, especially with regards to Farm to Cafeteria projects (selling to local schools)
- + Work with local residents and organizations to start a community garden in your community ([www.communitygarden.org/](http://www.communitygarden.org/))
- + Support community kitchens/value added agriculture projects in underserved rural communities
- + Work with the local farmers' market to create cooking and nutrition education in conjunction with farmers' market
- + Provide more intergenerational programs to get youth involved in farming
- + Create better opportunities for communities to get local produce in schools
- + Provide infrastructure to support agriculture small businesses; provide funding for business incubators in rural communities
- + Provide more marketing training for farmers

## Traditional Food

New Mexico is well known for its variety of traditional foods, from green *chile* stew and pinto beans to *piñon* nuts to *atole* (blue corn mush). Because these foods have often been grown and processed right in these rural communities, they have been a positive force for maintaining each community's food security and food sovereignty. Many traditional foods have also been found to be very nutritious and part of a balanced and healthy diet. For instance, green *chile* is known to be high in vitamin C and pinto beans are high in protein and low in fat. Native American traditional diets are quite healthy as well. For example, the Navajo practice of adding juniper ash to blue corn mush has been found to provide an excellent source of calcium<sup>99</sup>, which is thought to be one reason for low osteoporosis numbers.<sup>100</sup>

However, some of the best evidence for a "rural food gap" may be on the vast Navajo Reservation. In total, the Navajo Nation has an estimated population of over 200,000 people and covers 26,000 square miles in New Mexico, Arizona, and Utah.<sup>101</sup> Over the last fifty years, the Navajo diet has changed substantially as the U.S. government enforced reductions in sheep numbers, and more and more people have changed their lifestyles to support themselves by working at schools, restaurants, stores, hospitals, etc. Many more people "are now subject to time pressures of daily schedules that make significant reliance on a traditional diet extremely difficult....Food selection is now based more on cost, availability, convenience, food preferences, marketing influences, and shelf-life rather than on tradition."<sup>102</sup>

On the Navajo Reservation in New Mexico, with no grocery stores in a 95-mile stretch between Shiprock and Gallup, these pressures often lead people to shop at one of the many convenience stores/trading posts on the reservation. These stores carry mostly unhealthy foods, such as soda and snack food, similar to other convenience stores. In 1997, a survey of trading posts and convenience stores on the reservation found that only 8.9% of these stores carried fresh fruits and vegetables.<sup>103</sup>

In our focus groups, people spoke strongly about the importance of traditional foods:

"Here for example, like you mentioned, an indigenous food to this area is not the yellow or the white corn, it's the blue corn, that's where we get our...meal and our bread and we go on to make our tortillas and so forth, but people don't understand that. I could bring a piece of blue corn bread and people would think it's rancid" [Mora].

"We have been giving a false value of foods that aren't traditional foods. And we're trying to get the people to understand the value of drought resistant seeds, native seeds. You can grow beans, corn, and squash together all in the same hole..." [McKinley].

"You have things that have created diabetes because our diets have changed; it's Wal-Mart based; it's Lowe's based. Any "super-space" is not based on the indigenous food of the people that are here. For hundreds of years, we didn't used to have these diseases. Now we've got it, we keep the medical field occupied, the health practitioners occupied. We're sick people" [Mora].

Others mentioned some difficulty at getting traditional foods: One person said that she had to drive "from Farmington to Ramah" [San Juan] which is over 160 miles one way.

One person said, “There isn’t any fresh mutton in [local town].” [McKinley] Two others said that the foods were “sometimes not in [stock].” Overall, 22% said that they have trouble getting traditional foods.

People in McKinley County had special difficulty in getting pre-cooked ground corn for blue corn mush: “It’s hard getting corn, the grinded corn...We have trouble getting that. Even here you don’t have that.” Another person also said, “You can at [grocery store 40 miles away], right, but not at [local grocery store]. They only have roasted [corn].” And another participant added, “It’s expensive, too.”

Some people in Mora also had difficulty getting traditional Hispanic foods: One person said that they had difficulty getting “*calabacitas* in winter,” and others said that they have to “travel 50 miles one way,” or that they “have to drive to Española, Santa Fe, or Las Vegas.”

Federal commodity programs and food banks are also not known for carrying local traditional foods. In response, some food banks, such as Community Pantry in Gallup, have begun to create community gardens to grow traditional crops. By growing traditional Navajo strains of corn, squash, and melons, they can not only provide healthy food to their clients, but they can also provide a way to teach the youth traditional farming and cooking practices.

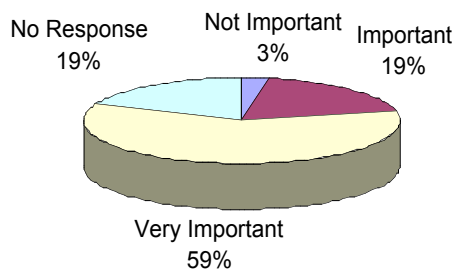
Many participants were also optimistic that traditional food consumption would continue and even increase:

“You know I think here we do have indigenous culture and how do we cultivate that? ...I’d love to see a way to support that in the schools and in the broader community, the bigger picture. How to take these little aspects and put it into a whole so that it makes sense? I mean I’ve seen people teach ecological issues in schools and kids get it; it’s amazing what they understand, what they comprehend, and the changes that they will make in the next 15 years if we educate them...” [Mora].

A cook at the Tohatchi Senior Center said, “Yeah we serve corn meal mush and mutton. Corn meal mush has a lot of calcium” [points to poster showing nutrition facts of corn meal mush].

Moreover, most agreed that, “Yes...at ceremonies, traditional foods are brought and served...” [McKinley] In fact, 78% of focus group attendees said that traditional food was still important or very important in local events, and only one person said that it was not important.

**Is traditional food important in any local events, ceremonies, or holiday celebrations?**



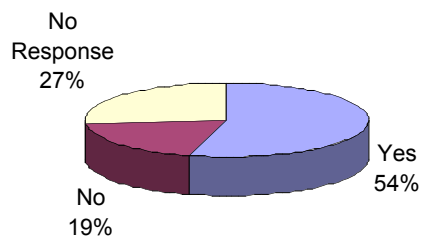


When asked whether young people are interested in these traditional foods, one person responded, “Not as much. They are into fast foods, chips, etc [Mora].” Another said that they eat “fry bread and junk food [San Juan].”

When asked if her grandchildren eat blue corn mush, one lady responded, “Yeah. With sugar, lots of sugar” [McKinley].

One person even went as far as to say, “We’ve lost a lot of traditional food for the fact that we don’t know how to cook it” [Rio Arriba].

**Do you think young people in your community are interested in these traditional foods?**



However, the majority said that they believed young people are interested in these foods. A senior center client said, “My grandchildren do. I make it for them and they like it [corn meal mush]” [McKinley]. Another person in McKinley County said, “At [college] the students love it [traditional foods].”

**Recommendations on Traditional Food**

- + Further study on the relationship between the availability of traditional foods in local stores and health
- + Include more traditional food education in schools and other community programs for youth
- + Cooking classes that use traditional foods and techniques
- + Providing more traditional foods through the food banks and commodity programs
- + Starting community and school gardens using traditional foods
- + Work with local grocers to provide a better variety of traditional foods

## Price and Availability Survey

Studies have indicated that low-income rural residents pay more for their groceries than their suburban counterparts. As noted earlier, rural residents pay 4% higher prices than suburban residents nationwide,<sup>104</sup> and in New Mexico, lower income families in rural areas spend 16 to 26% of their annual income on food as compared to 13% in metro areas (Albuquerque).<sup>105</sup> In a 1988 study by Public Voice for Food and Health Policy, they calculated people living in persistently poor rural counties spend only 68% of their Food Stamps in supermarkets, as compared to the national average of 80%.<sup>106</sup> In persistently poor rural areas, the remaining 32% was spent in smaller rural stores, which they found to have over 25% higher prices on average.<sup>107</sup> If it is true that rural grocery stores in New Mexico are more expensive on average, it also means that rural food stamp participants generally receive less food for their food stamps than urban and suburban residents.

In order to determine whether prices were indeed higher in the rural areas of Northern New Mexico, a price survey was conducted in the four counties and neighboring regional population centers.

### Survey Methodology

A “market basket approach” was used to calculate the price levels at individual stores. The market basket consisted of 38 items, originally derived from the 95 items included in the U. S. Department of Agriculture (USDA) Center for Nutrition Policy and Promotions Thrifty Food Plan (TFP).<sup>108</sup> In 2003, NM Voices for Children completed a price survey in New Mexico as part of their Bare Bones Budget (BBB) publication. They were able to shorten the TFP list to a list of twenty items that did not change their rankings and maintained items from every food group.<sup>109</sup> They also made modifications to represent local buying habits through focus group findings. As a result, green *chile*, tortillas, and pinto beans were substituted for other items. These items were confirmed in our focus groups as foods commonly eaten in our four counties. The items from the Bare Bones Budget publication had very few fruits and vegetables, however. Because we intended to specifically assess the availability and price of healthful foods, we added the entire list of fruits and vegetables from the Thrifty Food Plan to the twenty items from the BBB to complete our market basket (Appendix B). Unfortunately, there were no traditional Native foods in either the Thrifty Food Plan or the Bare Bones Budget market baskets.

All of the stores were surveyed between December 7, 2005 and January 3, 2006. The day of the week was random. In total, price surveys were conducted in 27 stores in 18 different towns. Stores were located through ReferenceUSA in conjunction with focus group members’ comments. Price surveys were carried out in towns having grocery stores within the four counties, as well as bordering towns, and regional centers (cities with two or more supermarkets) mentioned in focus groups. If a town/city had more than one grocery store, half of the stores within that town/city were randomly selected for price surveys. Price surveys were not carried out in convenience stores because their general lack of fresh produce and fresh meat would make comparisons difficult. Trading posts were considered small grocery stores if they had a produce section and a meat section.

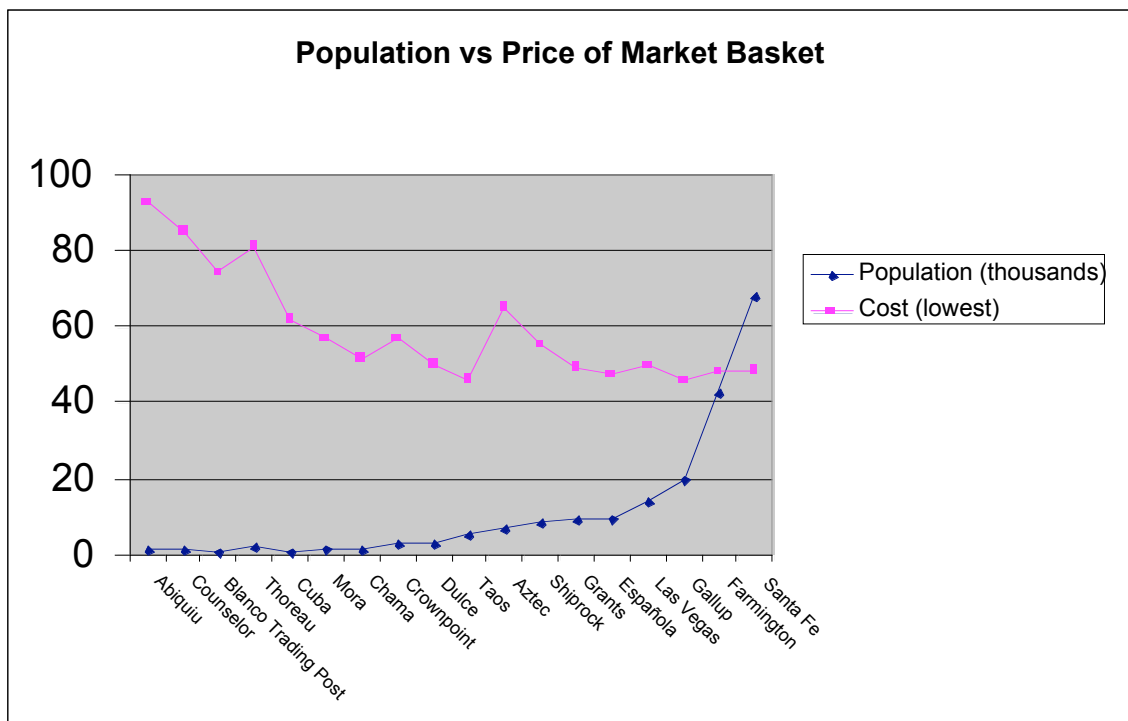
The lowest prices available for the items in the market basket were used to calculate the market basket price of each store.

Not all of the stores carried every item in the market basket. In such case, the average price from the other stores was substituted for the missing item.

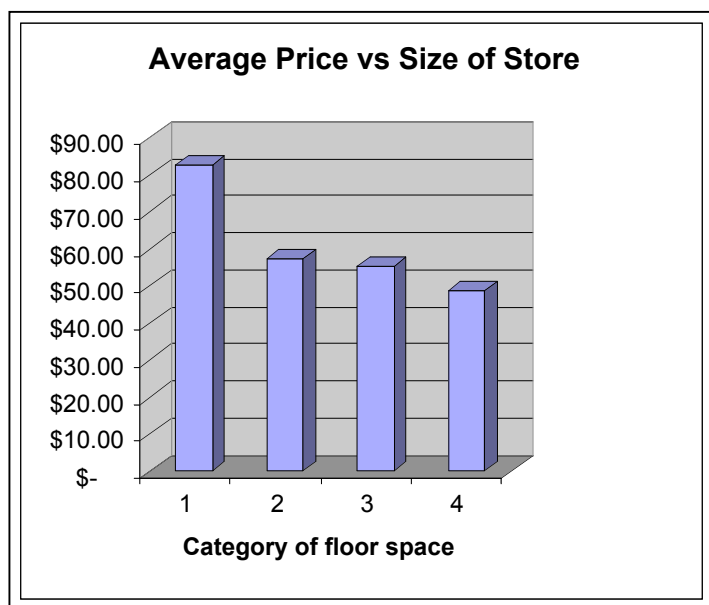
Not all stores carried the exact sizes of all items, either. In such case, the closest sized item was recorded, and the cost was adjusted to the specified size by calculating the per-unit cost and multiplying by the specified quantity. However, contrary to what one might think, stores carrying only smaller items than the specified size were not common. Of the 26 items packaged in fixed containers (excluding fresh fruits and vegetables), 23 of the items were found in the correct sizes or very similar sizes in every store in which they were found (for example 15 oz. can of pinto beans instead of 15.5 oz. can). Three stores carried only 12 oz. boxes of Corn Flakes rather than 18 oz., four stores carried grape jelly in jars between 10 and 18 oz. instead of 32 oz., and three stores carried canned peaches in 15 oz. cans instead of 29 oz. Overall, of these items in fixed containers that were found, 98.4% were found at the specified size or a very similar size.

## Results

The price survey reveals that people who shop in small rural stores do pay more for their food than those who shop in regional centers (cities with two or more supermarkets). A few stores located in small towns had prices competitive with those located in regional centers, but overall prices were considerably higher in smaller towns, smaller stores, and in stores more than twenty miles away from another store.



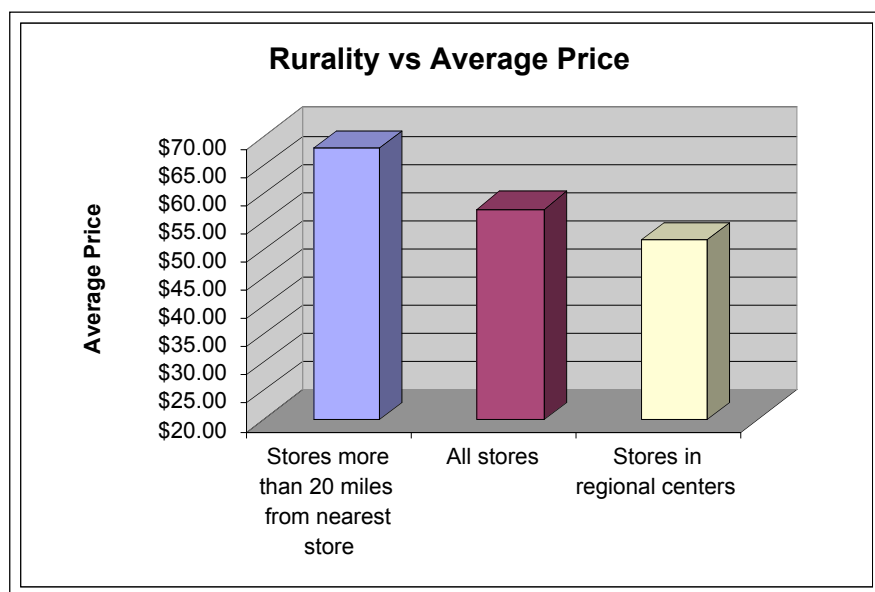
As seen in the graph above, there is an inverse relationship between population and price. As towns get larger, the lowest price of food available in that town generally decreases. Moreover, seven of the top nine most expensive stores were located in towns under 2,000 people. Eight of the top nine least expensive stores were located in towns of over 9,000 people. In fact, the highest priced store, Bode's in Abiquiu (\$92.28 for the market basket), is over twice as much as the lowest priced store, Wal-mart in Gallup (\$45.65 for the market basket).



Small towns in rural areas are often unable to support larger grocery stores and supermarkets, and unfortunately, there is a clear relationship between store size and price (left). Small grocery stores (Category 1) were 70% more expensive for the market basket than large supermarkets and supercenters (Category 4) on average or a \$34.16 difference.

Grocery stores were divided into four categories based on square footage data retrieved from ReferenceUSA: small

grocery stores are between 0 and 2,499 square feet (Category 1), medium grocery stores are between 2,500 and 9,999 square feet (Category 2), large grocery stores and medium supermarkets are between 10,000 and 39,999 square feet (Category 3), and large supermarkets and supercenters are over 39,999 square feet (Category 4).



As seen to the left, stores that are located more than 20 miles away from another grocery store are 19% higher or \$10.92 more expensive than the average price of all the stores.

Moreover, they are 31% higher than stores located in regional centers. This

means that residents of these small towns have a choice between paying a 31% premium for groceries or traveling at least 40 miles round-trip.

However, this is largely because some rural areas have very small grocery stores. If rural areas are able to maintain medium to large grocery stores or medium supermarkets, these stores are generally competitive with medium to large grocery stores and medium supermarkets located in regional centers. In fact, the average price for the market basket in medium to large grocery stores and medium supermarkets more than 20 miles away from another grocery store was only 1% higher than the average price for all medium to large grocery stores and medium supermarkets. Helping small stores expand or bringing larger stores to rural areas could therefore be very beneficial to those areas. One example is the Bashas' chain of supermarkets, which has opened up a number of supermarkets in rural towns on the Navajo Reservation. (This is discussed further in an attached article on Reservation-supermarket partnerships.)

### **Availability**

Large grocery stores, supermarkets, and supercenters also have a much better selection of items than small grocery stores. Small grocery stores were missing 23.0% of all items surveyed. Stores in categories 2, 3, and 4 were missing less than 1% on average. Availability of fruits and vegetables was also much lower in small rural stores. Small grocery stores were missing 18.9% of fruits and vegetables listed in the market basket. Stores in categories 2, 3, and 4 were missing less than 1% of items on average.

### **Conclusions of Price and Availability Survey**

The results demonstrate that less mobile low-income rural residents—those often least able to afford it—have to pay more for their food, and therefore also get less food for their Food Stamps. They also have less access to healthy foods such as fresh fruits and vegetables. The system which has created this inequality must be changed so that food, a basic human need, is equally available to everyone at a reasonable price.



## Conclusions

“Making a drum is not easy; it takes a group of people,” advised Dr. Samuel Suina, the New Mexico Tribal Extension Task Force Director, who teaches drum making and basket weaving to New Mexico youth. Increasing access to healthy and affordable food for low-income residents of rural New Mexico will not be easy either, and it will require the collaboration of many different groups working in a wide range of fields.

The challenges faced by rural communities in McKinley, San Juan, Rio Arriba, and Mora Counties are many. Not only do less-mobile and low-income residents of these rural communities face a lack of economic opportunity, but as our price survey has demonstrated, they face much higher prices for their food (small rural stores were 31% more expensive than grocery stores located in regional centers).

An investment in better public transportation systems within all of these counties must be made. Residents should not have to hitchhike to get to the grocery store. Seniors living in rural areas should not have to rely on the senior center van to take them to the grocery store, which is often a small store with high prices. Nor should low-income residents of Dulce and other rural communities miss out on getting Food Stamps because they live too far from the Food Stamp office. Measures need to be taken at the state and local level to improve, and in many cases create, public transportation for people.

Another way to address the transportation burdens placed on rural low-income residents is to bring better grocery stores to them or to improve the stores that exist. Many focus group members mentioned the lack of selection and higher prices at local, small grocery stores, and this was confirmed by our price survey. However, this does not have to be the case. There are a number of examples of grocery stores in rural areas that are able to provide a good selection of healthy foods at affordable prices, such as Bashas’ in Crownpoint, and the Jicarilla Grocery in Dulce. Communities would be wise to invest in such a store, because it means that the money will stay in the community and will not be lost to a regional center. The state would be wise to invest in bringing better stores to high-poverty rural areas because they would provide better access to healthy foods, such as fruits and vegetables, which can help reduce diabetes, which is currently costing New Mexico’s economy over a billion dollars per year.

Community programs, emergency food programs, and entitlement programs are all working to lessen the needs of these communities. However, residents suggested many ways in which these programs could be improved. Farmers’ markets should obtain EBT card machines or other tools in order to accept Food Stamps, so that they could be more available to low-income people. Food Stamp outreach programs can be expanded to other rural counties to create awareness and ease transportation burdens. Other programs also need to create more awareness in communities by advertising themselves more effectively. Along with awareness, a large number of focus group participants mentioned the need for more education about food and nutrition. Community members wanted more nutrition and cooking classes for low-income adults and also for children, so that they could develop good habits early in life.

Along with improving nutrition education for our children, we need to provide nutritious foods in the schools. Many people in our focus groups mentioned that school food did

not seem healthy and needed to be improved. Action needs to be taken to increase the school food reimbursement rate so that schools can offer a wider variety of nutritious options. Most school lunch programs also have to compete against junk food available through a la carte and vending machines. However, some positive things are happening to address this in New Mexico. Recently the state finalized anti-junk food rules for schools, which include a ban on all junk foods in vending machines in elementary schools, a ban on carbonated beverages in middle schools, and a ban on unhealthy a la carte items. This has been achieved through the cooperation of many different groups, led by Action for Healthy Kids. New Mexico has also recently received one million dollars through the USDA Fruit and Vegetable Pilot Program, which provides students with fresh fruits and vegetables as snacks.

Similar cooperation is needed to ensure that children are not coming to school hungry. The Backpack Program, which gives children healthy foods to take home on the weekends, was talked about highly among our focus group participants, but it does not currently have enough funding to help the large numbers of children that need it. Many children, like those mentioned in Rio Arriba County, are showing up hungry on Monday morning because they have had inadequate meals over the weekend. Universal school breakfast programs, which provide breakfast to all children at no cost, regardless of income level, can have dramatic benefits to communities. Students who participate in school breakfast have been shown to eat more nutritious diets and score higher on standardized tests.<sup>110</sup>

Connecting local and regional farmers to schools has also been found to be a great source of nutritious foods for children in some areas of New Mexico, but much work is left to be done. Not a single focus group participant said that they thought local food was served in the local schools, but many suggested that their schools should buy local, not only to improve the nutrition of their children, but also to increase the opportunities for farmers and ranchers.

Many participants also mentioned the need to get young people involved in farming and ranching. Traditional farming and ranching, in particular, are very important to providing healthy traditional foods, and the decline in farming and ranching often leads to dietary changes. Less consumption of traditional foods and more reliance on highly processed and high sugar foods have caused skyrocketing diabetes rates. However, there are many possibilities that are currently being pursued in New Mexico to address this. The Tribal Extension Task Force, for example, has the possibility of bring inter-cultural education, agricultural extension resources, and nutrition education to eight centers in the Pueblos and First Nations.

The links between agriculture, access to food, and health are evident. New Mexico can take the lead in reducing the health care burdens of diabetes and other chronic diseases by recognizing that health, poverty, food sovereignty, and agriculture are intertwined.

Indeed, the rural food gap does exist and has tangible costs to New Mexico's health and wellbeing. However, further research is needed by state government and others to quantify the health costs associated with the food gap. Incorporating access into further anti-hunger and nutrition work is fundamentally important to the state's future, and by linking agriculture with these goals, nutritional benefits can be linked with a viable economic development programs.

Most importantly, cooperation between many different groups will be needed to address the food gap. This report has offered many recommendations that will require the collaboration of groups involved in transportation, emergency food, entitlement programs, agriculture, farmers' markets, school districts, private businesses, nutrition education programs, other community programs, and probably many more. Community organizations, agencies, and businesses must work together to learn more about the nuances of the food gap and work earnestly to develop further practical solutions. Without action, the Land of Enchantment will also remain a land of poverty, food insecurity, and nutrition-related diseases.



# APPENDICIES



*New Mexico produces wonderful apples*

## Appendix A Supermarkets in Indian Country:

*The case of a successful store-tribe partnership*

**Kami Pothukuchi**  
Wayne State University

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For residents of many Indian reservations, a three-hour long round trip for grocery shopping is not at all unusual. Native Americans experience poverty and food insecurity at higher-than-average rates; diabetes and other diet-related illnesses are also at near-epidemic proportions in many communities. Access to full-service supermarkets is therefore a pressing concern in Indian Country.

Yet, significant amounts of grocery dollars are expended outside reservations or in local convenience stores that carry few healthful choices and charge higher prices. A few tribes have developed stores or partnered with outside chains, but most communities continue to go without a supermarket. The partnership between Bashas' Supermarkets, an Arizona-based, private chain with 153 stores, and several Navajo communities, could serve as an important

model to communities hoping to develop grocery outlets nearby.



*Bashas' Indian Stores are called "Diné Markets"*

### How Bashas' came to Chinle, Arizona

When Dineh Cooperatives Inc. (DCI), a Navajo community development corporation in Chinle, Arizona, queried tribal members about local needs, a supermarket quickly surfaced to the top of the list. DCI went on to build Navajo Nation's first shopping center, overcoming significant but typical challenges associated with land development in Indian Country.

Getting a grocery retailer to anchor the Tseyi' Shopping Center proved to be more difficult. "We had put together a dog-and-pony show to present to representatives of leading chains in the area—Albertsons, Safeway, and others," says Jon D. Colvin, President and CEO of DCI, "but these officials just sat there and nodded politely. And we never heard from them afterwards." Bashas' Supermarkets was last on their list, but, to their great surprise, Chairman Eddie Basha agreed to work with them.

The 29,000 square foot store opened in 1981; its sales soon were among the chain's highest. A portion of rent in the 50-year lease, was pegged to sales, and 25 percent of profits were returned to the tribe. Soon, similar arrangements were put in place in other communities such as Window Rock and Tuba City, Arizona, and Crownpoint, New Mexico.

### Why Bashas'?

Why were the Bashas interested in this remote Indian community? The family's history provides some clues. During the Great Depression, Najiby Basha and her son, Ike, peddled shoes, combs, and other merchandise from their car on the Yaqui and Pima reservations, which experience provided an early affinity with far-flung Indian communities. Moreover,



unlike for national chains, private ownership meant that opening a new store did not need approval from corporate headquarters. Most importantly, however, Eddie Basha was persuaded by the strength of the market that existed on the reservation, and the potential for expansions to other Navajo communities based on the Chinle experience. This was, first and foremost, a significant business opportunity.

Tribal law requires that businesses employ local residents whenever possible, but few Chinle residents had the requisite experience to run a supermarket. To orient potential employees



*All departments are marked in English and Navajo*

with the particulars of operating a grocery store and to cultivate a sense of the larger store community, Bashas' brought the first set of Navajo trainees to live at the homes of their Phoenix-based employees. "Bashas' displayed an extraordinary commitment to making this store work," says DCI's Colvin. Store directors and employees I interviewed at three stores conveyed this strong sense of family within the chain.

### What Customers Buy

The Bashas' Indian or "Diné" stores carry a variety of products desired in the community. Large sacks of "Blue Bird" brand flour—used to make the traditional fry bread—evaporate from shelves on busy days. Cuts of mutton, large cans of lard, potatoes, dairy alternatives, sacks of animal chow, and fresh and canned vegetables and fruits are other populars. As elsewhere in the country, however, large amounts of processed foods laden with sugar, salt, and fats are purchased in these stores. "Bashas' is interested in carrying healthy products; diabetes is something the community is trying to combat. So we carry a wide selection of fruits and vegetables. But we also have to go with what moves. Chips, junk foods, soda pop... This is what the community is buying," says Shelly Biakaiddy, director of the Crownpoint (NM) Bashas'.

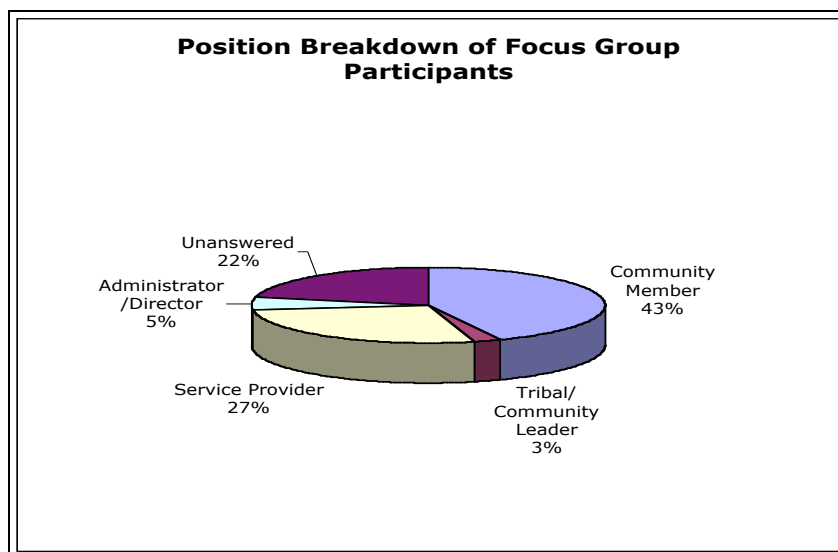
Conveniently, the diabetes clinic is also located in the shopping center, at the intersection of Highway 57 and Route 9. Getting people to buy healthier perishables might be difficult given relatively long trips, gaps between shopping trips, and possibly lack of electricity, reliable kitchen equipment, and knowledge of how to cook and eat more healthfully. As in other low-income communities, the store is busiest during the first two weeks of the month, and EBT (Electronic Benefits Transfer, for food stamps and WIC) payments account for a significant proportion of sales.

In all, seven Diné stores exist. Bashas' have built an extensive repository of experience in profitable stores, and are interested in expanding to other tribal communities in the Southwest United States. At the same time, the stores have returned a host of community benefits in the form of healthy food access, jobs, and profit-sharing. This case highlights, once again, that communities that wish to attract grocery stores to underserved neighborhoods may need to recruit successful stores within their regions, including independents and privately held chains; document market potential for retail grocery; and enlist local community development corporations as partners in particular deals. -- *Kami Pothukuchi, ae7693@wayne.edu*

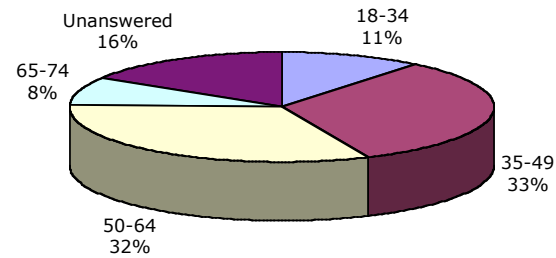
## Appendix B: Participant Demographics

Focus group participants came from a diverse array of backgrounds across the four counties. Participants' ages were most commonly either 35-49 or 50-64. More respondents were women rather than men. However, men were also less likely to mark their gender than women on the survey form. The number of participants in each county was similar with 14% of our participants coming from McKinley, 22% from Rio Arriba, 30% from Mora, and 34% from San Juan County. The racial and ethnic composition of the focus group was also diverse with Anglos, Native Americans, and Hispanics each comprising between one-fifth to one-third of the focus group. In a focus group, the sample of community members is not random and our emphasis is on the broad themes that were shared rather than on the statistics.

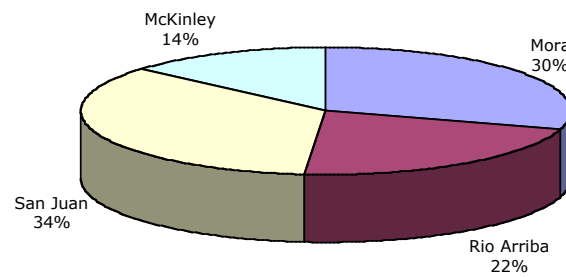
We believe the response rate was low on the written part of the survey because participants knew they were being recorded and thus felt less need to record the information on paper. Of course, a paper-based survey also does not capture participants who are unable to write.



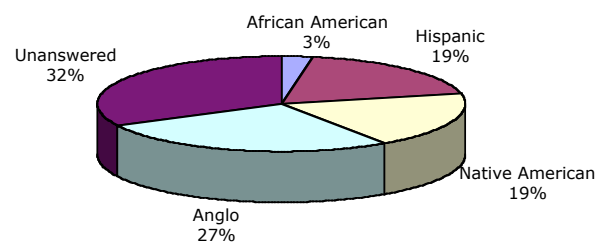
**Age Breakdown of Focus Groups**



**Participant Breakdown by County**



**Racial/Ethnic Breakdown of Focus Groups**



**Appendix C: Market Basket for Price Survey**

ITEMS	Variety/Brand	Desired Quantity	Unit	Quantity (actual)	Price (lowest)	Reg. Price
<b>Fruits and Vegetables, fresh</b>						
Apples			1 lb.			
Bananas			1 lb.			
Grapes			1 lb.			
Melon			1 lb.			
Oranges			1 lb.			
Carrots			1 lb.			
Celery			1 lb.			
Green peppers			1 lb.			
Lettuce, leaf (green or red)			1 lb.			
Onions, yellow			1 lb.			
Tomatoes			1 lb.			
Potatoes			5 lb.			
<b>Fruits and Vegetables, canned</b>						
Mandarin oranges, canned			15 oz.			
Peaches, canned			29 oz.			
Mushrooms, pieces, canned			4 oz.			
Spaghetti sauce			26 oz.			
Tomato sauce			8 oz.			
<b>Fruits and Vegetables, frozen</b>						
Orange juice, concentrate, frozen			12 oz.			
Broccoli, chopped, frozen			16 oz.			
Green beans, frozen			16 oz.			
Green peas, frozen			16 oz.			
French fries, frozen			32 oz.			
<b>Breads, Cereals and Other Grain Products</b>						
Bread, white			24 oz.			
Bread, whole wheat			24 oz.			
Corn Tortillas			20 oz.			
Corn Flakes			18 oz.			
<b>Dairy Products, fresh</b>						
Milk, 2% fat			1 gal.			
Milk, whole			1 gal.			
Cheese, cheddar			1 lb.			
<b>Meat and Meat Alternatives, fresh</b>						
Beef, ground, lean			1 lb.			
Chicken, fryer, cut-up, or whole			1 lb.			
Eggs, grade A large			1 doz.			
Peanut Butter			18 oz.			
Pinto Beans			15.5 oz.			
<b>Other Food Items</b>						
Margarine, stick			1 lb.			
Vegetable oil, any type			48 oz.			
Jelly, grape			32 oz.			
Green Chile, chopped, canned			4.5 oz.			

## Appendix D: Resources

<u>Resources</u>	<u>Website</u>	<u>Phone</u>
<b>New Mexico Organizations</b>		
Farm to Table	<a href="http://www.farmtotable.info">www.farmtotable.info</a>	505-473-1004
Farm to School Program, Farm to Table	<a href="http://www.farmtotable.info">www.farmtotable.info</a>	505-473-1004
NM Food and Agriculture Policy Council	<a href="http://www.farmtotable.info">www.farmtotable.info</a>	505-473-1004
Southwest Marketing Network	<a href="http://www.swmarketing.ncat.org/">www.swmarketing.ncat.org/</a>	505-473-1004
NM Farmers' Marketing Association	<a href="http://www.farmersmarketsnm.org">www.farmersmarketsnm.org</a>	888-983-4400
NM Task Force to End Hunger		505-841-4845
Action for Healthy Kids (NM)	<a href="http://www.actionforhealthkids.org">www.actionforhealthkids.org</a>	505-345-5661
Cooking with Kids	<a href="http://www.cookingwithkids.net">www.cookingwithkids.net</a>	505-473-4703
NM Association of Food Banks	<a href="http://www.nmfoodbanks.org">www.nmfoodbanks.org</a>	505-217-1066
ECHO Food Bank- Farmington		505-326-3770
The Community Pantry- Gallup		505-726-8068
Roadrunner Food Bank- Albuquerque	<a href="http://www.rafb.org">www.rafb.org</a>	505-247-2052
The Food Depot- Santa Fe	<a href="http://www.thefooddepot.org">www.thefooddepot.org</a>	505-471-1633
Taos County Economic Development Corporation	<a href="http://www.laplaza.org/business/tcedc/">www.laplaza.org/business/tcedc/</a>	505-758-8731
NM Legal Aid		505-243-7871
Catholic Charities of Central New Mexico	<a href="http://www.catholiccharitiesasf.org/">www.catholiccharitiesasf.org/</a>	505-724-4670
Catholic Charities- Gallup	<a href="http://www.cnetco.com/~cathcharities/CIC.html">www.cnetco.com/~cathcharities/CIC.html</a>	505-722-0999
John Hyson Center/Interfaith LEAP- Chimayo		505-351-2447
Lutheran Office of Government Ministry	<a href="http://www.elca.org/dcs/state.nm.html">www.elca.org/dcs/state.nm.html</a>	505-984-8005
NM Conference of Churches	<a href="http://www.nmchurches.org">www.nmchurches.org</a>	505-255-1509
NM Voices for Children	<a href="http://www.nmvioces.org">www.nmvioces.org</a>	505-244-9505
NM Acequia Association	<a href="http://www.acequiaweb.org">www.acequiaweb.org</a>	505-995-9644
NM Public Health Association	<a href="http://www.nmpha.org/">www.nmpha.org/</a>	
Quivera Coalition	<a href="http://www.quiviracoalition.org">www.quiviracoalition.org</a>	505-820-2544
<b>National Organizations</b>		
American Community Gardening Association	<a href="http://www.communitygarden.org">www.communitygarden.org</a>	
America's Second Harvest	<a href="http://www.secondharvest.org">www.secondharvest.org</a>	
Bread for the World	<a href="http://www.bread.org">www.bread.org</a> , <a href="http://www.breadnm.org">www.breadnm.org</a>	
Community Food Security Coalition	<a href="http://www.foodsecurity.org">www.foodsecurity.org</a>	
Congressional Hunger Center	<a href="http://www.hungercenter.org">www.hungercenter.org</a>	
First Nations Development Institute	<a href="http://www.firstnations.org">www.firstnations.org</a>	
Food Research and Action Center	<a href="http://www.frac.org">www.frac.org</a>	
Kids Count- Annie E. Casey Foundation	<a href="http://www.aecf.org/kidscount/">www.aecf.org/kidscount/</a>	
Meals on Wheels	<a href="http://www.mowaa.org">www.mowaa.org</a>	
National Alliance for Nutrition and Activity	<a href="http://www.cspinet.org/nutritionpolicy/nana.html">www.cspinet.org/nutritionpolicy/nana.html</a>	
National Catholic Rural Life Conference	<a href="http://www.ncrlc.com">www.ncrlc.com</a>	
RESULTS	<a href="http://www.results.org">www.results.org</a>	
School Nutrition Association	<a href="http://www.asfsa.org">www.asfsa.org</a>	
Society for Nutrition Education	<a href="http://www.sne.org">www.sne.org</a>	
The Food Project's BLAST Initiative	<a href="http://www.thefoodproject.org">www.thefoodproject.org</a>	
World Hunger Year	<a href="http://www.worldhungeryear.org">www.worldhungeryear.org</a>	

**New Mexico Programs**

NM ISD Offices and other county resources	<a href="http://www.state.nm.us/hsd/offices.html">www.state.nm.us/hsd/offices.html</a>
NMSU Food Stamp Nutrition Education Program	<a href="http://www.fns.usda.gov/fsp/outreach/states/New-Mexico.htm">www.fns.usda.gov/fsp/outreach/states/New-Mexico.htm</a>
Ideas for Cooking and Nutrition Program (ICAN)	<a href="http://spectre.nmsu.edu/dept/academic.html?i=904">spectre.nmsu.edu/dept/academic.html?i=904</a>
Ideas for Cooking and Nutrition with Kids (kids CAN)	<a href="http://spectre.nmsu.edu/dept/academic.html?i=904">spectre.nmsu.edu/dept/academic.html?i=904</a>

**NM Agency**

ISD  
ISD/NMSU  
ISD/NMSU  
ISD/NMSU

**National Programs**

Temporary Assistance for Needy Families (TANF)	<a href="http://www.acf.dhhs.gov/programs/ofa/">www.acf.dhhs.gov/programs/ofa/</a>	<b>National, NM Agency</b> HHS, ISD
Summer Food Service Program	<a href="http://www.fns.usda.gov/cnd/summer/">www.fns.usda.gov/cnd/summer/</a>	USDA, CYFD
The Child and Adult Care Feeding Program	<a href="http://www.fns.usda.gov/cnd/Care/Default.htm">www.fns.usda.gov/cnd/Care/Default.htm</a>	USDA, CYFD
WIC Farmers Market Nutrition Program (FMNP)	<a href="http://www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm">www.fns.usda.gov/wic/FMNP/FMNPfaqs.htm</a>	USDA, DOH
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	<a href="http://www.fns.usda.gov/wic/">www.fns.usda.gov/wic/</a>	USDA, DOH
Commodity Supplemental Food Program	<a href="http://www.fns.usda.gov/fdd/programs/csfp/">www.fns.usda.gov/fdd/programs/csfp/</a>	USDA, DOH
The Emergency Food Assistance Program (TEFAP)	<a href="http://www.fns.usda.gov/fdd/programs/tefap/">www.fns.usda.gov/fdd/programs/tefap/</a>	USDA, ISD
Food Stamp Program	<a href="http://www.fns.usda.gov/fsp/">www.fns.usda.gov/fsp/</a>	USDA, ISD
School Breakfast Program	<a href="http://www.fns.usda.gov/cnd/breakfast/">www.fns.usda.gov/cnd/breakfast/</a>	USDA, PED
National School Lunch Program	<a href="http://www.fns.usda.gov/cnd/Lunch/default.htm">www.fns.usda.gov/cnd/Lunch/default.htm</a>	USDA, PED
Seamless Summer Food Option Program	<a href="http://www.fns.usda.gov/cnd/seamless_summer.htm">www.fns.usda.gov/cnd/seamless_summer.htm</a>	USDA, PED
Seniors' Farmers Market Nutrition Program	<a href="http://www.fns.usda.gov/wic/SeniorFMNP/SFMNPmenu.htm">www.fns.usda.gov/wic/SeniorFMNP/SFMNPmenu.htm</a>	USDA, (not in NM)
Link to USDA Food Distribution Programs	<a href="http://www.fns.usda.gov/fdd/">www.fns.usda.gov/fdd/</a>	USDA
Link to USDA Commodity Food Programs	<a href="http://www.commodityfoods.usda.gov/">www.commodityfoods.usda.gov/</a>	USDA
Food Distribution Programs on Indian Reservations (FDPIR)	<a href="http://www.fns.usda.gov/fdd/programs/fdpi/">www.fns.usda.gov/fdd/programs/fdpi/</a>	USDA

**Pilot Programs**

The Department of Defense Farms to School Program	<a href="http://www.foodsecurity.org/dod_f2s.pdf">www.foodsecurity.org/dod_f2s.pdf</a>
USDA Fruit and Vegetable Pilot Program	<a href="http://www.ers.usda.gov/Briefing/ChildNutrition/fruitandvegetablepilot.htm">www.ers.usda.gov/Briefing/ChildNutrition/fruitandvegetablepilot.htm</a>

**Grant Programs**

USDA Food Stamp Outreach	<a href="http://fns.usda.gov/fsp/outreach/grants/2006/default.htm">fns.usda.gov/fsp/outreach/grants/2006/default.htm</a>
USDA CSREES Community Food Project	<a href="http://www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html">www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html</a>
Community Food and Nutrition Program	<a href="http://www.acf.hhs.gov/programs/ocs/dcdp/cfnp/index.html">www.acf.hhs.gov/programs/ocs/dcdp/cfnp/index.html</a>

**New Mexico Agencies and Commissions**

NM Aging and Long-Term Care Services Department	<a href="http://www.nmaging.state.nm.us/">www.nmaging.state.nm.us/</a>	<b>Phone</b> 866-451-2901
NM Children, Youth & Families Department	<a href="http://www.cyfd.org/">www.cyfd.org/</a>	505-827-7602
NM Department of Agriculture	<a href="http://www.nmdaweb.nmsu.edu">www.nmdaweb.nmsu.edu</a>	505-646-3700
NM Department of Health	<a href="http://www.health.state.nm.us">www.health.state.nm.us</a>	505-827-2613
NM Department of Health, WIC	<a href="http://www.health.state.nm.us/phd/wic/index.htm">www.health.state.nm.us/phd/wic/index.htm</a>	505-476-8800
NM Environment Department	<a href="http://www.nmenv.state.nm.us">www.nmenv.state.nm.us</a>	505-827-2855
NM Health Policy Commission	<a href="http://www.hpc.state.nm.us/">www.hpc.state.nm.us/</a>	
NM Human Services Department, Income Support Division (Food Stamp Program)	<a href="http://www.state.nm.us/hsd">www.state.nm.us/hsd</a>	505-827-9454
NM Organic Commodity Commission	<a href="http://www.nmocc.state.nm.us">www.nmocc.state.nm.us</a>	505-841-9067
NM Public Education Department	<a href="http://www.ped.state.nm.us">www.ped.state.nm.us</a>	505-827-1821



NMSU College of Agriculture and Home Economics	<a href="http://www.cahe.nmsu.edu/ces">www.cahe.nmsu.edu/ces</a>	505-646-4100
NMSU Agriculture Science Center at Alcade	<a href="http://spectre.nmsu.edu/dept/welcome.html?t=sust">spectre.nmsu.edu/dept/welcome.html?t=sust</a>	505-424-2300
NMSU Cooperative Extension Service	<a href="http://www.cahe.nmsu.edu/ces">www.cahe.nmsu.edu/ces</a>	
Albuquerque Public Schools Food Service Department		505-345-5661
Santa Fe Public Schools Food Service Department		505-989-5434

### National Agencies

Bureau of Indian Affairs	<a href="http://www.doi.gov/bureau-indian-affairs.html">www.doi.gov/bureau-indian-affairs.html</a>	
US Department of Agriculture (USDA)	<a href="http://www.usda.gov">www.usda.gov</a>	
USDA Food and Nutrition Service (Food Stamp Program and FMNP)	<a href="http://www.fns.usda.gov">www.fns.usda.gov</a>	
USDA Farm Service Agency	<a href="http://www.fsa.usda.gov">www.fsa.usda.gov</a>	
USDA Cooperative State Research, Education and Extension Service (CSREES)	<a href="http://www.csrees.usda.gov">www.csrees.usda.gov</a>	
USDA Agricultural Marketing Service	<a href="http://www.ams.usda.gov/directmarketing">www.ams.usda.gov/directmarketing</a>	
USDA Risk Management Agency	<a href="http://www.rma.usda.gov">www.rma.usda.gov</a>	
USDA Economic Research Service	<a href="http://www.ers.usda.gov">www.ers.usda.gov</a>	
USDA Community Food Security Assessment Toolkit	<a href="http://www.ers.usda.gov/publications/efan02013/">www.ers.usda.gov/publications/efan02013/</a>	
US Department of Health and Human Services	<a href="http://www.os.dhhs.gov/">www.os.dhhs.gov/</a>	
NM Economic Development Department	<a href="http://www.edd.state.nm.us">www.edd.state.nm.us</a>	
U.S. Department of Education	<a href="http://www.ed.gov">www.ed.gov</a>	

### Community Food Assessment Toolkits

Food Sovereignty Assessment Toolkit	<a href="http://www.firstnations.org">www.firstnations.org</a>	
What's Cooking in Your Food System: A Guide to Community Food Assessment	<a href="http://www.foodsecurity.org">www.foodsecurity.org</a>	

### County Health Councils

Mora County Health Council		505-387-2883
McKinley County Health Alliance		505-863-5107
Rio Arriba County Health Council		505-753-3143
San Juan County Health Council		505-566-5873

### Government

NM State Government, Office of the Governor	<a href="http://www.state.nm.us">www.state.nm.us</a>	505-827-3000
NM State Legislature	<a href="http://www.legis.state.nm.us">www.legis.state.nm.us</a>	505-986-4589
Center for Budget and Policy Priorities	<a href="http://www.cbpp.org">www.cbpp.org</a>	
The Advocacy Institute	<a href="http://www.advocacy.org">www.advocacy.org</a>	
Center for Lobbying in the Public Interest	<a href="http://www.clpi.org">www.clpi.org</a>	
Federal Register	<a href="http://www.gpoaccess.gov/fr/">www.gpoaccess.gov/fr/</a>	
THOMAS- Library of Congress	<a href="http://tomas.loc.gov">tomas.loc.gov</a>	
U.S. House of Representatives	<a href="http://www.house.gov">www.house.gov</a>	
U.S. Senate	<a href="http://www.senate.gov">www.senate.gov</a>	

**Demographics**

U.S. Census Bureau	<a href="http://www.census.gov">www.census.gov</a>
Fed Stats	<a href="http://www.fedstats.gov">www.fedstats.gov</a>
U.S. Department of Housing and Urban Development	<a href="http://www.hud.gov">www.hud.gov</a>
U.S. Bureau of Labor Statistics	<a href="http://www.bls.gov">www.bls.gov</a>
USDA Office of Analysis, Nutrition and Evaluation	<a href="http://www.fns.usda.gov/oane">www.fns.usda.gov/oane</a>
USDA Rural Development Service	<a href="http://www.rurdev.usda.gov/">www.rurdev.usda.gov/</a>
ReferenceUSA	<a href="http://reference.infousa.com">reference.infousa.com</a>

**Public Health and Nutrition**

National Institute of Health	<a href="http://www.nih.gov">www.nih.gov</a>
Centers for Disease Control and Prevention	<a href="http://www.cdc.gov">www.cdc.gov</a>
National Health Information Center	<a href="http://www.health.gov/nhic">www.health.gov/nhic</a>
Office of Minority Health	<a href="http://www.omhrc.gov">www.omhrc.gov</a>
Office of Public Health and Science	<a href="http://www.osophs.dhhs.gov/ophs">www.osophs.dhhs.gov/ophs</a>
National Library of Medicine, Medline Plus Health Information	<a href="http://www.nlm.nih.gov/medlineplus">www.nlm.nih.gov/medlineplus</a>
Center for Science in the Public Interest	<a href="http://www.cspinet.org">www.cspinet.org</a>
American Public Health Association	<a href="http://www.apha.org/">www.apha.org/</a>

**Agriculture**

USDA National Agriculture Statistics Services	<a href="http://www.nass.usda.gov">www.nass.usda.gov</a>
National directory of farmers markets by state	<a href="http://www.ams.usda.gov/farmersmarkets">www.ams.usda.gov/farmersmarkets</a>
Census of Agriculture	<a href="http://www.nass.usda.gov/Census_of_Agriculture/index.asp">www.nass.usda.gov/Census_of_Agriculture/index.asp</a>
USDA Cooperative State Research, Education, and Extension Service	<a href="http://www.csrees.usda.gov">www.csrees.usda.gov</a>

**Transportation**

NM Passenger Transportation Association	<a href="http://www.nmpta.com">www.nmpta.com</a>
U.S. Department of Transportation	<a href="http://www.dot.gov">www.dot.gov</a>
Community Transportation Association	<a href="http://www.ctaa.org/ntrc">www.ctaa.org/ntrc</a>
American Public Transportation Association	<a href="http://www.apta.com">www.apta.com</a>

## References

- <sup>1</sup> "National School Lunch Program." Internet Site.  
<[http://www.frac.org/html/federal\\_food\\_programs/programs/nslp.html](http://www.frac.org/html/federal_food_programs/programs/nslp.html)>. Washington, DC: Food Research and Action Center. Accessed 8 Feb 2006.
- <sup>2</sup> Bartfeld, Judy. "State-Level Predictors of Food Insecurity and Hunger Among Households with Children." Contractor and Cooperator Report No. 13. Washington, DC: Economic Research Service, USDA, October 2005. Page 23.
- <sup>3</sup> National Wartime Nutrition Program. "The Official Nutrition Program." [7-fold Pamphlet] Battle Creek, MI: Kellogg Company, 1942. From: Ad Council Collection Box 23, Food Fights for Freedom, 1941-1944. Duke University Special Collections, Durham, NC.
- <sup>4</sup> Christensen, Nendra K., Ann W. Sorenson, Deloy G. Hendricks, and Ronald Munger. "Juniper Ash as a source of calcium in the Navajo diet." Journal of the American Dietetic Association. 98 (1998) 3:333-334.
- <sup>5</sup> Harper, Charles L, and Bryan F. Le Beau. Food Society and Environment. Upper Saddle River, NJ: Prentice Hall, 2003. Page 63.
- <sup>6</sup> Post, Todd. Ed. Strengthening Rural Communities: Hunger Report 2005. Washington, DC: Bread for the World Institute, 2005. Page 88.
- <sup>7</sup> *Ibid.* Page 21
- <sup>8</sup> *Ibid.* Page 60.
- <sup>9</sup> Rural Policy Research Institute. "Demographic and Economic Profile: New Mexico." <<http://www.rupri.org/resources/rnumbers/states/NewMexico.pdf>>. Internet Site. Accessed 19 Jan 2006.
- <sup>10</sup> Nord, Mark, Margaret Andrews, and Steven Carlson. "Household Food Security in the United States." Economic Research Report No. ERR11. October 2005  
<<http://www.ers.usda.gov/Publications/err11/>>. Page 28. Accessed 17 Jan 2006.
- <sup>11</sup> *Ibid.* Page 28.
- <sup>12</sup> Byers, Tim and John Hubbard. "The Navajo Health and Nutrition Survey: Research That Can Make a Difference." Journal of Nutrition 127 (1997): 2075S-2077S.
- <sup>13</sup> US Census. "State and County QuickFacts: Mora County, New Mexico." <<http://quickfacts.census.gov/qfd/states/35/35033.html>>. Internet Site. Accessed 19 Jan 2006.
- <sup>14</sup> US Census. "New Mexico: Population of Counties by Decennial Census: 1900 to 1990." <<http://www.census.gov/population/cencounts/nm190090.txt>>. Internet Site. Accessed 19 Jan 2006.
- <sup>15</sup> US Census. "State and County QuickFacts." Mora County, New Mexico.  
<<http://quickfacts.census.gov/qfd/states/35/35033.html>>. Internet Site. Accessed 19 Jan 2006.
- <sup>16</sup> Rural Policy Research Institute. "Demographic and Economic Profile: New Mexico." <<http://www.rupri.org/resources/rnumbers/states/NewMexico.pdf>>. Internet Site. Accessed 19 Jan 2006.
- <sup>17</sup> US Census. "State and County QuickFacts." Mora County, New Mexico.  
<<http://quickfacts.census.gov/qfd/states/35/35033.html>>. Internet Site. Accessed 19 Jan 2006.
- <sup>18</sup> US Census. "Small Area Income and Poverty Estimates: Model Based Estimates for States, Counties, and School Districts." Estimates for New Mexico Counties, 2002.  
<[http://www.census.gov/cgi-bin/saie/saie.cgi?year=2002&list\\_areas=States%20%26%20Counties&state=35](http://www.census.gov/cgi-bin/saie/saie.cgi?year=2002&list_areas=States%20%26%20Counties&state=35)>. Internet Site. Accessed 19 Jan 2006.
- <sup>19</sup> New Mexico Department of Health. "Estimated Diabetes Prevalence Among New Mexico Adults, 2003." <<http://www.diabetesnm.org/pdf/County2003DMPPrev.pdf>>. Internet Site. Accessed 19 Jan 2006.
- <sup>20</sup> US Census. "State and County QuickFacts." Rio Arriba County, New Mexico.  
<<http://quickfacts.census.gov/qfd/states/35/35039.html>>. Internet Site. Accessed 19 Jan 2006.
- <sup>21</sup> US Census. "People QuickFacts." Population Change from April, 2000 to July 1, 2004.  
<<http://quickfacts.census.gov/qfd/states/35000.html>>. Internet Site. Accessed 03 Oct 2005.
- <sup>22</sup> US Census. "State and County QuickFacts." Rio Arriba County, New Mexico.  
<<http://quickfacts.census.gov/qfd/states/35/35039.html>>. Internet Site. Accessed 19 Jan 2006.

<sup>23</sup> US Census. "Small Area Income and Poverty Estimates: Model Based Estimates for States, Counties, and School Districts." Estimates for New Mexico Counties, 2002.

<[http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list\\_areas=States%20%26%20Counties&state=35](http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list_areas=States%20%26%20Counties&state=35)>. Internet Site. Accessed 19 Jan 2006.

<sup>24</sup> New Mexico Department of Health. "Estimated Diabetes Prevalence Among New Mexico Adults, 2003." <<http://www.diabetesnm.org/pdf/County2003DMPrev.pdf>>. Internet Document. Accessed 19 Jan 2006.

<sup>25</sup> US Census. "State and County QuickFacts." Rio Arriba County, New Mexico.

<<http://quickfacts.census.gov/qfd/states/35/35045.html>>. Internet Site. Accessed 19 Jan 2006.

<sup>26</sup> US Census. "Small Area Income and Poverty Estimates: Model Based Estimates for States, Counties, and School Districts." Estimates for New Mexico Counties, 2002.

<[http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list\\_areas=States%20%26%20Counties&state=35](http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list_areas=States%20%26%20Counties&state=35)>. Internet Site. Accessed 19 Jan 2006.

<sup>27</sup> New Mexico Department of Health. "Estimated Diabetes Prevalence Among New Mexico Adults, 2003." <<http://www.diabetesnm.org/pdf/County2003DMPrev.pdf>>. Internet Document. Accessed 19 Jan 2006.

<sup>28</sup> US Census. "State and County QuickFacts. McKinley County, New Mexico."

<<http://quickfacts.census.gov/qfd/states/35/35031.html>>. Internet Site. Accessed 19 Jan 2006.

<sup>29</sup> US Census. "People QuickFacts." Population Change from April, 2000 to July 1, 2004.

<<http://quickfacts.census.gov/qfd/states/35000.html>>. Internet Site. Accessed 03 Oct 2005.

<sup>30</sup> US Census. "State and County QuickFacts." McKinley County, New Mexico.

<<http://quickfacts.census.gov/qfd/states/35/35031.html>>. Internet Site. Accessed 19 Jan 2006.

<sup>31</sup> US Census. "Small Area Income and Poverty Estimates: Model Based Estimates for States, Counties, and School Districts." Estimates for New Mexico Counties, 2002.

<[http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list\\_areas=States%20%26%20Counties&state=35](http://www.census.gov/cgi-bin/saife/saife.cgi?year=2002&list_areas=States%20%26%20Counties&state=35)>. Internet Site. Accessed 19 Jan 2006.

<sup>32</sup> New Mexico Department of Health. "Estimated Diabetes Prevalence Among New Mexico Adults, 2003." <<http://www.diabetesnm.org/pdf/County2003DMPrev.pdf>>. Internet Document. Accessed 19 Jan 2006.

<sup>33</sup> Fournier, Stephen and J. Larry Brown. "Tables of Food Insecurity and Hunger for 2004 Rankings by Households by State (Including DC and US)." Analysis by Center on Hunger and Poverty, Brandeis University, based on "Household Food Security in the United States", 2004/ERR-11 Economic Research Service/USDA, Appendix D.

<[http://www.centeronhunger.org/pdf/full\\_state\\_rankings.pdf](http://www.centeronhunger.org/pdf/full_state_rankings.pdf)>. Accessed 16 Jan 2006.

<sup>34</sup> Morton, Lois Wright, Ella Annette Bitto, Mary Jane Oakland, and Mary Sand. "Solving the Problems of Iowa Food Deserts: Food Insecurity and Civic Structure." *Rural Sociology*. 70 (2005) 1: 95-96.

<sup>35</sup> Clarke, Ian, Alan Hallsworth, Peter Jackson, Ronan de Kervenoael, Rossana Perez-del-Aguila, and Malcolm Kirkup. "Retail Competition and Consumer Choice: Contextualising the 'Food Deserts' Debate." *International Journal of Retail & Distribution Management*. 32 (2004) 2/3: 89-99.

<sup>36</sup> Citizens Research Education Network, Hartford Food System, Church of the Good Shepherd, University of Connecticut. *The Poor Pay More: Food Shopping in Hartford*. Hartford, CT: Authors, 1984.

<sup>37</sup> McGrath Morris, Patricia, Mark Bellinger, and Ellen Haas. *Higher Prices, Fewer Choices: Shopping for Food in Rural America*. Washington, DC: Public Voice for Food and Health Policy, 1990. Page 3.

<sup>38</sup> Kaufman, Phil R. "Rural Poor Have Less Access to Supermarkets, Large Grocery Stores." *Rural Development Perspectives*. 13 (1999) 3: 19-26.

<sup>39</sup> Sturm, R. and A. Datar. "Body Mass Index in Elementary School Children, Metropolitan Area Food Prices and Food Outlet Density." *Public Health*. 119 (2005) 12:1059-1068.

- 
- <sup>40</sup> Pareo-Tubbeh, Shirley L., Marvin Shorty, Mark C. Bauer, and Emmanuel Agbolosoo. "The Variety, Affordability, and Availability of Healthful Foods at Convenience Stores and Trading Posts on the Navajo Reservation." Tucson, AZ: Native Peoples Technical Assistance Office, The University of Arizona, 2000. Available from: <<http://www.nptao.arizona.edu/research/research.html>>. Accessed 31 Dec 2005.
- <sup>41</sup> "The Fresh Facts on Fruits and Vegetables." From: Arizona Grocer. Qtd in: New Mexico Grocer. 1990 Convention Issue: 32.
- <sup>42</sup> Ohls, James C., Michael Ponza, Lorenzo Morena, Amy Zambrowski, and Rhoda Cohen. "Food Stamp Participants' Access to Food Retailers." USDA Final Report. MPR No.: 8243-140. Princeton: Mathematica Policy Research, 1999. Page 64.
- <sup>43</sup> Jiménez-Cruz, A, M. Bacardí- Gascón, and AA Spindler. "Obesity and Hunger Among Mexican-Indian Migrant Children on the US-Mexico Border." International Journal of Obesity. 27 (2003): 740-747.
- <sup>44</sup> Quandt, Sara A, Thomas A. Arcury, Julie Early, Janeth Tapia, Jessie D Davis. "Household Food Security Among Migrant and Seasonal Latino Farmworkers in North Carolina." Public Health Reports 119 (2004): 568-576.
- <sup>45</sup> USDA, Economic Research Service. "Food Security in the United States: Measuring Household Food Security." <<http://www.ers.usda.gov/Briefing/FoodSecurity/measurement/>>. Accessed 15-Jan-06.
- <sup>46</sup> Ryerson University Centre for Studies in Food Security. "Food Security Defined." <[http://www.ryerson.ca/foodsecurity/centre\\_03.html](http://www.ryerson.ca/foodsecurity/centre_03.html)>. Accessed 15-Jan-06.
- <sup>47</sup> Guterson, Ben. Michael McDermott. Phot. "The Vanishing Trading Post: Reservation Landmarks Struggle to Survive." New Mexico Magazine Aug 1994: 76-83.
- <sup>48</sup> Hughes, Debora. Krista Elrick. Phot. "Mom & Pop Stores Offer a Slice of Hospitality." New Mexico Magazine. Nov 1997: 36-41.
- <sup>49</sup> Rush, Myrtle. "Chain Grocery Stores in Albuquerque, New Mexico." Thesis Submitted for Degree of Master of Arts. UNM. 1931. Center for Southwest Research, University Libraries, The University of New Mexico, Albuquerque, NM.
- <sup>50</sup> Kercheval, Howard. "To Market We Go: Mom & Pop Groceries Fading, but a Few Still Stock the Shelves." New Mexico Business Journal. Aug. 2002: 21-22.
- <sup>51</sup> Northern New Mexico Organic Wheat Project. "History of Wheat Growing in Northern New Mexico." In: "The Staff of Life." Pamphlet. Santa Fe: Author, No Date.
- <sup>52</sup> US Department of Agriculture and the War Manpower Commission. "How Industry Can Cooperate with the U. S. Crop Corps Information Plan." Washington, DC: Author, 1942. From: "Food Fights for Freedom, 1941-1944." Ad Council Collection, Box 23. Duke University Libraries Special Collections, Durham, NC.
- <sup>53</sup> USDA National Agriculture Statistics Service, New Mexico Office. "Census Number of Farms by County." 2004 New Mexico Agricultural Statistics. Las Cruces, NM: NMDA & USDA, 2005. Page 4.
- <sup>54</sup> Quandt, Sara A., Thomas A. Arcury, Ronny A. Bell, Juliana McDonald, and Mara Z. Vitolins. "The Social and Nutritional Meaning of Food Sharing Among Older Rural Adults." Journal of Aging Studies 15 (2001): 145-162.
- <sup>55</sup> 43<sup>rd</sup> Congress, 2d Session. House of Representatives, Executive Document 1, Part 5. "Report of the Secretary of the Interior" Washington: Government Printing Office, 1873. Page vii.
- <sup>56</sup> Bell-Sheetter, Alicia. Food Sovereignty Assessment Tool. Fredericksburg, Va: First Nations Development Institute, 2004. Page 6.
- <sup>57</sup> CBS. "Hunger in America." Charles Kuralt. Narrator. Carousel Films, 1968. At: 35:00±.
- <sup>58</sup> Gundersen, Craig (Iowa State). "Measuring the Extent and Depth of Food Insecurity: An Application to American Indians in the United States." Forthcoming in the National Poverty Center Working Paper Series. Page 25.
- <sup>59</sup> Lopez, Daniel and Tristan Reader. "Nutrition, Diabetes and the Tohono O'odham Food System." Sells, AZ: Tohono O'odham Community Action and Tohono O'odham Community College, 2003. Page 6. Available from: <<http://www.nptao.arizona.edu/research/research.html>>. Accessed 31 Dec 2005.

- <sup>60</sup> Aspenland, Sara and Suzanne Pelican. "Traditional Foods Practices of Contemporary Taos Pueblo." *Nutrition Today*. 27 (1992) 2: 6.
- <sup>61</sup> Bell-Sheetter, Alicia. *Food Sovereignty Assessment Tool*. Fredericksburg, Va: First Nations Development Institute, 2004. Page 3.
- <sup>62</sup> Morland, Kimberly, Steve Wing, Ana Diez Roux and Charles Poole. "Neighborhood Characteristics Associated with the Location of Food Stores and Food Service Places." *American Journal of Preventive Medicine* 22 (2002) 1: 23-29.
- <sup>63</sup> Zenk, Shannon N., Amy J. Schulz, Barbara A. Israel, Sherman A. James, Shuming Bao, and Mark L. Wilson. "Neighborhood Racial Composition, Neighborhood Poverty, and the Spatial Accessibility of Supermarkets in Metropolitan Detroit." *American Journal of Public Health*. 95 (2005): 660-667.
- <sup>64</sup> Morton, Lois Wright, Ella Annette Bitto, Mary Jane Oakland, and Mary Sand. "Solving the Problems of Iowa Food Deserts: Food Insecurity and Civic Structure." *Rural Sociology*. 70 (2005) 1: 94-112.
- <sup>65</sup> Skerratt, Sarah. "Food Availability and Choice in Rural Scotland: the Impact of 'Place'." *British Food Journal*. 101 (1999) 7: 537-544.
- <sup>66</sup> Macro International, Inc. "Geographic Analysis of Retailer Access." USDA Office of Analysis and Evaluation, FSP-174. 18 Sept 95. Calverton, MD: USDA.
- <sup>67</sup> Furey, Sinéad, Heather Farley, and Christopher Strugnell. "An Investigation into the Availability and Economic Accessibility of Food Items in Rural and Urban Areas of Northern Ireland." *International Journal of Consumer Studies*. 26 (2002) 4: 313-321.
- <sup>68</sup> Pareo-Tubbeh, Shirley L., Marvin Shorty, Mark C. Bauer, and Emmanuel Agbolosoo. "The Variety, Affordability, and Availability of Healthful Foods at Convenience Stores and Trading Posts on the Navajo Reservation." Tucson, AZ: Native Peoples Technical Assistance Office; The University of Arizona, 2000. Available from: <<http://www.nptao.arizona.edu/research/research.html>>. Accessed 31 Dec 2005.
- <sup>69</sup> Narayan, Venkat, James P. Boyle, Theodore J. Thompson, Stephen W. Sorensen, David F. Williamson. "Lifetime Risk for Diabetes Mellitus in the United States." *Journal of the American Medical Association*. 290 (2003) 14: 1884-1890.
- <sup>70</sup> American Diabetes Association. "Economic Costs of Diabetes in the U.S. in 2002." *Diabetes Care*. 26 (2003) 3: 917-932.
- <sup>71</sup> New Mexico Department of Health, Diabetes Prevention & Control Program. "Cost of Diabetes in New Mexico." <[http://www.diabetesnm.org/pdf/annual\\_costs.pdf](http://www.diabetesnm.org/pdf/annual_costs.pdf)>. Accessed 15-Jan-2006. "This cost does not include care and treatment provided by dental, eye, podiatric and dietary professionals, costs associated with school-based and public health clinics, many vision products, research, over-the counter medications and indirect expenditures associated with lost productivity – lost workdays and lost earnings due to disability and death."
- <sup>72</sup> New Mexico Department of Health, Diabetes Prevention & Control Program. "Cost of Diabetes in New Mexico." <[http://www.diabetesnm.org/pdf/annual\\_costs.pdf](http://www.diabetesnm.org/pdf/annual_costs.pdf)>. Accessed 15 Jan 2006.
- <sup>73</sup> Diabetes Prevention Program Research Group. "Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin." *New England Journal of Medicine*. 246 (2002) 6: 398.
- <sup>74</sup> Tuomilehto, Jaakko, Jaana Lindström, Johan G. Eriksson, Timo T. Valle, Helena Hamalainen, Pirjo Ilanne-Parikka, Sirkka Keinanen-Kiukaanniemi, Mauri Laakso, Anne Louheranta, Merja Rastas, Virpi Salminen, Sirkka Aunola, Zygimantas Cepaitis, Vladislav Moltchanov, Martti Hakumaki, Marjo Mannelin, Vesa Martikkala, Jouko Sundvall, and Matti Uusitup. "Prevention of Type 2 Diabetes Mellitus by Changes in Lifestyle among Subjects with Impaired Glucose Tolerance." *New England Journal of Medicine*. 344 (2001) 18: 1343-1350.
- <sup>75</sup> Hill, James O. and John C. Peters. "Environmental Contributions to the Obesity Epidemic." *Science*. 280 (1998): 1371-1374.
- <sup>76</sup> McDermott, Robyn. "Ethics, Epidemiology and the Thrifty Gene: Biological Determinism as a Health Hazard." *Social Science & Medicine* 47 (1998) 9: 1189-1195.
- <sup>77</sup> Khan, Asya, Shawarna S. Lasker, Tahseen A. Chowdhury. "Are Spouses of Patients With Type 2 Diabetes at Increased Risk of Developing Diabetes?" *Diabetes Care* 26 (2003) 3: 710-712.



- <sup>78</sup> Ravelli, ACJ, JHP van der Meulen, RPJ Michels, C Osmond, DJP Barker, CN Hales, OP Bleker. "Glucose Tolerance in Adults After Prenatal Exposure to Famine." Lancet 351 (1998): 173-177.
- <sup>79</sup> Lazar, Mitchell A. "How Obesity Causes Diabetes: Not a Tall Tale." Science. 307 (2005): 373-375.
- <sup>80</sup> Feng J He, Caryl A Nowson, and Graham A MacGregor. "Fruit and Vegetable Consumption and Stroke: Meta-analysis of Cohort Studies" Lancet. 367 (2006): 324.
- <sup>81</sup> Ford, Earl S. and Ali H. Mokdad. "Fruit and Vegetable Consumption and Diabetes Mellitus Incidence Among U. S. Adults." Preventive Medicine 32 (2001): 33-39.
- <sup>82</sup> Sturm, R. and A. Datar. "Body Mass Index in Elementary School Children, Metropolitan Area Food Prices and Food Outlet Density." Public Health. 119 (2005) 12:1059-1068.
- <sup>83</sup> New Mexico Department of Health, Public Education Department, and The University of New Mexico Prevention Research Center. "New Mexico Youth Risk and Resiliency Survey (YRRS): 2003 State Report of Results." <<http://www.ped.state.nm.us/div/sipds/health/dl/yrrs.2003.final.report.pdf>>. Accessed 15-Jan-06. Page 20.
- <sup>84</sup> Usher, Charles L., David S. Shanklin and Judith B. Wildfire. Evaluation of Food Distribution Program on Indian Reservations. (1990) Page ES9.
- <sup>85</sup> *Ibid.* Page ES9
- <sup>86</sup> Laraia, Barbara A., Anna Maria Siega-Riz, Jay S. Kaufman, and Sonya J. Jones. "Proximity of Supermarkets is Positively Associated with Diet Quality Index for Pregnancy." Preventive Medicine. 39 (2004): 869-875.
- <sup>87</sup> McGrath Morris, Patricia, Mark Bellinger, and Ellen Haas. Higher Prices, Fewer Choices: Shopping for Food in Rural America. Washington, DC: Public Voice for Food and Health Policy, 1990. Page 43.
- <sup>88</sup> New Mexico Department of Health. "Strategies for Fiscal Year 2007." <<http://www.health.state.nm.us/pdf/strategicplanfy07.pdf>>. Accessed 15-Jan-2006.
- <sup>89</sup> New Mexico Department of Health. "New Mexico Cancer Plan 2002-2006." <[http://www.cancernm.org/docs/pdf/nm\\_cancer\\_plan\\_02-06.pdf](http://www.cancernm.org/docs/pdf/nm_cancer_plan_02-06.pdf)>. Accessed 15-Jan-2006. Page 38.
- <sup>90</sup> Brooklyn District Public Health Office, New York City Department of Health and Mental Hygiene. "Eating In, Eating Out, Eating Well: Access to Healthy Food in North and Central Brooklyn." <<http://www.nyc.gov/html/doh/downloads/pdf/dpho/dpho-brooklyn-report2006.pdf>>. Accessed 24-Jan-2006.
- <sup>91</sup> Santora, Marc. "New York Pushing Better Diet in Poorer Neighborhoods." The New York Times 20-Jan-2006.
- <sup>92</sup> "National School Lunch Program." Internet Site. <[http://www.frac.org/html/federal\\_food\\_programs/programs/nslp.html](http://www.frac.org/html/federal_food_programs/programs/nslp.html)>. Washington, DC: Food Research and Action Center. Accessed 8 Feb 2006.
- <sup>93</sup> Bartfeld, Judy. "State-Level Predictors of Food Insecurity and Hunger Among Households with Children." Contractor and Cooperator Report No. 13. Washington, DC: Economic Research Service, USDA, October 2005. Page 23.
- <sup>94</sup> National Wartime Nutrition Program. "The Official Nutrition Program." [7-fold Pamphlet] Battle Creek, MI: Kellogg Company, 1942. From: Ad Council Collection Box 23, Food Fights for Freedom, 1941-1944. Duke University Special Collections, Durham, NC.
- <sup>95</sup> Palm, Rebel. "Results of New Mexico State Department of Education's 2002 School Health Education Profile." Internet Document. <<http://www.healthierschools.org/SHEP%20finalrpt%204-2003.pdf>>. Accessed 15-Jan-2006. Page 2.
- <sup>96</sup> New Mexico Department of Agriculture, United States Department of Agriculture national Agriculture Statistics Service. "New Mexico Agricultural Statistics 2004." Page 9.
- <sup>97</sup> New Mexico Farmers Market Association. "Summary of 2004 Data on Customers, Vendors and Gross Sales." July 2005.
- <sup>98</sup> Conversation with Craig Maple, New Mexico Department of Agriculture.

<sup>99</sup> Christensen, Nendra K., Ann W. Sorenson, Deloy G. Hendricks, and Ronald Munger. "Juniper Ash as a source of calcium in the Navajo diet." Journal of the American Dietetic Association. 98 (1998) 3:333-334.

<sup>100</sup> Weaver-Missik, Tara. "Boning up on Navajo Food Habits. Agricultural Research. 49 (2001) 6:16.

<sup>101</sup> Pareo-Tubbeh, Shirley L., Marvin Shorty, Mark C. Bauer, and Emmanuel Agbolosoo. "The Variety, Affordability, and Availability of Healthful Foods at Convenience Stores and Trading Posts on the Navajo Reservation." Tucson, AZ: Native Peoples Technical Assistance Office; The University of Arizona, 2000. Available from: <<http://www.nptao.arizona.edu/research/research.html>>. Accessed 31 Dec 2005.

<sup>102</sup> *Ibid*

<sup>103</sup> *Ibid*

<sup>104</sup> Kaufman, Phil R. "Rural Poor Have Less Access to Supermarkets, Large Grocery Stores." Rural Development Perspectives. 13 (1999) 3: 19-26

<sup>105</sup> Alderman Sherri L. and O'Donnell, Kelly. (2003). New Mexico Bare Bones Budget. Albuquerque, New Mexico: New Mexico Voices for Children.

<sup>106</sup> Morris, Patricia McGrath, Mark Bellinger, and Ellen Haas. Higher Prices, Fewer Choices: Shopping for Food in Rural America. Washington, DC: Public Voice for Food and Health Policy, 1990. Page 39.

<sup>107</sup> Morris, Patricia McGrath, Mark Bellinger, and Ellen Haas. Higher Prices, Fewer Choices: Shopping for Food in Rural America. Washington, DC: Public Voice for Food and Health Policy, 1990. Page 24.

<sup>108</sup> Cohen, Barbara. "Community Food Security Assessment Toolkit." Available from <<http://www.ers.usda.gov/publications/efan02013/efan02013.pdf>>. Accessed 5 Jan 2006.

<sup>109</sup> Alderman Sherri L. and O'Donnell, Kelly. (2003). New Mexico Bare Bones Budget. Albuquerque, New Mexico: New Mexico Voices for Children.

<sup>110</sup> Food Research and Action Center. "Child Nutrition Fact Sheet." Available from <<http://www.frac.org/pdf/cnsbp.PDF>>. Internet Document. Accessed 31 Jan 2005.