

# Revitalizing Traditional Food Systems: An Evaluation of Food Sovereignty

## Initiatives on the Navajo Nation



Margeau Valteau

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## Executive Summary

In the United States today, many Native American reservations continue to struggle with poverty, limited resources, food insecurity, and high rates of diet-related diseases. For thousands of years before European colonization, Native Americans survived on healthy diets of foods that they produced, gathered, and hunted. These traditional foods and food systems declined when the Native Americans were forced from their original lands, causing them to lose their food sovereignty and conform to a foreign, “Western” diet. Put on reservations designed to restrict Native Americans in many ways, Native Americans still find it difficult to access healthy foods and grocery stores, causing them to rely on federal food assistance programs. In an effort to combat food insecurity, Native Americans look to food sovereignty—the ability of communities to regain control of their food system, from production to its distribution and consumption to its role in culture—to help their people recreate a healthy food system.

The Navajo Nation, the largest Native American reservation in the United States, is one of the tribes working on (re)creating their healthy food system through food sovereignty strategies. Many of these efforts come from community-based organizations, separate from the Navajo Nation government. This study examines the efforts and programs of five organizations, in the western and central parts of the Navajo Nation, that are currently working to make the Navajo Nation more food sovereign and improve food access and health for the Navajo people. These organizations include: Western Navajo Food Policy Council, Black Mesa Water Coalition, the Navajo Nation Department of Agriculture, Sunrise School for Ecological Living, and the STAR School. In addition, this report examines Navajo Agricultural Products Industry, a 75,000 acre, Navajo-owned farm on the Navajo Nation, and evaluates how, with a few changes, it help the Navajo Nation become more food sovereign.

Through the assessment of the programs initiated by these organizations, many similarities of strategy, such as the emphasis of community gardening, the return to traditional agriculture, and the encouragement of youth to learn traditional agriculture, were identified. The recognized challenges included, the lack of communication and collaboration between organizations, the lack of support from the Navajo Nation government, and the difficulties of abiding with federal rules and regulations. Recommendations for the Navajo Nation to revitalize traditional food systems include, implementing a proposed nation-wide food policy plan, improving federal food assistance programs, and incorporating the initiatives from these organizations throughout the Navajo Nation to ensure the well being of the Navajo people and promote greater tribal sovereignty.

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## Introduction

Before European colonization, Native Americans, or the Indigenous peoples of North American, survived as skilled hunters and gathers that lived off the land. Today, Native American communities suffer higher rates of obesity and diabetes than any other ethnic group in the country. While most of the research conducted on Native Americans' health focuses on biological makeup and genetic influence, only recently did the focus turn to environmental factors and other issues limiting access to healthy food. From the inception, Native American reservations were designed to disadvantage Native Americans in many ways, including access to healthy foods. Due to the rural locations and high poverty rates on reservations, Native Americans today still find it difficult to access healthy foods, such as fresh fruits and vegetables. In addition, colonization forced Native Americans to abandon their dependence on farming their traditional foods and adopt a "Westernized" diet for which their bodies were not biologically fit.<sup>1</sup> Once Native Americans conformed to this "Western" diet, diseases like diabetes and cardiovascular disease began to emerge.

Focusing on the Navajo reservation, the largest Native American reservation in the country, this research project examines interventions that are in place to help improve access to food across the reservation and evaluate whether programs are working towards food sovereignty in order to improve health and restore culture for the Navajo people. The federal food assistance programs such as the USDA Food Distribution on Indian Reservation program (FDPIR), WIC (Women, Infant, and Children) program, and the Supplemental Nutrition Assistance Program (SNAP) aims to provide low-income households on the reservation with food assistance to meet their nutritional needs. However, the accessibility, availability, and affordability of foods,

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<sup>1</sup> Cordan, Loren, S. Boyd Eaton, Anthony Sebastian, Neil Mann, Staffan Lindeberg, Bruce A. Watkins, James H. O'Keefe, and Janette Brand-Miller, "Origins and evolution of the Western diet: health implications for the 21<sup>st</sup> century," *American Society for Clinical Nutrition* 81, no. 2 (2005): 341

especially healthy foods, on the Navajo Nation, low-income or not, is a problem for majority of the Diné<sup>2</sup> (Navajo) people. With only a few grocery stores in the main communities of the Navajo Nation, people have no choice but to obtain foods from convenience stores (which commonly stock only high-energy, low-nutrient foods), or fast food restaurants. To combat these food security issues, community organizations and Navajo Nation programs are working to influence Navajo people to return to their traditional diets and learn traditional Navajo agricultural techniques. Many of these organizations base their work on the concept of food sovereignty. Food sovereignty encourages all people to have the right to safe, nutritious and culturally appropriate food and to food-producing resources with the ability to sustain themselves and their societies.<sup>3</sup> With all of these different programs in place, which ones are working well and are they making a difference in the overall health of the Navajo? Do any of these programs incorporate traditional food practices or provide traditional foods to the Navajo? In addition, if these programs are successful, how can they collaborate or become institutionalized across the Navajo Nation to help the whole population?

Through interviews with the directors of these programs and organizations, this research project evaluates how food security and food access is currently being addressed across the Navajo Nation and will evaluate how the tribe can widely promote food sovereignty to improve the health of the Navajo people. By analyzing how current programs and organizations work to fight food insecurity, I am hypothesizing that the community and independent organization food programs, not directly affiliated by the tribal or federal government, incorporate more food sovereignty principles, or similar strategies, as a goal to reach greater Navajo tribal sovereignty.

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<sup>2</sup> Note: The term “Navajo” is the name given to the Diné people by Spanish conquistadors. “Navajo” people refer to themselves as Diné. For this research the term Diné and Navajo will be used interchangeably throughout.

<sup>3</sup> Food Sovereignty: A Right for All Political Statement of the NGO/CSO Forum for Food Sovereignty, 2002 Rome NGO/CSO Forum for Food Sovereignty, 2

By restoring their healthy and sustainable food system across the Navajo Nation, the Navajo will depend less on the federal government for assistance, which will support the tribe's main goal of self-determination. This report provides analysis of current organizations that are working towards the same goal of providing food security for the Diné. The organization's work will be highlighted in one document that they can use to learn about one another, which will hopefully lead to collaborations. In addition, the goal of this study is to contribute to the promotion of food sovereignty by helping Navajo Nation officials, policy makers, and community members learn about the current projects working improve the Navajo Nation's food system, so they can keep moving forward towards this initiative.

## **Methods**

A case study approach using qualitative data collection methods was used to analyze the approach, barriers, and effectiveness of the organizations that have been addressing food insecurity on the Navajo Nation. To gather information for the case studies, I first researched and assembled background information on food deserts, food sovereignty, the history and culture of the Navajo Nation, the diabetes epidemic of the Navajo people, and how other tribes address their food security issues. With support from Occidental College Department of Politics' Anderson Fund, I traveled twice to Navajo Nation, during winter and spring break, to conduct semi-structured, in-person interviews, with a list of pre-written questions, with the directors of the organizations to gain perspective on their program's framework, resources, goals, obstacles, and future plans. Most of the interviews were scheduled (through email or phone calls) days in advance to accommodate their busy schedules. Because I was staying at my parent's home in Window Rock, Arizona, the capital and center point of the Navajo Nation, I was able to drive and meet each of my interview subjects at their organizations.



This project serves as collaboration with the Diné Policy Institute, which is under Diné College, a public institution of higher education chartered by the Navajo Nation. In addition to completing this project for my Urban and Environmental Policy senior comprehensive project, I am also submitting this report to Diné Policy Institute, which they will use to further their research and analysis on Diné Food Systems, Food Sovereignty and Food Policy. Diné Policy Institute Interim Director James McKenzie and Policy Analyst Dana Eldridge served as mentors for this project by helping me identify which organizations and individuals to interview and they provided me with guidance on analysis and structure of my project.

**Table 1.**

<b>Organization</b>	<b>Interview(s)</b>	<b>Title(s)</b>	<b>Location of Organization</b>
<b>Western Navajo Food Policy Council (WNFPC)</b>	Jamescita Peshlakai and Evelina Y-Maho	<b>J.Peshlakai:</b> Lead Coordinator of Navajo Nation Traditional Agricultural Outreach <b>E.Y-Maho:</b> Security of WNFPC	Flagstaff, Arizona
<b>Black Mesa Water Coalition (BMWC)</b>	Robert Nutlouis	Green Economy Coordinator	Flagstaff, Arizona
<b>Navajo Nation Department of Agriculture (NNDA)</b>	Leo Watchman Jr. and Roxie June	<b>L.Watchman Jr.:</b> NNDA Director <b>R.June:</b> NNDA Principle Planner	Window Rock, Arizona
<b>Sunrise School for Ecological Living</b>	Joe Pacal	Director	Fort Defiance, Arizona
<b>STAR School</b>	Dr. Mark Sorensen	CEO/Director/Principle	Near Flagstaff, Arizona
<b>Navajo Agricultural Products Industry (NAPI)</b>	Tsosie Lewis	CEO	Farmington, New Mexico

The table above lists the organizations and the individuals that I interviewed. Western Navajo Food Policy Council, Black Mesa Water Coalition, and the Navajo Nation Department of Agriculture were organizations suggested by Diné Policy Institute. Sunrise School and the STAR School were suggested early on in my research. Finally, Joe Pacal, from the Sunrise School, suggested Navajo Agricultural Products Industry (NAPI) as another organization.

### ***Information on Diné Policy Institute***

As a research institute that mixes Western research practices with traditional Navajo values and Natural, Traditional, Customary, and Common Laws, Diné Policy Institute, established in 2005, provides technical assistance and advisement to the Navajo Nation Government, Non-Profits, and Researchers. Located on Diné College's campus in Tsaile, Arizona, this Diné Policy Institute's mission is to uphold the integrity of the Diné people and their ability to continue to survive by ensuring positive policy processes embedded in Diné Lifeway Tradition. Diné Policy Institute began researching Diné food systems and food sovereignty in 2011 and have recently received a grant from the First Nations Development Institute's Native Agriculture and Food System Initiative (NAFSI) to fund their continued work to create a regional food policy for the Eastern region of the Navajo Nation and to continue public education and outreach on Diné Food System issues.<sup>4</sup>

### ***Limitations***

Challenges to the research included time to conduct the interviews and the geographic distance from Occidental College in Los Angeles, California to the Navajo Nation, which occupies portions of Arizona, Utah, and New Mexico. Due to time constraints and distance, only organizations inside the central and western regions of the Navajo Nation, with one organization in the northern region in New Mexico, were included in this project. In addition, I was not able

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<sup>4</sup> Diné Policy Institute, Diné College, <http://www.dinecollege.edu/institutes/DPI/policy.php>

to conduct an interview with the Navajo Nation Division of Health; the primary department of the tribe that works to address the health and well being of the Navajo people. Navajo Nation Division of Health also oversees Navajo Nation agencies of the federally funded USDA Food Distribution Program on Indian Reservations, the Special Diabetes Project, and the Women, Infant, and Children Program. For this reason, I was not able to compare federal government programs and community and independent organizations, like I had originally planned at the beginning of my research.

This report includes several sections. Chapter One provides a background of food deserts on Native American reservations and what interventions exist to combat food insecurity for Native Americans. Chapter Two discusses the background of the Navajo Nation and highlights what historical events lead to the Navajo Nation becoming one huge food desert. Chapter Three explores the one grassroots organization, one Navajo Nation government program, and two schools that are currently working to improve the Navajo Nation's food system while encouraging cultural revitalization. Chapter Four discusses the strategies and compares the organizations. Chapter Five will discuss another organization that does not incorporate strategies for food sovereignty, but focuses on growing the Navajo Nation's economic development, and explores how this organization can integrate food sovereignty. Finally, Chapter Six provides policy recommendations to move forward with improving the food system on the Navajo Nation.

### ***Personal story***

I am Diné and I am doing this research for my people. Born and raised on the Navajo Nation, I see my community members and relatives suffer from diet-related illnesses and obesity, and it becomes more noticeable every time I come home, after being away for school. We as a tribe cannot battle these illnesses without first addressing the food security issue, which also

considers our poverty and economy. I conducted this research to understand food access issues on the Navajo Nation and to give light to the hard work that that current organizations and individuals are doing to improve our food systems. The Navajo Nation needs food sovereignty and it needs to be the leader and model for inspiring other tribes to improve their food systems. I hope that this research is helpful for the food sovereignty movement of the Navajo people.

As a child, I would join my mother on the weekends and visit my *masaní* (grandmother) at her home in Woodsprings, Arizona. Woodsprings is located about 15 miles from Ganado, Arizona, one of the main towns of the Navajo reservation. My *masaní* lived about an hours drive from Window Rock, Arizona, where I was raised. The drive to Woodsprings is beautiful, and the land is open and wide and the residents live miles apart from one another, instead of yards. My *masaní* spent most of her day caring for her small crops and her herd of about 50 *dibé* (sheep). The *dibé* meant a great deal to my *masaní* for she would often call my mother early in the mornings in the springtime, just to tell her that a lamb was born. So a visit to Woodsprings was not complete without visiting the *dibé* well. During every visit I would join my *masaní* to herd sheep through the sagebrush filled fields, surrounded by pinon trees. My *masaní* would tell me stories about the land and the animals in Diné, for she did not speak English. Through her stories and teachings, I learned the importance of our connection with the spirit on the land. We Diné have a phrase that represents the essence our philosophy: *Hózhóogo Naasháadoo* meaning *To Walk in Beauty*. This saying means to live in harmony and balance with everything that surrounds you and to recognize that beauty potential in everything you see.

My *masaní* lived a simple life. She grew her own food and raised her own livestock, and she would make beautiful rugs made from the wool of her precious sheep, that she would sell or trade for at the nearby Hubbell Trading Post. She would offer prayers every morning to the

Earth, asking the Holy People to bless her family, her crops, and her sheep. She lived an hour from the nearest grocery store and she did not drive, so her crops and livestock meant a great deal to her. There are only a few Diné, mostly elders, who still live this lifestyle today. Now Diné people rely on federal food assistance commodities, convenience store junk food, and fast food restaurants that obtain their food from large food industries. We cannot forget the way of our ancestors, the original caretakers of this land.

## **Chapter 1**

### **Combating Native American Food Insecurity**

As obesity and diet-related diseases continue to skyrocket today in the United States, the emphasis of promoting active lifestyles continues, but now the focus turns to unhealthy diets and the improvement of food environments. Broadly defined, the food environment includes food stores (e.g. grocery stores, supermarkets, farmer’s markets, corner stores), restaurants, schools, and worksites.<sup>5</sup> Food environment also extends to the identification of the availability, accessibility, and affordability of healthy foods, like fruits and vegetables.<sup>6</sup> A community with a healthy food environment encourages residents to consume healthy foods, which decreases the risk of diet-related health problems. An unhealthy food environment is identified as a “food desert.” Much of the recent focus on “food deserts”—areas with limited, if any, grocery stores—has been on low-income urban areas, but rural areas also face extreme limitations regarding food access.<sup>7</sup> Residents in rural food deserts either live far from a supermarket (where there is a large variety of food products) or their closest access to food is gas stations with convenience stores

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<sup>5</sup> Sheila Fleischhacker and Gittelsohn, Joel, “Carrots or Candy in Corner Stores?: Federal Facilitators and Barriers to Stocking Healthier Options,” 24.

<sup>6</sup> Ibid, 25

<sup>7</sup> Lois Wright Morton and Troy C. Blanchard, “Starved for Access: Life in Rural America’s Food Deserts.” *Rural Realities*, Vol. 1, issue 4, Rural Sociological Society, 2.

(which commonly stock only high-energy, low-nutrient foods), or fast food restaurants.<sup>8</sup> In addition to living in a rural location, low-income residents struggle to find transportation to food stores, which can lead to malnutrition and hunger. With most studies and policies focusing on low-income urban and rural food deserts, little attention has been given to Native American reservations, which are considered some of the largest food deserts in America.

Historically, the creation of reservations disadvantaged Native Americans because, among other factors, they forced Native Americans to abandon their traditional food systems and conform to a foreign diet: the “Western” diet. The “Western” diet refers to foods developed after the Industrial Revolution, including dairy products, cereals, refined sugars, refined vegetable oils, and alcohol.<sup>9</sup> Today, these foods make up 72.1% of the total daily diet consumed by all people living in the United States.<sup>10</sup> Under the Indian Removal Act, between 1778 to 1871, the United States government negotiated hundreds of treaties with Native American tribes, forcing them to cede their land and cease hostilities.<sup>11</sup> In exchange for their land, the United States promised Native American tribes a protected reservation, which was often located in a different location from the tribes’ original land. In addition to the reservations, the U.S. also promised to provide education, health care, and food “rations.” Since the Native Americans were not allowed to leave their new designated lands to hunt, fish, or gather in their usual territories, they were forced to eat government rations of commodities such as flour, lard, and sugar (foods that were completely foreign to their diets before European colonization of the United States). These

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<sup>8</sup> Sheila Fleischhacker and Gittelsohn, Joel, “Carrots or Candy in Corner Stores?: Federal Facilitators and Barriers to Stocking Healthier Options,” 26.

<sup>9</sup> Loren Cordan, S. Boyd Eaton, Anthony Sebastian, Neil Mann, Staffan Lindeberg, Bruce A. Watkins, James H. O’Keefe, and Janette Brand-Miller, “Origins and evolution of the Western diet: health implications for the 21<sup>st</sup> century,” *American Society for Clinical Nutrition* 81, no. 2 (2005): 341

<sup>10</sup> Ibid.

<sup>11</sup> Kenneth Finegold, Nancy M. Pindus, Diane K. Levy, Tess Tannehill, and Walter Hillabrant, “Tribal Food Assistance: A Comparison of the Food Distribution Program on Indian Reservations and the Supplemental Nutrition Assistance Program,” *The Urban Institute*, 17.

cheaper, nutritionally limited foods became the new diet for Native Americans as they lost their ability to maintain their traditional food systems. Without their land and resources, Native Americans had no choice but to rely on the U.S. government. Today, Native American tribes still depend on U.S. government assistance. The food selection on reservations today depend on the cost, availability, and shelf life because most families have limited cash resources and they purchase food on the reservation where selection is limited.<sup>12</sup> To access a supermarket with a larger food selection and more healthy options, Native Americans often have to leave the reservation.

Due to the rural location of many reservations and the low socioeconomic status of the tribe, Native Americans struggle with food insecurity, poverty, and the high rates of diet-related illnesses. Public health institutions recognize Native Americans as having the highest risk of diabetes compared to other groups of Americans and it is estimated that 9.7 percent of the Native American/Alaskan Native population has diabetes today.<sup>13</sup> According to the National Diabetes Education Program, about 16.1 percent of Native American and Alaska Natives ages 20 years and older who receive health care from Indian Health Services have been diagnosed with diabetes.<sup>14</sup> In addition, there was a 110 percent increase in diagnosed diabetes from 1990 to 2009 in Native Americans and Alaska Native youth aged 15-19 years.<sup>15</sup> The 2010 United States Census shows that 28.4 percent of Native American and Alaska Natives live in poverty, which is

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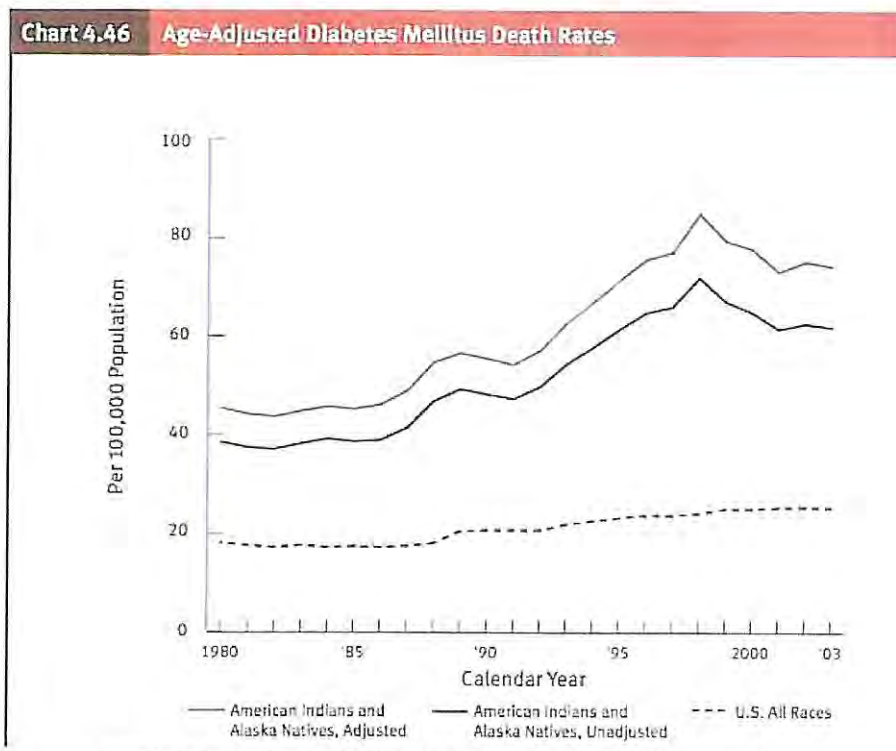
<sup>12</sup> Michèle Companion, "An Overview of the State of Native American Health: Challenges and Opportunities," International Relief and Development, Colorado Springs: University of Colorado, 2008: 20.

<sup>13</sup> Kibbe M. Contri, 2006, Diabetes Prevention in Indian Country: Developing Nutrition Models to Tell the Story of Food-System Change, *Journal of Transcultural Nursing* 17(3): 234.

<sup>14</sup> U.S. Department of Health and Human Services, "National Diabetes Information Clearinghouse (NDIC): The Diabetes Epidemic Among American Indians and Alaska Natives," *National Diabetes Education Program*, [http://ndep.nih.gov/media/fs\\_amindian.pdf](http://ndep.nih.gov/media/fs_amindian.pdf).

<sup>15</sup> Indian Health Services, U.S. Department of Health and Human Services, Diabetes in American Indians and Alaska Natives: Facts At-a-Glance, [http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesFactSheets\\_AIANs08](http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesFactSheets_AIANs08).

13.1 percent more than the United States' poverty rate.<sup>16</sup> The Census Bureau defines deep poverty as living at less than 75 percent of the United States poverty line and one in five Native American reservation residents fall into this category. High rates of diabetes and poverty are only a few of the problems that Native American face on reservations, but arguably, the most important factor affecting Native American health is the lack of nutritious foods. Native American tribes need nutritious foods in order to prevent the growing rate of diabetes, but their low socioeconomic situations cause them to have food insecurity (the inability or uncertainty in acquiring enough food for all household or family members due to insufficient money or other resources).<sup>17</sup> To combat these inequalities and the issues of food access, the federal government provides programs for food assistance.



Trends in Indian Health 2002-2003 Edition, *Indian Health Service (IHS)*

<sup>16</sup> U.S. Department of Commerce, United States Census Bureau, [www.census.gov](http://www.census.gov).

<sup>17</sup> Michèle Companion, "An Overview of the State of Native American Health: Challenges and Opportunities," International Relief and Development, Colorado Springs: University of Colorado, 2008: 14.



## Federal Assistance Programs

The U.S. Department of Agriculture provides six food assistance programs to Native Americans living on or near reservations. These programs include the Food Distribution Program on Indian Reservations (FDPIR), the Supplemental Nutrition Assistance Program (SNAP), the Special Supplement Nutrition Program for Women, Infants, and Children (WIC), the National School Lunch Program, the School Breakfast Program, and the Commodity Supplement Food Program (CSFP). Other than the two school food programs, these four food assistance programs specifically designate Native American and Alaskan Natives as beneficiaries. The FDRPI exists *only* on Native American reservations, in approved areas near reservations, and in approved service areas in Oklahoma (where federally-recognized tribes do not have reservation land).<sup>18</sup> This program provides monthly food packages to low-income individuals and families living on reservations, and the eligibility requirements are similar to those of the SNAP program.

Foods offered through these programs include canned vegetables and fruits, juices, cereals, grains (including whole grain products), pasta, vegetable oil, meats, poultry, canned and dry beans, peanut butter, and egg mix. Although these programs provide a crucial food source for Native Americans, the programs often receive criticism for their overall nutritional quality and its contribution to the current nutrition-related health programs found on all reservations.<sup>19</sup> Since government food distribution programs and grocery stores are the main sources of food and nutrient intake for many reservation residents, many health officials and policy makers look to these sources to analyze reservation food environments. According to a report about Native American health by Michèle Companion, Associate Professor of Sociology at the University of

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<sup>18</sup> Kenneth Finegold, Nancy M. Pindus, Diane K. Levy, Tess Tannehill, and Walter Hillabrant, "Tribal Food Assistance: A Comparison of the Food Distribution Program on Indian Reservations and the Supplemental Nutrition Assistance Program," *The Urban Institute*, 1.

<sup>19</sup> Michèle Companion, "An Overview of the State of Native American Health: Challenges and Opportunities," International Relief and Development, Colorado Springs: University of Colorado, 2008, 21.

Colorado who specializes in the food and livelihood security issues in Native American communities, she states that reliance on federal “food distribution programs may ultimately precipitate, aggravate, or lead to complications associated with cardiovascular disease, diabetes, hypertension, and obesity” (diet-related, “Western” diseases).<sup>20</sup> In addition, if young Native Americans are raised solely on the foods offered by the federal food assistance programs, industrial producers, and large retail operations, they develop a preference for unhealthy foods, which could lead to obesity and other diseases at an early age.

A report by the Urban Institute comparing two federal food assistance programs, the Supplemental Nutrition Assistance Program (SNAP) and the Food Distribution Program on Indian Reservations (FDRIP), analyzed the eligibility, participation, administration, and possible effects on health and nutrition in relation to Native Americans.<sup>21</sup> The results of the study show that FDRIP benefits some Native American households that are not eligible for SNAP and some participating households benefit from the ability to switch between both programs.<sup>22</sup> Although reservations have better access to grocery stores compared to 30 years ago and their economic conditions have improved, tribes would probably struggle with food security if the two federal programs were eliminated. As the participation in SNAP continues to increase, the reliance on federal food programs is apparent on Native American reservations today.<sup>23</sup> FDPIR offers food delivery services for tribe members that live in remote areas, but these arrangements limit the amount of fresh produce and frozen meats that are distributed (due to the distance and lack of sufficient infrastructure). Therefore, tribal members who live in rural locations still have to find

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<sup>20</sup> Ibid., 22.

<sup>21</sup> Kenneth Finegold, Nancy M. Pindus, Diane K. Levy, Tess Tannehill, and Walter Hillabrant, “Tribal Food Assistance: A Comparison of the Food Distribution Program on Indian Reservations and the Supplemental Nutrition Assistance Program,” *The Urban Institute*, 2.

<sup>22</sup> Ibid., 53.

<sup>23</sup> Ibid., 54.

their own means of transportation to pick up food from warehouses (locations differ between tribes). According to the results, the FDPIR program is a desirable alternative to SNAP for tribal members.<sup>24</sup>

Only a few studies address Native American health disparities by examining determinants of Native American food insecurity. These studies identify the dependence of tribes on federal government food programs and they emphasize the need to change the food environment within Native American reservations through quantitative and qualitative data. The results of these studies are similar for tribes throughout the United States. One study was conducted on the Round Valley Indian Reservation community in Northern California, where researchers conducted a community assessment using the Tool for Health and Resilience in Vulnerable Environments (THRIVE) to understand the causes of food insecurity on this rural reservation. Racial injustice, physical and financial barriers to accessing healthy and culturally appropriate foods, and geographical isolation emerged as the primary issues during this study.<sup>25</sup> The THRIVE tool successfully identified the factors impacting the health of this Native American reservation and a few interventions (including Community Support Agriculture (CSA) and EBT payments at farmer's markets) were put forth as strategies to increase access to fresh foods and promote jobs and local ownership that support tribal sovereignty.<sup>26</sup> The findings will guide the Community Coalition members, including tribal leaders, to recreate policy and environmental strategies to reduce food insecurity.

Another study examines the relationship of food provisioning strategies, food insecurity, and stress among residents of the Northern Cheyenne reservation of southeastern Montana.

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<sup>24</sup> Ibid., 55.

<sup>25</sup> Valarie Blue Bird Jernigan, Alicia L. Salvatore, Dennis M. Styne, and Marilyn Winkleby, "Addressing Food Insecurity in a Native American Reservation Using Community-based Participatory Research." *Health Education Research*, Vol. 27, issue 4. (October 11, 2011): 652.

<sup>26</sup> Ibid., 653.

Nearly 70 percent of the members experience some form of food insecurity and about 40 percent of their households have an income below the poverty level.<sup>27</sup> Interestingly, this study reveals that the use of food programs, especially food stamps, generates high levels of stress among tribal recipients because they constantly worry that they will run out of food before the end of the month.<sup>28</sup> The job scarcity and the lack of critical resources (such as phones and transportation needed to access food) cause residents from this community to depend on food stamps, but whether they qualify for food stamps is an issue, as well as the question if the food provided through the program is enough to feed a large family in need. Again, the findings indicate a preference for independence from government food programs and the desire to become more empowered as a tribe, so they can expand their resources and address their food shortage.

### **Native American Food Sovereignty Initiatives**

As a way for Native Americans to diverge from the dependency of federal food assistant programs and the “Western” diet, many tribes turn to food sovereignty to solve their food insecurity issues and help decrease their high diabetes rates. Since Native Americans were forced to conform to an unfamiliar diet and leave behind their traditional diet and lifestyle, Native Americans now look for ways to return to their traditional diets and ensure safe, culturally acceptable food access for all their tribal members. Before European colonization of the United States, Native Americans never had diet-related diseases. These diet-related diseases (also considered the “Western” diseases) did not emerge among Native Americans until they started living on reservations, where they were forced to abandon their land and eat commodity rations. Prior to life on the reservations, Native Americans were hunters and gatherers and consumed a

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<sup>27</sup> Erin Whiting and Carol Ward, “Food Provisioning Strategies, Food Insecurity, and Stress in an Economically Vulnerable Community: The Northern Cheyenne Case.” *Agriculture and Human Values* 27, no. 4 (2010): 490.

<sup>28</sup> *Ibid.*, 502.

seasonal diet. In addition to hunting for game (deer, buffalo, moose) and gathering wild foods, tribes raised livestock and grew their own crops (corn, beans, squash, etc).

Genetic research indicates that Native Americans have a higher prevalence of what is known as the “thrifty gene,” a genetic predisposition that allows the body to adapt to feast or famine conditions.<sup>29</sup> This “thrifty gene”, a term originally coined by James Neel in 1962, modifies the regulation of insulin release and glucose storage, allowing individuals to build up and store energy (fat), especially during the winter season, which provided a survival advantage to the hunter and gardener.<sup>30</sup> When the summer season returned, the “thrifty gene” set point would raise, allowing the body to burn more calories and store less fat.<sup>31</sup> Since Native Americans no longer spend their days hunting and gathering to survive, their bodies do not have to rely on this genetic adaptation. Once Native Americans began to rely on federal food assistance (which provided readily accessible commodities), they experienced a sharp reduction in physical activity and their bodies began to produce an over-accumulation of energy storage.<sup>32</sup> These changes then link to the propensity of Native Americans to become obese, which also leads to the development of diabetes more easily than those who do possess a higher prevalence of this gene. These studies on the genetic complexity of Native Americans have been at the forefront of research, creating racial “scientific” biases that concentrate on genetics instead of upstream

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<sup>29</sup> W. LaDuke, “Food as Medicine,” *Recovering the Sacred: The Power of Naming and Claiming* (Cambridge: South End Press, 2005), 198.

<sup>30</sup> Timothy J. Richards and Paul M. Patterson, “Native American Obesity: An Economic Model of the “Thifty Gene” Theory,” *American Journal of Agricultural Economics* 88, no. 3 (2006): 542

<sup>31</sup> W. LaDuke, S. Alexander, B. Bodonyi, N. Marker, Honor the Earth (Organization), and White Earth Land Recovery Project (Minn.), *Food Is Medicine: Recovering Traditional Foods to Heal the People*. (Honor the Earth, 2004) 7.

<sup>32</sup> *Ibid.*

factors<sup>33</sup> that lead to poorer health outcomes. However, Native Americans are now increasingly focusing on the social and economic causes related to the high rates of diabetes.

Native Americans today are looking to rebuild their traditional agriculture and use their traditional lifestyles as a model to eat better and live healthier. Tribes believe that if they return to their traditional diet and reclaim local food systems, they will become healthier and the issues of food access will decrease. By consuming foods that their bodies are not only historically adapted to, but also healthier, Native American can decrease the chances of developing diet-related diseases, or “Western” diseases. The term “Western diseases” was introduced by researcher Denis Burkitt, and it referred to the diet- and lifestyle-related diseases associated with Western and industrial populations. These included obesity, Type II diabetes, varicose veins, diverticulosis, appendicitis, kidney stones, and some forms of cancer.<sup>34</sup> An interesting study conducted in Australia with a group of Aboriginals, who only recently adopted a Western diet and lifestyle, tested whether it was possible to reverse the effects of a Western diet and lifestyle. This group of Aboriginals, who were diabetic and had high blood pressure, returned to their traditional low-calorie, nutrition dense diet (which included fish, figs, yams and kangaroo), for a two-month period. After two months, the participants lost an average of fifteen pounds, their high blood pressure returned to normal levels, and their blood sugar levels dropped indicating that a major lifestyle change can prevent and reverse Western diseases.<sup>35</sup>

The concept of food sovereignty identifies as the right of peoples, communities, and countries to define their own agricultural, labor, fishing, food and land policies which are

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<sup>33</sup> Upstream factors consider housing, neighborhood conditions, and increased socioeconomic status as a way to measure health status.

<sup>34</sup> Hugh C. Trowell and Denis Parsons Burkitt, *Western Diseases: Their Emergence and Prevention* (Cambridge, MA: Harvard University Press, 1981).

<sup>35</sup> Michael P. Milburn, “Indigenous Nutrition: Using Traditional Food Knowledge to Solve Contemporary Health Problems,” *The American Indian Quarterly* 28 no. 3&4 (2004). 416.

ecologically, socially, economically and culturally appropriate to their unique circumstances.<sup>36</sup> This includes the right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food and food-producing resources, in order to sustain their societies.<sup>37</sup> This definition of food sovereignty was formed at the 2002 Rome NGO/CSO Forum for Food Sovereignty, a periodic event that invites farmers, organizations, indigenous people, environmentalist, trade unions, and NGOs to gather and discuss global hunger issues and policies. The term was first coined in 1996 by the international peasants' movement, La Via Campesina. At the 2<sup>nd</sup> Global Consultation on the Right to Food, Food Security and Food Sovereignty for Indigenous Peoples in 2006, coordinated by the International Indian Treaty Council (IITC) in partnership with the United Nation Food and Agriculture Organization/SARD Initiative and el Centro para la Autonomía y Desarrollo de los Pueblos Indígenas, Nicaragua (CADPI), Indigenous rights activists, community leaders and traditional food producers from six regions (North America, Latin America, Africa, Asia, Pacific, and Arctic) met to develop and build on previous Food Sovereignty work. At this consultation, these leaders developed a set of tools called the “Cultural Indicators for Food Security, Food Sovereignty and Sustainable Development,” to help UN agencies, development institutions, NGO’s and Indigenous communities.<sup>38</sup> Increasingly, Native Americans are using these “cultural indicators” to get involved in the movement for food sovereignty as they restore their livestock, plant crops and

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<sup>36</sup> Food Sovereignty: A Right for All Political Statement of the NGO/CSO Forum for Food Sovereignty, 2002 Rome NGO/CSO Forum for Food Sovereignty, 2

<sup>37</sup> Ibid., 2.

<sup>38</sup> The 2nd Global Consultation on the Right to Food and Food Security for Indigenous Peoples, “Cultural Indicators for Food Security, Food Sovereignty, and Sustainable Development: Conclusions and Recommendations” (2006)

gardens, increase water-quality standards, teach traditional ways for preparing meats and vegetables, and reclaim their traditional lands.<sup>39</sup>

**Box 1.1: The Eleven “Cultural Indicators for Food Security, Food Sovereignty and Sustainable Development”:**

1. Access to security for and integrity of lands, territories and natural resources for traditional food production
2. Abundance, scarcity and/or threats to traditional seeds, plant foods and medicines, food animals, as well as cultural practices associated with their protection and survival
3. Consumption and preparation of traditional plant and animal foods and medicines, ceremonial/cultural and household use
4. Continued practice of ceremonies, dances, prayers, songs and stories and other cultural traditions related to the use of traditional foods and subsistence practices
5. Preservation and continued use of language and traditional names for foods and processes
6. Integrity of and access to sacred sites for ceremonial purposes related to use of traditional foods
7. Migration and movement away from traditional lands, return patterns and relationships to continued use of traditional foods
8. Effective consultations for planning, implementation and evaluation applying free, prior informed consent and full participation
9. Mechanisms created by and accessible to Indigenous Peoples for transmission of food-related traditional knowledge and practices to future generations
10. Adaptability, resilience, resistance and/or restoration of traditional food use and production in response to changing conditions
11. Ability of Indigenous Peoples to implement rights, legal norms and standards as well on the community, national and international levels

*Completed at the 2<sup>nd</sup> Global Consultation on the Right to Food and Food Security for Indigenous Peoples*

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<sup>39</sup> KM Conti, 2006, Diabetes Prevention in Indian Country: Developing Nutrition Models to Tell the Story of Food-System Change. *Journal of Transcultural Nursing* 17(3): 235.



## **Tribal Food Interventions**

### *White Earth Land Recovery Project*

A few Native American tribes in the past decade have implemented policies that redevelop their local food systems and recover their forgotten cultural traditions. These tribes believe that their food insecurity issues across their reservations can be addressed by understanding the traditional diet and agriculture of their ancestors. By re-establishing sustainable living practices, Native populations can break away from the commodity foods provided by federal government programs and address their obesity and diabetes epidemics. A popular and successful example of this Native American food sovereignty movement is the White Earth Land Recovery Project (WELRP), which is located on the White Earth Indian Reservation, Minnesota's largest reservation of the Anishinaabe tribe. The founder of this project, Winona LaDuke (Anishinaabe), is an internationally acclaimed author, orator and activist devoted to protecting the lands and life ways of Native communities.<sup>40</sup> The mission of the White Earth Land Recovery Project is to facilitate recovery of the original land base of the White Earth Indian Reservation, while preserving and restoring traditional practices of sound land stewardship, language, fluency, community development, and strengthening our spiritual and cultural heritage.<sup>41</sup>

This organization works to obtain important, traditional lands of the White Earth tribe so they can obtain traditional foods for nutrition and medicines for healing. In addition, this project works to restore traditional agriculture so they can cultivate native foods and have them easily accessible to their people. Native Harvest, the online catalogue of native foods and products produced through the White Earth Land Recovery Project, works to revive and protect native

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<sup>40</sup> Honor the Earth, Honor the Earth, 2011, <http://www.honortheearth.org>.

<sup>41</sup> White Earth Land Recovery Project, White Earth Land Recovery Project, 2012, <http://www.welrp.org>.

seeds, heritage crops, naturally grown fruits, animals, wild plants, traditions and the knowledge of indigenous and land-based communities.<sup>42</sup> This online catalog is open to the public, allowing anyone with internet access to order traditional foods of the Anishinaabe online. Not only does this tribe successfully incorporate food sovereignty practices by producing their own healthy foods, the White Earth Land Recovery Project also allows the tribe to strengthen their cultural heritage and economy.

### *InterTribal Bison Cooperative*

In an effort to reduce dependence on outside food sources and gain access to better quality meat, the InterTribal Bison Cooperative (ITBC), a group representing 57 tribes from 18 states, advocates for tribes to raise organic, free range bison. Before reservation life, many Native American tribes, particularly the Plains tribes, relied on bison as their primary food source. Once Euro-Americans converted the land to fit their demands, bison quickly became scarce. A study conducted in 2006 discusses how bison products became incorporated into the Food Distribution Program on Indian Reservations (FDPIR). To bring about this policy, cultural traditions, health problems, and economic concerns were considered.<sup>43</sup> Producing bison and providing it to tribes does more than provide an organic, free range meat to tribal members, it also empowers the tribe to reclaim their heritage and traditional dependence and connection to the bison.<sup>44</sup> Instead of just focusing on efforts to restore traditional foods on a local level, this study provides an example of native foods being incorporated into a federal government food program. However, problems occurred with the raising and purchasing of bison meat, which led

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<sup>42</sup> White Earth Land Recovery Project & Native Harvest Online Catalog, Native Harvest, 2006, <http://nativeharvest.com>.

<sup>43</sup> David Lulka, "Bison and the Food Distribution Program on Indian Reservations." *Great Plains Research: A Journal of Natural and Social Sciences* (April 1, 2006): 73

<sup>44</sup> *Ibid.*, 75.

to several structural inequalities within the program. Although the idea of including bison, a traditional Native American food, into the FDPIR program is innovative, problems still exist.

### *Native Seeds/SEARCH and Tohono O'odham Community Action*

Native Seeds/SEARCH is a non-profit organization based in Tucson, Arizona that conserves, distributes, and documents diverse varieties of agriculture seeds of the American Southwest and northwest Mexico to promote the return of ancient crops in Indigenous communities.<sup>45</sup> Since 1983, this organization has grown native seeds in a state-of-the-art conservation facility and stores nearly 2,000 varieties of aridlands-adapted seeds in their seed bank. These seeds can be ordered through their online store or at their retail store in Tucson. Native Seeds/SEARCH researched native O'odham food samples to uncover their nutritional value and to analyze their impact on blood sugar levels, insulin, and diabetes. Looking at acorns, mesquite pods, tepary beans, and prickly pear cactus, the studies revealed that these foods slowed down the release of sugars into the blood stream, increased insulin sensitivity, and extended the period over which nutrients were absorbed into the body.<sup>46</sup> To further test these results, co-founder of Native Seeds/SEARCH Gary Nabhan conducted an experiment with ten O'odham diabetics who only ate native O'odham foods and exercised at the same level of their farming ancestors for ten days. At the end of the experiment, all participants' blood sugar levels and weight decreased dramatically.<sup>47</sup> With the knowledge that these native foods protect Native Americans from an imbalance of blood sugar and insulin, Nabhan worked with Tohono O'odham Community Action (TOCA), Native Seeds/SEARCH, and Seri Indians of Mexico to organize the Desert Walk. This walk invited tribal youth and diabetic individuals to walk from

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<sup>45</sup> Native Seeds/SEARCH: Home, Native Seeds/SEARCH, 2013, <http://www.nativeseeds.org/>.

<sup>46</sup> LaDuke, Winona, "Food as Medicine," *Recovering the Sacred: The Power of Naming and Claiming* (Cambridge: South End Press, 2005), 201.

<sup>47</sup> Ibid.