

Understanding Food Insecurity in Nevada:
An Assessment of Food Policy Councils and Their Impacts

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A thesis submitted to the
University of Colorado at Boulder
In partial fulfillment
Of the requirements to receive
Honors designation in
Environmental Studies
May 2017
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Abstract

This project analyzes food policy councils (FPCs) as new body of stakeholders developing solutions to food system failures in the modern food system. Focusing on the case study of Nevada, this thesis evaluates FPCs and other food system actor's role in shaping food policy in Nevada, primarily, in alleviating food insecurity in comparison to more traditional interventions. Nevada is a geographically and demographically diverse state that places great pressure on its resources to achieve food security in both urban and rural areas. Survey data was collected from Nevada's three FPCs, multiple food banks, and other key stakeholders in the food system to generate qualitative data and empirical evidence on the key characteristics of these organizations, and barriers hindering success. The collected data was organized into three categories of successfulness of FPCs, barriers to food policy and urban and rural trends. Through this organization, I was able to discern some barriers and identify potential opportunities to improve the policy conditions and implementation of FPCs in Nevada, which was put into context with additional research. The purpose of my research was to fill the gap in research done specifically on Nevada's FPCs and organizations involved in food policy on a state level. I offered two recommendations based on my research to increase food policy actor's collaboration and for Nevada FPCs to better achieve past cited potentials of other FPCs in the United States.

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Preface

This thesis project is being submitted to the University of Colorado as part of the requirements to receive honors designation in the Undergraduate Environmental Studies Program. The idea for this thesis came to me while working at a local food drive in my hometown of Incline Village, Nevada. I recognized that there was a great need for food in my small mountain ski town and I realized the scope of food insecurity must be far greater Nevada's urban centers. I questioned how food insecurity was being addressed in a state that was so geographically diverse. Through further investigation, I discovered Nevada's Food Policy Councils and I was immediately intrigued by these organizations unique, community centered approach to solving food insecurity. These organizations appeared to be able to find diverse solutions to community based problems through tested research and I wanted to know more about FPC's history, structure and successes. Being raised in a rural community and having hands-on experience with rural residents who are food insecure I sought to ensure that these people's needs are being addressed by food policy equally to those living in urban areas. I have great pride for my home state and this project allowed me to delve deeper in the policy that shapes the state's food system in hopes of benefitting the communities I grew up in.

I would like to express my greatest appreciation to my advisors Kelly Simmons, John Lanterman and Dale Miller for the support and guidance through the duration of this project. I would also like to thank my family and friends for encouraging me to challenge myself and offering support through any difficulties this project created. Without them and my advisors the completion of this thesis would not have been possible.

Introduction

Increasing numbers of consumers are concerned about the quality and quantity of food reaching their plates; individuals are demanding more accountability in the way in which their food is produced. In response to this growing consciousness, food awareness movements have surfaced, focusing on the overall sustainability (social, economic, and environmental) of the food supply chain. Community groups based around local food issues assume active roles in the design and direction of their food system. These groups – comprised of stakeholders at local, regional, state, and federal levels – bring together all sectors of the food system, production, processing, distribution, consumption, and waste recovery to form food policy councils (FPCs). FPCs are a relatively new form of autonomous political organization designed to directly address a community's food policy needs by reducing fragmentation of more traditional food system and food policy models.

My senior honors thesis explored drivers of food insecurity in Nevada and the impact of FPCs and other government-supported food security programs on food insecurity in both rural and urban parts of the state. My research examined the reach of these FPCs and food security program and potential barriers to their success. Using a survey method approach, I asked FPC leaders and stakeholders in Nevada to describe the policy process and scope of activities that currently address food insecurity and policy.

Because Nevada is my home state, I am deeply connected to the small, mountain community in which I grew up. I am familiar with the geographic, economic, social, and cultural variability that drive decisions making and politics in Nevada. Only small pockets of the state are urban and socioeconomically sound, the rest of the state is rural, grounded in agriculture, and economically depressed. Throughout my childhood I volunteered at

food drives in my hometown of Incline Village, but as I grew older I realized the need for food in my small town was miniscule compared to the surrounding areas. Specifically, as I spent more time in Reno food banks, I began to gain insight into the scope of food insecurity in Nevada, which prompted my investigation into how FPCs might successfully approach food security in urban and rural areas.

The goal of my project has been to uncover whether existing food programs and policies in Nevada are designed to aid the entire state and not just urban, affluent pockets. Three questions framed my research of FPCs as a modern, integrated model to minimize food insecurity in Nevada. First, I explored whether the emergence of the FPC model in Nevada has improved food security conditions. Next, I investigated whether FPCs extend beyond urban centers in Nevada to address the unique policy issues of more rural areas. Finally, I examined current policy opportunities and challenges for FPCs in Nevada. This project was designed to analyze existing food policy and the emergence of FPCs to identify gaps in existing food policies in Nevada. Through my findings I was able to develop recommendations to better meet the state's food system needs.

Background

The three food policy councils in Nevada have the goal to create long-term food security through policy work. Without proper leadership it is difficult to develop a strategy where food programs work together and supplement each other in all sectors of the food system. Nevada's FPCs have the opportunity to be the body of stakeholders that takes this role to remedy food insecurity and hunger in the state through the creation and implementation of the strategic Nevada Food Security Plan 2012. By following the goals and priorities of the

food security plan, Nevada FPCs strive to create short, mid and long-term strategies to food security.

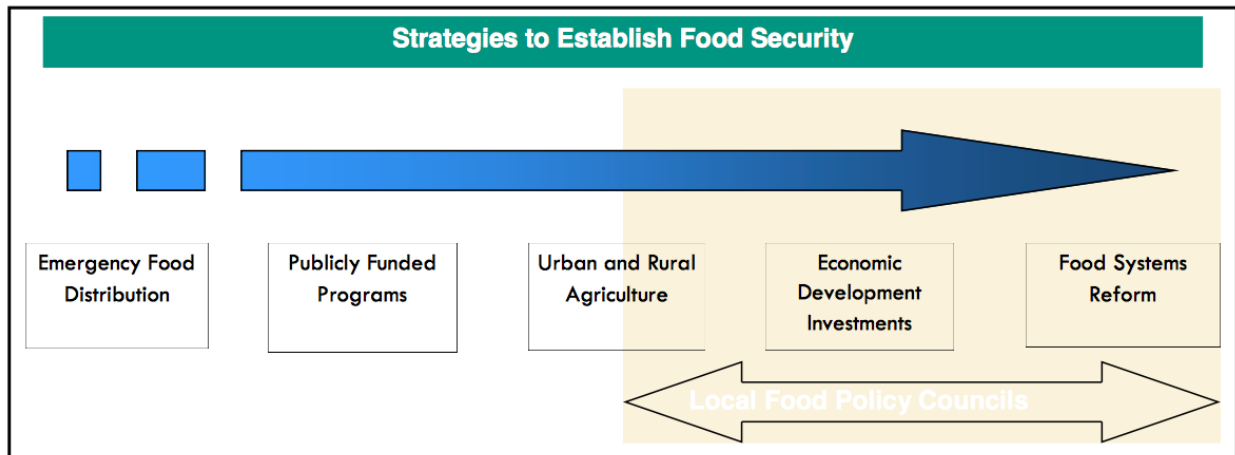


Figure 1. Nevada Food Policy Councils Short, Mid and Long Term Strategies to Achieve Food Security in the State (Nevada Food Security Plan, 2012).

The Nevada Food Security Plan 2012 established four workgroups to target policy in different sectors of the system. As stated in the 2012 plan, “The Grow Nevada workgroup addressed food issues related to economic development and agriculture business; Feed Nevada focused on eligibility, outreach, access, and nutrition education; Reach Nevada dealt with logistics, execution, purchase, storage, and distribution; and finally the Lead Nevada workgroup addressed policy and leveraging related to food security (Nevada Food Security Plan, 2012). It is through these workgroup’s that Nevada hopes to reduce the barriers to food insecurity in the state and better democratize the food system through hands-on community engagement.

Literature Review

What is Food Insecurity?

Food security is defined by the FAO as, “exist[ing] when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern” (FAO, 2003). Food insecurity is defined as “exist[ing] when people do not have adequate physical, social or economic access to food as defined above” (FAO, 2003).

History of Food Insecurity in the United States

Food insecurity first emerged and was widely recognized in the United States during the Great Depression when a large portion of the U.S. workforce was unemployed. Farmers were struggling to pay off industrial farming equipment purchased in the wake of the technological advances during the Industrial Revolution (Levine, 2010). These factors contributed to all-time high food prices, despite high levels of agricultural production (Gregory & Coleman-Jensen, 2013). In response, Congress implemented a program in 1932 allowing the government to purchase excess wheat supplies and donate them to hunger relief charities, which improved food security and kept farm production levels high due to sustained demand. For the next two decades, the federal government instituted additional food support networks, including Food Stamps (now the Supplemental Nutritional Assistance Program, or SNAP) and the National School Lunch Program, both of which remain central in combatting food insecurity and hunger (Andrews and Clancy, 1993).

Until the 1980s, the United States did not face another nationwide epidemic of food insecurity, and the programs implemented in response to the Great Depression were successful in improving food security conditions (Andrews and Clancy, 1993). However, in the early 1980s, an economic recession forced the federal government to cut funding for social programs, which resurfaced hunger and food insecurity nationwide. During this time, unemployment rates increased dramatically and many food insecure households began to depend on food banks and faith-based food pantries for their meals. In response, the number of food banks grew to meet the needs of intensifying food insecurity (Andrews and Clancy, 1993). These programs have remained and become major pieces of the policy infrastructure to battle food insecurity in the United States.

Current Food System Patterns in the United States

Food insecurity remains a significant challenge in modern America, and food system failures have long plagued all regions of the United States. Existing patterns in food insecurity have revealed rates that are slightly higher in the western U.S. than in the Midwest or Northeast (Nord et al., 2008). For example, Nevada has experienced a fifty percent increase in food insecurity in the past five years, with over 14 percent of the population considered food insecure (Nevada Food Security Plan, 2012). A number of characteristics drive these trends and higher rates, including economic, social, demographic, and geographic conditions.

Currently there are 43.1 million (13.5 percent) Americans in the United States living in poverty (Feeding America, 2015). Of those who are impoverished, 42.2 million of them live in food insecure households comprising 29.1 million adults and 13.1 million children (FAO, 2015). In the United States, households with children (17 percent), especially

households with children headed by single women (30 percent) or single men (22 percent), Black non-Hispanic households (22 percent) and Hispanic households (19 percent) had higher rates of food insecurity than the national average (Feeding America, 2013). In addition to these statistics, 5.4 million (9 percent) seniors are categorized as food insecure (Feeding America, 2013). Federal food system remedies have had limited success in targeting local issues, often because they are so far removed from the local challenges. Federal programs are so broad in application they typically are ineffective at directly impacting local and regional food system failures.

The geographic drivers behind food insecurity also cannot be overlooked. A study in 2015 found that food insecurity exists in every county of the United States with rates ranging from 4 percent to as high as 38 percent (Feeding America, 2015). Mississippi (20.8%), Arkansas (19.2%), Louisiana (18.4%), Alabama (17.6%), Nevada (14.9%), Kentucky (17.6%), Ohio (16.1%), Oregon (16.1%), North Carolina (15.9%), Maine (15.8%), Oklahoma (15.5%), Texas (15.4%) and Tennessee (15.1%) are the some of the states with counties that rank above the national average (Feeding America 2015).

Measuring Food Insecurity

To better understand and monitor food insecurity, the United States Department of Agriculture (USDA) created a system called the Community Food Security Assessment Toolkit that ranks households as high, marginal, low or very low (USDA, 2016). The USDA uses this spectrum to assign households a food security ranking. Additionally, terms like “food desert” have emerged in recent years to serve as indicators of food insecurity. The USDA identifies a food desert as: “parts of the country vapid of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. ... largely due to a lack of

grocery stores, farmers' markets, and healthy food providers" (USDA, 2016). Currently 6,500 food deserts have been identified in the United States; with 75 percent in urban areas and the remaining 25 percent are rural (USDA, 2016). Exacerbating these conditions 11.5 million people (4.1 percent) live in low-income areas more than one mile from a supermarket (National Coalition for the Homeless, 2016). Proximity to a grocery store is especially problematic for rural communities and population inequalities often weight policy to serve more populated areas (Feeding America, 2016).

Rural and Urban Food Insecurity

More households in rural communities are ranked as "very food insecure" than in urban settings in the United States (Feeding America, 2016). According to Feeding America 2016, 15% of all rural households, or 2.8 million households, are food insecure. Fifty percent of counties with the highest rates of food insecurity (those in the top ten percent) are in rural areas (Feeding America, 2016). In comparison, only 26% of urban counties fall into the same food insecurity bracket. Paradoxically, rural areas that grow the majority of the population's food frequently lack access to nutritious food options (National Coalition for the Homeless, 2016).

In the most rural areas, local economics can influence the food security of the region due to grocery stores that are difficult to keep open due of a lack of consumers and distance from distributors (Wright, 2016). Food banks can remedy the issue, but most food banks do not distribute fresh products. Small towns will often have convenience stores, which also lack fresh products. Designing rural food policy can be difficult for a number of reasons, and is exacerbated due to the definition of food deserts. Thus the focus tends to be

on the lack of big retail stores, which are usually not present in rural communities (National Coalition for the Homeless, 2011).

Urban areas have far more inputs into their local food system than rural ones. Even though urban food insecurity is more directly recognized and addressed than in rural regions, the urban food system remains less visible in transportation, housing, employment, or even the environment (Hawe and Noort, 2001). Because of this, food insecurity solutions in urban areas tend to be local, or regional, in their scale.

Food Policy Councils: A New Model

Food has never figured so prominently into the public agenda as it does today - the global population is increasing pressure on the world's food system. Recognizing the interdependence of hunger, malnutrition, diet-related disease, agriculture, poverty and access to food, and economic development, FPCs are being created to address multiple sectors of the food system (Harper, Shattuck, Holt-Giménez, Alkon, & Lambrick, 2009). An article in the *Journal of Extension*, defines a food policy council as, “[A body that] typically identify and discusses food-related problems, brainstorms food system solutions, foster coordination across agencies and sectors, and evaluates and influences food policies.” These organizations are typically comprised of community residents and representatives from the five food sectors, production, processing, distribution, consumption and waste recovery, who collaborate to find solutions to food system problems (Hodgson, 2014).

The first FPC was started in Knoxville, Kentucky in 1982. More than 150 councils existed at the local, county, tribal, and state levels between 2000-2011 (Winne, 2011). FPCs can take many forms, from local government entities to nonprofit organizations, and provide a space for the separate sectors of the food system to develop relationships and

collaborate on food policy issues (Alkon et al., 2012). FPCs frequently serve as the link between local, municipal, state and federal entities responsible for food policy. The Institute for Food and Development Policy found that the formality of a FPC's connection to government is strongly correlated to the jurisdiction scale of the council (2009). Half of state-level FPCs are government agencies, and some of those that are not actually part of government were officially created by government action. FPCs at the county and local-levels, however, tend to be entirely independent of government (Harper et al., 2009). Regardless of their operating level, Hodgson (2013) notes that FPCs have increasingly reached out to a number of community partners in the private and public sector, including urban and regional planners, to help them find pragmatic solutions.

FPCs are created in several different ways. Wekerle (2004) highlighted that FPCs can surface through legislation, executive order, grassroots organization or the project of a non-profit organization. Due to their diverse structure, and depending on location and community needs, FPCs can also be organized according to where they are housed. Government agency, citizen advisory board to a governmental agency, citizen advisory board, non-profit organization and grassroots groups provide the structure to create an FPC (Harper et al. 2009). FPCs are often formed in one way, but housed in another. For example, some FPCs created by government action are not housed within government.

FPCs: A Socio-Ecological Approach

FPCs take a socio-ecological approach when addressing food insecurity, which emphasizes the understanding of the dynamic interrelations among various personal and environmental factors (Harper et al., 2009). A socio-ecological model bridges the gap between behavioral theories that focus on small settings and anthropological theories that

analyze larger settings (Ericksen, 2009). This approach may be more successful in addressing rural food system failure because food enters local homes in a variety of ways, which differs from urban communities. Hunting, gathering, fishing and sharing community gardens are more common sources of food for rural residents and capture these unique rural behaviors (Harper et al., 2009).

Food Policy and Food Policy Councils

The Farm Bill is the largest piece of federal food policy, renewed every five years. The Farm Bill funds a wide range of programs including SNAP benefits, agricultural research, food safety, animal welfare, forestry, rural electricity, water supply, foreign food aid, and subsidy payments to commodity crop producers (Philpot, 2006). The Farm Bill also addresses nutrition and anti-hunger programs, with 66% of all funds from the 2008 Farm Bill dedicated to nutrition (Imoff, 2007). While the Farm Bill frames our nation's food system policy, hundreds of other pieces of federal, states and local legislation shape how we eat. Food is regulated differently depending on if it is sourced to schools, prisons, hospitals, government institutions, citing zoning to create or restrict community gardening, local distribution systems and processing facilities and farmers markets. All of these entities providing inputs into the food system require policy regulations that influence the patterns and distributions of our food system (Imoff, 2007). Deciding who, what and how to regulate all of these food system organizations is a difficult task requiring coordination at every step of the food system.

The Role of Food Policy Councils

In recent decades, the food security, food justice, and food sovereignty movements have begun to envision broad, comprehensive approaches to food policy that include all

aspects of the food system (Fox, 2012). In this view, food policy is multidisciplinary, multispectral and intergenerational, and addresses social, political, economic and environmental factors (Harper et al., 2009). FPCs take on capacity building roles by catalyzing desire and motivation in the community to improve food security. The FPC model of government on policy, governance and innovation brings together diverse stakeholders to study a localized food system and offer recommendations for policy change (Fox, 2012). According to the Food First Institute for Food and Development Policy 2009, the objectives of different FPCs are universal yet refined for each specific community where different councils exist. The Food First Institute highlights FPC's main goal as: advocating for policy change to improve a community's food system, developing programs that address gaps in a community's food system, strategizing solutions that have wide applicability to the food system, researching and analyzing the existing conditions of a community's food system, communicating information about a community's food system, cultivate partnerships among a community's five food sectors and convene meetings that draw diverse stakeholders of a community's food system (Food First, 2009) . Hassanein (2013), states the purpose of FPCs as, "offer[ing] a concrete example of a deliberate attempt to develop the practice of food democracy" (Hassanein, 2003).

Federal food system programs are frequently underutilized in the United States due to lack

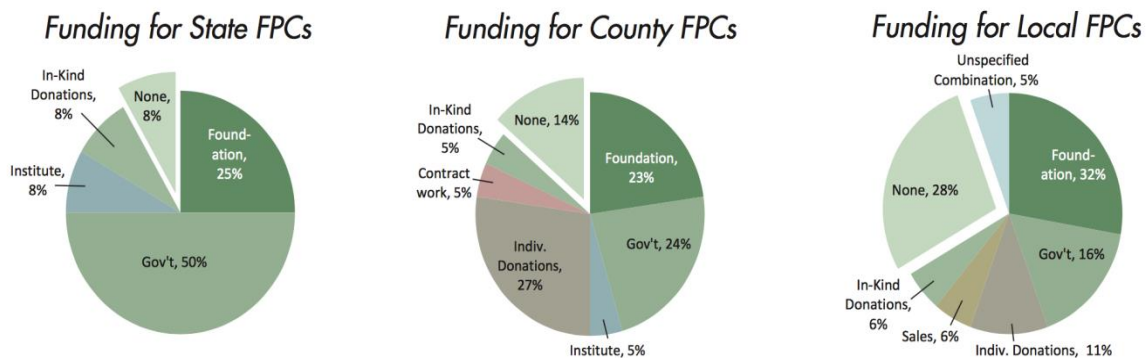


Figure 2. Food Policy Council funding sources (Harper et al., 2009)

of coordination and education needed to implement the program at a local level, like SNAP benefits (Harper et al., 2009). To better utilize these programs food policy councils require funding to make local impacts on the food system but it is often difficult for FPCs to acquire funds. Many food policy councils have no funding at all, and survive as all-volunteer organizations (Harper et al., 2009). Eight percent of state level FPCs, 14% of county level FPCs, and 28% of local level FPCs have no funding. The largest funding source for state level FPCs is government, for county level FPCs the largest funding source is individual donations and for local level FPCs, the top funding source is grants from foundations (Harper et al., 2009).

Figure 2 depicts the various funding sources for FPCs at the local, county and state level; the funders that do not exist are sporadic and dispersed (Harper et al., 2009). Additionally, the USDA has supported the creation of FPCs both directly and indirectly. For example, the Community Food Projects Competitive Grant Program of the USDA has provided larger grants to FPCs but these federal grants are often difficult to obtain for local organizations (Schiff, 2007). Despite being underfunded, having multiple sources of funding enables FPCs to become more engrained into the United States food system. It is up to these organizations to seek out funding from multiple entities in order to function and be impactful. FPCs are ideal to solve problems in the food system due to these organizations socio-ecological approach, which creates more strategic localized food policy for communities. FPCs have the possibility to be effective actors in the Nevada food system diverse geography that calls the need for a body of stakeholders to implement and advocate for policy at local, county and state levels.

Nevada and Food Policy Councils

Nevada is a geographically and economically divided state, with two larger urban areas with pockets of affluence, and a significant portion of the state more socioeconomically depressed and rural.

Figure 3 depicts the 17 counties of the state, and of these 17 counties only one county, Clark (indicated by the black box), has a population over one million and only one county, Washoe (indicated by the blue box), has a population over 400,000 people



Figure 3. Nevada's 17 Counties

(Feeding America, 2016). The remaining 15 counties have populations ranging from as small as 2,000 people up to 55,000 people (Feeding America, 2016). Seven counties have population less than 5,000 (Feeding America, 2016). Ten of the 17 countries reported food insecurity rates above the national average of 13.7% (Feeding America, 2015). However, the most food secure counties in Nevada are those with the largest population nodes, highlighting the policy divide between the urban and rural food system. Washoe and Clark Counties -those with the largest urban centers - have active FPCs.

Nevada faces food insecurity in both rural and urban regions, and in response has generated a statewide Food Security Plan along with two regional food security plans. Since the emergence of these plans, three regional food policy councils have emerged in the

northern and southern regions of the state. Washoe County Food Policy Councils, housed in the north-western corner of the state, Southern Nevada Food Council serving the most southern region of Nevada and the Nevada State Governors Food Council, which meets in northern Nevada but aids the entire state.

Nevada's Need for Food Policy Councils

Nevada is a state that suffers severely from food system failures. The 2008 economic recession impacted Nevada's low-income population immensely, and today one in six Nevadans (14.9 percent) are food insecure (Feeding America, 2016) and until 2010, the state did not have any policies to promote a healthy food system (Washoe County website, 2011). According to the U.S. Department of Agriculture, Nevada experienced a 50% increase (from 10% -15%) in food insecure households between 2007 and 2012, (USDA, 2016). Additionally, Nevada ranks in the bottom ten states for serving the percent of population eligible for SNAP benefits (Nevada Food Security Plan, 2012).

Since 2012, three food policy councils have been established in Nevada, Nevada State Governor's Food Council, Washoe County Food Policy Council and Southern Nevada Food Council. In addition to these FPCs, the Nevada Department of Health and Human Services (DHHS) and the Grants Management Unit (GMU) implemented a strategic planning process to generate the 2012 Nevada Plan for Food Policy Action after the creation of the two county FPCs. This process brought together stakeholders from different sectors in the state and the FPCs to find solutions to growing food system failures. Food insecurity, particularly in rural regions, was identified as the top issue (Department of Health and Human Services, 2011). Rural residents must cope with inadequate income to obtain food, lack of access to grocery stores due to demographics of communities and a lack of local

access to public offices to apply for SNAP benefits. Rural hunger in Nevada no longer means just “lack” of food but a lack of access to healthy food that promotes health and well-being and guards against obesity, diabetes, and other diet-related illnesses.

A traditional metric used to quantify food insecurity is to track number of meals missed per year. According to the DHHS, Nevadans are missing a lot of meals (Nevada Food Security Plan, 2012). Even after assistance from federal nutrition benefits, food banks, soup kitchens, and food pantries, 16% of Nevada’s population still misses meals. Missing meals is calculated by the number of meals per year that corresponds to the food budget shortfall reported by food insecure individuals. – this is what creates the “meal gap” or the number of meals that food insecure individuals could not afford (Nevada Food Security Plan, 2012). In Nevada, 81,367,395 meals were missed in 2010 (Nevada Food Security Plan, 2012). Additionally, many Nevadans are unaware of their eligibility for food and nutrition benefits. Statewide poverty is high, leaving 50% of children eligible for free or reduced cost school lunches (Nevada Food Security Plan, 2012).

Nevada’s geography and climate also make it particularly vulnerable to food insecurity, specifically for rural residents. Farming is difficult in Nevada’s high desert climate due to the high water demands for growing and processing food in a water scarce region (USDA, 2016). The Food Security Plan aims to increase production, processing, and the purchasing power of locally grown food in Nevada to make healthy food more accessible to all members of the population. Nevada is separated from California by a mountain range covered by snow in the winter. This physical impediment can affect commerce and the movement of goods and people to and from this region (Nevada State Action Plan, 2012). Some Nevadans have to travel greater distances to buy groceries, and

people who live in remote communities add significant mileage expenses to the cost of obtaining their food. Often rural areas only have one place to buy groceries, which may contribute to higher food prices and less food variety. Additionally, fluctuating gas prices can also put an upward pressure on the cost of food.

[Nevada's Plan for Action](#)

Nevada completed Community Needs Assessment in 2012, which identified hunger and access to food as top priorities across the state. These findings prompted the creation of the Office of Food Security within the Director's Office of the Department of Health and Human Services and marked the beginning of Nevada's food security movement and the development of the Nevada Food Security Action Plan (2012) by the Nevada State Governor's Food Policy Council. The goal of Nevada's 2012 food security movement was, "to develop a network of local and corporate supermarkets, farmer's markets, community gardens and anti-hunger initiative to create a distinct food web that minimizes barriers to food access" (Nevada Food Security Action Plan, 2012).

The 2012 Food Security Action Plan was designed in four steps to remedy different sectors of the food system. The principles were to: 1) incorporate economic development opportunities into food security solutions; 2) use a comprehensive, coordinated approach to ending hunger and promoting health and nutrition, rather than just providing emergency short-term assistance; 3) focus on strategic partnerships between all levels of government, communities, and nonprofit organizations including foundations, private industries, universities, and research institutions; 4) use available resources in a more effective and efficient way and lastly, implement research-based strategies to achieve measurable results (Nevada Food Security Action Plan, 2012). From these guidelines,

Nevada's policy leaders were able to gain more comprehensive insight into the challenges facing the Nevada food system and attempt to find/monitor solutions.

On February 12, 2014, Governor Brian Sandoval put forth an Executive Order that formally established the Nevada Governor's Food Security Council, one of the three FPCs in Nevada, housed in the Department of Health and Human Services' Office on Food Security. The Council was created to implement the goals of the Plan and improve the quality of life and health of Nevadans by increasing food security throughout the state (Nevada Food Security Plan, 2012).

Washoe County Food Policy Council

The Washoe County Food Policy Council (WCFPC) was formed in 2011 from a 2010 Community Action Plan (CAP) created under a grant from the Centers for Disease Control and Prevention (CDC) (Washoe County Food Policy Council, 2014). Through careful examination of community data, there was an observed need for policies and plans to address the lack of specific food policy and vision in Washoe County. The WCFPC is currently made up of 8 council members who represent sectors of the region's food system including: food production, public food programs, community planning, food distribution, food preparation, data and surveillance, consumers and three member-at-large positions (Washoe County Food Council, 2014). The WCFPC is charged with implementing the goals of the Washoe County Food Plan - *Access to Health Food in Washoe County: A Framework for Food System Design* and reducing barriers for access to healthy food (Washoe County Food Council, 2014). The WCFPC holds monthly meetings open to the public and also hosts work groups, which focus on specific projects and initiatives. Community members are encouraged to attend council meetings and to participate actively in work groups. One

member of the WCFPC is represented on the State Governor's FPC.

[Access to Healthy Food in Washoe County](#)

This document was created with the goal to guide the creation of a healthy food system in Washoe County. The principle framework of the plan includes: an awareness of the association between food, health, and the local economy, recognition of the continuum of food access as well as the diversity inherent in each component of the food system itself, it takes into account the unique regional pressures to form "out of the box" solutions for residents that face obstacles to obtain healthy food (Washoe County Food Council, 2014). The Access to Healthy Food Plan describes local influences on food, components of the food system, and establishes "big picture" goals of what access to healthy food in Washoe County looks like (Access to Healthy Food in Washoe County, 2014).

Southern Nevada Food Council

The Southern Nevada Food Council (SNFC) is a body is comprised of health education professionals who collect and analyze data to identify community needs prior to planning, implementing, monitoring, and interpreting programs designed to encourage healthy behaviors (Southern Nevada Health District, 2016). Housed in Clark County's Office of Chronic Disease Prevention and Health Promotion, SNFC supports socially, economically, and ecologically sustainable food systems to promote the current and future health of individuals, communities, and the natural environment (Southern Nevada Health District, 2016). SNFC describes a healthy food system as one that is health promoting, sustainable, resilient, diverse in size, scale, geography, culture and choice, fair, economically balanced and transparent and works to provide this for Clark county. This organization follows

guideline created by the Southern Nevada Food Council's *White Paper on the Food System of Southern Nevada*.

Southern Nevada Food Council White Paper

The purpose of this document was to describe the impact of the environment, social, economic and nutritional needs of Southern Nevada and provide specific recommendations for the Southern Nevada Food Council. It was crucial for this document to identify both the social and physical needs of the Southern Nevadan population. The goals recommended by the plan were to identify current capacity, build capacity, implement suggested programs and evaluate the outcomes.

Why Research Food Policy Councils?

The need for research on the efficacy of FPCs has been cited repeatedly (Feenstra 1997; Webb, Hawe, & Noort 2001); however, there has been little research conducted on FPCs impact on the policy process. Scherb (2012) stated why research on FPC's policy work is difficult -the complex, multisector work of FPCs can make their evaluation difficult. Lack of data or evaluation procedures within individual councils may also hamper the ability of FPCs to monitor and evaluate their efforts in the food system. Issues arise due to the lack of evaluation data about effective FPCs and the strategies they use, which prevents successful FPCs strategies from being replicated (Webb, Pelletier, Maretzki, & Wilkins, 1998). Food First, a national research and advocacy organization, stated that evaluation of the effectiveness of FPCs will be critical to their success and impact on the food system (Harper et al., 2009).

As noted by Pothukuchi and Kaufman (1999) food policy councils, and perhaps the eventual creation of city and state Departments of Food, will be essential to pursue a more

inclusive and integrated approach to food policy. Modern food security, food justice, and food sovereignty movements have begun to envision broad, comprehensive approaches to food policy that include all aspects of the food system involved in feeding a population (Harper, 2009). Therefore, food policy should be designed as multidisciplinary, addressing social, political, economic and environmental factors. This comprehensive approach to food policy and food systems creates the need for organizations like FPCs to engage all actors in the policy process, from formulation and decision-making to implementation and evaluation. However, evaluation of existing FPCs is needed in places like Nevada to gain insight into the potential impacts these organizations can have on the modern food system landscape and shaping future food policy.

Methods

My research design enlisted a survey method to collect data on Nevada's food policy councils and food banks. I chose this method to access individuals with key knowledge on food insecurity in Nevada. I selected this subset because of their intimate work in the Nevada food system. I sought to identify those who serve on the Nevada State Governors Food Council, Washoe County Food Council, and Southern Nevada Food Council because this sample of people are the ones who built the plan to address food insecurity in the state. The members of these organizations totaled less than 40 individuals. Concerned about sample size, I chose to broaden my sample to include other important actors in Nevada's food policy system and individuals with direct knowledge of the state's current food policy programs. This group included key informant interviewees, steering committee members, Feed Nevada workshop group members, Grow Nevada workshop group members, and

Reach Nevada workshop group members of the Nevada Food Security Plan 2012. By including these additional groups, my sample size increased to 68.

Even after expanding my initial criteria, survey response was low – with only 25 respondents. Due to this low response, I expanded my research group to include the food banks of Nevada. Food banks were ideal because FPCs frequently direct the work of food banks in their communities. Also, two of the participating food banks staff members hold positions on the State Governor’s Food Policy Council. Six out of nine food banks in the state were willing to participate in the survey: the Food Bank of Northern Nevada, Three Square Food Bank, Colorado River Food Bank, Helping Hands of Vegas Valley Food Bank, Food For Thought Food Bank and the Carson Valley Community Food Closet. I was able to collect a total of 38 individual responses, which was a large enough sample to come to conclusions from my collected data points.

Survey Development and Design

The purpose of this survey was to collect qualitative data and empirical evidence on the workings of the Nevada food system. My survey was designed with a total of 10 open- and close-ended questions, with each individual serving as my unit of analysis. The questions were designed to capture that role of FPCs and food system related organizations in the Nevada landscape; what barriers FPCs and food policy actors face in policy engagement; and the scale and scope of policy activities and range of topics.

Survey questions were informed by the CFSC Evaluation Toolkit (CFSC, 2006) and supplemented with questions applying specifically to Nevada. The CFSC Toolkit asks questions developed to assess the growing food needs of local communities and to measure ongoing data after policy has been implemented. Specifically, the questions are designed to

evaluate the impact and effectiveness of food system work in various environments. My questions were designed to evaluate success/failures and barriers to food policy in Nevada and the niche that FPCs fill. Two questions, one open-ended (Q10) and one ranking (Q9), directly assessed the Nevada Food Security Plan 2012 success in meeting its projected goals. Another open-ended question (Q7) identified the biggest barriers to successful implementation of Nevada food policies and (Q6) was an open-ended question, which identified current policies being worked on. Q8 identified the current prioritized food policy issues where resources are being spent. The remaining five questions (Q1, Q2, Q3, Q4, Q5) were designed to group food system actors by geography, demographic served, policy work/level engagement and a ranking of the most persistent issues with Nevada's food system. These data offered evidence on implementation objectives of food policy in Nevada.

Survey Administration

I emailed the chair of each FPC in Nevada to aid in the administration of my survey and key members of the Nevada Food Security Plan 2012 and food banks. Survey participants were provided a short narrative on the purpose of the survey and a link to the Qualtrics survey. The survey was administered between November 15, 2016 and February 10, 2017.

Results

Of the 68 representatives from FPCs, food banks and key members of the Nevada Food Security Plan I invited to participate, 38 responded to the survey for a response rate of 55.8 percent. One respondent initiated, but did not complete the survey.

Q1: Describe the geographic area your food policy council/food bank serves.

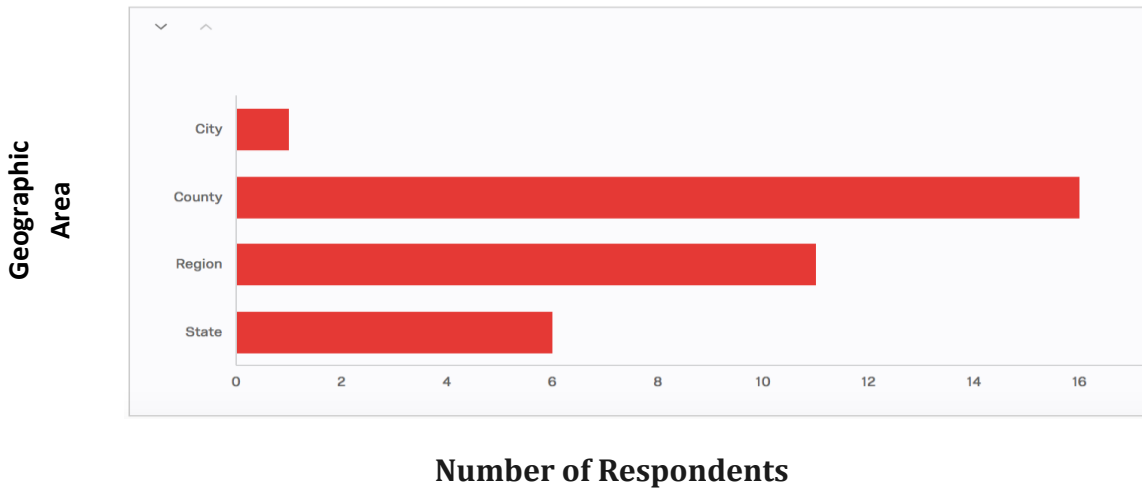


Figure 1. Survey results showing geographic scale/scope at which FPCs operate

Answer	%	Count
City	2.94%	1
County	47.06%	16
Region	32.35%	11
State	17.65%	6
Total	100%	34

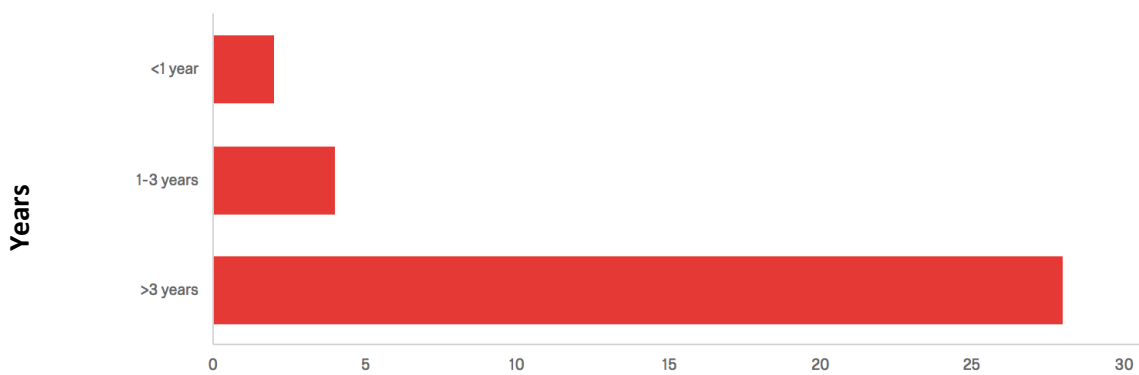
Table 1. Percentages/count reported to the geographic scope of the FPCs/food policy actor’s organization

Question 1 investigated the primary scale (city level, across a county, or at a regional or state) at which an FPC/food policy organization implements its work. Thirty-four of 38 those surveyed responded to this question. Results revealed that 47.06% (n=16) operate at the county level, 32.35% (n=11) focus at the regional level, and 17.65%(n=6) work at the state level. Only one respondent identified a focus at the city level (2.94%). Respondents could only select one geographic level that their organization serves.

To further interpret these results, I categorize the responses into two groups “local”

(city/county) and “nonlocal” (state/region). Fifty percent identified as serving “local” regions while the other half worked at the broader, “nonlocal” scales. These patterns highlight that the actors in Nevada’s food policy system are relatively evenly divided into local and nonlocal regions.

Q2: What is the length of existence of your policy council/food bank?



Number of Respondents

Figure 2. Length of existence of FPCs/food policy actor

Answer	%	Count
<1 year	5.88%	2
1-3 years	11.76%	4
>3 years	82.35%	28
Total	100%	34

Table 2. Percentages/count of the length of existence of FPC/ food policy actor

Question 2 was asked to explore how long FPCs have existed to see if their presence affected future policy. More than 80% (n = 28) of collected responses reported that their FPC or food policy organization has existed more than 3 years. 11.76 percent (n=4) have

only existed for 1-3 # years. 5.88 percent (n=2) have existed for less than a year.

Summarizing these findings, 82.35% of Nevada Food Policy organizations have existed for more than three years and 17.64% have existed for less than three years.

Q3: How did you become a member of a food policy council/food bank?

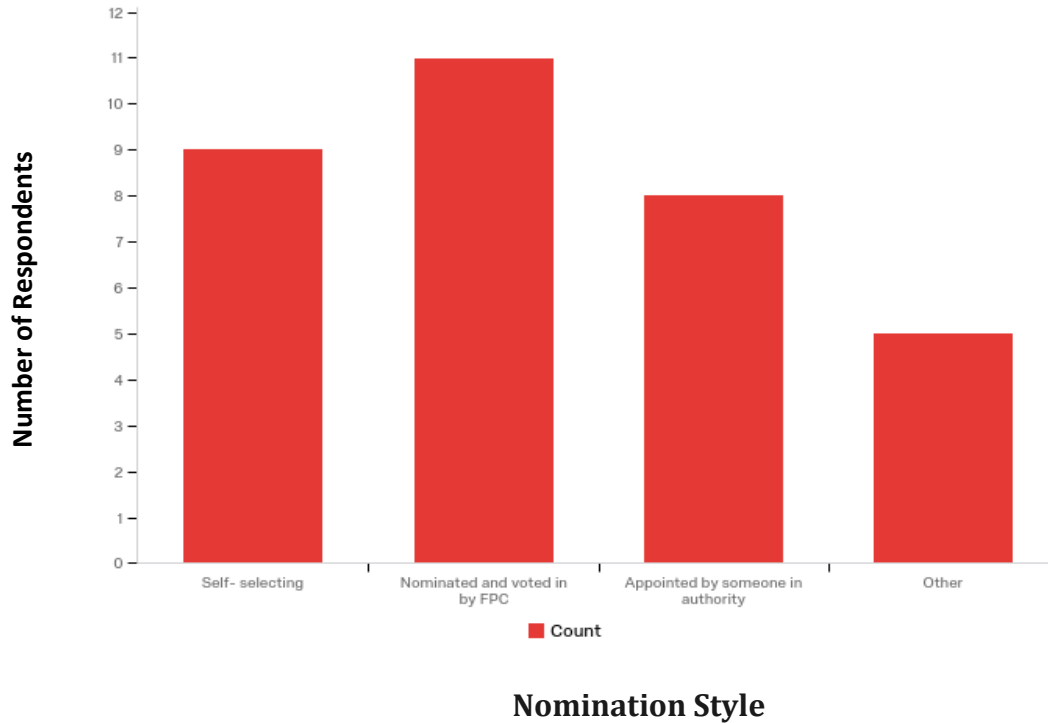


Figure 3. How an individual became a member of food policy organization/actor

Answer	%	Count
Total	100%	33
Nominated and voted in by FPC	33.33%	11
Self- selecting	27.27%	9
Appointed by someone in authority	24.24%	8
Other	15.15%	5

Table 3. Percentage/count of how individuals became members of a food policy organization or actor

Question 3 describes how each FPC or food-policy organization is structured. This gave insight into how each council in the state formed. 33 of 38 respondents answered this question with 11 individuals reported being nominated and voted in by a FPC, 9 individuals were self-selected (personally created position without outside influence), 8 were appointed by someone of authority, and 5 reported “other”.

Q4: Does your FPC/food bank engage in policy work?

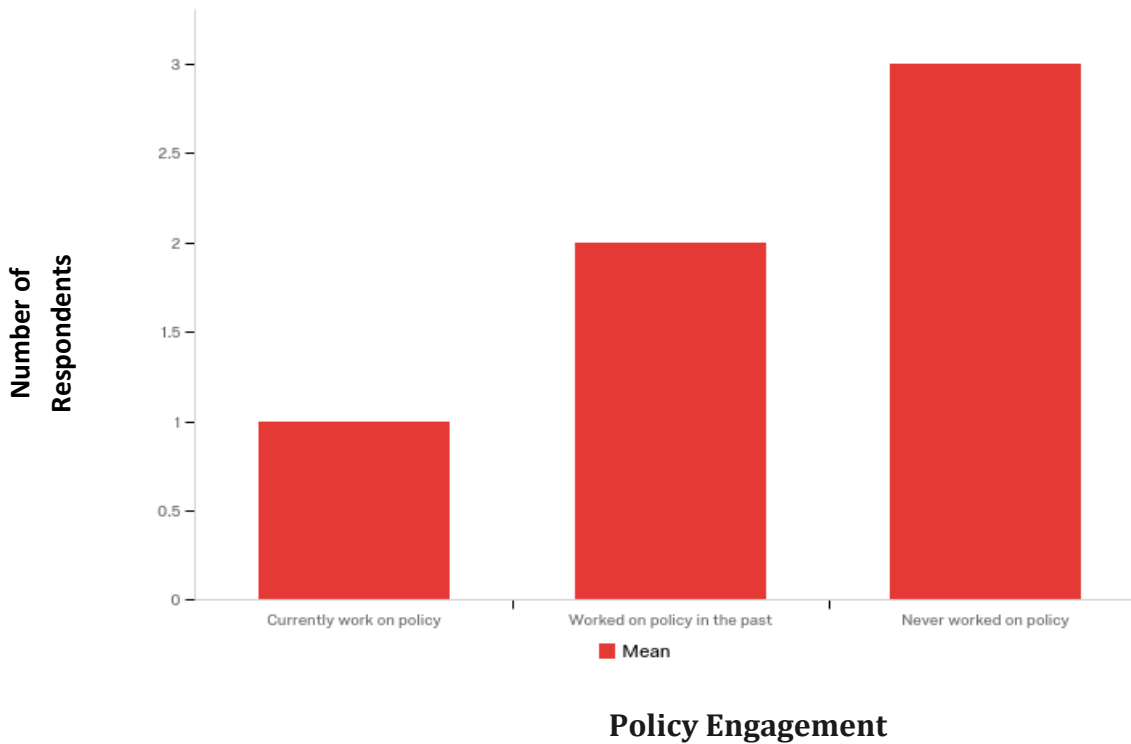


Figure 4. Food policy organization/actor policy work history

Answer	%	Count
Currently work on policy	70.59%	24
Worked on policy in the past	17.65%	6
Never worked on policy	11.76%	4
Total	100%	34

Table 4. Percentage/count past and present policy work in Nevada

Question 4 evaluated the prevalence of food policy work by various organizations and individuals. Thirty-four individuals responded to this question. Over 70% reported that they are currently engaged in policy work. 17.65 percent (n = 6) cited past policy work and 11.76 percent (n=4) reported not engaging in policy work. Grouping these responses into two categories, 70.59% are currently engaged in policy and 29.41% work in the past or

never engaged in policy work.

Q5: What are the level(s) of policy your council/ food bank engage(s) in?

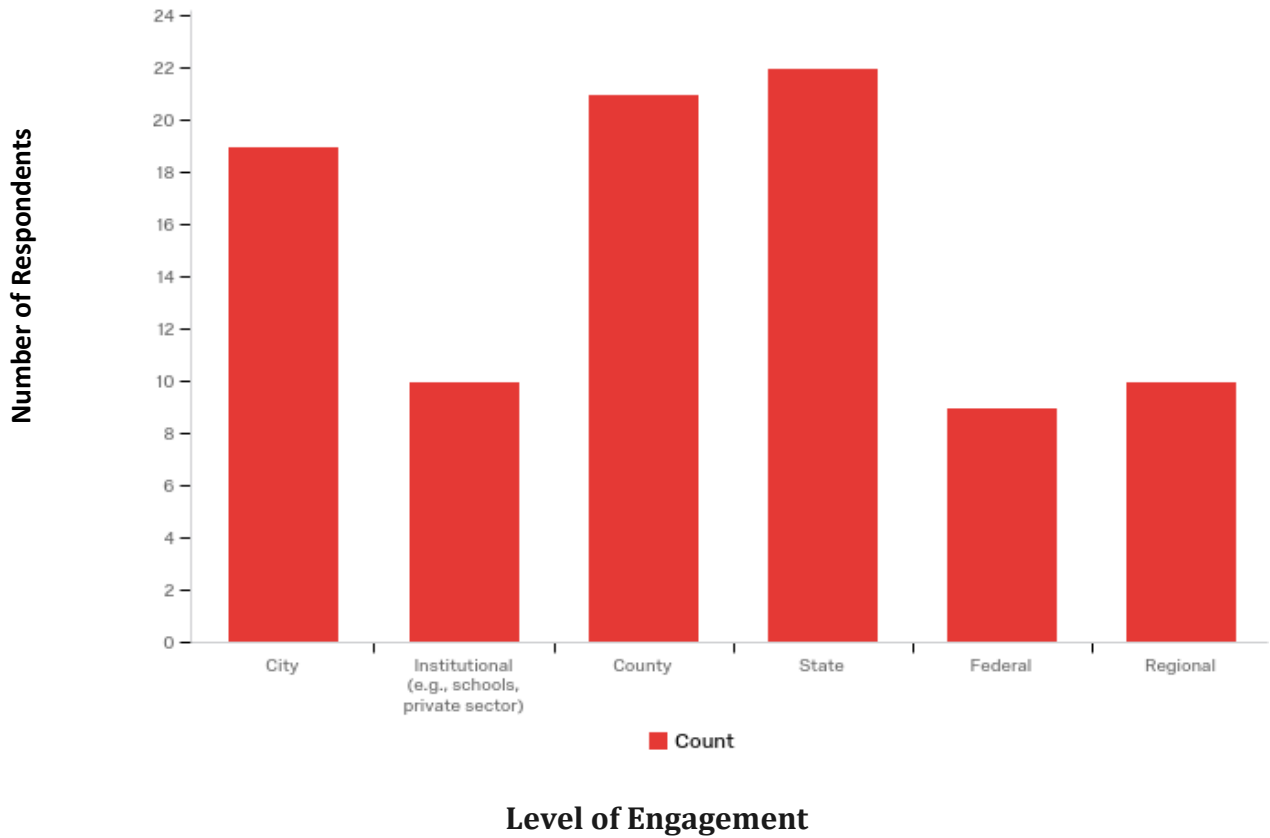


Figure 5. Results Showing the Level of Engagements of FPCs/Food Policy Organizations and Actors in Nevada

Answer	%	Count
Total	100%	31
State	70.97%	22
County	67.74%	21
City	61.29%	19
Institutional (e.g., schools, private sector)	32.26%	10
Regional	32.26%	10
Federal	29.03%	9

Table 5. Percentage/count of the level of policy engagement of FPC/food policy organization and actors in Nevada

Question 5 investigated the scope of engagement in policy for a FPC or food policy organization. The primary level of engagement in policy work for these organizations was reported as county (67.74%), state (70.97%) and city (61.29%). From my sample, the majority of respondents worked most frequently at the state and county level. I divided these data points into three categories: local (city, county, institutional), non-local (state/region) and federal level of policy work. . For each of my created categories, the percentage reflects more than 100% because respondents could submit more than one answer choice, except for federal.

Q6: If you worked on policies in the past, please specify, and what policies are you currently working on?

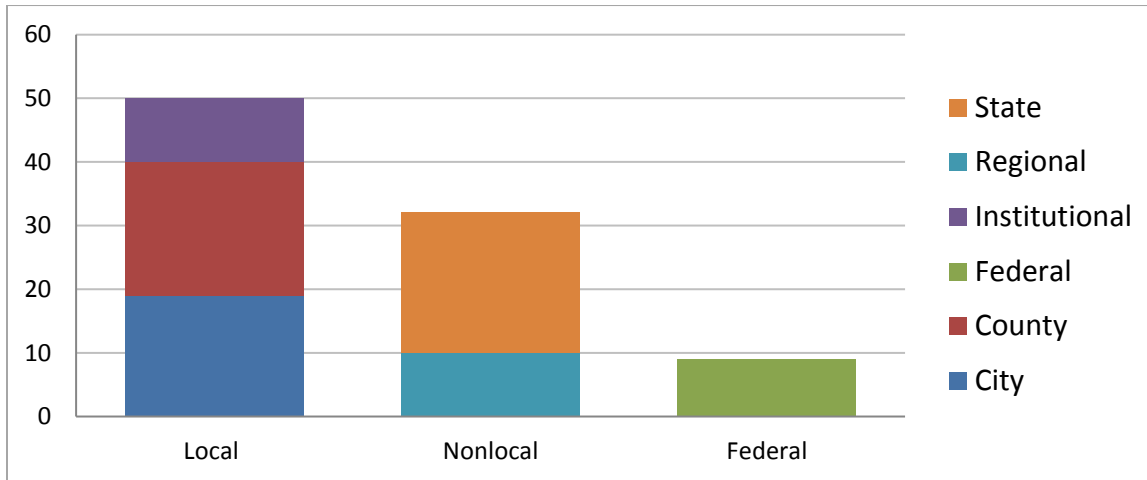


Figure 6. Results showing policies addressed by scale in correlation with reported policy work

1.	City and regional planning*
2.	School gardens and hoop houses*
3.	SNAP*
4.	WIC at farmers markets
5.	School breakfast*
6.	Food Day Proclamation
7.	Qualified Allocation plan for housing
8.	Statewide Cottage Food Statute
9.	Statewide Craft Food Statute
10.	Healthy Food Resolution
11.	Nevada Housing Division Qualified Allocation Plan
12.	Breakfast After the Bell*
13.	State and Federal
14.	Breakfast After the Bell*
15.	Recommendations to the Governor
16.	Breakfast After the Bell *
17.	Breakfast After the Bell and several pieces to increase physical activity in schools*
18.	SNAP*
19.	Child Reauthorization
20.	School Gardens*
21.	Reno and Sparks City Plans

Table 6. List of Reported Policy Work by FPCs in Nevada

Question 6 was an open-ended response question that correlated current policy work with level of policy engagement. Twenty-one data points were collected and some responses included more than one policy. Table 1 highlights a list response received for 21 identified types of current policy work, answers with asterisks were cited more than once.

I categorized the open-ended responses into the same groups as identified in Q5. 38% (n = 19) were at the city level, 42% (n=21) were at the county and 20% (n=10) were 'institutional, 68% identified state (n= 22) and 31.25% were regional (n = 10). Twenty-nine percent (n = 9) reported working on policies at the federal level.

Q7: In Nevada, what is the largest barrier to FPC's/ food bank policy work?

Question 7 was designed to help identify gaps in current policy work and challenges to the implementation of legislation. Twenty-three data points were collected from the open-ended responses and some answers cited more than one barrier.

The data was organized into six categories to highlight: the themes of each structural barriers (i.e. lack of collaboration between levels of government or underrepresentation of rural communities, represented 21.7%), (influence i.e. garner participation from all food system organizations/implement policy the reaches both urban and rural locations) was 13%), lack of time to properly implement/work on policy represented 17.3%, policy failure was 8.7%, lack of funding was 17.3%, and lack of education (i.e. knowledge of eligibility to food programs like discounted school lunch of 8.7%).

Answer	%	Count
Structure	21.70%	5
Influence	13.00%	3
Time	17.30%	4
Policy Failure	8.70%	2
Money	17.30%	4
Education	8.70%	2

Table 7. Reported policies ranked into categories of types of barriers

Q8: Please prioritize from most important (1) to least important (5) the following issues for Nevada Food Policy Councils/food bank to address.

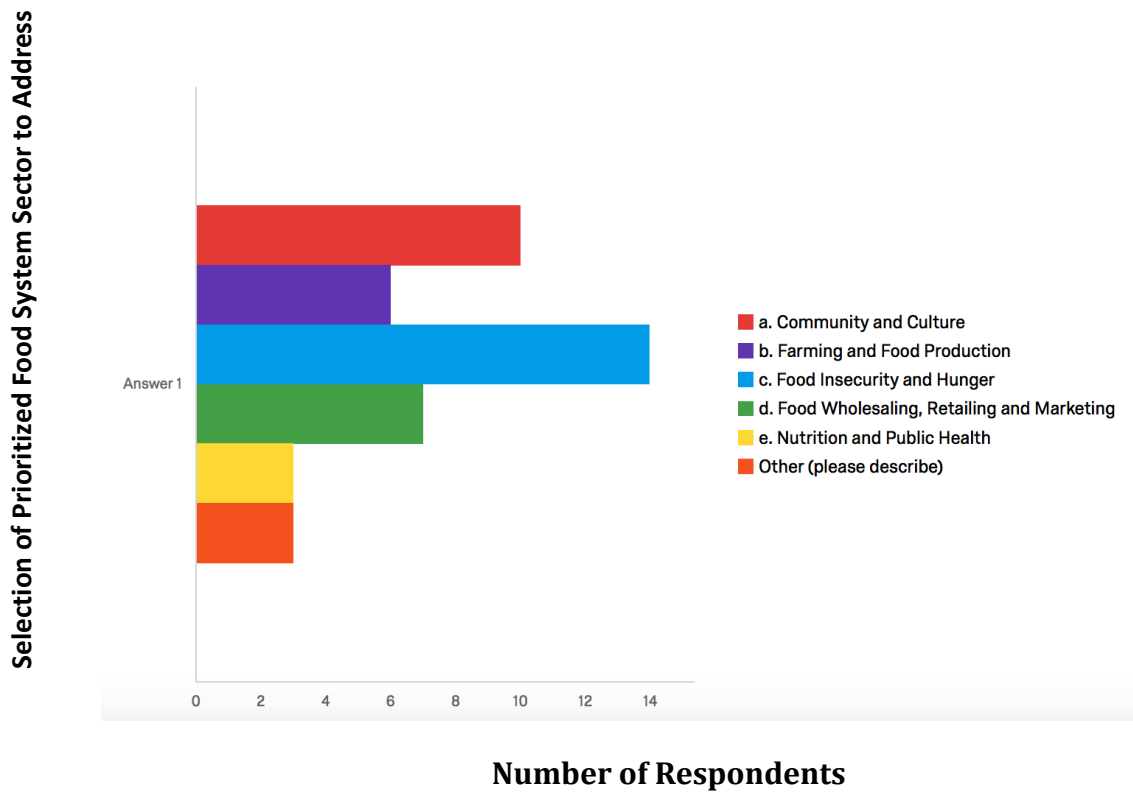


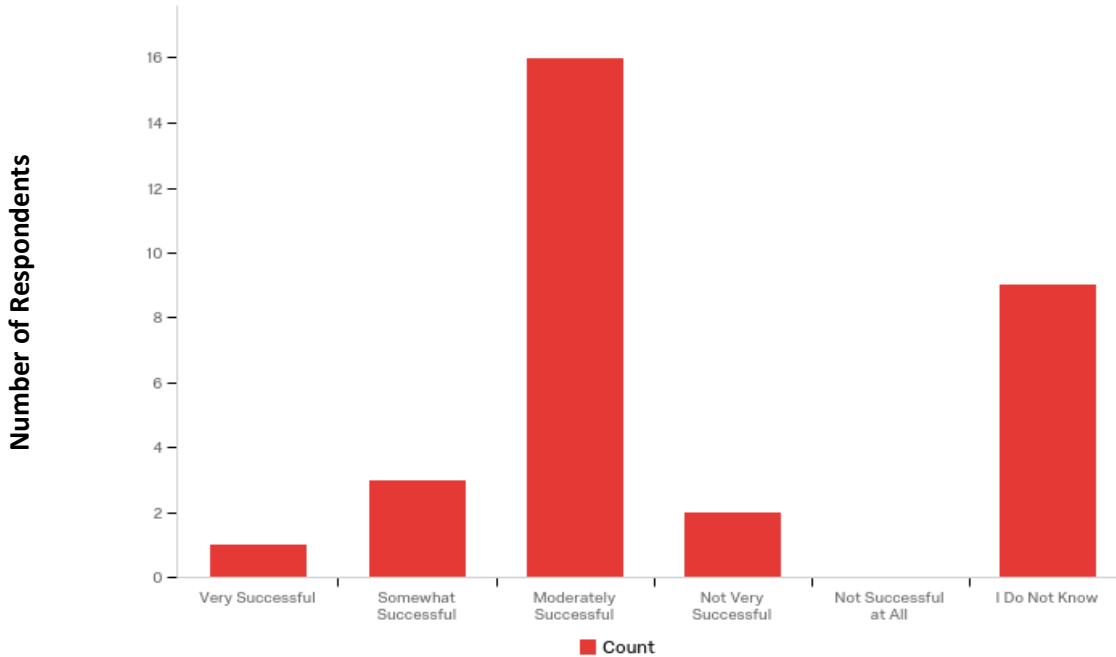
Figure 8. Food policy issue prioritization in the Nevadan food system

Question 8 examined the highest priority challenges within the food system to shape policy work. Respondents were given the option to put “other” and record an open-ended response, which included:

1. Food insecurity and hunger
2. Community and Culture
3. Food wholesaling, retailing and marketing
4. Farming and food production
5. Nutrition and public health
 - a. Other
 - i. Urban agricultural innovation
 - ii. Community awareness of both the need and availability of services
 - iii. Availability of jobs paying living wage
 - iv. Maximizing federal programs
 - v. Funding resources

Twenty-three data points were collected and the most important issue facing Nevada was food insecurity and hunger with nutrition and public health ranking the least important policy issue to address.

Q9: Please, rate the success of the Nevada Food Security Plan 2012 in meeting the plan's projected goals.



Success Ranking of the Nevada Food Security Plan 2012

Figure 9. Depicts the ranking of success of Nevada Food Security Plan 2012

Answer	%	Count
Total	100%	31
Moderately Successful	51.61%	16
I Do Not Know	29.03%	9
Somewhat Successful	9.68%	3
Not Very Successful	6.45%	2
Very Successful	3.23%	1
Not Successful at All	0.00%	0

Table 8. Percentage/count of the successfulness of the Nevada food security plan 2012

Question 9 evaluated the success of the Nevada Food Security Plan 2012. 51.61% (n=16) cited that the plan was moderately successful, 29.03% (n=9) did not have knowledge of the plan, 9.68% (n=3) ranked it as somewhat successful, 6.45% (n=2) as not very successful, and 3.23% (n=1) as very successful.

Q10: Please describe the greatest barrier to the Nevada Food Security Plan 2012 in meeting its projected goals.

Question 10 investigated limitations to the successful implementation of policy related to the Nevada Food Security Plan 2012. The greatest barriers to meeting the projected goals of the Nevada Food Security Plan 2012 were organized into the following four categories: 1) Lack of Collaboration/Implementation/Commitment Strategies was 60%; 2) Time (i.e. time to meet with all sectors of food system was 15%); 3) Education (i.e. general populations unawareness of available food subsidy programs was 15%); and 4) Other (i.e. Unfamiliarity with the Nevada Food Security Plan 2012/did not hold policy position during the plans creation was 10%)

Answer	%	Count
Collaboration, Implementation, Commitment	60%	12
Time	15%	3
Education	15%	3
Other	10%	2

Table 9. Barriers to the Nevada Food Security Plan 2012 categorized by Barrier Type

Discussion

The primary goal of my project was to evaluate the success of FPCs in alleviating food insecurity, particularly in comparison to more traditional interventions, like food banks. I also wanted to explore the geography and scope of FPCs in Nevada's landscape as rural areas are often overlooked and underserved by more traditional food policy approaches. Little research has been done to evaluate the scope of FPCs in the policy process and to identify opportunities and barriers to the successful implementation of FPCs in Nevada. This project provided an opportunity to use social science to explore the FPC model in Nevada's modern landscape and evaluate how a socio-ecological framework minimizes food insecurity through a more holistic approach. Based on the survey responses, I was able to discern some barriers and identify potential opportunities to improve the policy conditions and implementation of FPCs in Nevada.

My sample size and survey design were limiting factors in answering the full scope of my original research questions. However, there was still useful information that can inform an evaluation of FPC success in Nevada. To do this, I focused on the most relevant data and information - specifically questions 1, 2, 5, 6, 7, 8, 9 and 10. While I was not able to quantify the success of the FPCs in Nevada at remedying food system failures, my survey increased my understanding of the patterns and potential gaps where FPCs may want to focus moving forward in the Nevada landscape. My questions and results highlighted potential barriers to the successful implementation of Nevada's food policy programs and some insight into opportunities to improve the role that FPCs play.

Evaluating the Success of FPCs in Nevada

My survey questions revealed that the food policy organizations and FPCs in Nevada's food policy system focus their work at both local and nonlocal scales. However, my sampling design may have introduced some bias as many of the respondents work for the Washoe or Clark County and are members of a government agency housed in an urban center. Since the completion of the 2012 Nevada Food Security Plan, statewide food insecurity has decreased by 2%, with much of the focus in urban areas. Multiple food system policies have been implemented due to the Nevada Food Security Plan 2012 that focus largely on the most vulnerable populations of elderly and children but less so on statewide food insecurity in rural areas.

Questions 5 and 6 indicate that FPCs are working according to the Nevada Food Security Plan 2012's goals, which focused on the most food insecure populations (children, elderly etc.) at the county and state levels. Federal programs tend to be more traditional, with a concentration on SNAP benefits and other federal programs that can be administered locally like Meal on Wheels. Federal policy is supposed to have a large scope of impact that benefits the entire state but a lack of accessibility/knowledge of programs in the rural regions of Nevada is a barrier to this population receiving these benefits. FPCs in Nevada are effective at finding community based solutions to these problems.

Despite particular barriers, evidenced by Nevada's geography and heavily urban focused food policies, the state's FPCs have had success in implementing programs using the socio-ecological model. In question 9 survey respondents ranked the Nevada Food Security Plan 2012 as "moderately successful". As supported, by question 10 it has been difficult to disseminate the plan outside of state organizations but, Nevada overall has

benefited from a more strategic investment into the state's food system since 2012. My results in question 6 emphasized reported policy work, although mostly at the county level (question 5) the reported policies offer evidence to the three food security bills introduced and passed in 2015. One notable success of the Nevada Food Security Plan 2012 through the State Governor's Council is the access to subsidized school breakfast increasing 110% to those eligible because of program SB 503, Breakfast After the Bell (Governors Council on Food Insecurity Annual Report, 2015). The State Governor's Council was able to gain hands on knowledge through the socio-ecological approach to understand that communities were unaware of subsidized school breakfast and federal SNAP benefits and began implementing programs to bridge the education barrier. Question 6 of my survey gives insight into the push to create a better school breakfast program with policy work and created a solution to the education barrier devised by the Nevada First Lady's weekly public service announcements, educating Nevadans on food insecurity and eligibility to programs (Governors Council on Food Insecurity Annual Report, 2015). My sample size was small but by evaluating the listed food policy programs in question 6, it was clear that FPCs in the state have had moderate success (question 9) in dealing with food insecurity and hunger (question 8) despite the barriers reported in question 7 and 10.

What became abundantly clear from my survey results is that food policy programs overlap at multiple scales, and that collaboration is a key to successful implementation. Question 1 and 5 portray the geographic scope and level of policy engagement overlap as focused specifically on the county level, which requires the use of collaboration if county policy can have a larger opportunity to reach more of the state. In question 8, food insecurity and hunger were ranked as the most urgent and important aspects of policy in

Nevada, and this is where FPCs are focusing their efforts. Question 6 highlights the reported policy work as directly addressing food insecurity and hunger more so than the other options in question 8. Every policy reported in question 6 tied to food insecurity and hunger more than the other options of community and culture, farming and food production, food wholesaling, marketing and retailing or nutrition and public health. Unfortunately, despite the common focus on programs to eliminate food insecurity and hunger, there is clearly an issue with a lack of collaboration among food policy organizations that is creating a barrier to achieving greater success.

While the Washoe County Food Council and Southern Nevada Food Council continue to work on local issues such as Reno and Spark school gardens and physical activity in Las Vegas Schools as cited in question 6, the State Governor's Council has impacted larger portions of the state through continued work under the goals of the Food Security Plan 2012. Question 6 reported work on a Craft Food Initiative, which profits small scale canning operations and farms. The State Council identified a need in the community that larger policy makers would have had difficulty seeing through hands on community engagement and focus groups (Governors Council on Food Insecurity Annual Report, 2015). This effort resulted in the Acidified Foods (Pickle Bill) SB 144, a craft food initiative that created a value-added opportunity for small farmers to increase their income. Nevada FPC's work is often specific and does not have a large enough scale to impact all of the population. If the identified barrier of a lack of collaboration among levels of food policy organizations (question 10) was addressed it is the possibility that Nevada FPC/food policy organizations and actors would be more than "moderately successful".

Question 7 and 10's open-ended responses display the barrier of lack of collaboration as the largest block to the success for FPCs/food policy organizations and actors. One respondent reported the largest barrier to the Nevada Food Security 2012 implementation as, "It [State Governors Food Security Plan 2012] was not disseminated to the local food councils and they [state council] only engaged their members - they didn't share it outside of their governor's council." A lack of collaboration between state and local policy actors is apparent from this statement. However, even with the difficulty generating collaboration among food policy organizations in Nevada, the state is on a more strategic and insightful path to becoming more food secure because of the three FPCs. My survey results reveal a deep investment into solving food insecurity and hunger and highlight successful movements towards the goals of the Nevada Food Security Plan 2012.

Food Policy Councils in Nevada are relatively new organizations; none of the councils have existed for more than three years. It takes great effort by many different actors in the food system, under diverse pressures, to implement a new style of policy like the socio-ecological approach as a remedy to food insecurity and hunger. In short, it takes time to fully develop these programs and even more time to realize their benefits. The FPCs in Nevada are still young, and my survey results highlight that even though the policy process is difficult and frustrating, the addition of FPCs into Nevada's food system offer a strategic opportunity to achieve a stronger, more collective, and ultimately successful, structure to remedy food insecurity for the long-term.

Food Policy Councils in Urban and Rural Settings

The main analysis from my survey results was the correlation of level of policy work (Q5) with the current policy initiatives (Q6). The data portrayed largely county and

regional level work. To supplement my data I analyzed current food system policies that the state council has enacted (e.g., XX) and the majority of these programs focus on urban populations and centers. Food system failures in the rural population are currently not well represented in the food policy system.

Nevada's geography and spread out population nodes offer challenges to create policy that is impactful in both an urban and rural settings. The creation of food policy to address food insecurity and hunger in Reno, Las Vegas, and Carson City target challenges and identify solutions that are inherently different than in smaller, more rural communities like Ely, Dayton, and West Wendover. In Nevada, the most food insecure counties, Mineral (17.8%), Lincoln (15.7%), Nye (15.6%), Churchill (15.3%) and Esmeralda (14.7%) are also in the most rural counties (Feeding America, 2015). Thus, one of the biggest challenges for food security in Nevada is accessibility - the most vulnerable populations to food system failures are also the least visible and the most likely to be disconnected from traditional food programs. A survey respondent to question 7 stated, "Nevada is one of the driest states in the US, there are very rural areas with difficulty in accessing any food, let alone a wide variety of healthy foods."

The creation of FPCs in Nevada is the best method for overcoming this lack of accessibility to food assistance and programs because it is a systemic issue, and one that is most effectively addressed through a socio-ecological approach. FPCs can delve more deeply into food system failures in rural areas than other policy actors and develop research-based solutions to community acknowledged problems. The survey responses to the food system barriers that identified issues such as "proximity to resources", "lack of resources" and a "lack of clout" highlight the difficulty that more urban, centralized food

programs have had disseminating impactful programs into rural regions. Nevada's three FPCs have been working on policy for less than three years and it will take more time to create policy that will see impacts on a statewide level.

Despite the reported "moderate success" (question 9) to the Nevada Food Security Plan 2012, FPCs are situated as the most effective body of stakeholders to tackle food insecurity and hunger at an appropriate scale in Nevada, particularly given the state's unique geography. Urban and rural food issues are being analyzed with greater attention to detail because of these organizations. Updates to the Nevada Food Security Plan 2012 detail reassessing priorities, continued examination of opportunities, and greater public policy efforts to solve Nevada's food system failures with more validity than before the presence of FPCs.

Food Policy Barriers in Nevada

To identify the largest barriers to food policy in Nevada, I crafted connections between the open-ended responses by identifying patterns of current policy work (question 6) with the reported barriers in the state (question 7) and specific challenges in the Nevada Food Security Plan 2012 (question 10). Based on this, I created a Wordle to display the most frequently cited obstacles (see Figure XX). A Wordle is a system that organizes responses into a word cloud and gives prominence to words that appear more frequently in source text. "Collaboration" surfaces as the most cited barrier to success of Nevada's FPCs.

with 2015 passage of Bill AB107, Report of Accountability for Public Schools which requires school breakfast and lunch eligibility and participation numbers to be reported (State Governor's Council on Food Security Annual Report, 2015). The state council is able to collect these data to better understand the policy gap to increase collaboration among sectors. In 2012 Nevada ranked 53rd in the US, behind Guam and Puerto Rico and Washington D.C. for school meal program participation in food insecure populations (Nevada Food Security Plan, 2012). Due to the work of the state council and the Nevada First Lady's School Breakfast Challenge, there is a statewide increase in breakfast participation of 1.9% and some counties saw an increase in participation as high as 4.73% - a 110% increase statewide (State Governor's Council on Food Security Annual Report, 2015).

Nevada is on the right path to increase collaboration in all sectors of the food system but this process takes time and a strategic effort from all five sectors of the food production system. Despite reported barriers, Nevada's food policy actors are making the right steps to explore new opportunities and meet new challenges to combat food insecurity and hunger in the state. FPCs, as new autonomous food policy organizations in Nevada, are implementing long-term strategies to increase food access and minimize barriers as new key components of the food system.

Recommendations

After analyzing my results I have two recommendations for Nevada FPCs and food organizations to increase the likelihood of successful policy implementation.

Recommendation: Nevada State Governor's Food Council structured to include a representative from each of the 17 counties in Nevada.

Because lack of collaboration was so prevalent in my survey results, it is my recommendation that Nevada State Governor's Food Policy Council include representative from each of the 17 counties. Each representative could participate or have expertise in any of the five stages of the food production system, but would help establish a well-rounded, state level organization to create long-term, impactful policy in both rural and urban areas. With improved representation from each county, individuals in rural areas will have equal participation and the ability to influence decision-making regarding food system policies and programs. The intention behind this policy recommendation is to influence the effectiveness and impact of future decisions at scale throughout Nevada.

The Nevada Food Security Plan 2012 is organized into four parts: Lead, Feed, Grow and Reach. The "reach" piece of the plan should be updated to better address the gap that still remains for rural populations. Two goals drive the "Reach" piece of the Food Security Plan:

1. Change the current models of purchase (commodities) and distribution of nutritious foods to increase economies of scale, and link frequency of deliveries, and availability of local food to the specific needs of communities throughout the State (rural, urban, and food deserts).
2. Develop the technology to connect and share data among multiple state agencies, regional food banks, community agencies, and faith-based organizations for efficient and effective targeting of services and populations (State Governor's Council on Food Security Annual Report, 2015).

The objective is to have Food Policy Councils enact policy programs that *reaches* the entire state's population, and this is an area in which the Food Security Plan is still falling short. As evidenced by my results, this issue may be successfully remedied by simply improving representation that may lead to improvements in collaboration. If a member from each county were represented on the state level FPC, then the specific needs of each community could be better reflected in agenda setting and policy outcomes.

Recommendation: Increase Nevada's Opportunity to Achieve FPCs Five Potentials

The Nevada Food Security Plan 2012 and the three food policy councils in Nevada established goals similar to the five stated potentials in Food First Institutes analysis of food policy councils in, *Food Policy Councils: Lessons Learned* (Harper et al., 2009).

According to Harper (2009) food policy councils have five potentials:

1. Address public health through food access, hunger and food insecurity, and quality of food
2. Affect national and state level policy debates
3. Potential to bring local food policy into the mainstream
4. Potential to address poverty and inequality
5. Potential to boost local economies

Nevada has the possibility to achieve these five potentials and better democratize Nevada's food system. The goals established in the Nevada Food Security Plan 2012-lead, feed, grow and reach-are similar to the five potentials and can be expanded on to create more successful councils. Nevada stakeholders can achieve potential one by enacting more policy to fix the grocery store gap. A large portion of Nevada is a food desert, without access to fresh food. If the state-level FPC were to increase the number of rural stakeholders, the food desert gap could be better addressed through improved collaboration that bridges the

cultural, geographic and educational barrier to fresh food access. Efforts to achieve potential one could increase public health statewide. Nevada has the opportunity to achieve potential two through local councils lobbying the state council to create policy that has a greater scope outside of urban areas. This can be achieved by increasing the number of rural members on the state council to establish more statewide policy. The First Lady of Nevada, Kathleen Sandoval, conducts weekly public service announcements about food insecurity. If these announcements were expanded to identify more local food issues, potential three could be realized in the state. Nevada has programs to address poverty and inequality but could improve current food assistance programs by merging the WIC and SNAP application to streamline the process for applicants. Through doing so, Nevada could accomplish potential four by combining existing programs to make them more effective and increase the existing program's scope. Lastly, potential five is possible in Nevada through state policy makers focusing more on bills that directly effect local economies like the SB 144 Acidified Food Bill. Bills like SB 144 are purposed for rural farmers and communities. Local economies could be greatly impacted through the implementation of more localized policies.

Future Research Directions

My thesis and the survey I conducted provide the foundation for more comprehensive evaluation of the Nevada food system and all its various actors and organizations. Organizing and analyzing my results surfaced additional questions that could be more deeply explored. For example, there needs to be a more direct exploration of the differences in food insecurity in urban and rural regions and how to best address

those differences through policy implementation. My survey lacked sufficient data points from rural areas, and focusing on this geography would provide a more complete picture to inform policy implementation practices and recommendations for improvement. For future research, I propose expanding the data sample to specific geographic regions and focus on the different scales of policy implementation.

An additional step is to shift the focus of research to conduct personal interviews with just the members of the State Governor's Food Council. This council has the largest scope of influence and by conducting personal interviews I would be able to directly question and design my research questions to cull more quantitative data.

Additionally, to further develop my project to better understand food insecurity from a rural perspective, I would conduct personal interviews of food insecure households in the five most food insecure counties in the state. This would create data to better relate the barriers to the food system policy from a different, more rural perspective. By interviewing households, I could collect data to reveal a different viewpoint than that of policy actors. My thesis offers a narrow window into Nevada's food system, but lays the groundwork from future projects to delve more deeply into specific aspects of food policy and FPCs.

Conclusions

It was my goal to provide information to those who work on Nevada's food policy with useful information and a policy suggestion to improve the food system in the state. My survey results provided empirical evidence, although mostly limited to qualitative results, of the successes and barriers to Nevada's food policy. This evidence offers Nevada FPCs, food banks and key contributors to food policy an approach to become a more successful

government body by increasing collaboration among levels of food policy work. My research has the potential to bring together the various stakeholders in the Nevadan food system to make more informed decisions through seeing the overlap of similar concerns in the state and how the socio-ecological approach is crucial to properly address these policy problems.

Through my thesis process, I learned a lot about social science and how crucial survey design is to collect, evaluate, and interpret results with significant meaning. This was my first experience conducting a social science experiment on this scale and it definitely taught me that it is difficult to design a strategic and insightful survey that will elicit quantifiable results. My FPC survey was successful at collecting qualitative data that offered insight into the patterns in the Nevada Food System and current work of FPC members. However, my project would have benefitted from a much greater sample size to be able to analyze more quantitative data. For my survey to give better insight into if Nevada FPCs are successful or not I would have needed to collect far more data points. I learned that for a survey based approach project to not have explicit biases in responses the research design large enough in scale to collect enough information to come to a solid conclusion. FPC's in Nevada are mostly successful in meeting their projected goals and benchmarks as projected by the Nevada Food Security Plan 2012. My research design, although limited in scope does offer information to FPCs/food policy organizations and actors to better serve the state.

Appendix

1: Survey

Nevada Food Policy Council Survey

Q1 Describe the geographic area your food policy council/food bank serves.

- City (1)
- County (2)
- Region (3)
- State (4)

Q2 What is the length of existence of your policy council/food bank?

- <1 year (1)
- 1-3 years (2)
- >3 years (3)

Q3 How did you become a member of a food policy council/food bank?

- Self-selecting (1)
- Nominated and voted in by FPC (2)
- Appointed by someone in authority (3)
- Other (4)

Q4 Does your FPC/food bank engage in policy work?

- Currently work on policy (1)
- Worked on policy in the past (2)
- Never worked on policy (3)

Q5 What are the level(s) of policy your council/ food bank engage(s) in?

- City (1)
- Institutional (e.g., schools, private sector) (2)
- County (3)
- State (4)
- Federal (5)
- Regional (6)

Q7 If you worked on policies in the past, please specify, and what policies are you currently working on?

- Click to write Choice 1 (1) _____

Q8 In Nevada, what is the largest barrier to FPC's/ food bank policy work?

- Click to write Choice 1 (1) _____

Q9 Please prioritize from most important (1) to least important (5) the following issues for Nevada Food Policy Councils/food bank to address. (Only use each letter once)

	(5)	(4)	(3)	(2)	(1)
a. Community and Culture (1)	Answer 1 (1) <input type="radio"/>	Answer 1 (1) <input type="radio"/>	Answer 1 (1) <input type="radio"/>	Answer 1 (1) <input type="radio"/>	Answer 1 (1) <input type="radio"/>
b. Farming and Food Production (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Food Insecurity and Hunger (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Food Wholesaling, Retailing and Marketing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Nutrition and Public Health (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 Please, rate the success of the Nevada Food Security Plan 2012 in meeting the plan's projected goals.

- Very Successful (1)
- Somewhat Successful (2)
- Moderately Successful (3)
- Not Very Successful (4)
- Not Successful at All (5)
- I Do Not Know (6)

Q11 Please describe the greatest barrier to the Nevada Food Security Plan 2012 in meeting its projected goals.

- Click to write Choice 1 (1) _____

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