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The Feasibility of a Regional Food Hub for Southwest New Mexico

Ideas for Rural and Frontier Communities

The National Center for Frontier Communities

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Executive Summary

The idea for a food hub in the Southwest Region of New Mexico was first introduced by the Southwest New Mexico Food Policy Council as a potential remedy for some of the numerous food related issues the region is facing such as the dwindling supply of farmers, limited access to fresh healthy foods and the need for economic opportunities. A thorough study of current market conditions was needed to determine the feasibility of a food hub for the region.

Food hubs actively coordinate the marketing, storage, aggregation and distribution of local food products and can provide additional services with the core mission of helping local producers expand their production, market reach and profitability while providing local markets with fresh food. Food hubs mostly take the form of a warehouse that can manage food inputs from area farmers along with office space for administrative, management, outreach and marketing purposes and a fleet of trucks to deliver food to various regional markets.

Additionally, all food hubs seek to be financially sound from a business perspective and can form under different legal structures depending on the mission and goals of the organization. This study seeks not only to determine the feasibility of one kind of food hub, but to offer insight into the current conditions and challenges the region faces in terms of food supply and food related business and how different food hub models might fare.

Study Purpose:

- Provide a foundation on which further stages of food hub development or other regional food based businesses can take place; particularly for rural and frontier regions.
- Bring together regional food system stakeholders to uncover current challenges and opportunities related to food business in the region.
- Provide sound, concise recommendations to inform future regional food hub activity.
- Develop connections among regional food system stakeholders and bring further legitimacy to the importance of local food policies and the power of local procurement and the South West New Mexico region.

Approach and Methods

This study was conducted over a nine-month period and involved interviewing over eighteen area farmers of different sizes and specialties in order to assess their interest in and capability to contribute food to a regional food hub. Forty-two retail, institutional and school food service directors were also interviewed to assess the requirements they have of food vendors, their current participation in local food purchasing and their potential interest in purchasing more local foods from a food hub in the future.

In addition, the study reviewed existing food hub studies, local food reports and other secondary data sources in order to present the most accurate, up to date information related to the formation of a food hub. While there are many food hub studies from around the country, we found we are unique in our location (mountainous southwest) and our rurality. here are many great models to learn from but these models are often geared to urban or more populated rural environments and not applicable or adaptable to frontier regions. Three main questions were addressed in this study:

1) Is a regional food hub feasible both financially and technically, and would current market options be able to support it?
2) What kind of food hub would be most appropriate for this region?
3) What economic and health impacts would a regional food hub have on local communities?

Key Findings:

A food hub in Southwest New Mexico would be unique among food hubs.

The majority of successful food hubs exist in or near large metropolitan areas where there are more customers or in areas with a high concentration of farmers.

The southwest region of the country does not have many food hubs. The closest is about 250 miles away in Albuquerque (La Montanita)

Agriculture makes up a large portion of the regional economy.

Food crop sales total more than $22 million in the region, with the vast majority coming from Luna County. The vast majority of this is destined for national or international distributers or processing plants and does not make it to local markets.

Farmers can make more money per acre growing specialty crops for human markets than they can with forage or commodity crops.

The majority (72%) of farmers in the region report annual sales of less than $50,000.

Twelve out of eighteen farmers interviewed are interested in contributing to a food hub.

There are not enough small to midsize farmers that can make significant contributions to a food hub, and therefore, not enough supply to generate adequate sales numbers and mitigate supply risks.

Only 2% of all farmland in the region is dedicated cropland.

Farmland has decreased in all counties since the 2007 census. (United States Department of Agriculture , 2012)

There is a significant market for fresh fruits and vegetables in the region.

The people of Southwest New Mexico spend an estimated $9.9 million per year on fruits and vegetables. It is estimated that less than 10% of regional produce sales currently come from local sources. (United States Bureau of Labor and Statistics, 2014)

Institutional food purchasing is estimated at over $4.5 million per year based on conversations with food service directors at several regional institutions.

Seven out of ten schools interviewed are interested in working more with local producers.

There is only one retail outlet that actively sources local produce (Silver City Food Co-Op).

This market will take a significant amount of work to enter.

The majority of produce sales comes from one of several large, chain grocers who do not purchase from small farmers.

Institutional purchasing of local foods is estimated to be under 1%. The system is set up to benefit large distributers who can offer foods at a very low price.

Seventy-three percent of businesses and institutions interviewed are interested in purchasing local foods and name top priorities as:

- Pricing (competitive with current distributers);
- Reliability/consistency (ability to maintain orders); and
- Professional communications and certifications.

There are not enough markets in the region currently open to purchasing significant amounts of local produce to support a food hub, therefore markets in surrounding metro areas would need to be utilized.

There is a large knowledge gap when it comes to the local food economy.

Many farmers were interested in growing more human food but were unaware of their market options.

Many business owners were unaware of the impact that buying local foods can have on their community.

Many business owners and food procurement directors were not aware of farms in which to purchase food.

There is little to no incentive to purchase local foods among business owners and food procurement directors.

Agriculture has the potential to be a major economic stimulator in the region.

One study found that every dollar spent on local foods can recirculate up to 2.6 times in the local economy, further generating profits.

As a primary industry, more agriculture in the region can mean more jobs.

Selling to a food hub could increase the earning potential of area producers by helping them gain access into new markets and it can encourage existing farmers of animal food crops (e.g. hay, alfalfa, etc.) to grow human food for more earnings per acre.

A food hub dedicated to benefitting regional farmers could have a substantial long-term impact. The total value of all agricultural products sold within the four county region is over $118 million and by capturing just 5-10% of that total to dedicate towards a food hub, an additional $5.9-11 million can be used towards local wages, and further circulate in the region. (United States Department of Agriculture , 2012)

One of the primary economic issues facing the Southwest New Mexico region as well as many remote regions of the nation is that of wealth drain. By cultivating one of the primary industries in the region to keep and grow profits within the region, an economic multiplier effect will help profits further circulate and generate profits for other area businesses. According to a recent study by the University of Arkansas: "*A multiplier summarizes the total impact that can be expected from change in a given economic activity"* and is the economic impact of certain economic activities. (Meter, 2008)

A regional food hub would increase access to healthy foods for many people.

There is currently a dearth of market access in much of the four county region, a regional food hub could more appropriately supply these areas with healthy food.

Financial Feasibility

No matter what legal structure a food hub assumes, it must operate as a financially viable business in order to continue operations and effectively market and distribute produce.

According to a 2013 Food Hub Benchmarking Study:

- *The typical food hub operates at a close to break-even level*
- *The most profitable food hubs were larger, older, for-profit operations*
- *Food hubs with sales of over $1.5 million averaged profits of 2%*
- *For profit food hubs averaged 1% profit, while non-profit food hubs averaged -7% profits before grant income or contributions.*
- *The average food hub has 408 customers and 55 vendors*
- *On average the largest three customers by sector for food hubs are:*
    - *Direct Retail*
    - *Grocery/Food Stores*
    - *Restaurants and Caterers*
- *Average 6.6 full time equivalent employee* (Farm Credit East, 2013)

Conclusion

, At present, it is not feasible to operate a food hub under current conditions. However, a food hub *is* feasible after important groundwork is done to gain commitments from at least 50 producers and 100 buyers of local foods. A regional food hub would be an important and potentially hugely impactful asset to the future of this region's economic, health and community development. Therefore, it is advisable to work towards the development of a regional food hub through following the recommendations outlined below.

Recommendations:

1) Identify local "champions", stakeholders and potential investors of the food hub and bring them on board with subsequent efforts.

2) Develop a communications strategy that would strategically target producers, various markets, consumers and other key stakeholders in order to:
    a. Educate stakeholders on the benefits of local produce to the local economy, value added profit examples, marketing strategies for selling local produce, how specialty crops can increase revenue for farmers and those selling "local" products, crop transition strategies, case studies and other educational information that is aimed at demonstrating how participation in a regional food hub can be a win-win for all involved.

3) Engage key stakeholders (especially growers and buyers) in the development of a multi-year business plan that takes into account the unique challenges of Southwest New Mexico's's geographic location.

4) Garner commitment from at least 50 growers contributing an estimated total of $1.5 million in produce the initial year. Finding open markets for all produce in advance will provide a solid base in which to begin a food hub business. Having a lesser number of vendors would put the food hub at risk of not having enough produce to sell.

5) Commitments from a sufficient number of buyers to sell at least $1.5 million in produce is needed to feel confident there is a large enough interested market base to sell produce.

6) Work with municipal and county governments to pass local procurement policies that support the purchase of local foods by institutions.

7) Work with local and state officials to increase resources for capital outlay and infrastructure to support food hub functions (vehicles, storage, facilities, software, etc.).

8) Work closely with producers**,** particularly small and midsized operations, to ensure they can meet buyer requirements by either providing technical assistance or finding partners that can provide this technical assistance.

Challenges

While a food hub in Southwest New Mexico is technically feasible there are many challenges to be addressed in order for it to become a reality.

There are enough farms in the region to support a food hub however, the majority of midsize and larger farms are either devoted to monocrop production of foods destined for a processing plant or distributer or are forage crops and not for human consumption.

Some of the biggest challenges have to do with human organization. The four county region has plenty of producers, however, many of them are over 100 miles apart and do not grow the right kinds of crops to sell to a food hub. Many farmers would change to a more profitable crop if they were assured a market.

Many of the region's purchasers are not aware of farms they could source food products from and so rely on large distributers instead. Currently there is no clearing house or central database that food purchasers can use to source local farm products.

With the large distances between many producers and markets, there is insufficient infrastructure in place to affordably move product to buyer. The majority of successful food hubs are located in close proximity to a large metropolitan area which limits the distance the food needs to travel and reduces transportation associated costs.

Certain buyers also require GAP (good agricultural practices) or other certifications which can be costly and especially prohibitive for small or midsize farmers to maintain. Greater collaboration among farmers could help reduce this cost as they could schedule inspections on the same day.

Depending on the legal structure of the food hub, initial funding can come from grants, loans or investments by shareholders. By starting small, such as a digital platform with delivery capabilities, earnings potentials can increase and a solid reputation can be built while minimizing the need for a large initial cash infusion.

Introduction & Project Background

A food hub feasibility study was inspired by members of the Southwest New Mexico Food Policy Council while exploring different options to help improve the food system in the region for both farmers and consumers. Food hubs have been emerging across the nation as a way to help farmers increase their access to local markets and to provide communities with more fresh, nutritious foods.

The southwest region of New Mexico consists of the geographically vast, sparsely populated counties of Grant, Hidalgo, Catron and Luna. Like many rural and frontier areas, limited food access and lagging economic development are issues of major concern that threaten the health and livelihood of their communities. Agricultural production has the potential to impact both the health and economic vibrancy of rural communities but current practices are not meeting this need.

Though sparsely populated with only 62,303 people over 17,285 sq. miles (3.6 people/sq., mile) and relatively impoverished with 23.4% of the population living under the poverty line, compared to 20.4% for New Mexico and 15.4% for the nation as a whole, there is still a sizeable, underutilized market for the sales of fresh fruits and vegetables. The estimated annual expenditure for fruits and vegetables in the region is roughly $9.9 million. By adjusting the recent IMPLAN from the Albuquerque metropolitan area for factors more prevalent outside of urban areas such as less farmers' markets, retail locations and restaurants that source from local producers, along with less demand from customers for direct sales, it is estimated that less than 15% (or under $1.4 million) of the fruits and vegetables sold within the region are from local sources. By capturing a higher percentage of this number, local farmers can receive more of the market dollar value of their product and residents can have access to a greater amount of fresh produce. (Patrick D. M., 2013)

Interest in local foods is growing across the country, according to the USDA's 2015 report to congress on local food systems:

> *In 2012, 163,675 farmers sold an estimated $6.1 billion in local foods overall, with an estimated $4.8 billion sold by 48,371 farmers through these intermediated marketing channels. The number of dedicated local food distributors, brokers, and aggregators serving these intermediated marketing channels, known as regional food hubs, increased by 288 percent between 2007 and 2014, to a total of 302. By engaging in market outreach activities and offering technical services to producers, food hubs provide markets for midsized farmers, and opportunities for small and beginning farmers to scale-up local food sales without increasing the time farm operators and their households spend on marketing activities.* (United States Department of Agriculture, 2015)

The trend is growing, and while mostly utilized near urban areas, the potential for successful food hub activities to benefit rural areas exist. By capturing a higher percentage of the local food market local growers can earn more money, and more money will stay in and benefit the local economy. Studies show that money spent on locally grown food creates a multiplier effect, internally circulating the same dollars up to 1.4-2.6 times within the local economy, which could also help alleviate a common problem among rural and frontier communities--wealth drain. (Timothy C Lindsey, 2012)

In addition, both public and institutional food procurement has the potential to expand considerably into the local food market, especially with increased organization on the supply end to streamline buyer experience. The state of New Mexico has allotted over $300,000 per year for public schools to procure fresh fruits and vegetables from local producers in an effort that has seen growth in just its second year. Institutional buying offers tremendous benefit for local farmers as they can offload large volumes at one time and develop long lasting, reliable business relationships.

While many farmers struggle to endure changing prices in crop sales and rising overhead costs, an increasing amount are inquiring about switching from hay, alfalfa and other crops used as animal fodder to more profitable specialty crops, which can receive $7,071 per acre of selected fruits and $7,387 per acre of vegetables compared to just $1,545 per acre of hay. (United States Department of Agriculture, 2013) (United States Department of Agriculture , 2012)

According to the most recent US Agricultural Census data, the four county region has lost about 16.5% of its farm land since the previous census. Farmland is most often lost due to it not being financially beneficial to continue farming the land. It is clear from the research and numerous conversations with farmers, restaurants, schools and institutional buyers that there is far more demand for local foods in the region than is currently being utilized. By increasing the knowledge of local markets and communication between both sides of the food system, both producers and buyers have the opportunity to benefit in what is a win-win situation. (United States Department of Agriculture , 2012)

In order for the region to gain economic traction and become more food resilient, it must utilize the production assets and spending power that are currently present and cultivate a future where the food system is serving the population in increasingly efficient and beneficial ways.

What is a Food Hub?

The USDA uses a working definition of a food hub and describes it as*: "a business or organization that actively manages the aggregation, distribution and marketing of source identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, regional and institutional demand".* (Barham, 2012)

Simply put, a regional food hub exists to support local producers. Some defining characteristics of a regional food hub are:

- ***Carries out and coordinates the aggregation, distribution and marketing of primarily locally/regionally produced foods from multiple producers to multiple markets.***
- ***Considers producers as valued business partners*** instead of interchangeable suppliers and is committed to buying from small to midsize producers whenever possible.
- ***Works closely with producers,*** particularly small-scale operations, to ensure they can meet buyer requirements by either providing technical assistance or finding partners that can provide this technical assistance.
- ***Uses product differentiation strategies to ensure that producers get a good price for their products.*** Product differentiation strategies include things like: Identity preservation (knowing who produced it and where it comes from), group branding, specialty product attributes (such as heirloom or other unusual varieties), and sustainable production practices (such as certified organic, minimum pesticides or "naturally" grown and raised).

- ***Aims to be financially viable while also having positive economic, social and environmental impacts within their communities,*** as demonstrated by carrying out certain production, community or environmental services and activities. (Barham, 2012)

Most often, a food hub is a physical location that can store and aggregate regional food products to be sold in regional markets. It acts as a common market for regional producers and can help take the often painstaking work of marketing their product and guarantee a market so that they can spend more of their time farming.

FIGURE 1 FOOD HUB INFOGRAPHIC

Additionally, while a food hub is a business and strives to be financially solvent, it can also have a strong, mission driven purpose to improve the local food system at all levels by:

- **Providing increased economic opportunity for existing farmers** (access to new markets, better prices for their products, opportunity to sell more product).
- **Providing training and education for new and existing farmers-** Season extension training, GAP and/or other certifications, training about new or more efficient and sustainable farming methods, assist with resource development.
- **Improving and cultivating relationships with those involved in different sectors of food system-** By having a focal point of communication in which all stakeholders in the food system can communicate a food hub can foster the realization of shared missions and mutually beneficial relationships.
- **Educating the public about the importance of local food and local economics**- A strong component of a regional food hub could be consistent outreach and engagement with the public, encouraging gardening, healthy eating, etc.

Ideally, a food hub is tailored to meet the specific needs of the communities in which it serves and takes into account the unique characteristics of the region when formulating its strategies. A food hub in the agricultural heart of the Midwest will look much different and have much different objectives than a food hub in frontier New Mexico.

Project Purpose

This project seeks to determine the feasibility of establishing a regionally focused food hub in Southwest New Mexico in order to meet consumer demand for fruits and vegetables and to help ensure sufficient market access and growth potential for area farmers. This study looks at current market conditions and possibilities, current supply of locally produced foods, the different types of food hubs and their appropriateness for this region and the economic feasibility of starting and sustaining one in the Southwest New Mexico region.

A food hub in the area could help alleviate or eliminate several pressing issues faced by the region today such as: low food access, diet related illness and economic uncertainty among farmers. A food hub would benefit local farmers by increasing their sales potential by increasing market access and benefit residents by offering healthier, nutritious food.

Food hubs have been increasing in popularity across the nation as a way to help equal the playing field for small and midsize growers. Currently, accessing large institutional or retail markets remains a difficult feat for many small and midsize growers due to changing requirements and specifications demanded by the markets such as: GAP and/or USDA certifications, liability insurance, volume minimums, contracts, delivery guarantees, sorting, packaging and distribution needs and more. In addition, by focusing on local markets farmers can often get a better return on investment and keep a greater percentage of the sales value of their product. Food hubs can also create jobs and also supply fresh foods to communities that may have an insufficient amount. (Food HUB Study, 2013)

While offering many services to small and midsize farmers to connect them to local markets, many large food distributers such as SYSCO and Shamrock have also begun to view food hubs as partners, rather than competitors. By connecting growers to all available markets and taking the guess work and uncertainties of direct marketing farmers can concentrate on growing their food, business and providing a much need service to their community.

Approach and Methods

This study was conducted over a nine-month period and involved interviewing over eighteen area farmers of different sizes and specialties in order to assess their interest in and capability to contribute food to a regional food hub. Forty-two retail, institutional and school food service directors were also interviewed to assess the requirements they have of food vendors, their current participation in local food purchasing and their potential interest in purchasing more local foods from a food hub in the future.

In addition, the study reviewed existing food hub findings, local food reports and other secondary data sources in order to present the most accurate, up to date information related to the formation of a food hub. While there are many food hub studies from around the country, we found we are unique in our location (mountainous southwest) and our rurality. There are many great models to learn from but they are often geared to urban or more populated rural environments and not applicable or adaptable to frontier regions. Three main questions addressed in this study were:

1) Is a regional food hub feasible both financially and technically, and would current market options be able to support it?
2) What kind of food hub would be most appropriate for this region?
3) What economic and health impacts would a regional food hub have on local communities?

Financial Feasibility: Is it financial feasible to start a food hub and can a food hub be operated profitably in the region?

To answer this question, we looked at various publications such as *Trends in U.S Local and Regional Food Systems: Report to Congress* (United States Department of Agriculture, 2015) and the Regional Food Hub Resource Guide (Barham, 2012) and other feasibility studies from around the nation in order to understand some financial benchmarks, trends and operational costs food hubs around the nation have reported. (Farm Credit East, 2013) However, due to the frontier location and the wide dispersal of the area's farmers, extra consideration was given to transportation logistics.

Additionally, one of the major concerns with buyers was that the prices from a food hub be lower than or very close to the prices offered by the large distributers in the region such as Sysco and Shamrock. Because of this, it was necessary to understand the exact pricing different buyers are willing to pay needed in order to know the feasibility for the regions growers. Large growers can often compete with distributers prices but small growers cannot justify such low per unit pricing.

Market Feasibility: Can local supply of fruits and vegetables meet local demand?

To answer this question secondary data was collected from the 2012 US Agricultural Census and the 2014 Bureau of Labor and Statistics Consumer Expenditure Report. In addition, survey results from 42 regional buyers (schools, institutions and retail spaces) and 16 regional farmers were analyzed to get an idea of exactly what the local demand Is and where the local supply falls in comparison.

Technical Feasibility: Is local infrastructure sufficient to connect regional supply to regional demand?

To answer this question, we surveyed local food purchasers to get an idea of the kinds of requirements they have of vendors. The purchasers' survey results were compared to the producers' survey responses to identify producers' abilities to meet that demand. In addition, a review of numerous national studies on established food hubs helped provide an understanding of the kinds of infrastructure a region would need in order to successfully operate a food hub.

What Kind of Food Hub Would Be Most Appropriate for Our Region?

To answer this question, we first identified the gaps in our regional food system that need to be addressed in order for it to operate at its most efficient and beneficial level. We also looked at various types of food hubs across the country and considered the pros and cons of each one in relation to our region.

Regional Impact: ***What Impact Would a Food Hub Have on the Economics and Health Outcomes of the Region?***

To answer this question, we studied various reports and case studies from around the nation that analyzed the impacts of regional food hubs, including a recent study done in the Albuquerque metropolitan area, which contained IMPLAN (Impact Analysis for Planning) results and contained various multiplier models of food hub activity.

Why a Food Hub in Southwest New Mexico: How Would a Food Hub Impact the Region?

Like so many frontier and rural areas across the country, the region that comprises Catron, Grant, Hidalgo and Luna counties in Southwest New Mexico struggles to remain economically viable and to provide its residents with enough healthy food to combat rising rates of diet related illnesses and curtail the spread of food insecurity. While a food hub is not a panacea for all of the challenges faced by the region, it can address a good number of them in an innovative, community driven way and could become a pillar of community health, revitalization and economic development.

Current Conditions

Food Access: Current Conditions

As seen on Figure 2, the entirety of three counties fall into the USDA designation of Low Income and Low Access (LILA) categories, and much of Grant County does as well. This means that food of any kind, especially fresh, healthy food is challenging to access for many residents. Part of the reason is economical. For example, in order for retailers to purchase from the food distributers in the region (e.g. Sysco, Shamrock, etc.), it has to make sense for them to drive a semi-truck to that region and offload significant quantities of food. The other part is political, because the current food system is based solely on economics and there are no financial or political incentives to purchase from local growers and this has contributed to the decline of small farmers in the region, who could better provide parts of the region with produce.

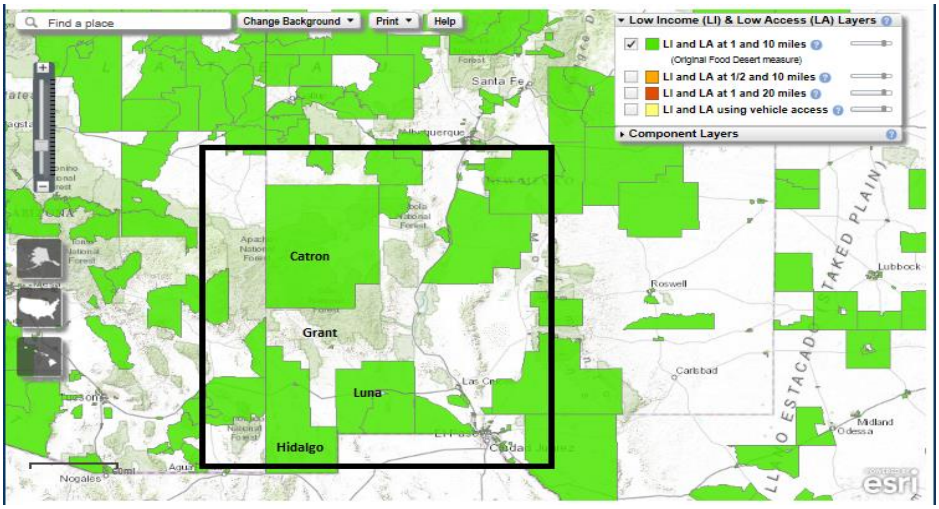

FIGURE 2 LOW INCOME AND LOW ACCESS AREA

According to Feeding America's 2015 *Map the Meal Gap*s study, New Mexico has the fourth highest rate of food insecurity in the country at 17 percent and is among the top ten worst states for food insecurity among seniors. In addition, Luna County has the second highest rate of childhood food insecurity (21%) among 89 Latino-majority counties in the United States. (Feeding America, 2015)

The USDA defines food insecurity as *"limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways"* and can be seen as either not having enough food or not having enough of the right kinds of food. And defines food security as "…access by all people at all times to enough nutritious food for an active, healthy life" and can be seen as having the means to procure, purchase, access and consume enough healthy foods. In order to achieve food security food must be (1) readily available at all times to all people, and (2) be of sufficient quality and nutritional value to sustain a healthy and active life. (United States Department of Agriculture, 2014)

While some homes do not have enough food, others just do not have the right kind. In remote areas that are not serviced by large, conventional grocery stores, fresh, healthy foods are severely lacking. In addition, the nutritional values in certain foods are not the same as they once were, declining by almost 25 percent in just 15 years, owing mostly to the fact that food now travels over 1,000 miles to reach its average destination. (United States Department of Agriculture, Agricultural Research Services, 2014)

The number of food insecure rural counties has grown from 48% in 2011 to 54% in 2013 and rural counties are more than twice as likely to be highly food insecure as their urban counterparts. (Feeding America, 2015)

In order for the food system to adequately serve a population diverse in backgrounds, geographies and incomes it must itself be diverse. Additionally, for that food system to be able to ensure food security it must also be resilient and currently the food system of Southwest New Mexico is neither diverse nor resilient. Though there are a large amount of food products grown in the region, an incredibly small amount of that food makes it to the tables of regional residents.

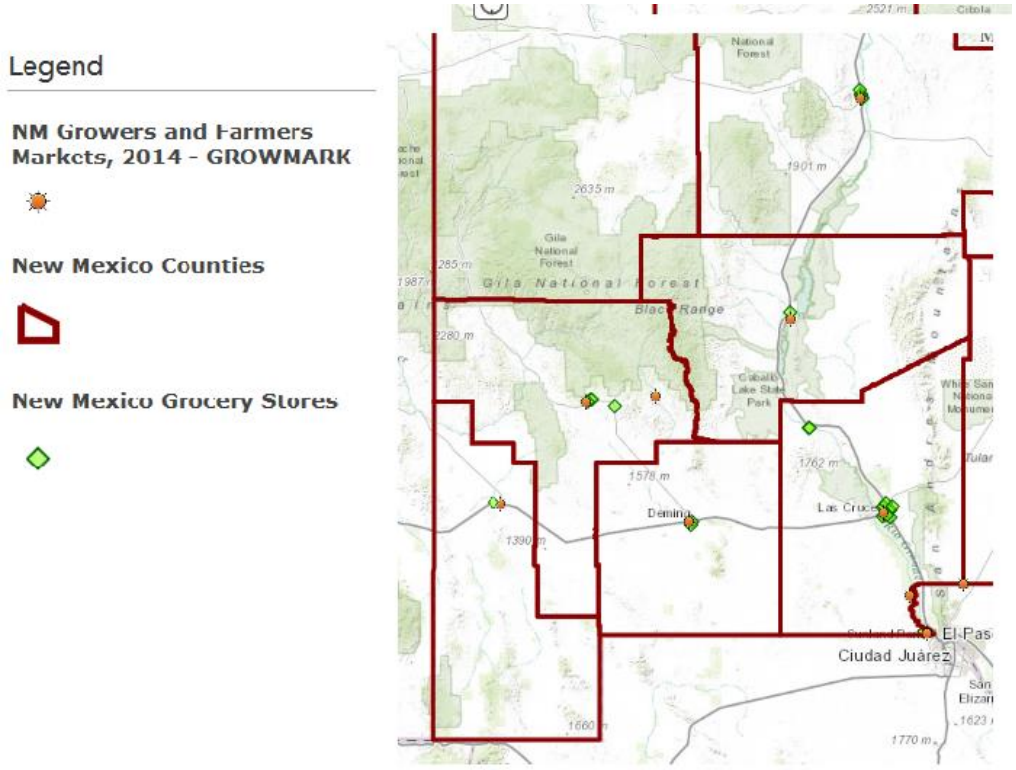

FIGURE 3 FARMERS MARKETS & GROCERY STORES

Moreover, the distance a local resident must travel to reach a full service grocery store if they live outside of Silver City, Deming or Lordsburg can be time and cost prohibitive and make accessing fresh food extremely difficult. A recent Health Impact Assessment completed in the region found that some residents of Catron County needed to travel over 65 miles to reach a grocery store. (Wilger, Rasmussen, & Jimenez, 2015) Additionally, 70% of Hidalgo County residents travel outside of the county in order to shop for groceries. (Patrick M. , 2012)

Regional Health: Current Conditions

Attempting to qualify the *overall* health of a region can be difficult. While there are many health indicators that the region fairs average or slightly above average on, there are several that are significantly higher than state and national averages, including the self reporting of fair or poor health.

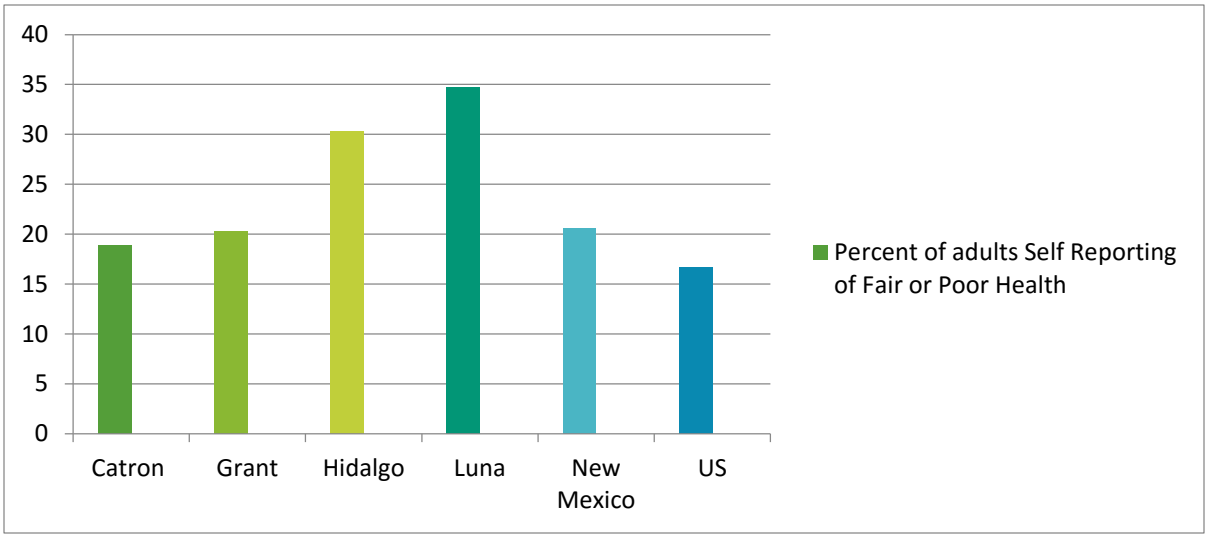

FIGURE 4 PERCENT OF ADULTS SELF REPORTING POOR OR FAIR HEALTH (NEW MEXICO INDICATOR BASED INFORMATION SYSTEM, 2015)

Food insecurity is directly correlated with a number of diet related health conditions including obesity, chronic heart disease, diabetes, asthma and depression. A study of food bank clients in Manhatten, Kansas, found that compared with data from the National Health and Nutritional Examination Survey (NHNES), almost all food bank users, were either underwieght or obese, but not a normal weight. "*Coupled with intake of foods with poor nutritional value, this will likely produce poor health outcomes for the client population".* (Weinfield, 2014)

Though slightly lower than the state and national average for obese adults, nearly one in four adults in the region is obese (24% on average). There is a paradoxical relationship between food insecurity and obesity, while food insecure regions lack access to most kinds of foods, they severely lack access to fresh and healthy foods.

Additionally, while the Catron, Grant and Hidalgo counties are slightly below average death rates for chronic heart disease when compared to the national average of 169.8 deaths per 100,000 people, Luna county is significantly above the average at 231.6 deaths per 100,000 people. For Hispanic women, heart disease is the second leading cause of death in the state. (New Mexico Indicator Based Information System, 2015)

Regional Economy: Current Conditions

The economic condition of a region has the ability to impact nearly all of its residents and their quality of life. Indeed, rural and frontier regions face a greater challenge than their urbanized counterparts in that economies are often non-diverse, there is less money to begin with and because less money comes in through tourism, business and taxes. For these reasons, rural and frontier areas are more sensitive to the impacts of large, globalized business presence, boom and bust cycles and wealth drain.

All four counties currently experience poverty levels significantly above the US average and three of them are at or above the New Mexico average. (United States Census Bureau, 2014) Additionally, average wages in the four county region are $656 per week which is significantly lower than both the US

average ($1,035/wk) and the state average ($850/wk.). (United States Bureau of Labor and Statistics, 2014)

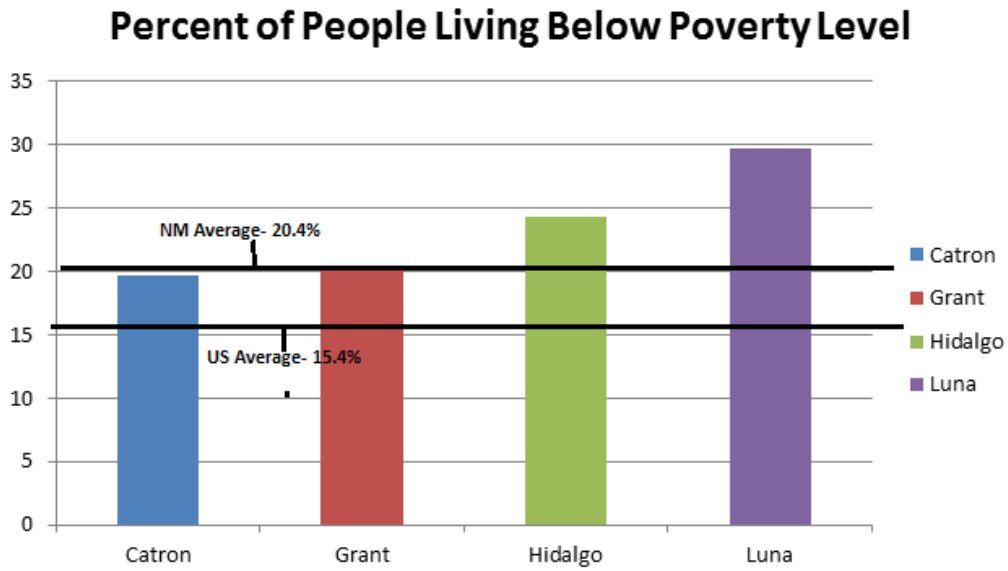

FIGURE 5 PERCENT OF PEOPLE LIVING BELOW POVERTY LEVEL

How Can a Food Hub Impact Current Conditions?

Food Access

A regional food hub dedicated to improving the food system could have potentially profound effects on the food system. By working to connect local growers with local markets, a food hub can maneuver in more agile and regionally appropriate ways than a large distributer could, simply because its continued presence in the region would allow it to build intimate relationships over time.

Additionally, by guaranteeing markets for local farmers they can expand their production capabilities and provide more foods to local markets. A food hub in Charlottesville, VA called Local Food Hub donates up to 25% of the food grown at their farm to local food banks, hunger organizations and community groups, thus benefitting those in need and helping the mission of food pantries. While donating 25% may be a high goal to reach, even 5-10% of a food hub's food could be a significant benefit to those in need. (James Barham, 2011)

Health

Health is closely linked with a person's relationship with food and currently the common relationship with food in the Southwest New Mexico region is a distant one. Improving these relationships by

increasing access to nutritious foods and rediscovering food as an integral part of community health can be achieved over time with the effort of a food hubs core business services as well as community outreach and mission based services.

Economy

When a food hub is able to operate successfully in a region and provide it with a sufficient amount of fresh foods and vegetables the economy is positively impacted. It is estimated that $1.4 million worth of fruits and vegetables that are grown in the region are sold locally out of an estimated $9.9 million market, however this estimate is believed to be quite high due to the fact it is adapting the statistics from urban findings. If a food hub can capture 10-20% of the total sales in the region and sell $1-2 million worth of fruits and vegetables each year, then up to seven fulltime and four year round part-time jobs can be created and a higher percentage of that money will be kept within the region. If 50% of the region's fruit and vegetable sales are provided by a food hub, then up to 42 full time jobs and three-part time year round jobs can be created. The creation of these extra jobs will help stimulate the economy by infusing and recirculating money. (Fischer, 2013)

The recirculation of wages essentially creates a multiplier effect where more local business benefit from the same dollar. Instead of sending the profits of that dollar to another state or country, it stays in the region and creates more wealth, allowing the profits to be shared by community members.

In addition, the increase in fresh produce available to consumers, students, hospital patients and food pantry recipients could greatly decrease the prevalence of diet related illnesses such as diabetes, hypertension and obesity. The lower prevalence of these diseases could result in significant savings in healthcare costs and improve the lives of many.

Feasibility of a Regional Food Hub

Market Feasibility: Can Local Supply Meet Local Demand and Vice-Versa?

In determining the feasibility of a food hub in the southwest New Mexico area an in depth look at the current market conditions was taken to assess the potential sales volume and opportunity for regional growers. Survey results indicate that there is significant room for more local foods to be sold within the four county area, as only a small percentage of possible markets are currently being utilized. In addition, several markets located outside of the four county region were selected for their interest in locally produced foods and surveyed.

Two main questions need to be answered to determine the market feasibility of a regional food hub:

- Is there enough food in the region to support a food hub?
- Can enough food be sold in the region or in nearby areas to support a food hub?

The single biggest challenge for local growers to access local markets is pricing, as the majority of restaurant and institutional buyers interviewed said prices would need to be at or near the prices from large distributers such as Sysco, Shamrock and others. Large farms take a significantly smaller profit margin and therefore profit by volume. This works well for them because per unit pricing is low and buyers of large volumes have come to expect low pricing and prompt delivery. These low prices are

nearly impossible for small farmers to compete with because they need to take a higher profit margin of their much smaller volume in order to cover operating costs, and often times just break even.

Local procurement policies have been enacted in several states around the country in order to directly channel millions of government dollars into growing local economies. While some prices may not be as low as the large distributers, money spent on local foods will provide jobs, economic stimulus and ready access to high quality foods. (Policy Link, 2015)

The state of New Mexico has enacted a program called "Double Up Food Bucks" which matches SNAP (Supplemental Nutrition Assistance Program) funds for produce at farmer's market, now in its second year, the program is receiving increased funding due to an overwhelming positive response. Additionally, the Navajo Nation has enacted a "junk food tax", where foods of lower nutritional value are taxed and the revenue is spent on nutrition related programs. These are great in-state examples of what can be done to best utilize policies to improve the food system.

In addition, in southwest New Mexico local purchasers have little to no incentive to buy from local growers unless they have a personal belief in supporting local agriculture. Therefore, in order to compete with large distributers several strategies are needed to increase local produce sales in addition to a local procurement policy. For example, institutional buyers could be:

- Educated as to the benefits of purchasing local (such as the multiplier effect of primary production jobs, better quality products and supporting the local economy)
- Incentivized to purchase local by being offered tax credits or other financial rewards to make the increased price worth it.

It seems that without such policy changes or an extensive education campaign that selling enough produce within the region to sustain a food hub would be a difficult feat. On average, a food hub needs to generate over $387,000 in product sales per worker per year in order to sustain itself. This translates to roughly 12,906 30-pound boxes of tomatoes or over 77,000 pints of strawberries. There is not enough direct to consumer demand in the area to meet this benchmark. The goal could be reached, however, if local institutions bought significant volumes from local producers. However, this would be markedly different from other food hubs as institutional purchasing only makes up an average of two percent of food hub sales according to a 2013 financial benchmarking study. (Farm Credit East, 2013)

While the onus is on the farmer to locate and connect with potential markets, small growers may have significant difficulty or may not be able to meet the specific requirements of each buyer including packaging, delivery and certification. A food hub would be able to assist growers with these requirements and in making connections with end users.

While there are dozens of growers in the region that sell primarily at farmer's markets and restaurants, the largest percentage of fruits and vegetables sold in the region go to large processors, distributers and chain retailers who take their food outside of the region to be aggregated in large warehouses.

Produce sold at farmer's markets can typically command the highest price of any outlet. However, the volume sold, inconsistent sales from week to week and the seasonal nature of farmers markets all present challenges to growers seeking to maximize their sales. For this reason, it is advantageous to assess all potential markets.

Of the 42 interviews conducted with potential markets, including 17 restaurants, 12 retail locations and 13 schools and institutions, 31 of them or 73% expressed interest in purchasing from local growers or already work with local growers and would be interested in increasing the amount purchased locally. The majority of purchasers interviewed within the organizations stated that supporting the local economy was of interest.

Similar concerns were echoed across all sectors when it comes to working with small, local producers. For these buyers, various aspects of customer service such as reliability and professional communications were placed high on the list of requirements and several of them have had difficult experiences in the past dealing with small growers. Pricing and consistency of product also ranked high; many of the parties interested in working with local growers require prices competitive with the large distributers.

Even with particular requirements that take considerable effort to meet, there is significant room for growth and entry into these local markets. Greater coordination between farmers and buyers could vastly increase their market access. With several of these buyers able to purchase large volumes at once of select crops the challenge of trying to sell at several different markets could be alleviated.

Growers that gross less than $50,000 per year, which represent the largest number of farmers but not the largest volume of produce, are often restricted from selling to markets that require various labeling, certifications, insurances, inspections and other requirements of schools, institutions, and some restaurants. Small growers are usually legally exempt from these requirements, however, many buyers require them nonetheless. These certifications cost money to obtain and can represent a significant portion of the grower's overall income for a season and for this reason it is often prohibitive and/or not worth it for small growers to obtain them. However, the formation of a food hub or other cooperative aggregating service can often serve to provide these requirements for the growers thus making entry into other markets possible.

The food hub would have to heavily utilize the larger markets in Tucson, El Paso and Albuquerque in order to sell enough produce to support operations. While there is an estimated consumer market of $9.9 million for fruits and vegetables within the region, this cannot necessarily support a food hub as a significant portion of the produce sold are crops that do not grow well here (e.g. citrus, banana, etc.) or bought off season. Additionally, small farmers often demand higher prices for their produce, prices that many consumers are unwilling to pay; larger metropolitan areas have a much larger amount of consumers willing to pay higher prices for local foods.

There *is* room for significant growth within the four county region, however, a significant amount of groundwork needs to be done to ensure their receptiveness to more local foods and policy changes, favoring local purchasing could greatly help increase the regional purchasing capacity.

Supply Analysis: Is There Enough Food in the Region to Support a Food Hub?

Even though there is a significant volume of food crops grown in the region, relatively little of it is sold and/or marketed locally. Most of the food crops in the region come from large farms in Luna County

who market and distribute their food to big national and international distributers and processors. While there is no local food data for the southwest region, there is for Albuquerque. Over 80% of the food purchased within the Albuquerque metropolitan area comes from non-local sources and by taking into account the greater number of farmers markets, food co-ops, "locavore" restaurants and food conscious customers in the metro area the percent of non-local foods purchased is likely higher in rural areas such as the four county region. If a regional food hub could mediate the sales of 20% of all produce sales in the region it could capture nearly $2 million in sales, enough to support a food hub. (Patrick D. M., 2013)

The lack of local foods sales in the four-county region can be attributed to several causes:

1) The perceived lack of worthwhile or accessible markets in the region.
2) High cost of labor often needed to produce specialty crops.
3) Prohibitive costs to start, maintain and upgrade farm operations.
4) The lack of knowledge or imperative to source and buy local.
5) The perceived lack of value of local versus non-local foods.

Of the main outlets for consumer food purchase, only one in the four county region has a direct interest in helping small farmers and actively sources from and engages with local producers (Silver City Food Coop). Though several farmers operate their own farm stands or markets on or near their land, farmers market participation has slightly declined or remained stagnate in the past several years despite increasing demand.

There is technically enough food produced in the region to sustain a food hub. However, the food grown would have to shift to the food hub market, which could take several years.

The preference for many of the areas farmers is to grow commodity crops for which they can receive subsidies or low input crops, such as alfalfa and other livestock fodder. This is partly due to the perception that growing market vegetables or other ready-for-human-consumption foods contains risks of uncertain or unavailable markets with the concern of not being able to sell the entirety of a crop. This is contrasted with the perceived ease in which fodder and other similar crops are harvested and sold all at once even though farmers make far less per acre then with vegetables and other specialty crops.

Crop	**($ Dollars)**
Hay	1,545
Cantaloupes	4,903
Watermelon	4,309
Honeydews	5,047
Bell Peppers	12,463
Carrots	9,334
Cucumbers	5,286
Lettuce (head)	8,213
Lettuce (leaf)	8,736
Lettuce (Romaine)	9,922
Onions	5,601
Potatoes	4,269
Snap Beans	16,944

Spinach	6,997
Squash	5,862
Tomatoes (medium)	10,744
Tomatoes (cherry)	18,520
Apples	8,927
Peaches	5,498
Pears	7,417
All Fruits (average)	7,071
All Vegetables (average)	7,387

TABLE 1: 2-12 NEW MEXICO- FARM GATE PRICES PER ACRE FOR SELECTED FRUITS AND VEGETABLES (ESTIMATES BASED ON NATIONAL AVERAGES)

Growing food crops can also be difficult in parts of the region. Grant and Catron Counties are particularly mountainous and the availability of affordable land with good soil, water rights and infrastructure is somewhat scarce and thus the cost of starting a specialty crop farm is prohibitively high.

How Much Food Is Currently Grown in the Region?

While agriculture is a major part of the economic sector in all four counties less than 2% of farmland is dedicated cropland, with the majority of farmland being used as pastureland for cattle, sheep and other livestock. Even though the number of farms has increased in all counties except Luna, the amount of farmland has decreased in all counties from Hidalgo losing 10% to Catron losing 27% of farmland since the 2007. (United States Department of Agriculture , 2012)

Vegetable crop sales in the four county region are valued at $18.6 million but the vast majority (98.9%) comes from Luna county with no measurable amount comes from Hidalgo county. Fruit, nut and berry sales in the region are valued at $4.1 million with 78% coming from Luna County and no measurable amount coming from Grant county. (United States Department of Agriculture , 2012)

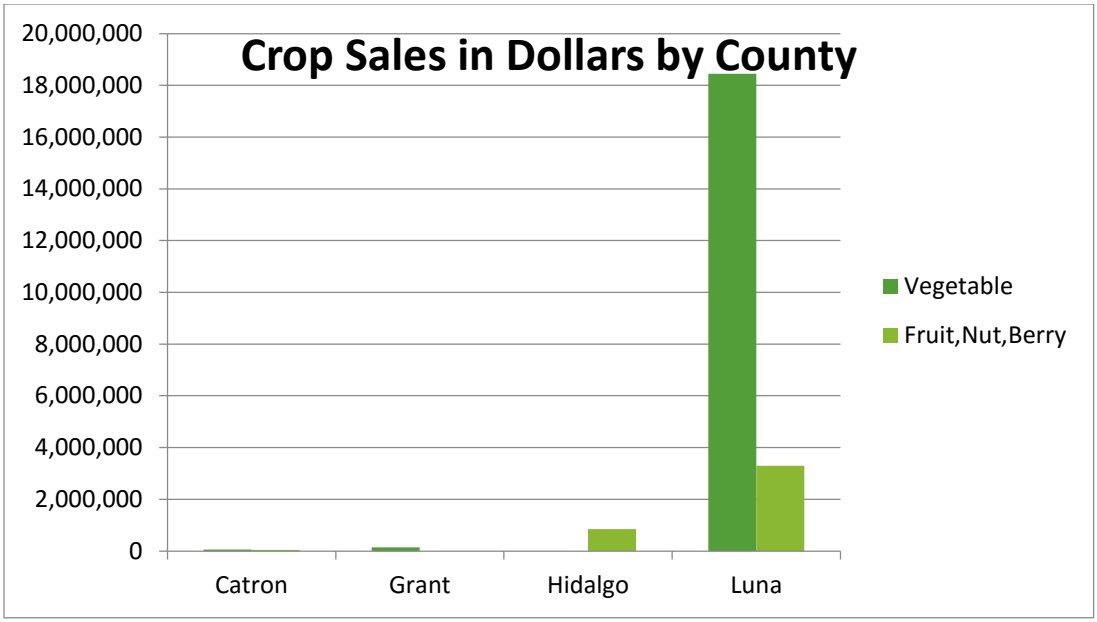

FIGURE 6 CROP SALES IN 4 COUNTIES

**It is important to note that the diversity of vegetable crops grown in Luna county is low, consisting mostly of chile and onions and that there is only so much of a market for those products each year.*

Seventy-two percent of farmers in the region report sales of less than $50,000 per year, 62% report sales of less than $20,000 per year and 26% report sales of less than $1,000 per year. With overhead costs for many farmers being high, it is safe to assume that the majority of farmers do not rely on farming as their primary source of income. (United States Department of Agriculture , 2012)

Even though there is a significant amount of food being grown in the four county region, relatively little of that is sold or marketed as local food. The majority of the large vegetable operations in the region sell to big national or international distributers who provide their farmers with a one-stop, guaranteed market.

What is Being Grown in the Region?

Eighty-one percent of the over $22 million of food crops that are grown in the region are vegetable crops, with the remainder devoted to fruit and nut trees. Again, the vast majority of this comes from Luna County and an undetermined majority of this total consists of onion and green chile. Additionally, Luna County produces $5.6 million in dried beans, peas and oilseeds every year.

County	Vegetable Acres	Forage Crops (hay, silage, etc.)	Cottons	Pecans	Apples
Catron	8	346		42	
Grant	22	3,474		8	52
Hidalgo		5,392			
Luna	4,119	10,095	1.998		
Total	4,149	19,307	1,998	50	52

TABLE 2 WHAT CROPS ARE BEING GROWN IN THE REGION- INFORMATION FROM 2012 AGRICULTURAL CENSUS

While there is currently about $22 million in food crop sales in the region per year, the majority of it is sold to large distributers for low prices. If 100% of the current acreage was growing vegetables sold at average gate prices, then an additional $8 million dollars of revenue could be generated. In addition, small tracts of cotton and other irrigated land currently being grown for silage and other animal fodder could be put to human food production with little extra input from the farmer and generate several times the revenue.

There were 18 farmers interviewed for the food hub study, 12 of whom reported sales of under $50,000 per year. The majority of these farmers are market farmers and grow a similar variety of mixed vegetables to be sold at the farmer's market. However, several large growers of mixed veggies, beans, onions, tomatoes and/or peppers showed interest in contributing to a food hub.

Size of Farm	Mixed Veggies*	Tomatoes/ Peppers	Onions	Beans	Fruit
Over $50,000/yr. sales	2	1	1	1	
Under $50,000/yr. sales	8				
Under $50,000/yr. sales Farms Not Interested	3	1			2

TABLE 3: FARMERS INTERVIEWED

MIXED VEGGIES INCLUDE BUT ARE NOT LIMITED TO: TOMATOES, PEPPERS, POTATOES AND OTHER ROOT CROPS, VARIOUS GREENS, PEAS, SWEET CORN, CULINARY HERBS.

Where is This Food Going?

While it is difficult to determine exactly how much food is going into local markets, it appears to be a small percentage. Luna County is home to the world's largest chile processing plant, Mizkan Foods, and a number of large food distribution companies (e.g. J & D Produce, Billy the Kid Produce) that specialize in onions. It is reasonable to assume that the vast majority of crops grown in the region are sold to these large, national and international businesses. At a local meeting, the director of a public school nutrition program in the area commented that she had bought produce grown in the same county as the school she was serving through a vendor in Oklahoma. The mark up profits then went to an out of state business instead of staying in the community and the food logged well over 1,000 miles of travel.

The Silver City Food Co-Op reports close to $50,000 in annual local food sales per year coming from numerous small, local growers. Additionally, the region has four farmers' markets which sell local produce.

What Do the Farmers Say?

Over a period of several months 18 local producers were interviewed about their interest in contributing to a local food hub. Most were not familiar with the idea of a food hub, however, an interest in the local economy and the potential to sell more product was appealing to the majority.

In addition to asking them if they would be interested in contributing product to a food hub, farmers were asked about various other services a food hub could potentially offer such as: resource

development, education and training, cold storage, crop forecasting (coordination) and shared labor costs or a labor pool.

Overall, 12 of the18 farmers interviewed were interested in some aspect of the food hub. Seven said they could begin to contribute produce from the hubs inception, with the remaining five interested in help to expand their production, training or infrastructure before they could contribute.

Aspect of Food Hub	Number Interested (Out of 18)
Could Contribute Right Away	12
Interested in Education, Training (Season Extension, etc.)	4
Interested in Crop Forecasting/Coordination	1
Interested in Resource Development	5
Interested in Shared Labor Costs or Labor Pool	2
Interested in Cold Storage	3
Too Small or Not Interested	3

TABLE 4: SURVEY RESULTS

How Much Can Local Farmers Contribute?

The amount of food local farmers can contribute to the four-region economy is difficult to quantify. Two farmers said they could dedicate a certain amount of acreage to food grown for the food hub and one farmer replied with a specific dollar amount, while the rest of the farmers interested would need more specific information before they could say how much they could commit.

Land/Produce Committed	Estimated Food Hub Sales Value
13 acres from two farmers	$96,031
Up to $500,000 from 1 farmer	$500,000
Other, non-quantified commitments from 3 farmers	$5-15,000
Additional Produce Available to purchase from 2 large growers/distributers.	$10-30,000
	~$600,000

TABLE 5: VERBAL COMMITMENTS FROM REGIONAL FARMERS

While $600,000 in commitments seem to be a good starting place to launch food hub operations, a more concrete assessment of the type and quantity of produce available is needed to determine the actual baseline level of produce that would be sold through the food hub.

It is also worth noting that the average number of vendors that food hubs purchase from is fifty-five, and it is important to have a diverse and resilient vendor base to keep the supply chain moving. Before starting food hub operations, it would be prudent to gain commitment from at least 50 vendors. This

may prove to be challenging as the majority of farmers grow a one or two crops and seek to limit the complexity of their operation.(Farm Credit East, 2013)

Considerations

It is important to note that while having initial commitments from farmers is important, farmer interest is likely to grow once the food hub has demonstrated sales and this should be factored in to any subsequent planning.

According to the Counting Values: Food Hub Financial Benchmarking Study, the average distance in which surveyed food hubs around the country was 385 miles, which still fits in the USDA's generally accepted definition of what foods can be marketed as local. Considering this, there is significant agricultural activity in the surrounding regions that can be tapped into to increase sales, provided the market has exceeded regional production. (Farm Credit East, 2013)

Supply Conclusion

According to data collected from interviews and from secondary sources, there is more than enough food in the region to *support* a food hub. However, securing enough food from existing local growers to sell through a mediated channel such as a food hub will take additional work with producers because many farmers are not growing the right kinds of crops. If a food hub could capture just 10% of current vegetable sales in the region, or roughly $2 million worth of produce, then a food hub business could be self-sufficient as typical food hub labor expenses account for roughly 16% of total revenue. (Farm Credit East, 2013)

Additionally, while there is more than enough produce being grown in the area to support food hub, there may not be enough interested producers. Of the 18 producers interviewed 12 had sales under $50,000 and sold primarily at farmers' markets and five stated they were not at all interested in the food hub. By demonstrating a positive economic opportunity for producers, more farmers maybe attracted to selling to a food hub. A planning phase for food hub development would include gathering commitments from farmers and would provide a more accurate picture of how much produce could be sold through a food hub.

An organization dedicated to maximizing local food sales could benefit the region for many years to come. One focus of a Southwest New Mexico Food Hub would be farmer coordination where farmers plant profitable crops in alignment with what the food hub is able to purchase and sell thus maximizing farmers' profits and minimizing their risk.

Market Analysis: Can enough food be sold in the region to support a food hub?

Market Feasibility Findings:

Having a large and diverse customer base is the best way to mitigate cash flow risk in food hubs. While over 30 potential food hub customers were interviewed for this study, the average food hub has over 400 customers. Achieving a number close to 400 would be extremely challenging and would require delivering largely to metropolitan areas within 400 miles of the region.

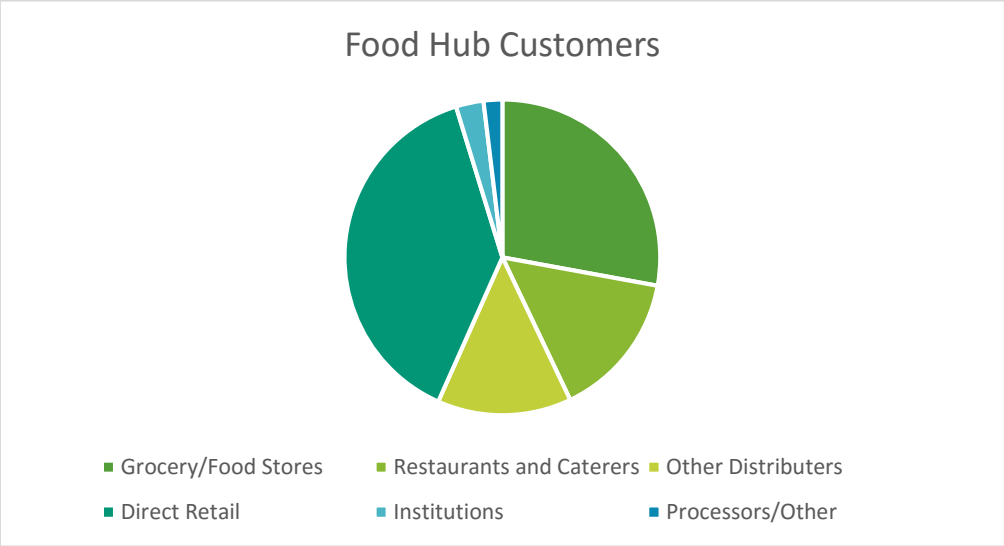

FIGURE 7 FOOD HUB CUSTOMERS (FARM CREDIT EAST, 2013)

Based on the latest BLS Consumer Expenditure report in 2014 it is estimated that the region's households spend roughly $1.4 million per year on local fruits and vegetables, although there is no conclusive data and the actual number could be significantly lower. From the same report it is estimated that regional households spend about $9.9 million on fruits and vegetables of any kind; based on these numbers there is significant room for growth into markets that cater towards household purchasing. In addition, there were 42 restaurants, retail locations and institutions interviewed in which 29 of them or 69% are willing to begin to purchase or purchase more local foods than their already are. The market has the capacity for significant growth and as with other food hubs, there becomes even more interest once the effectiveness of the food hub has been demonstrated. (United States Bureau of Labor and Statistics, 2014)

Market Feasibility Conclusions and Recommendations:

- There is significant room to expand the production and sales of local fruits and vegetables within the region, however it is unlikely that the markets in the four county area alone can support a food hub. Markets outside of the four county region, but still within a 400-mile radius, will need to be heavily utilized.

- A major limiting factor in the region is a lack of an organization dedicated to connecting farmers to all available markets. Many farmers interviewed stated they would grow more or different crops if they were connected with a market.
- Survey results and interviews revealed a severe lack of awareness about the benefits of local foods and local purchasing among both buyers and producers. An extensive education and outreach campaign is needed for buyers and producers.
- Further planning is necessary to assess the costs of delivering foods to adjacent metropolitan areas.
- Assess the volume, type and value of produce contributed by the few producers who stated interest in the food hub. Based on these results, develop a business plan to determine the specific local markets, amount of sales and cost of food hub operations for the four-county area.
- If deemed necessary, identify growers outside of the four county region, but still within a 400-mile radius, that would be interested in the food hub.
- Since the geographic area of the proposed food hub is significant, further study is needed to estimate cost of transportation logistics.
- Research procurement policies that support the local food economy and successfully enacted by local and county governments. Educate local elected officials on the value of locally grown, purchased and consumed food.
- Review the local utilization of existing state programs that support purchase of locally grown food, such as SNAP Double Up Food Bucks and the Fresh Fruits and Vegetables for School Meals. Identify barriers to purchases and assist in connecting purchasers with local growers.

Retail Markets- ***To What Extent Can Retail Markets Meet the Need of a Food Hub?***

Eight retail locations from the four county region and five from outside the four county region were interviewed for this study. Of the regional locations, five of them were interested in purchasing local foods and only one of them (Silver City Food Co-Op) was currently purchasing local foods on a regular basis. The primary obstacle with retail stores in the four county area is that they are chain locations and purchase all of their produce from a centralized warehouse and do not work directly with producers.

The Silver City Co-Op is the only cooperative store in the four county region and makes considerable efforts to purchase local food by paying farmers top dollar for their produce and taking a very small mark up on local foods. The Co-op sold about $50,000 in local produce in 2014 out of about $200,000 overall; and except for certain times of the season they are always accepting local produce. According to their produce manager they would like to transition to 100% local foods but the supply is not available. They have a very flexible relationship with their main vendors whereby they need only a few days to a week notice if the vendor will not be able to make a shipment to allow them to order from their vendor. The Co-op is able to offer that flexibility to local growers. Even during the glut times, the Co-op is able to stagger local producer's delivery from week to week in order to both maintain a steady supply for customers and provide regular purchasing to their vendors.

Retail	County	Interested in Purchasing from Food Hub
Bootheel	Hidalgo	No

El Rays	Luna	Yes
Jake's Grocery	Catron	Yes
Albertson	Grant	No
Food Basket	Grant	Yes
Silver City Coop	Grant	**Yes**
Peppers	Luna	yes
Walmart	Luna	No
Mt View Co Op	Dona	Yes
Lovin Spoonfuls	Ana Tucson, AZ	Yes
Cielo Vista Natural Market	El Paso, TX	Yes
Sprouts Farmers Market	Phoenix, AZ	Yes
Food Conspiracy Co-Op	Tucson, AZ	Yes

TABLE 6: RETAIL MARKETS

The other retail locations in the four county area that indicated interest in purchasing from local growers were three locally owned businesses and one chain (Food Basket). Two of these retail markets (El Ray's and Jakes Grocery) indicated that having a steady supply was one of the most important elements in establishing a relationship and two (Peppers and Food Basket) indicated that having a "fair" or competitive price was one of the most important elements. These elements represent by and large the reasons why large food distributers like Sysco and Shamrock are so popular, they offer low prices and reliability as well as convenience. The majority of retailers interviewed had expressed concern over dealing with small, local farmers because they are too unpredictable with their crops in terms of consistency and quality and because smaller growers often charge more for their products.

Another requirement stated by the food retailers who were interviewed was for farmers to have some way to assure the safety and quality of the food, such as USDA inspection, GAP certifications; or that the retailer “must trust the farmer" and would need to develop a relationship with him or her. Two of the retailers (Peppers and Food Basket) explained how they often have people show up in trucks filled with food but are unable to talk about where it comes from or how they received it. While these retailers have some flexibility in how they purchase foods they need to be assured that their food is local, safe and of good quality.

The interview process also targeted a small number of food retailers outside the four county region but within a 400-mile radius. While there is no universally accepted definition of "local foods", the USDA generally says that anything grown within 400 miles of where it is sold can be marketed as "local", such designation can demand higher prices and increased demand in certain markets and different vendors often have their own requirements of what can be considered local. There were five retail locations

outside of the four county region that were interviewed and they are all interested in purchasing local foods. These retailers are interested in meats, eggs, cheeses, fruit, produce, frozen entrees as well as canned and dried beans and other produce.

The retail markets targeted outside of the four county area were natural food stores and food cooperatives. Because of this three out of five required that the produce is organic; one prefers organic but would consider conventional produce; and one (Sprouts), is a large, vertically integrated corporation that is interested in working with local farmers but requires large volume and low pricing. Sprouts also said they do not typically deal with food hubs because there is usually a considerable mark- up that makes working within their system somewhat challenging.

Of the three locations not interested in purchasing local foods one of them (Bootheel Grocery) said that they were too small to sell any significant amount of produce and that it would most likely not be worth it for either them or the grower. The other two (Walmart and Albertson's) are large, national chains that do all of their buying through a central warehouse. While it is technically possible to sell to the warehouse, significant volume, predictability of delivery and various requirements and certifications such as USDA inspections, GAP certifications and liability insurance are required to do so. Several growers in the area sell to large retail distributers. While selling to large distributer may not fetch the highest price for goods, it is a viable option to be considered once other markets are exhausted.

Restaurants- ***To What Extent Can Restaurants Meet the Need of a Food Hub?***

The four county region has over three dozen restaurants, relatively few in relation to its vast geographical expanse, with the majority concentrated in either Silver City or Deming, the region's largest towns. While few of the restaurants are very large by volume, they offer a viable year round market for local growers. For growers, relationships with restaurants are extremely valuable as significant amounts of product are purchased at one time, they provide feedback as to what kinds of crops they are interested in purchasing, and they offer consistency where farmers' markets do not. Restaurant sales are largely based on the farmer's relationship with the chef or purchasing agent for that restaurant. Many relationships can last years.

Of the 17 restaurants interviewed, four of them stated explicitly that they are interested in local foods, feature them on their menu and are interested in increasing the amount of produce purchased from local growers. Two of these restaurants currently have ongoing relationships with several local farmers and actively try to source more local produce, meat and value added products.

Two of them currently work with local growers and are satisfied with their relationships and do not wish to increase or learn more at this time.

Of the 12 restaurants that are interested in working with local producers, seven of them named pricing as their biggest concern along with consistency in delivery throughout the year and professional service/communications. A number of restaurants provided anecdotes of local sellers trying to command "farmers market prices" for their food and how, barring special circumstances, restaurants would not pay that price. Restaurants have a high overhead and with few exceptions, every attempt is made to cut costs so pricing that is competitive with the larger distributers is advantageous if trying to enter into the restaurant market.

Two restaurants were interested but would only consider purchasing if the prices of local foods were the same or lower than the big distributers. The rest said they would be willing to negotiate and even pay slightly more if it was for a local grower. Two restaurants (Shevek's and Curious Kumquat) feature local foods prominently on their menu and offer considerable more room for negotiation of prices.

Four out of the 12 restaurants said that consistency was a big concern and that it is very hard to compete with the year round consistency of the large vendors in terms of pricing, quality and availability. Several of the restaurants have flexible menus that would allow for some seasonal variation and could be slightly forgiving of delivery shortfalls, etc. but most have static menus that remain the same year round and therefore require an ability to guarantee deliveries weeks or even months into the future.

In general, the response was positive with the majority of restaurants willing to enter into local food buying or currently active in it. The major concerns among restaurants is pricing, reliability and professional service and communications such as responsiveness and promptness.

Schools: ***To What Extent Can Schools Meet the Needs of a Food Hub?***

It is estimated that there are over 13,000 students ages three and over currently enrolled in public schools in the four county region. (United States Census Bureau, 2013) Because of New Mexico Grown Fresh Fruits and Vegetables for School Meals (HB81) which provides $364,300 to New Mexico schools to purchase locally grown produce, schools are encouraged to purchase from local vendors. The NM Grown Fresh Fruits and Vegetables for School Meals funding is distributed to each school district based on school population. As a result, the four county area received a total of only $11,265 for the 2015-16 school year.

Schools offer a promising, highly underutilized market to area farmers. Through conversations with area food service directors, the estimated public school budget for the region is over $5 million. According to the benchmarking study, schools and other institutions account for less than 3% of most food hub sales. This is likely because the majority of schools require a large volume of food, high safety standards (GAP, etc.) and award sales to the lowest bidder.

In the Southwest New Mexico region, several school districts have formed a buying cooperative to increase their buying power. All of the food service directors that were interviewed shared an interest in supporting local food and would buy from local producers if there was sufficient quality, communication, price and safety records. (Farm Credit East, 2013)

A total of five private schools and five school districts within the four county region were interviewed for this study along with two schools from neighboring areas. Out of 10 schools and districts interviewed, seven were willing to work with local growers. The three that were not interested were simply not set up for traditional food service functions (e.g. several schools no longer have cooking or food preparation capacity) and instead relied on outside catering services, volunteers or did not serve lunch.

Six out of seven schools stated that they would need delivery service and cannot travel to farms to pick up produce. Schools often have specific delivery times that they try to meet, so working these out with small farmers can often be challenging. The school that said they could pick up relies on a parent volunteer to do the driving and is small enough to be very flexible with both time and amount. "Though

we are on a tight budget we try and support local farmers whenever we can" said the food service director of Guadalupe Montessori School in Silver City.

Four out of seven stated that a consistent product is key in terms of both quality and quantity, they would like to have close to uniform sizes for fruits and vegetables and the ability to plan ahead by at least two weeks. While the smaller schools can often be very flexible in their menus, there are minimum ordering requirements for some of the larger schools that can often be a challenge for small growers to meet.

Five out of seven stated that having some form of liability insurance and/or reliable information on their use of pesticides and fertilizers are important. "If a farmer can't or won't tell me what he puts on his crops, then I just can't buy from him" said one food service manager. Many small farmers do not purchase liability insurance because it would represent a significant portion of their overall income and things like GAP certifications often cost too much as well.

However, while some schools offer flexibility in purchasing and some are less flexible and require more paperwork, the work of places like Farm to School (Farm to Table) has initiated what could become key partnerships and offer steady markets from growers across the state.

Institutions: To What Extent Can Institutions Meet the Needs of a Food Hub?

There were three institutions interviewed across the region (two senior homes and one county jail). The institutions all operated within a small budget; two of them within a contract they would not purchase outside of. Only one of the three institutions was able or willing to purchase local foods and they were interested in signing a contract with a local grower.

The problem that vexes many institutions such as senior homes, hospitals, jails and others is that they operate on a thin budget with little to no room for innovation or flexibility. Catron County Department on Aging was the only one of the institutions interviewed that was interested in purchasing from local growers. Their overall volume is small and they were most interested in working within a contract that would ensure them a consistent supply of produce for months at a time. While this set up would be agreeable to a midsize or larger producer it would be difficult for small farmers to guarantee on its own but through a food hub, several small growers could meet the demand.

In order to move into these institutional markets, farmers have to be prepared to work within the parameters and limitations of the institution. Competitive pricing, reliability and the ability to guarantee delivery for a number of months must be in order to be agreeable to both parties involved.

A Word on Public Procurement

"Food procurement-- how and from whom food is purchased by an organization and institution-- offers an opportunity for the public sector to harness its purchasing power to create more equitable food systems by expanding the farm-to-institutional model to support small and midsized family farms…"
- (Policy Link, 2015)

Regional schools and institutions spend more than five million dollars per year on food and virtually none of this is from local producers. Several states have enacted local procurement preferences that give a bidding preference to local producers to help them compete with the much cheaper produce that comes from large distributers. As discussed previously, local agricultural purchasing has the potential to create jobs (new farmers, food hub jobs, etc.), strengthen the local economy (multiplier effect) and increase healthy food access.

Currently, most institutions operate under a competitive bidding process with the sale awarded to the lowest bidder. Large distributers source from very large farms, often out of the country, and can offer large amounts of produce far cheaper than a small or midsize grower can and this almost always results in small and midsize growers being excluded from institutional markets.

By enacting one of several procurement policies, a certain amount of public dollars can go back into the local economy to provide jobs, wealth and healthy food.

Procurement Model	**Description**	**Example**
Targeted percentage of local food purchases.	A percentage of all food purchases from an institution must be from local producers.	Illinois' Local Food, Farms, Jobs Act of 2009 set a goal that by 2020 all state institutions purchase at least 20 percent of food from local sources.
Mandated percent price preference	This model requires agencies to purchase locally produced food when its price is within a designated percentage cost of food that is not sourced locally.	Alaska's **Local Agricultural and Fisheries Products Preference Statute (AS 36.15.050)** Which states that any state entity or school district purchasing agricultural products with state funds must purchase in state products as long as that product costs no more than 7% above the out of state bidder.
Discretionary geographic price preference or general geographic preference	States would specify agency discretion to spend more on local products over out of state products using discretionary geographic preference laws.	Montana, using a local food procurement statute, state institutions have broad discretion to purchase directly from local farms and producers rather than going through the standard procurement policies of the state.
Resolution or statement of support for local purchasing	This option affirms local jurisdiction or state legislators support of local food but does not mandate local preference. A resolution might set a targeted percentage goal which it encourages state agencies to commit.	The Center for Environmental Farming Systems (CEFS) at North Carolina State and a number of partners launched **North Carolina's 10% Campaign** and asked participants to spend 10% of their food dollars locally. This has helped direct over $64 million to local producers since 2010.

TABLE 7 PROCUREMENT STRATEGIES

Technical Feasibility: Is Local Infrastructure Sufficient to Connect Local Growers to Local Buyers?

In order to determine whether the infrastructure currently in place is sufficient to meet the needs of a food hub, we first needed to determine what would constitute sufficient infrastructural capabilities and then take an inventory of what is available within the region.

Technical Feasibility Findings:

While there are food hub activities currently taking place within the state, there are none in the region. La Montanita is a food hub located in Albuquerque (approximately 250 miles away from the region's center) that occasionally services farmers in the Southwest Region, however that service is not frequent as they give preference to growers in the Albuquerque metro region.

There are several viable food hub models which are covered in the Food Hub Model section later in the report. In order to be successful in the Southwest New Mexico region there needs to be an investment in various infrastructure components as well as in administrative and organizational capacity. The basic components of a food hub that need to be in place for the region are:

- Digital database to identify supply and demand in real time and for future dates.
- Transportation infrastructure to pick up and/or deliver foods (e.g. refrigerator truck).
- Organizational body to make decisions and staff to carry out tasks.
- Physical infrastructure to aggregate, store and pack food.

Technical Feasibility Conclusions and Recommendations:

- Connecting growers to end markets through food hub operations is technically feasible but requires significant investment in various infrastructure components, education and coordination among farmers.

Ideal Infrastructure:

An ideal infrastructure in the region would be able to efficiently match product with end user over a vast geographical range and be able to meet the different requirements of those buyers. This infrastructure would also be able to benefit small to midsize farmers who lack the capital to invest in cold/dry storage, efficient sorting and packaging facilities, transportation, accessible markets and other post-harvest activities that help producers sell to end users.

Organizational Infrastructure

- Accurate, real time database of crop type, amount, availability and price.
- Database of farmer's capabilities, certifications and needs.
- Accurate, real time database of buyer's requirements and orders (ability to match buyers with appropriate product.
- Staff actively working to market and sell available products.

- Group working to raise regional food awareness.

Physical Infrastructure

- Efficient and affordable options to transport products to market.
- Available facilities to store, sort, pack and prepare products for market.
- Easily accessible markets and market drop off points if selling to food hub or other entity.

Currently, very little physical infrastructure exists to support small and midsize farmers attempting to sell to local markets and even less organizational infrastructure exists. The result of this is that small farmers do not know all of the available markets and many of the available markets do not know where to source local foods. In addition, the overhead cost is too great for many small to midsize growers to deliver product outside of their immediate region and to meet the costly requirements of many market purchasers.

While the region represents a diverse landscape, the optimal location of a food hub would have to be located near farmers and with ready access to an interstate to travel to markets outside the four counties.

Possible Food Hub Location	Pros	Cons
Deming	Agricultural area- already many farmers, located on interstate, supportive community	
Lordsburg	Located on interstate	Not many food farmers nearby
Silver City	Supportive community	Not located near interstate, most nearby farmers are very small

Transportation: While there are several markets in the region that have relationships with local producers, often times, especially during harvest there is a glut of certain products and the local markets are flushed. In this case it is advantageous to sell to markets outside of the region and to do so, efficient and affordable transportation becomes vital. Additional information is needed to understand the transportation needs and logistics to get product to market in a timely manner throughout the year.

La Montanita Co-Op- This is a food hub located in the Albuquerque metropolitan area which is 237 miles from Silver City, 237 miles from Deming and 295 miles from Lordsburg. This co-op often makes weekly deliveries to Silver City and less frequent deliveries to Las Cruces and offers backhauling services to the Albuquerque region for a 13% fee, which only makes sense for large volumes. In addition, the producer must work out the delivery arrangements with the buyer in the Albuquerque area, in this case La Montanita acts as a transportation service.

Occasionally, La Montanita will buy crops from the producer directly in which case they make arrangements to pick up food. However, this is not a reliable system because they, as a regional food hub serving the Albuquerque region, give preference to farmers local to them. Several farmers in the region have sold to La Montanita, and while it is convenient when it works out, it doesn't always work out because growers closer to Albuquerque are given priority.

Roadrunner Food Bank: Roadrunner is the food bank responsible for providing the region's food pantries with food and makes frequent trips to the region. They also offer backhauling services to the Roadrunner warehouse, usually at no cost to the producer. While this service has worked for farmers before and is currently available, there are two challenges associated with this option. The first is that they must align themselves with Roadrunner's logistics; meaning that they have to meet them at a specific time and place (usually a pre scheduled food drop off sight) or Roadrunner can travel to the sight if within 10 miles of their scheduled route. The second is that they must find a buyer who is able to pick-up the delivery at Roadrunner's Albuquerque warehouse. Again, this would only make sense for large volumes of produce, the kind that many small and midsize growers cannot produce.

Cold Storage: With the exception of storage crops such as beans, some fruits and root vegetables, most produce for human consumption is highly perishable and therefore requires cold storage in order to be delivered to a market in good condition. Four small farmers that were interviewed cited cold storage as a significant hurdle in producing more market ready vegetables.

There are no regional locations that offer commercial cold storage, the nearest is Milliards in El Paso, TX, which is over 150 miles away from most locations in the four county region. Milliards charges between $14-22 per month for each pallet and it is feasible to rotate the product on that pallet. However, due to the distant location from the region and the cost associated, it would likely not be an optimal solution for area producers.

Post-Harvest Processing: Turning raw agricultural material into added value products by changing their form (such as strawberries to jam or wheat to flour) can be a very financially rewarding process. In order to become legally certified to sell value added products, the producer must utilize facilities that are commercially certified. Obtaining and installing the required sinks, counters and other components of a certified kitchen can be large investment, far out of the range of many small producers. There is currently only one certified kitchen available for public use with an associated fee in the entire region. There is also one commercial meat dehydrator available for use. Hidalgo County is in the process of developing a commercial kitchen.

Commercial Kitchen: The Volunteer Center of Grant County located in Silver City has a commercial kitchen available to use for a fee and a program aimed at helping women in the community start food based businesses, it's called Nuevos Comienzos para las Mujeres (New Beginnings for Women). This is a recent development in the Silver City community. Hidalgo County recently authorized a county facility for the development of a commercial kitchen and the local senior center donated commercial grade equipment.

Farmers Markets: There are currently only four farmer's markets in the region. Part of what makes farmers markets difficult is the lack of large population centers in addition to the ease and familiarity people have with large super markets.

- Silver City Farmers Market
- Mimbres Farmers Market
- Hidalgo County Farmers Market and Mercado (Lordsburg)
- Deming Farmers Market

From conversations with the managers of these farmer's markets, two of them (Silver City and Hidalgo County) report healthy attendance by both farmers and buyers., However, Silver City noted that they struggle from a lack of supply and that there is room for considerable growth.

The Mimbres market is the smallest of the regional markets and shut down early this year due to low participation and crop troubles amongst the farmers. Deming farmers market is also small for the size of its city.

Infrastructure Challenges

The infrastructure to connect local food to markets is challenged primarily in three ways:

1. Transportation- Lack of affordable and reliable product transport to key markets both within and outside of the four-county area.
2. Storage- Lack of sufficient cold and dry storage for small growers.
3. Communication- Lack of knowledge about available markets or an effective channel to connect growers to buyers and buyer to growers.

Operating a farm business that is often very far from market points can add an additional layer of planning and costs to consider. Currently, the region has an "every farmer for themselves" mentality regarding transportation. This is not because the region wouldn't greatly benefit from shared transportation resources or greater cooperation, it is because organizing an effective, cohesive system among farmers spread out over hundreds of miles is incredibly time consuming. If a food hub has to stop at every farm to gather produce it is unlikely to be profitable considering the wide spread of those farms. However, if there were several strategically placed drop points for food where the farmers could offload produce to be picked up later, transportation costs could be reduced.

The lack of proper storage is another infrastructural challenge among growers in the region. Currently, most growers have to sell what they harvest in a short timeframe to avoid spoilage. The addition of shared cold and dry storage could increase the amount that some growers could harvest as they would have a larger time frame in which to sell their product.

Perhaps the largest infrastructural shortfall among regional farmers is the lack of an organizing body dedicated to helping farmers navigate different market channels, coordinate their crop planting to be in conjunction with what is in demand and help facilitate the flow of information and resources. Many farmers that were interviewed did not know of any markets they would be able to sell to outside of the farmer's market or how to go about doing that. An organizing body could help farmers align with suitable markets and make sure they are aware of opportunities.

Infrastructure Solutions

Increased organization among farmers could be a great benefit. By sharing the cost of transportation, marketing, packaging, certifications and other costly business activities farmers could lower their overhead cost, spend less time on non-farming activities and greatly increase their earnings. With ongoing organizational support, a dedicated entity could provide market access and increased economic opportunities for existing farmers as well as new ones.

Food Hubs as a Solution: As food hubs exist solely to enhance the earnings and availability of local foods and local food producers, they are tailored to specifically meet the needs of a region. For example, a food hub in SW New Mexico would differ greatly from a food hub in central Iowa in that it would take into account large distances between growers and market.

Food hubs can take several different forms, depending on the services they aim to offer and what is most viable and needed in that community. Food hub models can be either for profit or not-for-profit and can include aggregation centers, packing houses, processing centers and web based aggregators or hybrid models that combine various features depending on the need of the communities Discussion on the pros and cons of each model is described below. (Timothy C Lindsey, 2012)

Financial Feasibility: Is it financial feasible to start a food hub and can a food hub be operated profitably in the region?

" Financial Solvency is of utmost importance to the continuing operations of any business, and food hubs are no exception". (Farm Credit East, 2013)

Financial Feasibility Findings

In order for a food hub business to be successful, it has to operate efficiently and as close to profitability as possible. In a 2013 study of 48 food hubs across the nation, the average margin for food hub businesses is 14.8%, which means that for every dollar in revenue, there is only about 15 cents left over to cover overhead costs such as facilities, labor and insurance.

The average food hub was found that the minimum volume of sales needed to sustain a food hub and its business expenditures is $500,000 and we estimate that with proper ground work before the initialization of a food hub, this number could be reached in the first few years. While there is considerable room for growth in our local markets, several other key outlets were interviewed from outside of the region but within the 400 miles that the USDA considers its "local threshold". With careful coordination among farmers, locally grown foods could grow steadily for years to come. (United States Department of Agriculture, 2015)

While maintaining a food hub is financially feasible, coming up with the initial costs to invest in the various infrastructure components is the main challenge. Funds can potentially come from one of several different options, depending on the financial structure of the food hub. The main financial structures that food hubs operate under and the types of initial funding they could receive are:

- Cooperative – Member owned, buy in, initial investments
- Non-Profit- eligible for grants, town and county sponsorship, donations and private investments
- Privately Held Business – private investments
- Incorporated (public or private)- private investments
- Informally Organized- private investments, donations

In addition, because there are no current food hub operations in the region and a high demand it is advantageous to build relationships with both consumers and buyers (business and institutional).

The development and expansion of a regional food hub will require a significant upfront investment that will vary depending on the services it aims to offer. A packaging and sorting warehouse, will require a much larger initial investment in infrastructure than will a web-based aggregator.

The types of funding that are available to the food hub will depend on its legal structure. Food hubs are most often fall under the following legal structures: (Most of this information comes from the report- Building Successful Food Hubs (2012).

- **Agricultural Co-operative**- owned and operated by a group of producers, profits are distributed to members based on amount of usage. Co-ops elect a board of directors and make major decisions through democratic voting. There are different methods of financing a cooperative:
    - Direct contribution through membership fees or stock purchases
    - Agreement to withhold a portion of net earnings
    - Assessments based on units of product sold or purchased.

  Advantages: Many experts believe that the single biggest driver of food hub success is the level of investment and support from its growers. Cooperative models inherently lead to stronger grower support, given that the owners are investors and profit sharers in the business, and have equal voice in decision making.

  Considerations: Producer groups may have difficulty generating the funding necessary to initialize the food hub and the collaborative nature of cooperatives could potentially slow down or even hinder the decision making process as key decisions are made by the group rather than specialized experts.

  Local Considerations: Several farmers in the area have expressed interest in forming a cooperative, however it is not likely that these farmers would be able to come up with the funds necessary to invest in food hub facilities.

- **For-Profit Venture-** The primary function of a for-profit venture is to generate profit for stakeholders. The different entity choices are:
    - Sole Proprietorship: business owned and operated by one individual.
    - Corporation: Consists of shareholders who finance and own the business. S-Corporations and C-corporations are two common examples.
    - Partnerships: An association of two or more people who co-own and are personally liable for the company obligations. Limited Liability Companies (LLC) and Limited Liability Partnerships (LLP) are partnerships in which partners are personally shielded from company obligations.

  Advantages: For-profits can more easily attract investors to fund the high start-up infrastructure costs. Additionally, since the primary focus is on generating profit, owners and board members may pursue business strategies that generate higher profits for all involved.

  Considerations: For-profits are ineligible for most grants, which can help fund necessary startup costs. They are also subject to high corporate tax rates. Legal advice is necessary.

Local Considerations: While for-profit ventures can be highly profitable, attracting investors in the region may prove to be difficult.

- **Non-Profit-** The primary purpose of non-profit entities are to advance a social or environmental mission, therefore all profits generated by a non-profit food hub are invested back into the organization to advance its mission.i Non-profit food hubs often invest in farmer training and technical support, training beginning farmers, marketing support, community and consumer education and other initiatives. Non-profits have a board of directors, file articles of incorporation and apply for non-profit status with the IRS.

  Advantages: Non-profits can be eligible for a wide array of foundational and government grant funding which can be hugely advantageous for overcoming initialization costs. The investment of profits into community initiatives and farmer development can help educate, train and strengthen the local agricultural community, ultimately resulting in high revenues for individual growers.

  Considerations: Setting up a non-profit is more time consuming then a for profit and because of the mission based ethics of non-profits, some producers and partners may not feel the organization has the business acumen and industry knowledge to successfully run the business. In addition, nonprofit leaders are typically not financially rewarded based on the success of their organization which may result in lower sales and revenues. Maintaining a committed and engaged board of directors who act as stewards of both the communities and key stakeholders (growers, consumers, buyers) is essential.

  Local Considerations: Because of the distinct need for investment into the regional agricultural community, a non-profit dedicated to the cause could be hugely advantageous to the region. In addition, a non-profit could take specific steps in the planning and implementation process to develop and sound business plan. However, relying on grant dollars can potentially put the food hub in a risky situation.

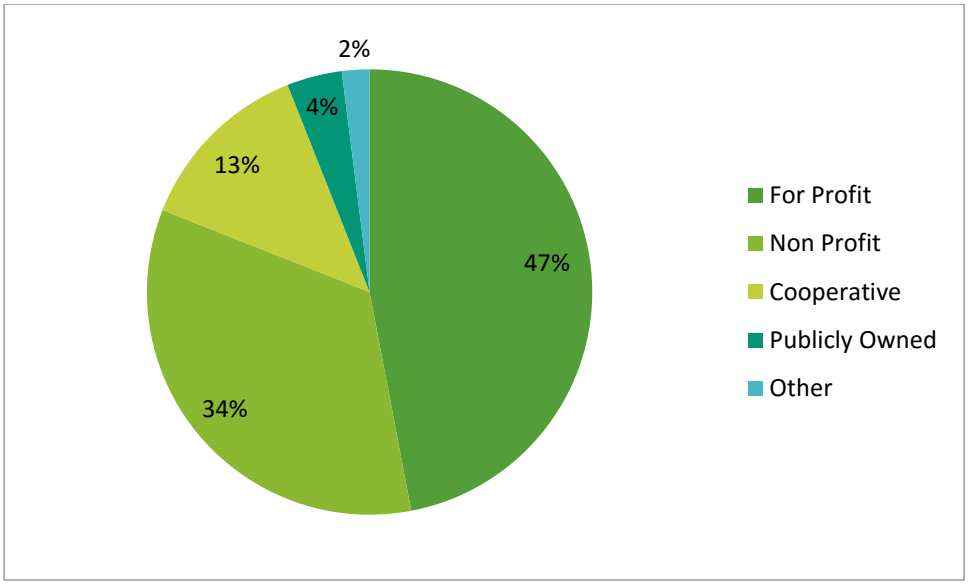

FIGURE 8 TYPES OF FOOD HUBS (FARM CREDIT EAST, 2013)

Conclusion:

Starting a food hub anywhere takes an upfront investment to develop the necessary physical and technical infrastructure needed to begin and carry out operations. There is inherent risk in starting any business, regardless of its legal structure. The most successful food hubs are for-profit organizations that place great emphasis on maximizing its profits. The legal structure of a regional food hub in Southwest New Mexico will depend on potential investors and interested organizations.

Types of Food Hubs: What Would a Southwest New Mexico Food Hub Look Like?

A food hub in Southwest New Mexico would be developed in order to meet the specific needs of the region. The primary areas of concern are:

- **Production**: While there is technically enough food grown in the region to support a food hub, there is not enough initial interest from farmers.
    - The region needs more farmers.
    - The region needs existing farmers to grow more food for local consumption and for it to be economically viable to do so.
- **Market access**: There is enough market space between the four county region and the surrounding metropolitan areas to support a food hub, however, many small and midsize farmers lack the knowledge and resources to transport their product to market.
    - Producers and markets need to be connected and aware of each other's offerings.
    - Transportation and Storage Infrastructure need to be sufficient to meet the needs of area farmers.

Different Types of Food Hubs:

There are several common manifestations of food hubs. Some have only a physical component, some are purely digital and others are a hybrid of digital and physical models.

Aggregation Centers: These are facilities that bring together products from local growers, usually from within the region it serves and sometimes from outside of that region. By aggregating and storing the produce from multiple farms, the food hub becomes an attractive supplier for wholesalers, distributers and institutions that require large volumes and consistency. These centers often combine aggregation with other services like cooling, cold storage, marketing and distribution. However, these centers do not wash, sort or pack but rather receive products that are ready to be distributed.

Cost Associated: The initial cost associated with aggregation centers are high as they require a large investment in the physical components such as:

1. Warehouse
2. Cold/dry storage
3. Trucks and/or other transportation equipment

In addition to the cost of physical infrastructure an aggregation center needs to maintain a staff to physically receive, handle and distribute the produce as well as trained staff to perform outreach, accounting and business functions.

Revenue Model: Aggregation centers most commonly purchase the produce from vendors and sell it at a mark-up. Traditionally, produce delivered to aggregation centers is ready for market and do not need to be washed, sorted or graded.

Feasibility for Southwest New Mexico: Considering there is a sufficient amount of produce generated in the region an aggregation center could offer farmers an easy market for their produce and the opportunity to brand local products which could help build a regional reputation. Due to fact that there are many small and midsize farmers in the region that lack infrastructure to sort and grade more product then they already are a strict aggregation center model may be not cater to them. Additionally, the upfront cost is high and would only be advisable once there is a sufficient amount of farmers and buyers committed to a regional food hub.

Packing Houses: These are facilities that receive unpacked fruits and vegetables to be packed and sold to wholesale customers. These differ significantly based on the needs of the community it serves. Packing houses can: wash, cool, sort, grade, pack, label, store, market and distribute product.

Cost Associated: Similar to an aggregation center, a packing house needs a warehouse or some sort of physical location and must be equipped with equipment to pack, store, cool, label and distributed product to wholesale customers.

Revenue Model: Packing houses take raw product from the field and turn it into a saleable retail product. Packing houses typically either purchase food from farmers and resell it at a markup or charge the farmer for their services.

Feasibility for Southwest New Mexico: Considering the lack of post-harvest infrastructure in the region a packing house could offer small and midsize farmers the chance to grow more product without having to worry significantly about how to sort, store or market it. Additionally, coupled with some front office characteristics of an aggregation center such as marketing, a packing house could be a significant addition to a vibrant regional food system.

Processing Centers: Processing centers are facilities that can offer various processing services such as drying, cooling, cooking, canning or other preservation methods to create a value added product. Processing centers can meet the needs of a great number of producers by creating single products that are attractive to retail, institutional or wholesale buyers.

Cost Associated: Cost associated with processing centers are high as they require a physical location outfitted with sufficient storage and processing equipment. Additionally, processing centers require a lot of staff to sort and process the product in addition to distribution.

Revenue Model: Processing centers buy product from farmers and add value to it by preserving, cooking, freezing or altering it in some way and sell it for a mark-up. Processing centers can be very profitable, however, considering the large upfront cost they would have to produce a significant volume to make up for overhead.

Feasibility for Southwest New Mexico: Southwest New Mexico is already home to the world's largest green chile processing plant and several smaller salsa businesses. A processing center would not meet the needs of small and midsize farmers in the region as they would require large amounts of produce at lower prices in order to remain profitable.

Web-Based Aggregator: A web-based aggregator connects growers and customers through an online marketplace. These can serve small customers such as households or catering services or can link institutions, schools and wholesalers directly to producers. Some of these are updated by producers, where they can post their available products in real time and buyers can place orders. A web based aggregator would be a low cost, first step in establishing a food hub.

Cost Associated: A web based aggregator is by far the least costly of all the food hub models chiefly because it requires little more than an office space and software.

Revenue Model: A web based aggregator would connect customers and charge a mark-up on a per pound or per item basis to cover operating expenses.

Feasibility for Southwest New Mexico: In order to cover staff costs, a web based aggregator would have to mediate nearly a half a million dollars in annual sales, which could potentially be feasible the first year. However, since one of the main concerns among buyers is that the food is delivered, mediating sales may not be beneficial to small or midsize growers.

Core Business Services: These differ based on the community they serve. Some food hubs can offer a complete range of services to help move the product from the field to the market, including harvesting and transportation services. Common services offered are: aggregating, marketing, distribution, sales but may include farmer education, crop coordination (to ensure a varied and saleable local harvest), resource developments and others.

Cost Associated: Costs associated with core business services differ as to what services are being offered. In Southwest New Mexico, core business services could include: harvesting, transportation to market, marketing and matchmaking. Potential costs would be staff, software, office space and transportation.

Revenue Model: A core business service oriented food hub would charge for the service being offered.

What Type of Food Hub is Appropriate?

As stated earlier, prior to starting a food hub in the area, more work needs to be done to identify and gain commitments from over 100 customers and over 50 producers. Once this important groundwork is completed the most appropriate type of food hub will be evident.

Once a sufficient number of commitments have been made, the most significant challenge to starting a food hub in the region is obtaining startup costs. The high overhead required of most physical food hub types will be a prohibitive factor in its development, for this reason a strong business plan showing a positive projection of sales with a high level of certainty will be key to attracting investors.

For these reasons, a food hub in the region may begin as a digital match-making service with delivery capabilities, or another alternative model that seeks to optimize the logistical challenges present in the region while minimizing startup costs.

An entity with the long-term goal of increasing food production, market access and financial viability in the area will have a great impact. Moreover, because of the remoteness of the region, projects, profits and social change can often be slower to take root, this must be considered when developing a food hub type project.

Conclusions and Recommendations

The implementation of a regional food hub could positively impact the region in a multitude of ways. It could increase the earning potential of area producers by helping them gain access into new markets and it can encourage existing farmers of animal food crops to grow human food for more earnings per acre. Additionally, a regional food hub could increase the access of healthy food to those in low access areas by gaining access to smaller markets and increasing the likelihood of small farmers earning a living from their produce.

The continued existence of an organization whose sole mission is to increase the earnings and market access of regional farmers could have a substantial long term impact. The total value of all agricultural products sold within the four county region is over $118 million and by capturing just 5-10% of that total to dedicate towards a food hub, an additional $5.9-11 million can be used towards local wages, and further circulate in the region.

One of the primary economic issues facing the Southwest New Mexico region as well as many remote regions of the nation is that of wealth drain. By cultivating one of the primary industries in the region to keep and grow profits within the region, an economic multiplier effect will help profits further circulate

and generate profits for other area businesses. According to a recent study by the University of Arkansas: "*A multiplier summarizes the total impact that can be expected from change in a given economic activity"* and is the economic impact of certain economic activities. (Miller, 2014)

Locally owned businesses, especially primary producers such as farmers selling local foods, can generate a multiplier effect of 1.4-2.6. This means that for every dollar the farmer generates in local sales, that same dollar circulates the community up to 2.6 times. From the same article: *"Community economics tells us that the more a dollar circulates in a defined region, and the faster it circulates, the more income, wealth and jobs it creates"* (Meter, 2008)

In addition to having a positive economic effect in the region, a regional food hub would increase healthy food access and reduce the number of miles that certain food products have to travel to regional markets. While many food hubs operate strictly as a business, an increasing number are also mission based organizations that seek to improve the food system they are a part of by outreach, education and policy change.

However, the current trend of exporting nearly all of the agricultural commodities in the region is not the most beneficial practice for the farmer or the community. While there is room for significant growth within the region for the sales of local foods, a food hub can also sell to markets outside of the four counties. The nearby metropolitan areas of El Paso, Las Cruces, Tucson, Phoenix, Albuquerque and Santa Fe are all within 400 miles and have sizeable markets that can be utilized at certain times of the season when there is a glut of certain product or when local markets have been satiated.

Additionally, while there is currently around $600,000 worth of produce via verbal commitments by regional farmers, a number that would likely grow significantly in the inaugural years of food hub operations, there is little buyer commitment of significant volume in the region. This means that the vast majority of foods sold through a food hub would have to travel 100-300 miles to reach market and would influence the logistical and financial aspects of food delivery.

Key Findings:

A food hub in Southwest New Mexico would be unique among food hubs

The majority of successful food hubs exist in or near large metropolitan areas where there are more customers or in areas with a high concentration of farmers.

The southwest region of the country does not have many food hubs. The closest is in Albuquerque (La Montanita)

Agriculture makes up a large portion of the regional economy

Food crop sales total more than $22 million in the region, with the vast majority coming from Luna County. The vast majority of this is destined for national or international distributers or processing plants and does not make it to local markets.

Farmers can make more money per acre growing specialty crops for human markets than they can with forage or commodity crops.

The majority (72%) of farmers in the region report annual sales of less than $50,000.

Twelve out of eighteen farmers interviewed are interested in contributing to a food hub.

There are not enough small to midsize farmers that can make significant contributions to a food hub therefore, not enough supply to generate adequate sales numbers and mitigate supply risks

Only 2% of all farmland in the region is dedicated cropland

Farmland has decreased in all counties since the 2007 census

There is a significant market for fresh fruits and vegetables in the region

The people of Southwest New Mexico spend an estimated $9.9 million per year on fruits and vegetables. It is estimated that less than 10% of regional produce sales currently come from local sources.

Institutional food purchasing is estimated at over $4.5 million per year.

Seven out of ten schools interviewed are interested in working more with local producers.

There is only one retail outlet that actively sources local produce (Silver City Food Co-Op)

This market will take a significant amount of work to enter.

The majority of produce sales comes from one of several large, chain grocers who do not purchase from small farmers.

Institutional purchasing of local foods is estimated to be under 1%. The system is set up to benefit large distributers who can offer foods at a very low price.

Seventy-three percent of businesses and institutions interviewed are interested in purchasing local foods and name top priorities as:

1. Pricing (competitive with current distributers)
2. Reliability/consistency (ability to maintain orders)
3. Professional communications and certifications

There are not enough markets in the region currently open to purchasing significant amounts of local produce to support a food hub, therefore markets in surrounding metro areas would need to be utilized.

There is a large knowledge gap when it comes to the local food economy

Many farmers were interested in growing more human food but were unaware of their market options.

Many business owners were unaware of the impact that buying local foods can have on their community.

Many business owners and food procurement directors were not aware of farms in which to purchase food.

There is little to no incentive to purchase local foods among business owners and food procurement directors.

Agriculture has the potential to be a major economic stimulator in the region

One study found that every dollar spent on local foods can recirculate up to 2.6 times in the local economy, further generating profits.

As a primary industry, more agriculture in the region can mean more jobs.

Selling to a food hub could increase the earning potential of area producers by helping them gain access into new markets and it can encourage existing farmers of animal food crops (e.g. hay, alfalfa, etc.) to grow human food for more earnings per acre.

A food hub dedicated to benefitting regional farmers could have a substantial long-term impact. The total value of all agricultural products sold within the four county region is over $118 million and by capturing just 5-10% of that total to dedicate towards a food hub, an additional $5.9-11 million can be used towards local wages, and further circulate in the region.

One of the primary economic issues facing the Southwest New Mexico region as well as many remote regions of the nation is that of wealth drain. By cultivating one of the primary industries in the region to keep and grow profits within the region, an economic multiplier effect will help profits further circulate and generate profits for other area businesses. According to a recent study by the University of Arkansas: "*A multiplier summarizes the total impact that can be expected from change in a given economic activity"* and is the economic impact of certain economic activities

A regional food hub would increase access to healthy foods for many people

There is currently a dearth of market access in much of the four county region, a regional food hub could more appropriately supply these areas with healthy food.

Financial Feasibility

No matter what legal structure a food hub assumes, it must operate as a financially viable business in order to continue operations and effectively market and distribute produce.

According to a 2013 Food Hub Benchmarking Study:

- *The typical food hub operates at a close to break-even level*
- *The most profitable food hubs were larger, older, for-profit operations.*
- *Food hubs with sales of over $1.5 million averaged profits of 2%*
- *For profit food hubs averaged 1% profit, while non-profit food hubs averaged -7% profits before grant income or contributions.*
- *The average food hub has 408 customers and 55 vendors*
- *On average the largest three customers by sector for food hubs are:*
    - *Direct Retail*
    - *Grocery/Food Stores*
    - *Restaurants and Caterers*
- *Average 6.6 full time equivalent employee* (Farm Credit East, 2013)

Conclusion

From the time of this report, it is not feasible to operate a food hub under current conditions. However, a food hub *is* feasible after important groundwork has been done to gain commitments from at least 50 producers and 100 buyers of local foods. A regional food hub would be an important and potentially hugely impactful asset to the future of this region's economic, health and community development. Therefore, it is advisable to work towards the development of a regional food hub through following the recommendations outlined below.

Recommendations:

1) Identify local "champions", stakeholders and potential investors of the food hub and bring them on board with subsequent efforts.

2) Develop a communications strategy that would strategically target producers, various markets, consumers and other key stakeholders in order to:
    a. Educate stakeholders on the benefits of local produce to the local economy, value added profit examples, marketing strategies for selling local produce, how specialty crops can increase revenue for farmers and those selling "local" products, crop transition strategies, case studies and other educational information that is aimed at demonstrating how participation in a regional food hub can be a win-win for all involved.

3) Engage key stakeholders (especially growers and buyers) in the development of a multi-year business plan that takes into account the unique challenges of Southwest New Mexico's's geographic location.

4) Garner commitment from at least 50 growers contributing an estimated total of $1.5 million in produce the initial year. Finding open markets for all produce in advance will provide a solid base in which to begin a food hub business. Having a lesser number of vendors would put the food hub at risk of not having enough produce to sell.

5) Commitments from a sufficient number of buyers to sell at least $1.5 million in produce is needed to feel confident there is a large enough interested market base to sell produce.

6) Work with municipal and county governments to pass local procurement policies that support the purchase of local foods by institutions.

7) Work with local and state officials to increase resources for capital outlay and infrastructure to support food hub functions (vehicles, storage, facilities, software, etc.).

8) Work closely with producers**,** particularly small and midsized operations, to ensure they can meet buyer requirements by either providing technical assistance or finding partners that can provide this technical assistance.

Challenges

While a food hub in Southwest New Mexico is technically feasible there are many challenges to be addressed in order for it to become a reality.

There are enough farms in the region to support a food hub however, the majority of midsize and larger farms are either devoted to monocrop production of foods destined for a processing plant or distributer or are forage crops and not for human consumption.

Some of the biggest challenges have to do with human organization. The four county region has plenty of producers, however, many of them are over 100 miles apart and do not grow the right kinds of crops to sell to a food hub. Many farmers would change to a more profitable crop if they were assured a market.

Many of the region's purchasers are not aware of farms they could source food products from and so rely on large distributers instead. Currently there is no clearing house or central database that food purchasers can use to source local farm products.

With the large distances between many producers and markets, there is insufficient infrastructure in place to affordably move product to buyer. The majority of successful food hubs are located in close proximity to a large metropolitan area which limits the distance the food needs to travel and reduces transportation associated costs.

Certain buyers also require GAP (good agricultural practices) or other certifications which can be costly and especially prohibitive for small or midsize farmers to maintain. Greater collaboration among farmers could help reduce this cost as they could schedule inspections on the same day.

Depending on the legal structure of the food hub, initial funding can come from grants, loans or investments by shareholders. By starting small, such as a digital platform with delivery capabilities, earnings potentials can increase and a solid reputation can be built while minimizing the need for a large initial cash infusion.

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