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Success of Small-Scale Farms in the Middle Rio Grande Region

Sarah Wentzel-Fisher

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**SUCCESS OF SMALL-SCALE MARKET FARMS
IN THE
MIDDLE RIO GRANDE REGION**

by

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THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Masters of Community and Regional Planning

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Dedication

This research is dedicated to the stalwart community of family, friends, neighbors, and acquaintances who love good food and like to know where it comes from.

Acknowledgements

I would like to thank my advisor, Ric Richardson, and my committee, Claudia Isaac and Catherine Harris for their patience, persistence, and friendship.

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by

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ABSTRACT

Food systems development, while historically not the purview of professional planners, would benefit greatly from their interdisciplinary expertise. Small agricultural businesses are important economic and social drivers in the Middle Rio Grande. Increased demand for locally grown foods by Middle Rio Grande residents and food businesses, like restaurants and grocery stores, mean that more than ever, farm businesses have opportunities for success and for making meaningful contributions to their communities. In addition, many of the necessary resources exist right here in this area that can enable local growers' success, including agricultural land, irrigation infrastructure, easy access to markets, and a growing young work force interested in agricultural careers.

This research explores how small-scale farmers in the Middle Rio Grande articulate success for their businesses. Facilitating growth in this sector has broader implications for the health and well being of communities in the area. Prioritizing development of these businesses keeps small land parcels in agricultural use, maintains historic cultural practices in agrarian communities, provides access to affordable healthy food, and increases consciousness about water use.

Table of Contents

Introduction	1
Research question.....	1
Why this project?.....	1
Project Overview.....	2
About this Project.....	6
Research Design.....	9
Data Collection.....	10
Interview Instrument.....	10
Methodology	11
Limitations.....	12
How to use this document.....	12
Defining Success	14
The Importance of Local Food and Civic Agriculture	17
Community Food Security	21
Soil health.....	25
Sustainability & Resilience	28
Conclusions	33
The success of small farms/farmers in the Middle Rio Grande	33
Implications for food systems planning.....	33
Opportunities for further research	36
Bibliography	37
Appendix - Local Food Field Guide.....	38

Introduction

Research question

This thesis project asks the question, how do small, direct-retail farm business operators define success for themselves and for their farms? Further it seeks to explain why this important in a community-based planning context.

Why this project?

In the fall of 2009, I shifted my academic focus from urban planning with an emphasis on history and design to an emphasis on community food systems. I had spent that spring and summer regularly attending the Downtown Grower's Market, buying and trying new greens, squashes, tubers and other delicious edible plants and more generally paying close attention to how local food systems work. The small garden box in front of my house was prolific with herbs, onions, potatoes, and tomatoes. Several friends had started farming the previous spring and worked hard bringing their wares to market. More than the usual three meals a day, my world seemed to move towards food. Without the benefit of having read *Fast Food Nation* or *Omnivores Dilemma*, not knowing about Gary Nabhan, Vandana Shiva or Will Allen, the food grown near my home had suddenly grabbed my undivided attention.

Sometime around the last farmers' market of the year, when fewer shoppers made it to market on those cold morning and the offerings were all squash and almost ripe tomatoes, my internal pragmatist started asking questions about the how and why of local foods. Who makes it, who buys it, who decides what's local, and why does it all matter so much? I wanted to understand how the answers to these questions connected and contributed to the capacity of my fellow city residents to make Albuquerque a good place to live and thrive for a long time to come.

Several organizations, including Farm to Table, La Montañita Co-op, and the Mid-Region Council of Governments advocate in the Middle Rio Grande for the merits of locally grown foods and their producers. Each organization promotes the benefits of buying local food from New Mexico farmers, stressing the importance of “nutritional

value, a safe secure food system, a strong local economy and good ecological stewardship practices for a sustainable future.” (www.lamontanita.coop)

I met informally with representatives from these groups to ask more specific questions about their work, and to formulate a specific research question. I wanted to know how they dealt with market development, public awareness, and technical assistance needs. I discovered that each group had a larger mission driving the specific ways each advocated for local food systems. For example, the MRCOG is a regional planning agency with an economic development focus providing planning strategies and vision for regional collaboration on issues like, “Transportation, agriculture, workforce development, employment growth, land-use, water, and economic development.” (www.mrcog.gov). Each group I consulted employed different funding streams and engaged constituents in different ways to strengthen local food systems.

From a community planning perspective, two groups of people seemed like obvious stakeholders in a community-based food system—the people who purchase and consume food and those who produce it. As a careful observer and avid consumer of local foods, I developed a better understanding about local food procurement and consumption habits. As preliminary research, I sought data from local farmer support agencies about growers and their businesses. These agencies provided anecdotal information about general farmer activities or about specific producers, but very little in terms of analytical data on the role area farmers played in food systems and communities.

As a result, I chose to focus on the question, “How do small, direct-retail farm business operators define success for themselves and for their farms?” Defining this “success” would help to better explain the farmers’ role in our local food system, how advocacy and planning organizations might better support our farmers, and why a local, community-based food system is important in “creating more convenient, equitable, healthful, efficient, and attractive places for present and future generations.” (Association, 2013)

Project Overview

Small agricultural businesses are important economic and social drivers in the Middle Rio Grande area. Increased demand for locally grown foods by Middle Rio

Grande residents and food businesses, like restaurants and grocery stores, means that more than ever, farm businesses have opportunities for success and for making meaningful contributions to their communities. In addition, many of the necessary resources exist right here in this area that can enable local growers' success, including agricultural land, irrigation infrastructure, easy access to markets, and a growing young work force interested in agricultural careers.

Facilitating growth in the small-scale agriculture sector has broader implications for the health and well being of communities in the area. Prioritizing development of these businesses keeps small land parcels in agricultural use, maintains historic cultural practices in agrarian communities, provides access to affordable healthy food, and increases consciousness about water use.

My research found that generally, government agencies view agriculture as an industry, and that this industry is measured using economic gauges like productivity, rates of return, gross production, and currency inputs and outputs (ers.usda.gov/topics/farm-economy/agricultural-science-policy.aspx#.Uy8mua1dVfQ). The USDA Economic Research Service is the agency tasked, "To inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development." It also measures success for USDA activities in those primary areas. Following this lead, local, regional, and state level entities often follow this model for planning and measuring their food systems. This case study of small-scale agricultural producers in the Middle Rio Grande asks questions based on the parameters of success set by agencies like the USDA, but offers answers that indicate that these tools, which are used by government to gauge economic success, are too limited to accurately measure the success of community food systems. Further, analysis of the answers to these questions, based on how small-scale farmers articulate their own success, point to other models that might also be employed for planning and measuring food system successes at a variety of scales.

Small-scale farm businesses engage in a number of enterprises to succeed, including direct retail sales through farmers markets and CSAs, direct wholesale to restaurants and grocers, and indirect wholesale to institutions and distributors. While no two farms use exactly the same sales strategy, all sell through a variety of markets, and

all are motivated by a triple bottom line of economic, social, and ecological success. Often the conversation about creating support for these businesses revolves around how to increase production and sales, as a means to increased profitability. Increased profitability is too narrow a definition of success. It does not factor in non-economic variables such as soil health and community engagement.

Scalability in farm production is a significant and central factor in the success of small farm businesses. It plays a major role in diversifying and strengthening local food systems. The planning processes for food system development too often only invite one or two small growers to participate.

Based on feedback from small farm business operators in this study, definitions of success also included whether their produce is reaching their intended local consumers. Another important factor is the farmer's desire or lack thereof in "growing the business." Farmers interested in expansion to wholesale markets may define current and future success differently than those primarily focused on local retail markets, which in turn relates to who farmers choose to sell to and their sense of connection to their local community.

Small, direct-retail farm businesses represent an important element of a healthy foodshed, although they are not the only component of a resilient, regenerative, and sustainable food system. Like a healthy garden, a working food system need diversity in scale and scope of agricultural businesses to affectively adapt to changes in their social, climactic, and economic environment. Small agricultural businesses represent an opportunity for economic development. They play an essential role in helping the public understand where food comes from. They help feed communities and are important vehicles for community building. However, these farm businesses cannot and should not be expected to meet all of a community's food needs. The assumption that all small farm businesses have similar needs and definitions of success leads to misdirected efforts to support these enterprises.

Food systems encompass all the processes and transactions involved in modern production and procurement of food—from farm to fork. The foodshed is the geographic terrain through which food travels within a food system. In 1929 Walter Hedden, the head of the Port Authority of New York wrote a book called *How Great Cities are Fed*,

in which he specifically uses the language “foodshed” to describe the pathways food commodities follow to make their way to consumers’ tables. This text primarily explains the various routes foods take as they make their way from farm to table and the attached economic transactions contributing to their costs. The specific language and methodological approach merits recognition because Hedden expresses the nature of food delivery to cities and their citizens as a system. *How Great Cities are Fed* represents the first attempt at understanding food systems.

In 1991, Kenneth Dahlberg wrote *A Transition from Agriculture to Regenerative Food Systems*, published in *The Futures Journal*. This article calls for a philosophical shift in how scholars approach food systems away from a traditional economic model to a dynamic, reflexive process. “Development of the types of regenerative and sustainable food and fibre systems that are needed will involve: (1) a restructuring and decolonizing of industrial agriculture; (2) the maintenance and enhancement of indigenous and traditional food systems; and (3) conceptual and value shifts towards systems approaches, contextual analysis by levels, and the use of health models rather than economic/productivity models as the basic evaluative criteria.” Dahlberg’s writings and teachings mark a shift in the rhetoric of food systems from traditional economic theories and models to a systems and health-based approach for measuring success.

Small-scale, direct retail farm business operators in the Middle Rio Grande unanimously reflect this shifting paradigm in food systems. They measure success by community engagement with and investment (not just financial) in where food comes from. Everyone interviewed in this study viewed his or her work as both producing food, and building community. Though it is not the sole measure of success, every farmer in the study expressed community engagement in the context of success. This study shows that resilient food systems in the Middle Rio Grande region, from the perspective of small farm businesses, are created when the food system becomes a community food system; one in which, "food production, processing, distribution and consumption are integrated to enhance the environmental, economic, social and nutritional health of a particular place." (Discovering the Food System: A Primer on Community Food Systems).

While all of the interviewees in this study ultimately valued resilient community food systems, each valued different customer groups and had unique long-term business strategies. Ultimately, all played important roles in meeting different community food needs through different types of production geared to different types of markets. Not all farms are created equal nor do they have the same needs or definitions of success. Even farmers operating under relatively similar economic circumstances may have different definitions of success based on which markets they focus on and how they choose to engage their communities. Therefore, plans for resilient food systems will be more effective if they account for the relationships between differences in the scale of farm businesses, differences in community building perspectives, and selected markets—and elicit participation from stakeholders accordingly.

About this Project

This study aims to understand how small market farmers in the Mid Rio Grande region define success for their farms and businesses. Based on the basic factors that effect production—land, labor, and capital—this qualitative study explores the success of small-scale farm businesses in the Mid Rio Grande region by interviewing farmers about their professional practices. The research illuminates how these farmers define their success, and the relationships between farm success, community, and food systems. The outcomes of the study will focus, from the perspective of those who farm, on how this definition of success can inform community food system planning in the Middle Rio Grande region, as well as how they reflect a broader shift in the way we, as a nation, talk and think about food systems.

Who: This research focuses on farmers who produce food for people, earn less than \$50,000 in net sales, work in the Middle Rio Grande area, and sell their produce to earn part or all of their income.

What: A series of interviews with farmers provided the raw data for this study. I conducted 30 to 60 minute audio-recorded interviews in person. The participants gave permission to record their remarks and these were later transcribed for analysis. All interviews with farmers have been made anonymous in the final report. The final report

will be available to any participant or member of the public interested in learning about the results.

When: Interviews took place from March to June of 2010 at the convenience of farmers.

Where: Interviews were held in homes, coffee shops, offices, and fields.

Why: Small market farm businesses rely on support from an involved and complex community network including family, friends, nonprofit agencies focused on food production and agricultural land use, government agencies, good neighbors, patient and committed customers, and many others. Like other small independent business, farming requires a variety of resources, skills, technology, and support to be successful. In addition to food, these farms and the support they require create a way to focus and gather community around important issues such as economic development, health and healthy eating, environment and ecology, climate change, and land and water use. Further, the system created through the support and success of small local farm businesses contributes to a self-reliant, community-owned, local economy.

Everybody eats. Equal in importance to breathing and reproduction, eating is one of the paramount activities that shapes our existence and insures our survival. Food becomes a tool and metaphor within culture and community. Historically, land development patterns are directly linked to availability of food sources. Types of available food, the practices of cultivation, and food preparation and preservation directly reflect the cultural practices of a place. Food production activities often create community cohesion. Agriculture and food production require a collaborative effort by many community members. Though the primary focus of these activities is food production often, the beneficial byproduct is routine community gathering, which in turn provides a forum for discussion of other issues the community must face.

The Middle Rio Grande has drawn people for over seven hundred years to cultivate the fertile soils here with water from the river. Traditionally, people in this area have relied on drought resistant crops produced in limited amounts of space to feed the local population. In recent history, Albuquerque and the surrounding area, like much of the world, has seen an increase in population and extensive land development as a result of industrialization and globalization. Like most urbanites in the U.S., Albuquerque

residents expect access to a wide variety of foods year-round made available through industrial agriculture and well maintained transportation systems. Growth of the city and a cultural shift in the sources and kinds of food we eat contribute has contributed to a loss of community knowledge and practice that previously existed when food systems were almost exclusively local.

Ultimately, a community that desires a resilient food system and community food security must contemplate the re-appropriation of land, labor, and capital within the local economy. A community food system cannot happen without the support of many partners contributing to and participating in an economic model that intentionally directs its social and economic capital into efforts that support the agricultural use of irrigable land. Further, more than simple economic yardsticks must be used to measure the resilience of a food system—it must be measured by how it contributes to the overall health of communities and ecosystems.

To some degree, the communities of the Middle Rio Grande have always recognized the value of resilient community food systems, demonstrated most recently by the growth of farmers markets and the availability of local foods in grocery stores and restaurants. My research explores the alternative measures of success, as described by small-scale farmers in the Middle Rio Grande. Their definitions of success can aid in the process of developing effective tools, including but not limited to economics, for measuring food system resilience and community food security.

Research Design

Using qualitative analysis through direct interviews and theme triangulation, this study describes how small farm businesses in the urban and peri-urban areas of Albuquerque define success, and how these definitions are indicators for community food system planning. Over the course of four months, 16 farmers provided information via in depth interviews. Participants for the study were found by attending farmers markets, local food meetings hosted by the Mid Region Council of Governments, the New Mexico Organic Farming Conference, and through recommendations made by other participants.

I approached 22 farmers who sell primarily annual produce at two or more Albuquerque farmers markets and to local restaurants. Of these, 16 chose to participate. Those farmers who chose not to participate did so solely due to time constraints and scheduling conflicts. I interviewed nine men, five women, and two couples of male and female partners, ranging in age from 20 to 65. Most participants are native (born and raised) or long-term (longer than six years) residents of the area. They come to farming from diverse educational, socio-economic, and cultural backgrounds. While the study endeavors to explore diverse perspectives, demographic differences do not significantly contribute to emergent patterns in the data.

Land: The farms interviewees cultivate span a geography including Albuquerque (three farms), the unincorporated South Valley (six farms, farmers ages 21, 32, 32, 35, 55, 65), Los Ranchos (two farms, farmers ages 32, 60), Corrales (one farm, farmer age 28), Bosque Farms (one farm, farmer age 33), Moriarty (one farm, farmer age 45), Socorro (one farm, farmer age 59), and Tijeras (one farm, farmers age 28, 29). Farms ranged in size from 60 acres to less than one-quarter acre. The majority of farm businesses in this study grow a diverse range of produce on three to four acres for three seasons of the year, using a combination of well and acequia irrigation. The farms represent a broad spectrum of land stewardship models including rented lots, public lands, family holdings, share-trade, and long-term non-monetary contracts.

Labor: I interviewed the business owner or primary operator of all the farms referenced in the study. Most businesses in the study utilize additional labor including volunteers, work-share, family members, interns, and contract labor. Only one farm employed individuals to help with farm operations. Half of the farmers interviewed

worked as employees of non-profit organizations and were primary operators of the farm business. Also, half of the interviewees farmed as a compliment to full-time employment. Only two interviewees farm as their sole and primary source of income.

Capital: The highest cost in farming at the scale and geography addressed in this study is the cost of land. The second highest cost is labor to operate the farm. Of the farms represented in this study, about half utilize the institutional support of a non-profit organization both to procure land and labor, as well as to defray the impact of low profit margins with philanthropic and grant monies. About half the farms represented in the study are subsidized by the non-farming sources of income generated by the farmer. Of the farms represented in the study, only two generate enough capital from the sale of produce alone to sustain his or her farming operations.

Data Collection

I developed an interview instrument for the study group that focused primarily on defining success of farmers who grow on small areas of land (an average of 3 to 4 acres), and who sell primarily in direct retail markets and secondarily to higher priced wholesale customers, restaurants, food co-ops, and CSA's. In fields and offices, I conducted and recorded in-person interviews lasting 30 to 60 minutes. Upon completion of each interview, recordings were transcribed verbatim for qualitative analysis. Both the recordings and transcripts provided valuable information via the specific language and intonation used by interviewees.

I asked farmers a series of questions about how they define success for their farms and success for themselves as farmers. In addition, I asked them to describe land, labor, and capital inputs to their farms to ascertain the relationship between a personal definition of success and more conventional economic measures of success.

Interview Instrument

Why do you farm?

Identification

Success

In what ways has farming enhanced your sense of community?

In what ways has farming contributed to your quality of life?

What sorts of support do you need to be successful?

How will you be successful in the future?
Do you consider your farm successful and why?
How do you define success as a farmer?
How do you define success of your farm?

Land

Where do your supplies come from?
Where does your water come from?
What do you produce on your farm?
Who owns your farm?
Where is your farm?
How big is your farm?

Labor

How much time do you spend doing non-farm related jobs?
Do you have any jobs other than farming?
How many weeks out of the year do you farm?
How many hours on average do you spend farming per week?
Who helps with non-farm related activities to support the farm?
Who helps on your farm?

Capital

Who provides financial support for your farm?
Where do you sell what you produce?
What are your markets?
What portion of your income is generated through farming?

Looking Ahead

What do farms of your size need to achieve success?
What are we doing right for small farms in Albuquerque?

Methodology

After I completed my data collection, a hired assistant and I transcribed the interviews. I imported the transcripts into atlas.TI qualitative analysis software to determine emergent themes from the interviews and to triangulate data in a robust and consistent manner.

I analyzed data from interviews with each group in three major iterations. In the first iteration I identified parts of each interview as they corresponded to the original interview instrument and parts that grew from these questions but did not specifically answer a question. After parsing out the pieces of each interview, I then looked for themes emerging from the responses to interview questions. For example, I looked for patterns and emergent themes by grouping all responses to “In what ways has farming contributed to your quality of life?”

In the second iteration I analyzed the transcripts for emergent themes independent of the interview instrument, looking for repetition of words or ideas. I then grouped parts of interviews based on these themes to see if there were particular interstices or patterns. For example, when farmers talk about the financial success of their farms, many would juxtapose these thoughts with a statement about the importance of educating community about farming and food.

In the third iteration, I triangulated the first two to determine where independent themes formed patterns. This third iteration juxtaposed my a priori expectations, or assumptions (reflected in the design of the interview instrument) with ideas that grew organically from our conversations. These three permutations of the data provided a robust platform for describing the success of small-scale farmers in the Middle Rio Grande and highlighted indicators that could be useful for community food system planning.

Limitations

This project focuses on farmers who currently operate small-scale, diversified produce farms within a limited geographic area, the five-county region commonly referred to as the Middle Rio Grande. Farmers who participated in this study did so voluntarily and represent a small portion of the small-scale farmers who grow food in this area. The results of this study reflect themes in a body of literature that draws from data gathered from similar participants or contexts in other places at other times. This study does not quantify success. Rather, it utilizes the stories that farmers tell about themselves and their farms as a way to establish a working framework of how they define success in their professional practice, and how this definition could inform planning for resilient community food systems.

How to use this document

This document serves as a planning tool for community food system development because it articulates farmer-defined parameters for what makes a successful small farm business. Further, emergent themes in these interviews point to a need to develop a more diverse set of measuring tools to determine if a food system meets the needs of those it

feeds, and if it demonstrates resilience. Ultimately, this document aims to be a resource for planners, individuals and groups involved in planning community food systems. This document reveals the importance of self-determination in where food comes from to feed the residents of the Middle Rio Grande. This information can be used to develop, inform, and guide meaningful planning processes for increasing local food production in the region and for using food and agriculture as a vehicle for community participation.

Defining Success

Farmers in the Middle Rio Grande define success for themselves and their farms in a number of ways that encompass, and then go beyond the conventional economic measures of land, labor and capital. As they tell it, farmers experience success in their work through strong relationships with other farmers, neighbors, customers, and their land; through economic self-determination and a sense of independence; through a sense of meaningful contributions to their communities; and by the ability to continue farming utilizing low-impact, low-cost land, water, and infrastructure methods.

Triangulating key phrases and words from interviews in the context of a broad body of literature focused on small-scale farms, food systems, land use and tenure, agricultural food production, and other topics, a number of dominant themes emerged from this research. These themes describe how small-scale farmers define success and function as a framework for resilient community food system development. Interview content emphasizes the importance of civic agriculture, local food, community food security, soil health, and sustainability and resilience.

To contextualize these themes, it is important to have a working definition of a food systems generally, community food systems specifically, the foodshed, and how the farmers in this study participate in these ideas. Food systems represent all the processes and transactions involved in modern production and procurement of food—from farm to fork. The USDA uses economic metrics to measure the U.S. food system. It offers documents in it's digital library published through Cornell University that define a Community Food System ([afsic.nal.usda.gov/farms-and-community/community-food-systems-and-civic-agriculture](https://www.ers.usda.gov/farms-and-community/community-food-systems-and-civic-agriculture)), a community food security assessment toolkit (ers.usda.gov/ersDownloadHandler.ashx?file=/media/327699/efan02013_1_.pdf) and statement about the challenges in defining local food systems (www.ers.usda.gov/topics/food-markets-prices/local-foods.aspx#.Uy8xoq1dVfQ).

The foodshed is the geographic terrain through which food travels within a food system. Through an economic lens, and as articulated by the Economic Research Services of the USDA, foodsheds and food systems essentially translate as commodities, distribution networks, infrastructure, and capacity of farms to meet consumer needs.

Locally, our foodshed has the following characteristics. Food produced in and around Albuquerque typically is grown on small farms and distributed no farther than 300 miles from the farm of origin. Farmers who grow on a very small scale have limited capacity for distribution based on the volume of produce they can grow, sell, and deliver. Other factors constraining small farmers include the demand for locally grown produce, the price point of local food, and the limited venues where these products are available for sale. In this study, most farmers operate as direct retailers selling at farmers markets, to small grocery stores like La Montanita Co-op, and to local restaurants.

Small scale agricultural production requires a redefinition of our food system from one that currently caters to industrial-scale food production where success is measured through the limited scope of economics, to multiple food systems that have capacity to support enterprises of many shapes and sizes, measured by multiple standards including economics, but also by public health, social justice, and ecological biodiversity—in other words, a transition to a community food system model.

According to *A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture*, a document published by the Cornell Discovering Food Systems program, and available on the USDA's Nutrition Assistance Program website, community food systems are different than global food systems in four key ways: prioritization of food security, proximity of food producers to consumers, community self-reliance in regards to meeting food needs, and agricultural and business practices that do not compromise the ability of future generations to meet their food needs.

Growers discussed practical challenges in establishing and maintaining sales relationships, in increasing the scope of business, and in balancing the demands of running a business and growing food. Farmers who have sold produce for many years usually have established buyers and markets. Most growers interviewed in this study sell produce to a limited number of restaurants, and many sell to the same restaurants. Based on their experience, the number of restaurateurs with the capacity to buy at the back door and change ordering strategies, to ask a higher price for dishes offering local food, and to accommodate seasonal availability with a flexible and changing menu are few, but increasing in number. Further these types of establishments tend to serve a limited

number of eaters on any given evening, which in turn limits their demand for small-scale agricultural goods.

Farmers usually sell at one or two farmers' markets a week because they must split their time between working in the field and selling their goods. While the number continues to increase, the access and availability of farmers' markets is limited. A good farmers' market requires a critical mass of both shoppers and vendors for success. Farmers discussed needing to weigh distance and location, hours of operation, number of potential sales, and availability of produce when choosing their markets.

Most producers interviewed in this study do not have the financial capacity to employ a person to sell at a market or make deliveries for them on a regular basis, which limits their distribution. Many participants engage volunteers, interns, and family to supplement the human resources needed for distribution and sales.

Further, transitioning from one scale of distribution, say primarily retail sales at farmers markets, to another scale, say secondary wholesale through a brokerage or a distributor like WholeFoods or La Montanita Co-op, can present issues both for growers and buyers. While some farmers in this study expressed an interest in scaling up operations to expand their sales reach, others have established a market niche that meets their current financial needs and desires. According to most farmers' interviewed in this study, both capital and infrastructure present barriers for expanded production. According to statistics gathered through the Dreaming New Mexico project, of 20,000 farms and ranches in the state, only eight percent make direct sales to local agro-regional buyers of their fruits, vegetables, grains, nuts, meats and prepared foods. Further, the study says that less than one percent of all money spent on food in New Mexico goes to purchase local food. More than 99% of money spent on food goes to buy imported food and food products, and we export most of the food grown in New Mexico. With the proper supports, there is room to create a local food system that fosters success of small-scale produce farms and the people who operate them.

The following four sections are the primary ways that small-scale agricultural producers in the Middle Rio Grande region define success. The ways they articulate success reflects this definition of a community food system. It also shows some interesting points of divergence, which indicate specific areas where food system

planning could be refined to achieve greater success amongst farmers in this area and better metrics to measure that success.

The Importance of Local Food and Civic Agriculture

“A farmer feels successful if they plow the ground and are able to plant the next year. That’s pretty much the classic tale. You makes some money and you’re broke by spring and you start over that’s exactly where I’m at, but I think its successful because I have a lot of people and when you come back here and you’re out and they’re glad to see you and I’m glad to be here doing this work. That’s my success, and I’ll keep doing it as long as I can.”

The term local food primarily refers to a grassroots movement within communities to reclaim control over where their food comes from (DeLind, 2010). Before the advent of industrial agriculture and transportation systems, nearly all food came from some place nearby. In less than a hundred years most food systems have gone from small-scale, community owned structures to large, multi-national corporate structures. The local food movement is a response to an increasing sense of insecurity and lack of self-determination experienced by many communities as a result of having little or no control over where their food comes from.

Local food or the local food movement, originating and gaining momentum in the early 2000s, consists of individuals and communities committed to sustainable practices applied to how food is cultivated, distributed, and procured. The origins of this movement can be traced to the writings of scholars like EF Schumacher and Wendell Berry. In 1973, Blond and Briggs published *Small is Beautiful: Economics as if People Mattered*, a text by EF Schumacher. In a series of essays about alternative approaches to economic analysis, Schumacher makes the argument that food procured short distances from its origin would keep money within a community, use less fossil fuel and other natural resources, and give communities more authority over how their land and water is used. Further, he goes on to argue that for food to travel short distances from farm to table, it has to be grown at a small scale. In *A Continuous Harmony*, published in 1973, and *The Unsettling of America*, published in 1977, Wendell Berry makes similar arguments through a series of essays on the industrialization of agriculture and its impact on the physical and cultural landscapes of America. He argues that industrialized agriculture,

while able to produce larger volumes than small farms, ultimately takes more from rural communities, economically, environmentally, and culturally, than it gives back. These basic ideas have become the backbone of the local food movement.

In the early 2000s a number of scholars began to publish works specifically using the language “local food” to indicate food grown in a sustainable manner and procured a short distance from its point of origin. Scholars like Brian Halweil (Senior Fellow for the WorldWatch Institute,) Elizabeth Henderson (Founder of PeaceWork Farm,) Gail Feenstra (Food Systems Analyst at UC Davis,) Fred Kirshenmann (Director of the Leopold Center for Sustainable Agriculture,) and Gary Nabhan (independent scholar and writer called the “Father of the Local Food Movement” by Mother Earth News) all started publishing articles and books based on research demonstrating that small-scale agriculture supplying food to the communities where it was grown, was a more sustainable model for feeding the world’s growing population. From this scholarly work, a more popular movement grew characterized by the development of groups like Slow Food USA (2000), Local Harvest (1998), and Edible Communities (2002). These groups use different types of media and social organizing tactics to garner support for food produced on a small scale in the communities that will consume it.

Civic agriculture is the idea that direct and tangible connections exist between farms, food, and communities (Lyson, 2004). Inherent in this concept is that the food produced in civic agriculture is grown in or near the place it will be consumed by and for people who have social connections to each other and to the place of production—in other words, civic agriculture produces local food. When you know who farms your food, it’s easier to ask questions about food origins. An even stronger connection occurs for individuals who participate in growing and harvesting such as volunteers for a CSA or members of a cooperative community garden. The connections between the health of the land, personal health, and community resilience become more immediate and real (Delind & Bingen, 2007). These tangible connections are the primary and most significant factors in the success for small-scale agricultural producers because these farmers experience value beyond financial success, as do the consumers who buy their produce. Social relationships and community participation are hard to measure and then translate back into a profit and loss statement or a GDP analysis.

All farmers who participated in this study possess a deep commitment and sense of value in community. Most expressed something akin to civic agriculture on a spectrum, from the impact their food production has on their most intimate relationships like friends and family, to impacts felt by individuals they do not know but consider integral members of their community. Farmers talked about mutual benefit for the farm business and for the community in having consumers directly involved in food production. A sense of collective ownership in food production is important to small-scale agricultural producers, and to a resilient community food system.

“People just want to be part of the farm and it brings people together in ways I didn’t understand previously. It just brings people together no matter what and so the community involvement ends up being this thing where [consumers] feel like they own it and I love that. I love the look on people’s faces when they [come to the farm and] pick veggies and then the next day [at the market] they see what they picked and they know [they helped to feed other people] and they’re so happy about it. I guess that’s the whole success.”

Most of the farmers interviewed rely heavily on non-monetary forms of support for their operations. This might take the form of volunteer labor, loaned land, or donated materials. Many of the farmers offered some sort of community supported agriculture (CSA) option to customers as a way to leverage volunteer help. Using volunteer labor often was more valuable than the costs saved and the income generated.

“So for me I think it's more about providing healthy food for people and through people who come for the CSA. At the end of the first day they said 'we're really building community here.' And this was without us saying it, but that's how they felt at the end of the day. For me that's really the purpose of it.”

Many farmers interviewed also rely on business relationships that extended beyond transactions.

“I think developing relationships with other local businesses has been really important. For example, people who buy from us, like the Co-op has been really supportive of buying whatever crop we have. There's a kitchen supply store on 4th street and they have just given us good deals. You know it's still a retailer relationship but they're just supportive I guess and it's nice to develop those relationships within a local economy. We make new friends, and it becomes a life line [for the business].”

Farmers rely on building these types of relationships for the success of their businesses, and so they looked for sales outlets that facilitated engaging with community, like farmers' markets, CSAs and U-pick operations.

"I had never sold at the market before, I always grew for a few friends, and myself but the market really inspired me. Participating in the public space and interacting with people was wonderful. It just gave another added element to growing food that I didn't expect, and now that's really important."

Customer and community relationships are important for the success of farmers. Building these connections with people creates accountability—customers have a sense of commitment to farmers, so they continue to support their businesses. Farmers on the other hand also feel accountability to provide healthy, safe, and affordable food to their community. Routine engagement between farmers and eaters provides benefit beyond the exchange of food for money; it also creates a space to practice communication, negotiation, and dialogue.

"You farm, and you're able to work through the conflicts with the people you do it with and you're able to have a great meal and people really appreciate your product. People love the tomatoes and they loved what came out of that land. And so that was really the most successful part of it for me. But it was also about the process of who you were working with and how do you work through all the decisions you have to make to get it done. That process was everything."

Finally, routine interaction between farmer and consumer creates a collective knowledge of how to make things by hand, and a community practice of working through production problems, specifically as they relate to food. Current global pressures (primarily fewer resources for more and more people) are a call to get creative; to see what people can do with what's in front of them; and to find new ways to work together. More than individual self-sufficiency, farming provides community resilience through reclaiming the mode of production and figuring out how to make the necessities, specifically food, at a community level.

Community building and food production are inherently tied to each other, and are beneficially symbiotic. Small-scale farms play a key role in connecting these activities.

"What's going to make it succeed? It is having a vibrant true community around who wants to support lots of other people and me as well. I don't want to do

everything. If you have all the marbles they fall through your hands and who are you going to play marbles with? The way you build a community is by sharing all that stuff—the strange mix of altruism.”

Among farmers in the Middle Rio Grande, community engagement was unanimously important. It provided a number of benefits to their businesses including labor, affordable access to tools, accountability and food safety, and communication opportunities. Civic agriculture is a system that produces more than commodities, so must be measured in a way that is more than the productivity of a field or the net income from a farmers market.

“I feel successful I've got good ground work to a lot of infrastructure in place I've invested in so maybe one day I can have money in the bank I don't know we'll see. Are there other intangible things—defining Ag, the personal fulfillment of it is really what drives me. Its good honest work its very straight forward in a certain sense you see the results of what you're doing. I feel like I'm in a valuable asset to the community and that's very important to me that very important I grew up here pretty much its New Mexico and I take a lot of pride in that and its important that I give back to the community. I feel like I'm doing that by farming.”

Community Food Security

Food is a concept that is much more than just human calories. Food represents the physical resources required to produce it: water, soil, sunshine, and fuel. It also represents the people that grow it, bring it to market, prepare it into a meal and serve it up to families. Not having control over where food comes from may also mean a lack of control over and ownership of the basic resources it takes to grow food. The local food movement is a response to the need for more community control over the physical and human resources required to bring safe, high-quality food to the table. Community food security means that family, friends, and neighbors know where their next meal is coming from, and that the meal is made of culturally meaningful, healthy food. To achieve this, food needs a have a vibrant connection to the community.

According to the Community Food Security Coalition (disbanded and reorganized in 2012), “Community food security represents a comprehensive strategy to address many of the ills affecting our society and environment due to an unsustainable and unjust food system.” (Gottlieb, 1997) This relatively new concept grew out of the idea of food

security, a term used in international development work to describe issues relating to an individual's ability to access food and food supply chains. More specifically, this idea came from agronomic research looking at international regulation of grain markets to reduce famine in areas of the world with blighted crops. (Sinha, 1976) According to the USDA, food security is, "Access at all times to enough food for an active and healthy life, with no need for recourse to emergency food sources or other extraordinary coping behaviors to meet their basic food needs." (USDA, 2013)

As a relatively new term in social discourse, scholars debate the meaning of this phrase and call for a theoretical framework to allow for more robust analysis of texts discussing this idea. In the U.S. nutrition and dietetic experts first began using the terminology community food security in analysis of hunger—specifically they connected hunger, to access to food, to where food is grown and how it is distributed. (Anderson & Cook, 1999) The idea of community food security was a response to increasing problems with hunger and access to food globally, and the need to address the systemic issues causing these problems. (Wittman, Desmarais, & Wiebe, 2010) Since then, scholars, activists, writers and others have explored these connections as a way to better understand what they mean, as a way to develop better measurement tools, and as a way to craft sustainable and lasting solutions. (Holt-Gimenez & Amin, 2011)

According to nearly all interviewed in this study, the local food movement and community food security are inherently connected, particularly in the Mid Rio Grande area. Many farmers participating in the study have come to their professional practices in response to lack of control of the basic necessities required to keep themselves and their families healthy and happy, or in response to seeing other community members without access to fresh, healthy food.

"We started farming here because we were super poor and we really believe in organic food and healthy food and we basically needed more food for us and our two little kids. We decided to grow it organically and sustainably. The other reason why is because we love to do that together. We've always had a garden and it's totally the glue in our relationship."

The economic and social realities for many of the farmers who live on very limited income demonstrate a tangible and meaningful connection between a need for local food and a sense of overall security.

Some define success as providing increased and more reliable access to fresh healthy food for community members such as school children, low-income families, and elders, who often do not get adequate fresh fruits and vegetables for good health, but who are not necessarily direct customers. Other farmers expressed success through customers finding added value in food grown in an organic and artisanal manner, many of whom maintain direct involvement by volunteering or visiting the farm. Yet others expressed success as a sense of security through self-reliance. Farmers who measure success by community health outcomes also desired to produce more food for more people. They expressed a desire to scale up production and engage with institutional buyers the wholesale level. Farmers, who primarily sold direct to retail customers, defined success as the opportunity to educate existing, as well as potential new customers about the benefits of local food through new and diversified retail outlets.

Many farmers in this study experienced community engagement by working with their customers at their farms, or talking with them at market. These interactions sustain their businesses primarily through direct retail sales, and give a sense of community. Direct sales often serve a demographic with the monetary capacity to pay premium prices for fresh food, and who have the luxury of time to go to a farmers market with very limited operating hours, or to drive to one location to pick up vegetables and another to get other groceries. Because of the small scale of many farm businesses, the price of food they sell is prohibitive to some community members.

In Albuquerque approximately 20% of residents live on incomes significantly below the U.S. poverty level and in some age and race demographics the statistic is as high as 30%. (city-data.com/poverty/poverty-Albuquerque-New-Mexico.html) The USDA uses household income to make an educated guess about how many families and individuals struggle to afford food, or experience food insecurity. According to statistics created by Feeding America, a national nonprofit focused on issues of food access, in the five-county region that surrounds Albuquerque general food insecurity rates range

between 15% and 20%. (feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx)

An important point of divergence among interviewees emerged related to how certain farmers prioritized low-income customers and how they viewed food security issues in the community in general. While a distinct subject position, no other demographic or geographic factors seemed to motivate this viewpoint, although this view influenced how farmers planned for business growth. Some farmers talked about local food and expansion of their businesses within the context of their current customer base. On any given Saturday during the summer about 1500 shoppers frequent the Downtown Growers Market in Albuquerque. About 8% to 10% of purchases are paid for with WIC checks or SNAP tokens, both government subsidized programs for low-income individuals. (New Mexico Farmers Marketing Association, 2012) A number of farms had mission statements to support community members experiencing food insecurity.

“We also have a grant program, which connects under-served people with social services. And generally if people don't have food we just make sure they have food. So for us success is being able to best serve our community. Our goal, specifically at the farm, is to be able to have a self-sufficient program, to be able to use the farm as a teaching and healing tool for these families and individuals and to connect them to a heritage that we are largely loosing. There's this whole knowledge base our grandparents have that we don't have. So we want to pass on that knowledge and that connection to the earth and the connection to where our food comes from and to the healing properties of, say, weeding. It sounds silly but it's a great meditation to just calm down and chill out.”

Creating food security is expressed as making sure that community members have both the access to healthy food, as well as the practical and cultural knowledge to produce it. Many farmers described community food security as a deep relationship between access to fresh, healthy food, the production of food, and cultural practices.

One participant commented he gave up his practice as a CPA because he felt a spiritual crisis related to U.S. conflict in the Middle East. As a devout Christian, he felt that a return to his families land to grow healthy food was the best way to keep with his beliefs and to keep his family and community healthy.

“I believe there's a lot of spiritual warfare in our land. I wanted be better prepared and to be more present with my family and my community. I was working an office job 60 to 70 hours a week. We were looking for a change, and

farming was the answer and the transition we needed.”

Another participant, shared:

“I like being able to participate in my own existence in terms of food, clothing and shelter. Since everybody eats two or three times a day and takes it for granted, it's interesting being part of the system that creates food for others because you get to talk about food and food politics and just play a role in the community that is essential on a very deep level and I like that.”

Most farmers in this study began farming from a deep need to garner this sense of security—making them the foundation, both on a philosophical and practical level, of a more community-owned, regionally-based food system. In particular, the study showed that individuals with very different worldviews have had the same response to insecurity stimulated by global conflicts rooted in resource scarcity. Part of how farmers in this study define success is through the autonomy experienced in owning their own enterprises and the means to produce food. Most importantly, these enterprises provide good food for their families, neighbors, and other community members, enhancing their sense of security.

Soil health

The root of most farm operations is healthy soil. Growing food, and sharing it with others requires careful attention to the basic natural resource inputs required for farming. For most farmers interviewed, sense of community extended beyond customers to all the living creatures impacted and engaged in food production. This sensibility is most profoundly expressed through a deep relationship with the health of the soil used to grow food.

“I like the land, I like working on it. I like smelling dirt.”

Well-maintained soil is a farmer’s most valuable asset. The condition of soil that produce is grown in affects both the health of the food cultivated and the person who eats it. The health of an individual affects the overall health of a community both by how much that individual can contribute to community, and how many resources he or she might draw from it to be able to participate. Healthy, sustained soil is an important contributor to a thriving community and society. While writings on soil health for

productive agriculture can be found in the oldest books in the libraries of Rome and Egypt, it wasn't until the late 1930's in the US that serious attention was given to the study of soil health and its broad reaching impacts.

The combination of economic depression, unsustainable farming practices, and drought led to major soil depletion in the western US and Canada between 1930 and 1936 the period commonly referred to in American history as the Dust Bowl.

(fraser.stlouisfed.org/docs/publications/books/aidd_wpa_1937.pdf) This combination of circumstances prompted scholars to investigate soil maintenance and farming practices that would contribute to soil health and productivity over time. In 1938 the USDA published *Soils & Men: Yearbook of Agriculture*, a series of articles examining technical aspects of soil maintenance and their implications for farming practices. This document also articulated the first soil taxonomy the USDA would use for nation wide soil surveys in order to better understand the relationships between soil conditions and agricultural productivity.

The Dust Bowl years also created a moment in history when agronomists took on the problem of production in agriculture. Two distinct views emerged that continue to characterize the debate around this issue—one that argues that industrial agriculture is the most effective method for feeding the world's population and one that argues that diversified farming at many scales is ultimately the best way to feed people and ensure the longevity and resilience of our food systems. (Conkin, 2008)

According to farmers in this study, healthy soil is key to a successful farm. Nearly all farmers interviewed for this study mentioned soil health. The majority went into detail about how and why healthy earth is the primary imperative for success of their operations. They talked about the challenges of building and maintaining soil health on small plots of land. Building healthy soil takes time, sometimes years. Most farmers are limited by the amount of land available to them, which means they cannot move to the next plot over if the soil becomes depleted by unsustainable farming practices. Since many farmers do not own the land they grow on, inexpensive and efficient methods for building healthy soil are imperative mitigate the risk of having to move to new locations.

All farmers interviewed in this study grow a diversity of crops on small plots of land in a cyclic fashion. Most use cover cropping, crop rotation and partner planting, and

organic supplementation (ie. organic fertilizers like manure) to keep their soil healthy. Most farmers rely on cover crops as an inexpensive method for restoring nutrients to soil—usually legumes to fix nitrogen or winter grasses to add organic matter to soil. Additionally, cover crops keep soil aerated and prevent erosion (Gershuny, 1999; Howard, 2007).

Some farmers interviewed add organic fertilizers like cow manure or compost, but soil supplements are comparatively more expensive than cover cropping and thus do not provide an ideal solution for soil health maintenance. (Change, 2010; Inc., 2010) One farmer, when discussing important information for farmers-in-training working on borrowed land said the following:

“You have to explain ways that if you farm here for a while you don’t have to keep farming here. You’re not stuck having put all this money and energy into [the farm.] So things like cover crop and moveable infrastructure—those are cheap ways to build soil. Cover crops are a really cheap way to build soil. You’re not sitting their putting \$2000 into compost and then have the ground pulled out from under you. You can’t take the soil with you.”

Diverse crops allow for building and maintaining healthy soil over a long period of time compared to monoculture farming practices, which require more chemical and non-organic supplementation. (Howard, 2007) All farmers I interviewed grow a diversity of crops in three or four season cycles. This means farmers plant cool weather crops like greens, onions, and root vegetables early in the spring; tomatoes, squashes, eggplant, melons, beans, peas, peppers, and chiles in the late spring; the cool weather crops again in the fall; and over wintering crops like garlic in the late fall or cold-tolerant greens if they have cold frame infrastructure.

In describing the struggles of maintaining healthy soil one farmer interviewed expressed the following:

“So the farm is about 4,000 square feet. This year we're going to try and till that in the back and do our winter crop of squashes and maybe some garlic or some other things. That land needs more amending. The problem with doing urban agriculture is the rotation of crops. So if you don't have somewhere to rotate different varieties that you grow, you end up worsening the soil and having worse yields.”

Two ideas are implied in this statement. The first is keeping land in agricultural production with a diversity of crops helps maintain healthy soil when managed correctly. The other is the difficulty of devising a planting scheme in a small space that builds rather than destroys soil.

Ultimately, soil health is a reflection of healthy on-farm ecology, and an integral part of a resilient, community food system. Healthy soil is the means of production. Because the farmers in this study operate on limited budgets, purchase of additional inputs, like chemical fertilizers or herbicides, that reduce labor costs in larger scale agriculture, are not even an option. Healthy soil is both an economic imperative and a moral obligation for small-scale farmers.

Sustainability & Resilience

“Land and water are basic, but without the counties land, without the water and the irrigation system, without and community support we wouldn't be able to grow anything. Sustainability, all these different systems working together, is definitely key.”

In recent decades, the word sustainability has been appropriated and interpreted in many ways for widely varying, and at times contradictory purposes. For the purposes of this study, sustainability will be defined as a slightly modified version of the definition given by the Brundtland Commission in 1983, as agriculture that, “Meets the needs of the present without compromising the ability of future generations to meet their own needs.” Further, it will be defined as agriculture that adopts practices that account for economic, social, and environmental success based on the previous definition.

In 1980, Wes Jackson, the founder of the Land Institute wrote *New Roots for Agriculture*, the first text to explicitly use the language “sustainable agriculture.” In this book, he specifically points to the industrialization of agriculture and U.S. policies creating subsidies and incentives for increased production through fossil fuel intensive farming practices as an equation for disaster. Alternatively, he points to smaller, diversified farms, strong communities, and farming practices less reliant on fossil fuels as sustainable alternatives to industrial agriculture.

In 1983 the UN established the Brundtland Commission to address concerns that environmental degradation and depletion of resources would negatively impact future economic and social development (Nations, 1983). This commission published the *Report of the World Commission on Environment and Development: Our Common Future*, a document that details common concerns, challenges, and endeavors. The commission identified food security as the third of six common global challenges, concluding that current agricultural practices were:

“Built for the purposes of a smaller, more fragmented world. New realities reveal their inherent contradictions. These realities require agricultural systems that focus as much attention on people as they do on technology, as much on resources as on production, as much on the long term as on the short term. Only such systems can meet the challenge of the future.”

In 1985, the United States congress passed the Food Security Act, but it was not until passage of Food, Agriculture, Conservation, and Trade Act of 1990 that U.S. policy makers developed a working definition of sustainable agriculture. Since that time, USDA has, to a limited degree, embraced views on different approaches to agriculture and food systems beyond conventional, industrialized food production.

The increase in global population and the trend towards urbanization has required problem solving to meet the increased demand for food by city dwellers. Parsed out, this larger challenge quickly becomes an issue of sustainability because of the natural resources required for cultivation and transportation of food to cities and the ratio of arable land to number of people on the planet. In 1999, the IDCR published *For Hunger-Proof Cities: Sustainable Urban Food Systems*, the first comprehensive text addressing the intersections of urbanization, food systems, and sustainability. The IDCR also uses the definition of sustainability articulated by the Brundtland Commission. Because of the broad definition of sustainability, most texts exploring ideas of food security, urban agriculture, and the localization of food systems either implicitly or explicitly address this idea.

While sustainability tends to be a buzzword in academic and business communities, farmers in this study understand the practical value of an entrepreneurial approach to farming that incorporates a triple bottom line of economic, social, and

environmental success. Most of the farmers in the study recognize that they participate in a profession that, when practiced in a conventional manner and at an industrial scale, has become unsustainable. Study participants also appreciate that their work allows them to both create and express value beyond monetary measures, including cultural, social, human, and environmental capital. While few participants actually used the word sustainable or sustainability to describe their businesses and professional practices, the character and nature of their work inherently reflect the academic and corporate conceptualizations of sustainability because financial success was never mentioned as an end in and of itself. Every time financial solvency was mentioned, it was contextualized by comments about soil health, community, culture, or knowledge about farming and food.

All farmers interviewed in this study expressed that success for themselves as farmers, and their farms means more than profits resulting from sale of produce. Nevertheless, the sale of produce is an important economic factor in determining the future viability of their businesses. Most study participants expressed that if the benefits of farming were exclusively monetary, they would not be able to support themselves and their families, based on current customer expectations about the cost of fresh food.

“I would say that it pays for the expenses you put out. There's a little left over but if you based your concept of success only on money, on hours and wages—no, it's not worth it. You probably make like 50 cents an hour. But if you base it on, in a visionary world, say, where you didn't need health insurance, you could probably live on it and be okay.”

According to interview results, farming provides a number of personal benefits as part of the work that in more conventional jobs become common household expenses like gym memberships, fresh organic fruits and vegetables, and access to nature. While farmers benefit personally from their work in ways beyond financial benefit, they also recognize that they create other forms of capital. Most farmers expressed that building a knowledgebase among customers about fresh food and where it's grown served two valuable purposes. Shoppers understood the work and care that went into producing the vegetables they bought. They also were willing to pay more for their vegetables when they could tangibly see and understand the labor and expertise that went into growing

food. In other words building cultural capital, or collective knowledge about locally grown food, makes small-scale farming more valuable and more viable.

Farmers in the study expressed construction of cultural capital in a number of ways. In particular work trades, CSAs, and direct retail sales all create spaces where customer education and community building happens. Farmers invest time in educating their customers because they see value in more people possessing knowledge about how food is produced and where it comes from.

“It's not just about selling food and making money, it's about sharing information and getting people psyched.”

Social capital, or establishment of a working and technical knowledge base, is valuable to small-scale market farmers. They recognize the need to build their knowledge base as a way to train more farmers. Most farmers in this study access labor through internships, essentially trading work for knowledge. Resilience of a community food system comes, in part, from a critical mass of suppliers as well as enough consumers. One farmer said that:

“[Success is about] growing good farmers. Every acre lot should have a grower. If I had a two-acre lot and I was farming I would be willing to farm an acre of it and have 4 to 8 farmers I was training and helping them in exchange for a chunk of the proceeds from that food.”

Another said:

“I think the marketing stuff is pretty easy but then...there's just not enough people [farming]. We need more internship programs. How do we grow farmers? The market stuff will be easy after that.”

And a third stated:

“To be self-sufficient we're going to have to develop a presence in local farmers markets. What's so awesome about this USDA grant is it's enabling these new farmers to be able to work together. We're going to be working together to hit three farmer's markets and alone I could only hit one, just because it takes so much labor. So if we can share that labor that will really help. And also just expanding what we can produce. I think expanding into perennials that will be a big money booster for us. I think the asparagus can get us 8-12 dollars a pound. So finding niches that are both profitable and do-able in terms of labor. Eventually we'd also like to develop a CSA, especially in the South Valley. Los Poblanos is serving the higher end of folks so maybe we can find a niche making an affordable CSA.”

Farming is economically inaccessible to many aspiring farmers because the high prices of irrigable land, financial constraints such as student loans and other sorts of common debt, lack of access information about how to develop a small farm business, and lack of start up capital. As fewer and fewer people choose to farm, as industrial agriculture subsumes more small farms, and as more and more small family farmers retire without succession plans, the knowledge base about small-scale diversified agricultural production evaporates. Development pressure, environmental degradation from urban waste streams, and increasingly variable and unpredictable water supplies, contribute to an ever-shrinking availability of natural resources for agricultural production. For these reasons, for small-scale agriculture to be successful, must be sustainable; it must measure itself through a triple bottom line of economic, social, and environmental success.

“I feel like financial success is a reinforcement of methods that I’m using as a farmer and so I use the financial success in strange little ways I have a sort of my methodology. I will not plant a bed of something unless it can make a certain amount of money. The success there was figuring out how to pull the most money possible off a piece of land while keeping it healthy. It’s farming it and managing it—not mining it. The biggest issue is I can go to any piece of property and mine it but I don’t want to do that I want to manage it. I wanted left better than when I started it.”

Conclusions

The success of small farms/farmers in the Middle Rio Grande

The success of small farmers in the Middle Rio Grande, in their own words, is about growing fresh healthy food for their family, neighbors, and community members in ways that contribute to resiliency and health of individuals, society, and environment. Prosperity is about good soil, finding pleasure in hard work, sustaining a small business, and creating community and food security.

Based on the feedback of farmers in this study, success of small-scale farming is multi-dimensional. Success of their farms is directly related to success of their community food systems. The way they measure success is does not reflect the standard metrics used by USDA to measure farm success or food system success. The way these farmers measure success reflects a new and growing body of literature about community food systems, community food security, and sustainability. Each of these ideas is supported by interdisciplinary research that draws on a variety of tools and metrics to articulate success that include, but are not limited to, conventional economic measures.

Drawing from direct feedback from farmers and a growing body of interdisciplinary research, it is clear that farmers must be engaged in the conversation about where our food comes from, and the systems that support making sure we have real community food security. No two small-scale farmers use exactly the same methods, sell to exactly the same customers, engage the same business strategies, or view success through exactly the same lens. In planning for community food system success, many farmers should be engaged in the conversation. A careful match of practices, priorities and markets should be considered when asking them to be stakeholders in a planning process. Additionally, a set of tools to evaluate success of farm businesses and community food systems could be developed that measure the financial, social, and environmental factors involved in farms and food systems, and describe how they interact with each other to encourage or inhibit success.

Implications for food systems planning

Just as the success of a small farm is rooted in healthy soil, so the success of food system planning must be rooted in the success of the farmers who produce that food. According to the 2012 USDA agricultural census, farmers older than 65 outnumber farmers 35 and young by a factor of six to one. Also according to the USDA, farmers grow on 442 million acres of land and graze animals on another 529 million acres, about 47% of the entire landmass of the country. This means that in the next decade, as a nation, we are set to experience a land transfer almost double the size of the Louisiana Purchase. Access to land, working capital, skilled labor, information and training, access to markets, and increasingly unpredictable weather patterns present major hurdles for young farmers.

How, as planners, do we facilitate succession planning for farmers, and usher in the next generation in a timely and sustainable manner? And by extension, how do we ensure that our communities have adequate access to healthy food in times of major change? A critical question planners must ask in the coming years is where will our community's food come from? How do we prioritize land for agricultural use, incentivize food production, and redefine wealth in a way that values healthy ecosystems and communities, and how do we begin to measure resilience? How do we provide support to the next generation of food producers who face perhaps the most complicated circumstances in human history—socially, economically, climatically, and ecologically—in which to become a farmer? Farmers need creative, practical, and immediate planning solutions that create affordable access to land, labor, information, and capital.

Planners working on food system development and issues take on unprecedented roles. In 2005 a Food System Working Group was established and convened by the American Planning Association (APA) to discuss why food system planning is relevant to the professional community. In 2007, the APA passed a *Policy Guide on Community and Regional Food Planning* where the reasons why food systems are the purview of planners are articulated. (www.planning.org/policy/guides/adopted/food.htm) This document identifies links with economy, public health, ecological systems, social equity, and culture.

These same major themes are the areas in which small-scale farmers articulate success. Professional planners, because of their interdisciplinary expertise, possess the skills to define and test more comprehensive tools to measure food systems. The parallels

between my research and the APA policy document highlight obvious opportunities for planners as organizers and evaluators.

Planners as organizers have an opportunity and a responsibility to engage the farming community in conversations about food system development. While farming is largely a private market activity, the implications of food production impact many publicly regulated areas such as natural resources, water use, public health, and others. In community-based planning, engaging the right stakeholders for development of meaningful planning documents and strategies is key.

Farmers in the Middle Rio Grande operate at different levels, engage different markets, and operate on public and private lands. Planners should have farmers at the table who can provide relevant input to the process, and who have a stake in the outcomes. For example, if the objective is to develop a county operated food hub for aggregation and distribution of produce, having a dairy farmer or a farmer primarily interested in direct retail sales to farmers markets, while providing generally good information about the needs of farmers, are not necessarily the best representatives of the farming community for the project.

Planners as evaluators possess a variety of tools developed through interdisciplinary methods including ways to measure sustainability, public health, community engagement, natural resource management, ecology, and economics. They also possess the capacity to understand and interpret how these various measures relate to one another, and then how, as planners, they translate this analysis into meaningful planning documents. Both our community food systems and federal regulators who measure food system success would benefit from development of a food system-specific evaluation tool kit from a planner's perspective.

Opportunities for further research

Questions for further investigation not addressed by this research that would further define farmer success, suggest areas for food system planning, and ultimately create community food security, particularly within the scope of professional planning:

- What models of land transfer from retiring farmers to young farmers have been used in the Middle Rio Grande? What would an effective model for land transfer look like? How would it help preserve farmland and ensure success of new tenants or owners?

Many planning tools exist to ensure a smooth generational transfer of land. This line of inquiry could explore existing and models in use around the country for effective succession planning in the Middle Rio Grande including Conservation Easements with mandatory agricultural use agreements, long term use agreements on public lands, and overlay zones in urban and peri-urban areas that incentivize agricultural use.

- What are the existing models of mentorship and information exchange between veteran farmers and beginning farmers? What models are most likely to succeed in educating young farmers and ensuring their success?

This line of inquiry could look at both public and private strategies at new farmer training programs. It could also focus on what workforce solutions programs and mentorship programs exist that could be adapted to agricultural production. Many good programs exist through organizations like the Rodale institute that could be adapted through public private partnerships and designed for the culture and climate of New Mexico.

- What is the relationship between farmers and markets? How do these relationships impact farmer success? How can local farmers and consumers be brought together more effectively for mutual benefit?

Much effort through planning and economic development has gone into increasing access and creation of markets for small and medium scale farms through out New Mexico.

Research could show how development of these markets has been successful in reaching new customers, and where work still needs to be done to further develop niche areas in this sector. More specifically, looking at how planning efforts have supported the development of medium, value chain agricultural producers in the state.

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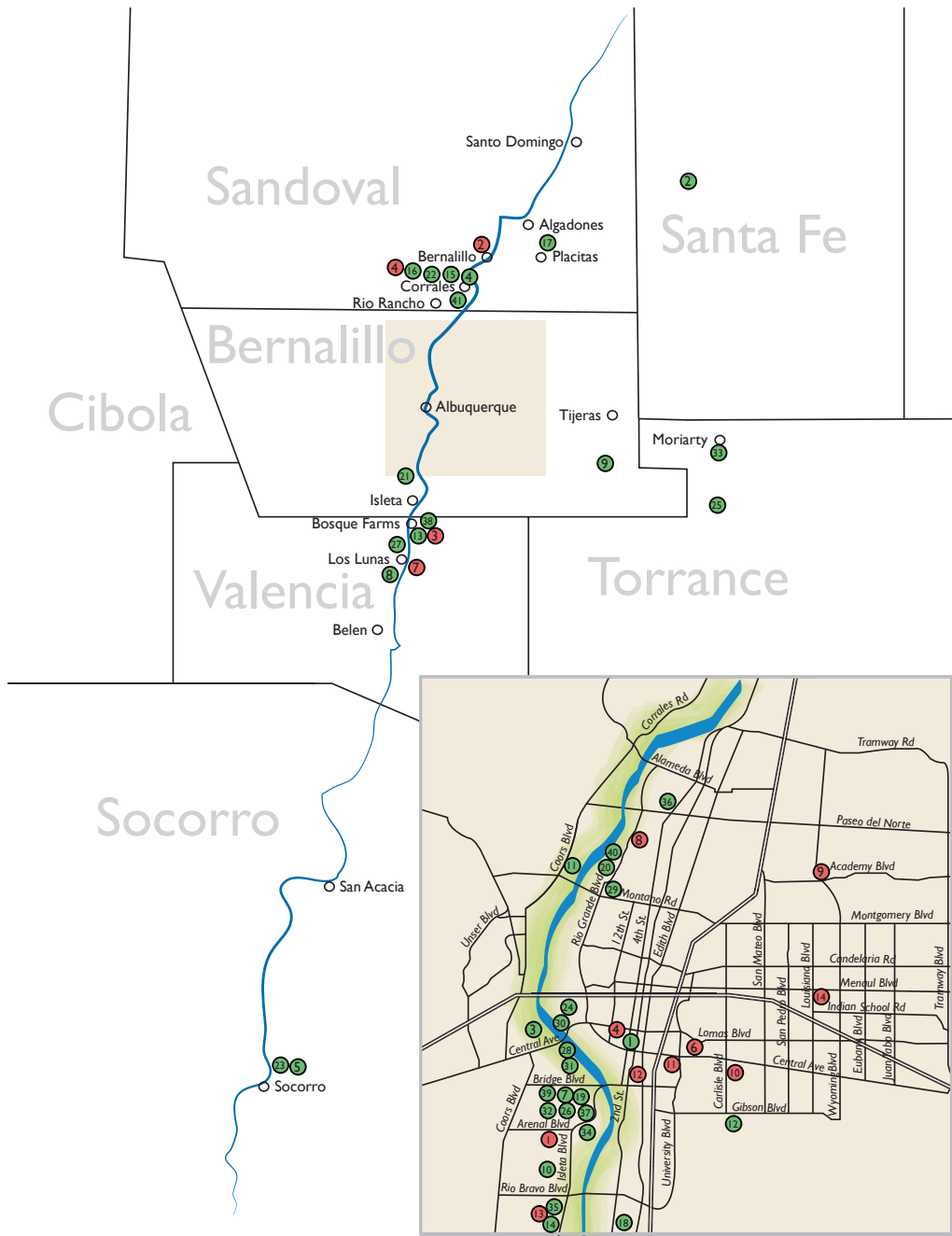
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Appendix - Local Food Field Guide

LOCAL FOOD FIELD GUIDE



MIDDLE RIO GRANDE REGION



FARMS

1. ALVARADO URBAN FARM
facebook.com/veteranfarmerproject
2. AMPERSAND LEARNING CENTER
ampersandproject.org
3. AMYO FARMS *
amyofarm.com
4. ARCA ORGANICS
arcaorganics.org
5. CECILIA'S ORGANICS
ceciliasorganics.com
6. CENTER FOR AGELESS LIVING
nmagelessliving.info
7. CHISPAS FARM
chispasfarms.com
8. DE SMET DAIRY
desmetdairy.com
9. EAST MOUNTAIN ORGANICS
eastmountainorganicfarms.com
10. ERDA GARDENS *
erdagardens.org
11. FAIRFIELD FARMERS CO-OP
fairfieldfarm.abqsprout.org
12. FEED THE HOOD FARMS
projectfeedthehood.org
13. GRANJA PARA MAÑANA **
14. GUTIERREZ-HUBBELL HOUSE
gutierrezhubbellhouse.org
15. HEIDI'S RASPBERRY FARM
heidiraspberrfarm.com
16. HIP CHICK FARMS
17. HUERTAS CANYON FARMS
facebook.com/pages/Huertas-Canyon-Farm
18. IRONWOOD FARM
ironwoodfarmproject.blogspot.com
19. LOS JARDINES DE MOKTEZUMA **
20. LOS POBLANOS INN
lospoblanos.com
21. MOORE FAMILY FARMS
moorefamilyfarms.net
22. NEPANTALA FARMS
facebook.com/nepantlafarms
23. NOLINA'S HEAVENLY ORGANICS
myheavenlyorganics.com
24. OLD TOWN FARM *
oldtownfarm.com
25. OLD WIND MILL DAIRY *
theoldwindmilledairy.com
26. PEAS AND HOMINY
facebook.com/peasandhominy
27. PECULIAR FARMS
peculiarfarms.com
28. RED TRACTOR FARM *
redtractorfarm.net

29. RIO GRANDE COMMUNITY FARM
riograndefarm.org
30. RIO GRANDE HERITAGE FARM
bit.ly/1ifgq7e
31. RIO VALLEY GREENHOUSES
facebook.com/RioValleyGreenhouses
32. SANCHEZ FARMS **
berna.gov/sanchez-farm-189179
33. SCHWEBACH FARM
schwebachfarm.com
34. SIMPLE REVOLUTION? FARM!
facebook.com/pages/Simple-Revolution-Farm
35. SKARSGARD FARMS *
skarsgardfarms.com
36. SOL HARVEST FARM *
solharvestfarm.com
37. STERLING GARDENS *
38. THUNDERHEAD FARMS
thunderheadfarms.com
39. VALLE ENCANTADO **
valleencantado.org
40. VIDA VERDE FARM
vidaverdefarm.com
41. WAGNER FARMS
wagnerfarmscorralles.com

FARMERS MARKETS

1. ARMILLO VILLAGE GROWERS MARKET
facebook.com/pages/Armiijo-Village-Growers-Market
2. BERNALILLO FARMERS MARKET
eatfreshnm.org
3. BOSQUE FARMS GROWERS MARKET
facebook.com/farmersmarketsofvalenciacounty
4. CORRALES FARMERS MARKET
corralesgrowersmarket.com
5. DOWNTOWN GROWERS MARKET
downtowngrowers.org
6. LOBO GROWERS MARKET
abqstew.com
7. LOS LUNAS FARMERS MARKET
facebook.com/farmersmarketsofvalenciacounty
8. LOS RANCHOS GROWERS MARKET
losranchosnm.gov/growers-market
9. NE HEIGHTS FARMERS MARKET
abqnemarket.org
10. NOB HILL GROWERS MARKET
facebook.com/nobhillgrowersmarket
11. PRESBYTERIAN FARMERS MARKET
abquptowngrowersmarket.org
12. RAILYARD GROWERS MARKET
railyardsmarket.org
13. SOUTH VALLEY GROWERS MARKET
facebook.com/SouthValleyGrowersMarket
14. UPTOWN GROWERS MARKET
abquptowngrowersmarket.org

FARMER ORGANIZATIONS

- AGRI-CULTURA NETWORK *
agri-cultura.org
- GARDEN'S EDGE
gardensedge.org
- RIO GRANDE FARMERS COALITION
riograndefarmers.org
- VETERAN FARMER PROJECT
facebook.com/veteranfarmerproject

SUPPORT FOR FARMERS

- ALBUQUERQUE GROWERS MARKET ALLIANCE
facebook.com/abqgrowersmarkets
- AMERICAN FRIENDS SERVICE COMMITTEE
afsc.org/office/albuquerque-nm
- COUNTY EXTENSION OFFICES
bernalilloextension.nmsu.edu
sandvalextension.nmsu.edu
valenciaextension.nmsu.edu
torranceextension.nmsu.edu
santafeextension.nmsu.edu
- EDIBLE SANTA FE
ediblesantafe.com
- FARM TO TABLE
farmtotablenm.org
- LA MONTANITA CO-OP
lamontanita.coop
- LANDLINK NEW MEXICO
localfoodnm.org
- MRCOG AG COLLABORATIVE
localfoodnm.org
- NM DEPT OF AG
nmda.nmsu.edu
- NM FARMERS MARKETING ASSOCIATION
farmersmarketsnm.org
- NMDA ORGANIC PROGRAM
nmda.nmsu.edu/marketing/organic-program
- QUIVIRA COALITION
quiviracoalition.org
- RIO GRANDE AGRICULTURAL LAND TRUST
rgalt.org
- UNM SUSTAINABILITY STUDIES PROGRAM
sust.unm.edu

*These farms offer CSA options—weekly produce boxes, flowers, or other agricultural goods in exchange for an upfront seasonal investment.

**The Agri-cultura Network operates a CSA called La Cosecha, to which Valle Encantado, Los Jardines de Moktezuma, Granja para Mañana, Erda Gardens, and Red Tractor Farm all contribute. Erda Gardens and Red Tractor Farm also offer CSA options independent of La Cosecha.



When you know your farmer, you know your food.
Visit a farm or farmers market today.

Photos courtesy of Nolina's Heavenly Organics, Red Tractor Farm, Vida Verde Farm, and Sarah Wentzel-Fisher.

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