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Farm-to-Table in the Albuquerque Region: A Case Study at Los Poblanos Historic Inn & Organic Farm

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Abstract

This report explores a “Farm-to-Table” restaurant business model, using Los Poblanos Historic Inn & Organic Farm as a single-focus for this exploratory case study. Los Poblanos is chosen for this study due to their dedication to sustainable food and farming systems within the Albuquerque region of New Mexico, and the goal of this study was to examine how Los Poblanos operates in regards to Farm-to-Table and Local Food movements based on food purchasing practices. Food purchasing was analyzed through a systems perspective and agroecology framework by including social, economic and environmental considerations as to how food is grown, bought, processed, served and disposed. Data were collected through interviews with local growers who supply food to Los Poblanos, restaurant employees who manage the food, a local composting company and a non-profit organization, who all participated in interviews for the study. In addition to describing their role in the food and farming system linked to Los Poblanos, interviewees also commented on supporting and hindering forces to the Farm-to-Table movement in Albuquerque. Findings show that the management of food, namely minimizing waste to the upmost potential, was essential to creating an economically profitable food cycling system within the restaurant which allowed for paying premium prices of local, sustainably produced food. Chef’s knowledge of agriculture practices and systems stood out as a powerful tool to support and grow the Farm-to-Table movement both within the business and community food system. Inhibitors to the Farm-to-Table movement include consumers’ unwillingness to pay a higher price for local foods, which is associated with higher labor costs found especially in small scale, organic agriculture and cooking food from scratch the restaurant. Additionally, the overuse of the terms “Local” and “Farm-to-Table” falsely market restaurants who do not authenticate these claims with their purchasing decisions. Both issues may be addressed by storytelling, a method of communication to engage consumers and the local community in understanding how businesses such as Los Poblanos support local farmers and sustainable food growing. Primary suggestions from interviewees on supporting the Farm-to-Table movement beyond creating more demand focuses on collaboration between farmers in terms of resource and knowledge sharing, as well as government incentives to support businesses’ efforts to buy from producers in the community. Further analysis could examine how effective certain methods of communication and education are in spurring consumer interest in Farm-to-Table businesses, and how consumer knowledge catalyzes industry change by popular demand.

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1. Introduction

This study focuses on the food system at Los Poblanos and explores how this operation fits into the broader FTT movement in Albuquerque, NM. The phrase “farm-to-table” refers to a philosophy and business model which is growing in popularity across the United States (Brain et al. 2015, Schmit & Hadcock 2012). There is no formal definition of “farm-to-table,” but in its simplest form, this terminology indicates that produce is coming from the fields to the dining table. There are assumptions and expectations surrounding the phrase “farm-to-table,” including notions that food is: brought directly from farms to restaurants with no middle man or distributors, processors or other intervention; served in accordance with the harvesting season; grown within the region; sourced from farms practicing environmentally sustainable techniques; and contributes to the local economy through fair pay and employment (Allen 2010, Brain et al. 2015; Day & Hall 2016; Duram 2012, Starr et al. 2003). Not all or any of these factors must be in place for restaurants to advertise themselves as “farm-to-table,” but many do meet some combination of these criteria to varying degrees. Current literature on the Farm-to-Table (FTT) movement explores consumers interest in local food, potential benefits to the surrounding community and environment, challenges of sourcing locally and sustainably, and the demographics of what kind of restaurants and chefs choose this way of food sourcing (Curtis & Cowee 2009; Inwood et al. 2008; Schmit and Hadcock 2012; Starr et al. 2003). These studies often focus on multiple restaurants or institutions who purchase large volumes of food, whereas this study offers a new level of specificity regarding the ways FTT principles can be applied at restaurants by focusing on daily practices seen throughout the researcher’s internship at Los Poblanos.

Food sourcing is the key defining factor that differentiates FTT restaurants from the norm, which in the United States refers to the post-industrial food and farming systems that rely on chemical inputs to increase yields, as well as the infrastructure to transport these quantities of food across the country (Inwood et al. 2008). In a study based on the environmental impact of restaurants, researchers found that restaurants who try to “green” their practices often focus primarily on energy consumption, yet 95% of the negative environmental impact came from food sourcing (Baldwin et al. 2011). This finding suggests that food sourcing is the most important focus when examining sustainability of FTT as a movement and business model. Los Poblanos represents three variations on FTT business model based on the way they source food: from their

own farm located on-site, as well as a local distribution company and individual local producers. Chefs play a key role in making food purchasing decisions, and in the case of Los Poblanos, the sous chef is primarily responsible for food sourcing.

The current literature regarding chefs' preferences and purchasing decisions show that they value taste, quality, and freshness, but there is often less interest in environmental or social welfare aspects of production (Curtis & Cowee 2009). Additionally, it is primarily small, gourmet restaurants where chefs have independent purchasing power who most often source local food (Curtis & Cowee 2009). There is also a consensus among literature explaining multiple reasons *why* sourcing locally and from smaller scale, sustainable producers is uncommon in our food system today; the main barriers include time and inconvenience required to coordinate short circuit supply chains, inconsistency in quantity and quality of food, and lack of information or awareness of food options from farmers (Curtis & Cowee 2009; Inwood et al. 2008; Schmit and Hadcock 2012; Starr et al. 2003). The geographic location influences what can be grown in an area, which can pose a barrier to restaurants who wish to serve a culinary theme or reflect a culture which is native to a different type of climatic region (Curtis & Cowee 2009). If the region cannot produce the products desired for this cuisine, they will be sourced elsewhere (Curtis & Cowee 2009).

When discussing FTT as a movement and business model, it is important to include "Local Food" as a movement and concept often used synonymously or in relation to FTT. There is an increasing demand for local food in the United States (Curtis & Cowee 2009; Bloom & Hinrichs 2011; Inwood et al. 2008), and as more meals are eaten in restaurants rather than at home, the FTT restaurant model is expected to grow in tandem with the Local Food Movement (LFM) (Scheule & Sneed 2001). The term "local" is flexible in definition, and can refer to a city, municipality, or a much larger scale such as a state (Inwood et al. 2008). The proximity of locally sourced food increases traceability, an important factor in terms of food safety (Curtis & Cowee 2009; Scheule & Sneed 2001). Many practices in large scale, conventional agriculture make food more susceptible to food borne illnesses, such as keeping many animals in confined spaces or singular cropping patterns which lead to pests and disease; treatments involve inputs such as pesticides, growth hormones, anti-biotics, and other applications, which concerns a growing number of consumers (Inwood et al. 2008; Scheule & Sneed 2001). Therefore, the

combination of locally sourced food, through short supply chains is appealing to consumers concerned about the quality and safety of food, both for humans and the environment.

Many FTT restaurants source food directly from farmers, which is known as “direct marketing” (Feagan 2008). Direct marketing brings producers and consumers closer together, within a geographic boundary that is described as “local.” Direct marketing works better as a food sourcing system for some farmers than others, and for certain types of restaurants; organic growers are more likely to source to restaurants directly than conventional growers, and often to upscale or gourmet restaurants (Buck et al. 1997). For additional information on farm-to-table marketing and logistics, see Appendix 2.

There is a common agreement among current literature that local food systems have the potential to better support local economies (Bloom & Hinrichs 2011; Gilman 1999; Sims 2009). Food industries can revitalize economies by creating partnerships between community producers and consumers, therefore creating local jobs and making the best use of local resources (Saito 2016; Sims 2009). Short or direct supply chains can keep more money in the local area by reducing transport distances and cutting out “the middle man”- distributors (Bloom & Hinrichs 2011). However, local produce can be more expensive to buy depending on production practices (Bloom & Hinrichs 2011; Inwood et al. 2008). Curtis & Cowee 2009 further this point by stating that local producers do often charge more than larger distribution companies, making it more likely for expensive, gourmet restaurants to support local food than casual and corporate restaurants. Green & Dougherty (2008) found that in addition to the producers have trouble supplying enough volume of produce, and inconsistent delivery times, producers often felt they were not paid enough by restaurants. Therefore, when discussing the economic sustainability of FTT and LFM, it is also important to examine the degree to which economic activity is kept in local economies at all stages of the supply chain.

Very few studies focus on how factors like agricultural practices or fair economic exchanges influence sourcing agreements between farms and restaurants, or the knowledge and interest of chefs and restaurant employees on these subjects. Additionally, the studies reviewed for this project all compare restaurants or institutions across a large scale, which makes it difficult to conceptualize what is occurring at Farm-to-Table businesses in a way students, researchers, or readers outside the restaurant industry can understand. The following “Methodology” section expands upon existing knowledge gaps that this study aims to address.

2. Methodology

Instead of exploring multiple, similar businesses, LP is the single focus of the case study because their operation is exceptional in the sense that they have a farm onsite and are strongly dedicated to supporting healthy environments and the agricultural community. LP's business model, within the context of Albuquerque's food and farming systems, therefore provides an interesting location to study and explore the potential for sustainable food systems and the restaurant industry at large.

Albuquerque is unique in climate, culture and agricultural history, all of which influence the present FTT movement in this city and surrounding area. Albuquerque is the largest city in the state of New Mexico, and is home to a distinct food culture built around traditional Native American and Spanish cuisine and farming practices (New Mexico Culinary Trails 2017). New Mexico has a dry and sunny climate, with topography that is predominately considered plains, as well the Rocky Mountain zone and intermountain plateaus. (New Mexico Economic Development Department 2017). For more information about current farming practices, demographics and agricultural economics for the entire state, see Appendix 1.

Based on initial observations and interviews at Los Poblanos, other stakeholders in the food sourcing system, in addition to the 2 main chefs, were included in the study to expand the scale, and reflect useful findings to the FTT movement as a whole. The following questions were used to explore Los Poblanos as an FTT restaurant, specifically examining the relationship between its own farm and other local suppliers who provide food to the business. The questions range from exploratory, providing an overview of the situation, then leading towards possibilities for improving sustainable food sourcing. The scale of study shifts from just looking at Los Poblanos in the initial analysis, to expanding the scale of study to include the Albuquerque region as a whole.

In what ways could restaurants improve sustainability in relation to the Farm-to-Table model of food sourcing?

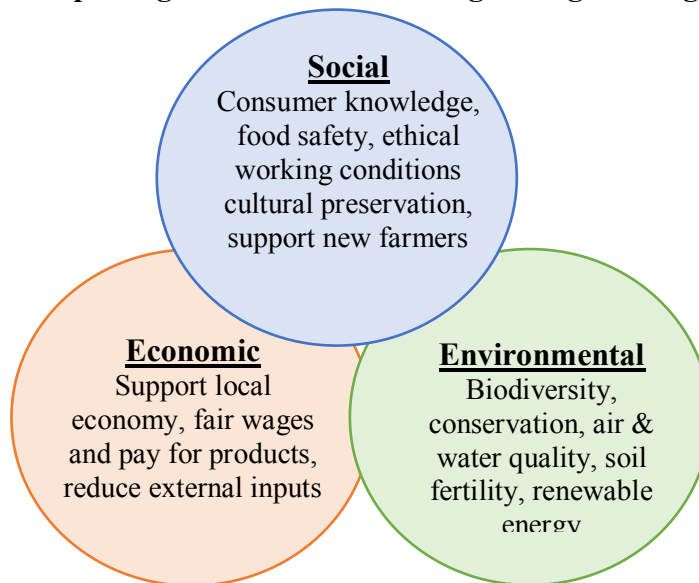
- How does Los Poblanos operate as a farm-to-table system in terms of economic, environmental and social interests?
- How do relationships between chefs, farmers and consumers work together?
- What are the specific pieces of this system that make it work sustainably?

-What are the supporting and hindering factors to FTT as a movement and business model in Albuquerque, NM, both from the growers and restaurants' perspective?

-How can the relationship between restaurants, farms and consumers improve to further support the farm-to-table movement in Albuquerque, NM?

Throughout this study, the social, economic and environmental factors that contribute to the operation of Los Poblanos, as well as the food and farming community of Albuquerque, were studied together to ensure a well-rounded analysis. These three areas of focus are included in an “agroecology perspective,” as defined by Wezel et al. 2016 and expanded upon below.

Figure 1. Exploring Farm-to-Table through an agroecology perspective



(Gafsi et al. 2006 & Wezel et al. 2016)

The Figure 1. shown above is a combination of an image presented by Wezel et al. 2016 describing Agroecology territories, in which this basic outline shows the multi-disciplinary and overlapping foci of agroecology (Gafsi et al. 2006; Norgaard 1989). This intersection of social, economic and environmental considerations ensures a well-rounded analysis of real life situations, in which multiple factors often intersect to create current situations. The text below each heading is taken from Gafsi et al. 2006 where authors explain the key factors of sustainable agriculture as described by the French Ministry of Agriculture in 1999 in their “Territorial Farm Contract” (TFC). The combination of this image by Wezel et al. 2016 and examples of what

qualifies as sustainable agricultural practices in each category (Gafsi et al. 2006), serves as a framework to compare with the operations at Los Poblanos Historic Inn & Organic Farm.

Also inherent in an agroecology perspective is a variety of scales, meaning that studies can shift between local and specific, to more global and general viewpoints (Norgaard 1989; Wezel et al. 2009). Norgaard (1989) encourages looking at local and global scales, resources and limitations available, and strengths and weaknesses of actors. One way of conceptualizing the various scales, stakeholders and dynamic phenomena observed in a case study is to apply “systems thinking”, another integral component in an agroecology study (Wezel et al. 2009). A systems perspective frames the subject of study as several parts that function together as a whole. For example, a farm system would include the soil, water, plants, living creatures in the fields, external inputs, machinery, the farmer themselves, and their interactions combined create a functioning system to achieve the goal of growing food. Systems can be as specific or broad as the researcher chooses, such as looking at just the soil nutrient cycling in a field, or the whole farming community in a region. This concept is referred to in Bland & Bell’s “Holon Approach” theory that within every system are smaller systems, and that the combination of these operates as a part of a much larger system. Their definition of “systems thinking” and how it can be applied through an agroecological perspective serve as a basic framework used throughout this study (Bland & Bell 2007). The research questions reflect this shift in scale from Los Poblanos to the food and farming community of Albuquerque, NM.

2.1 Data Collection

Qualitative data were collected in multiple ways to address the different subjects and scales of each research question. The initial question of how LP operates as an FTT restaurant through a systems and agroecology perspective was explored by on-site, observational research gained through a 6-month internship experience from May-October of 2017. This time was split between working on the farm and in the kitchen, though the latter half of the internship took place solely in the kitchen. During this time, selective interviews took place in June & July, and a limited number of participants were selected based on their relations with Los Poblanos Historic Inn & Organic Farm. The participant list was gathered based on initial interviews with Los Poblanos staff members, most notably the Head & Sous Chefs. These two stakeholders are most responsible for the food selection and sourcing at LP, and the additional interviews consist of 3

other staff members at LP, 7 farmers who sell directly to LP, a local distributor who works with local farmers and restaurants like LP, a local compost company who participates in the food & farming system of Albuquerque, and a non-profit organization involved in the Farm-to-Table movement of the region.

Interviews began by focusing on how LP operates in relation to the broader community, and then shifted to how their practices could be linked to other FTT restaurants around the world or as noted in academic literature. The latter half of this analysis included a participatory exercise where the interviewees would describe what they thought of as the key supporting and hindering factors influencing the FTT movement in Albuquerque, NM. The section below shows the diagram participants were asked to fill in manually or explain:

Example:

<i>Looking at the FTT movement as a whole, describe the supporting and restraining forces in the FTT dining food system.</i>	
<i>Current state → Optimum state</i>	
<i>Hindering Forces</i>	<i>Supporting Forces</i>
-	-
-	-
-	-

The results from this section of the data collection are noted in the Force Field Analysis section (part 3.3, Figure 4). The goal of this section was to compare and visualize the often-intangible factors that influence the growth or setbacks occurring in the food and farming community. The visual layout of the Force Field Analysis (see Figure 4.) are modeled after those seen on the M. Carmen Consulting webpage (Carman 2013). For a full list of interview questions, see Appendix 4.

The following table summarizes the interview logistic information, listing the participants anonymously and grouped by category, the date, location, length and recording method of each meeting.

Table 1: Interview Guide

Participant	Date	Location	Time	Method
Head Chef	5/31/17	Los Poblanos restaurant	55:00	In person, recorded on phone
Sous Chef	6/8/17	Los Poblanos restaurant	34:47	In person, recorded on phone
Beverage Director	6/22/17	Los Poblanos restaurant	15:00	In person, recorded by hand
Farmer A	6/2/17	Location of farm	39:27	In person, recorded on phone
Farmer B	6/1/17	Location of farm	33:24	In person, recorded on phone
Farmer C	6/8/17	Location of farm	33:30	In person, recorded on phone
Farmer D	6/16/17	Location of farm	37:31	In person, recorded on phone
Farmer E at Los Poblanos	6/16/17	Los Poblanos farm	13:23	In person, recorded on phone
Farmer F	6/16/17	Location of farm	42:26	In person, recorded on phone
Farmer G	6/22/17	Local cafe	34:08	In person, recorded on phone
Farmer H at Los Poblanos	6/22/17	Los Poblanos farm	46:35	In person, recorded on phone
Farmer I	6/23/17	N/A	1:16:00	On phone, recorded by hand
Distributor representative	6/16/17	Los Poblanos restaurant	18:29	In person, recorded on phone
Non-profit representative	7/5/17	N/A	59:00	On phone, recorded by hand

Compost company representative	6/23/17	N/A	15:00	On phone, recorded by hand
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An interview-based case study was conducted for this thesis because the small-scale focus and importance of participant response rate. Survey data would not grant the depth or specificity of data required to fully address the research questions. The scale of this study made it possible to provide an in-depth academic assessment of FTT theory put into practice in a business sense. The geographic boundaries of this study were limited to the Albuquerque area, with the furthest interviewee located within 20 miles of Albuquerque’s city center. Interviews were recorded, transcribed and coded based on guidelines from DeCuir-Gunby et al. (2011) and Weston et al. (2001) to develop a code book, a system for analysis and validation. See Appendix 3 for further explanation of the coding process and reference to current literature

2.2 Developing a code book

A code book was used as the base for analyzing interview transcripts, and each code was made to summarize and link pieces of the transcripts between all interviews to show patterns in a simpler way (DeCuir-Gunby et al. 2011). DeCuir-Gunby et al. (2011) and Weston et al. (2001) suggest having a table with the name of the code, a definition and an example from the text such as phrases that fit under a particular subject. The table below shows the abstracted themes and related codes based on these guidelines:

Table 2. Codebook

Code	Definition	Example
CKD	Chef’s knowledge & decisions	“You need a particular kind of chef to make Farm-to-Table successful economically, like paying farmers enough and then managing that produce well.”
D	Distribution methods	“Selling to the Co-op makes it easier and now I don’t have to spend time selling to individual buyers.”

GF-NM	Growing factors in NM: weather, soil, climate change	“The challenges are immense, and you need alternative ways to deal with issues such as pests”. He won the good steward award from NMDA for flood irrigating in his greenhouse to get rid of ants.
GM	Grower’s Market (Downtown ABQ)	“The Grower’s Market has just been fantastic, and it’s growing every year.”
GS	Government Subsidies	“Government subsidies are a hindrance because they create dependency for funds that may not always be there, and allow people to enter farming thinking, ‘What can the government do for me?’”
L	Local	“It would be nice if they [restaurants] would buy even more and really embrace ‘Local’ [...] That’s challenging because if you serve a hamburger, for example, and you want a nice sliced tomato on that burger, well if you’re really going to do it seasonal and local, you’ve got a 3 month window. Unless you’ve got a farmer doing indoor, year-round tomato growing, but that is pretty rare. And people are used to getting what they want whenever they want it.”
LC	Labor costs	“Organic farming is labor intensive, and it’s hard to make it economical.”
OC	Organic Certification	“‘Organic’ is watered down, but the produce speaks for itself.”
P-T&LL	Policy- Taxes & Land Leasing	“People get a tax right off in Bernalillo county for using land for agriculture.”
SJ&VC	Social Justice & Value Chain	“It’s important to pay laborers fairly. And I encourage them to eat while they pick and enjoy it.”
SM	Social Media	“Social media can be misleading in terms of Farm-to-Table advertising when they aren’t working with local farms, and just get one ingredient from one farmer and blow it up online, but everything else on the plate isn’t even from this state.”
LPSS	Los Poblanos as a system: Farm, Distribution, Table, Waste Disposal	“Villa Mirium feeds coffee bean husks to pigs, waste to trout, trout to people who work there picking coffee. “
PPF	Past, Present, Future of FTT in Albuquerque	“We have great chefs, the ones we work with are awesome. We could use like 20-30 more.”

In this table, the codes are acronyms combined with colors, which separate the main themes: social (blue), economic (orange), environmental (green), from the sub-themes such as “social media” or “labor costs.” These main themes were the first ones identified when coding the text, and from there sub-themes emerged. In an effort to include as much of the data as possible, sub-themes that did not specifically fit into these categories were also included in the last two rows: “Los Poblanos as a system”, and “Past, Present and Future of FTT in Albuquerque.” These data were included to provide important context for analysis, and each of these subjects has their own section in the Results part of the report.

2.3 Ethics

Data were collected during interviews through audio recordings and written notes. Interview questions were semi-structured, while also leaving room for a follow up discussion at the end if any additional points came up during the conversation. During the collection period, recorded data was stored in the form of written notes, audio recordings, photos and eventually a coded document for analysis. All data was stored on a personal computer and phone which are password protected. Interviewee’s are referred to anonymously in the report, and the representatives at Los Poblanos are referred to by position for clarity of their roles in the business and for the analysis in the study. Interviewees were given the option to “delete” or take back anything they said during recorded interviews if they later decided they did not want a direct quote listed in this report. None of the participants utilized this option, but it remained present during the writing period of this project. Prior to starting the interviews, NSD approved the data collection plan and proposed questions. The data were analyzed from interviews by traditional coding of topics and themes to identify patterns within the responses. The intended audience includes anyone interested in the FTT movement, and specifically to restaurants and farms who are engaged in these kinds of businesses or are curious about learning more from this example.

3. Results & Discussion

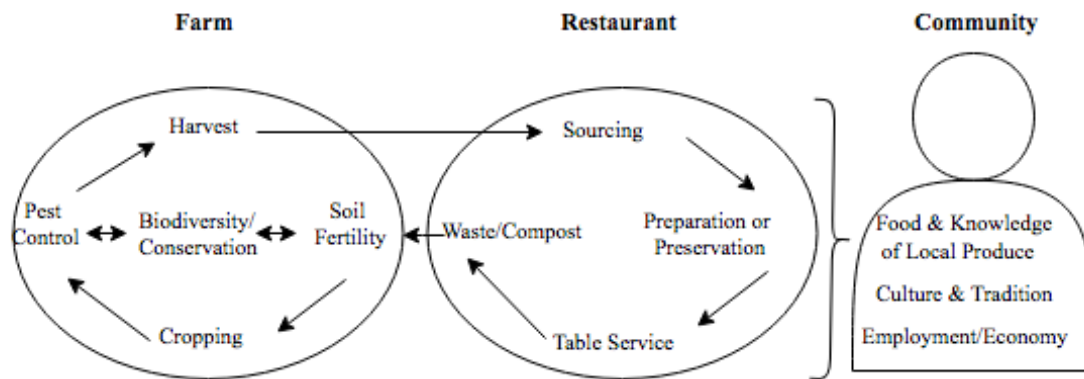
The following section combines the result and analysis of findings based on the initial research questions presented in the section: Methodology (2). This study is distinguished from other current literature due to the detailed description of FTT operations from a systems

perspective, and with specific focus on agroecology themes of Social, Environmental and Economic factors. As seen with the research questions, the following text begins with a system's representation of how Los Poblanos operates, and then shifts towards the supporting and hindering forces to the farm-to-table movement in Albuquerque. The final section looks towards the future of the food and farming community in Albuquerque and links the suggestions of interview participants with current literature to suggest ways to strengthen this movement from multiple perspectives in the area. The scale progresses from Los Poblanos as a system, to being seen as a part of the larger food and farming systems in the region.

3.1 Los Poblanos as a System

Los Poblanos Historic Inn & Organic Farm operates as a Farm-to-Table system by providing a link between local growers and consumers. There are many steps in the processes which take place, beginning in the fields at the soil level, traveling through produce into the kitchens and eventually in front of restaurant customers. This cycle is repeated as nutrients are returned to the soil and the process repeats itself. Figure 2. Illustrates the overall farm-to-table system at Los Poblanos, which could also be used as an example of how other FTT restaurants could interact with their local food and farming systems. The information from which this diagram is based upon came from observation and participation in these systems from the researcher's internship, as well as clarifying questions during follow up interviews to validate observations.

Figure 2. Los Poblanos as a Farm-to-Table System



In the figure above, the three sub-systems of Farm, Restaurant and Community appear to flow together seamlessly, however this Figure should not be taken as a full description of the entire process. For example, the uppermost line connecting “Harvest” to “Sourcing” from left to right is over-simplified, as LP sources from multiple farms and venues. The largest food supplier to LP is a local distribution co-op, which is based in Albuquerque and serving the surrounding region, especially for products like dry goods, dairy and meat. There is a seasonal flux to the proportion of food sourced locally, from independent suppliers, and through certain channels such as the co-op. For example: in May about half of the produce at LP is brought in from individual local farmers, but in June this quantity increases dramatically as the plants in NM acclimate to the hot summer weather. This is also a time when the kitchen can begin bulking up on produce to store or process for the rest of the year (such as jam, pickles, chili, relish), or to freeze, unprocessed for future usage until the next season. Figure 2. serves as a visual aid to help the reader understand systems interactions, which become more complex in the following resulting data.

This understanding of the overall FTT operation as a system, and specific ways LP contributes to these systems serves as a base from which to hone in on the most important factor of sustainable restaurant operation: food sourcing and management decisions. Most current literature on FTT practices in relation to restaurants leaves out the subject of food management decisions, but in this study, how food is used once it reaches the restaurant is vitally important to making the purchasing decisions. The Head Chef notes, “knowing how to manage this product, because of the price, is even more essential.” Once the food is purchased, the way it is used, from

preparation, preservation, service to disposal, is all integral to understanding how sustainable food cycling makes sustainable food sourcing possible economically.

3.2 Sustainability at Los Poblanos

Building off of the concept of LP operating as part of an FTT system, the following section focuses more specifically on the extent of sustainability reached through LP’s operating decisions. Table 3 summarizes the actions and effects of LP’s influence in the FTT system, divided into themes of Social, Economic and Environmental focuses, based on the agroecology perspective described in Figure 1.

Table 3. Sustainability at Los Poblanos Farm & Restaurant

<u>Los Poblanos</u> <u>Historic Inn &</u> <u>Organic Farm</u>	Social	Economic	Environmental
Farm	Open to public, provides context for FTT restaurant	Employment, volunteer & internship program allows community members to gain experience	Diversity of cultivated crops, uncultivated areas provide habitat for wild species, uncertified organic practices, soil nutrient cycling
Restaurant	Educates staff and community on FTT values and local agriculture, preserves historical buildings onsite	Employment, supports local growers	Compost, waste reduction, sourcing from sustainable growers, seasonal menu

While the systems concept illustrated in Figure 2 could be applied to a number of FTT restaurant business models, Table 3 is very specific to Los Poblanos, and offers a detailed perspective on how this business contributes to the FTT and LF movements, through an agroecology framework, highlighting social, economic and environmental factors of operation. The “Farm” and “Restaurant” components are separated so that the distinct roles may be clearly understood, although there is some overlap between these categories as both function within the

same business. The information in Table 3 was collected through research observation, personal interviews as well as from the company website.

3.2.1 Social

In the case of LP, the majority of food sourcing is done by the Sous Chef, who maintains relationships with food suppliers, building knowledge about their systems and abilities. This informs his decision to buy food with the resources available to the business. The LP Chefs' knowledge of local farms and agricultural practices was witnessed through multiple examples, such as when the Sous Chef described with admiration the practices of a company they purchase coffee from: "Where coffee bean husks are fed to pigs, the pig waste is fed to trout, and the trout feed employees harvesting coffee." He also describes his interest in permaculture and creating nutrient feedback loops, as well as land stewardship. Organic practices have value to both the Head and Sous chef, but "Organic" certification is not required to sell produce to LP. Between the Head & Sous Chef they have visited many if not all the farms and food processors they work with. When asked what specifically they look for when visiting local producers, the Head Chef stated, "I look for professionalism, cleanliness, organization, knowledge of what they are doing. Because I've worked on a farm, I know the verbiage and I know when people are just talking or when there is actually substance in the words." This knowledge gained from visiting farms of their land, farm design and specific practices proves useful when making future purchasing decisions. For example, the Sous Chef described trying to buy produce after a rain storm and knowing one of the farmers would not be able to harvest in the likely event that his field had flooded. This knowledge saves time and effort to communicate, which is described as a limiting factor when making individual purchases directly from multiple, small scale producers. Therefore, this close relationship is useful in a practical sense, as well as being in alignment with the values of FTT.

The Sous Chef also described working with the "front-of-house" or wait staff to share knowledge regarding the source and significance of items on the menu, "giving more information than normal." Garlic scapes were given as an example of a short-seasoned and underrepresented item incorporated into menu dishes, which was discussed with wait staff so that they could describe such unusual varieties and pass this knowledge on from chefs to consumers

who dine there. The physical menu at LP lists farms that the restaurant works with, while the restaurant's webpage expands on the story of how LP works with local growers.

3.2.2 Environmental

The environmental benefits to FTT business models are numerous, and in the case of Los Poblanos, these take the form of sourcing food from ecologically responsible growers, minimizing and managing waste. By supporting growers who use ecological agricultural practices, whether certified "Organic" or not, LP indirectly supports biodiversity, soil nutrient conservation and reduced agro-chemical exposure on farmland in the local community. Los Poblanos has defined systems of managing produce as soon as it arrives at the door, and one of the main environmental benefits of this system is waste reduction. Food scraps which are not used directly in dishes are repurposed in a variety of ways: vegetable ends or meat bones are used to flavor soup stocks, fats from cooking meat are cleaned and saved to replace oil, and fruits past their prime are turned into "agua fresca" (a beverage), just to name a few examples. The Head Chef noted, "These systems live everywhere we work. It is the only way to make this happen, because everyone needs to believe in it, follow it, and take care of the food. If everyone was careless and wasteful, this system would implode on itself." The food scraps which can no longer be repurposed are separated into two compost categories: general compost (which is processed on-site at the farm), or meat and citrus fruit scraps that are picked up by a local, commercial composting company. Meat and citrus take longer to decompose in most composting systems (as well as potentially attracting scavengers), and within a few years that waste becomes available for farmers to buy as compost. The compost company works primarily with other restaurants or higher volume waste generators in the local area, and contributes to the overall nutrient cycling within Albuquerque by returning those products back into the soil.

3.2.3 Economic

When working with local growers, Chefs at LP can select specific crops to be grown and indicate at what stage and quality they want those crops to be harvested. The exchange for such specifications is a higher price point. The economic element of operating as a FTT restaurant was described as a challenge both the Head Chef and Sous Chef are eager to take on. "We pay much more to support locally, and we want to prove that this model works economically." Part of the cost associated with this business model is paying for longer labor hours required to cook

completely from scratch, rather than relying on pre-mixed, baked, or otherwise prepared foods. Buying locally cycles economic investment within the region, and LP works with local growers as well as a local distribution company and a composting company. The Head Chef noted:

“I never worry about cost, because if I’m worried about cost up front then I’m not really looking at community, the planet, sustainability, all I’m worried about is the dollar amount. The dollar amount plays into the equation, but to me you have to feed people the right way and take food the farmers are painstakingly trying to produce. And if that focus is lost then the whole thing just unravels, and we could be like every other restaurant.”

When it comes to other local restaurants, the Sous Chef stated, “There’s not a lot of places doing the stuff we are doing, the way we are doing it,” meaning that it is uncommon to find the same dedication to sustainable food sourcing. He claims that social media can be misleading in terms of FTT advertising when chefs are not working with local farms in any meaningful quantity. “You can get one ingredient from one farmer and blow it up on social media, and everything else on the plate isn’t even from this state.” This distinction makes it difficult to collaborate with other restaurants when they are not working with local farmers to the same extent. On that subject, the Head Chef stated, “Do we want more of that? Yes, because as a food business in the area here we can push other establishments to be more committed, as we are.”

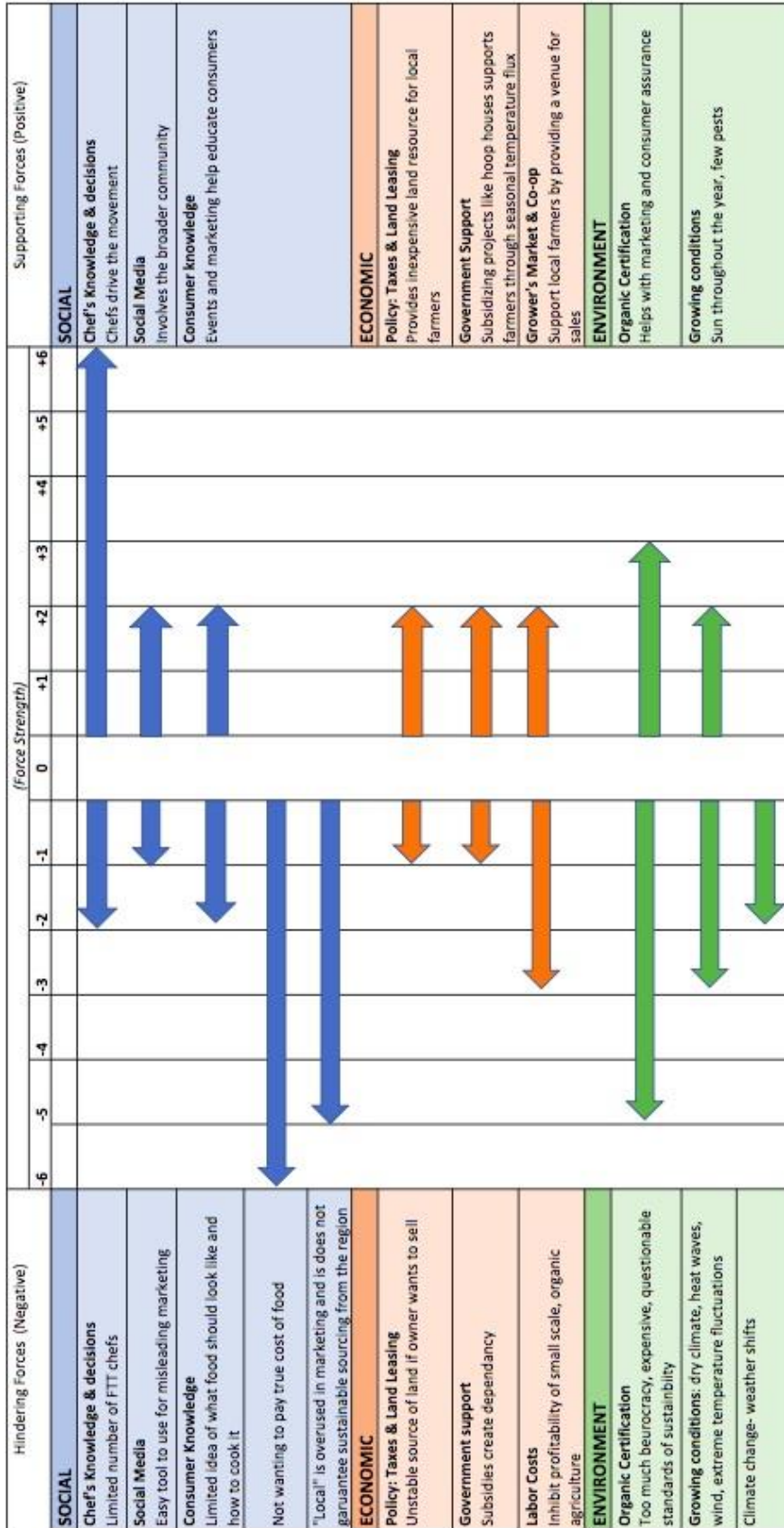
In summary, the way LP sources food takes a lot of work, coordination and dialogue to “do the right thing in an economically viable way,” which both Chefs have spent years trying to prove is possible. The Head Chef stated, “You have to trust you can make a profit. Does the bottom line get affected? Yes. Could it be a better bottom line for the business? Sure could. But that’s not the goal. The business is still profitable, it’s still supplying jobs, so the concern is still community, sustainability, learning about your environment and eating where you live.” The sustainable sourcing of food is made economically possible through management of food, which all together yields environmental and social benefits. Yet despite the successes of LP as an FTT business model, FTT as a movement faces hurdles in growth, which is further explored with an emphasis on what is happening in the Albuquerque region.

3.3 Food & Farming Community in Albuquerque

The following section broadens the scale of study beyond Los Poblanos Historic Inn & Organic Farm to include the perspectives of multiple players in the FTT movement in Albuquerque in order to address the second research question. Figure 3 is a compilation of data from interviews during which participants wrote out or described the supporting and hindering forces to the growth of FTT in relation to restaurants and food sourcing sustainability. Descriptions below expand on these findings and give context to the results under the sections: Social, Economic & Environmental.

Figure 4. Force Field Analysis- Farm-to-Table Movement in Albuquerque

Force Field Analysis: Farm to Table Movement in Albuquerque



This table is divided into 3 main categories: Social, Economic, and Environment, and under each heading is a sub-topic as well as further specification as to the perception of participants around each subject. Reading from left to right, the hindering and supporting forces are quantified by arrows marking a number of participants who agreed on each subject. For example, the first line focuses on Chef's Knowledge & decisions: 2 participants noted that there are not enough chefs in Albuquerque making decisions based on the FTT business model, while 6 participants noted that chefs are a key influence in the growth of this movement. Each section is further summarized in the text below.

3.3.1 Social

The three most significant hindering social forces noted during the interviews were consumer knowledge, preferences and false advertising. Farmers noted the difficulty of selling unfamiliar varieties of produce, or misshapen ones to consumers who did not know how to use these items or perceived them as undesirable based on physical flaws. Consumers also were largely unsure of the reasoning behind higher food prices based on production practices and proximity, and they were often unwilling to pay higher amounts if they did not fully understand the value of what they were purchasing. The liberal use of the term "local" in advertising was mentioned as a serious issue when growers or chefs would use this term without really being local, from the perspective of other farmers. One farmer noted, "It is really more of a gimmick." Social Media was pointed out as an accomplice to this issue, making it easy for chefs to take a photo of a handful of local produce and publicize it as if this image reflected the majority of their food sourcing practices when it is often not the case. Additionally, older generations of farmers who do not know how or choose not to engage in social media can be easily overlooked as this becomes an increasingly dominant communication platform.

The strongest social support noted for FTT was chef's knowledge and decision making in terms of commitment to local growers, and creative menu changes to accommodate seasonal production. The Head Chef stated, "Supporting the local community is a huge value to me." An example of this dedication was given by a farmer who one year produced many more cucumbers than she had planned on selling, but LP bought them all and preserved the excess crop in the form of pickles so they could last through the year and the farmer would not have to worry about finding another buyer.

Unfortunately, the area of Albuquerque does not have a lot of growth in new or existing chefs who want to source locally or know how to manage a FTT business. Some farmers noted that the neighboring city of Santa Fe has a higher number of restaurants who source locally despite a smaller population than Albuquerque. The term “brain drain” was applied to the phenomena of new up and coming chefs leaving Albuquerque for other cities with a stronger FTT movement and infrastructure in place.

Social media and events were both noted as key marketing strategies to include more people outside of the farming community and engage them in their food system. These also create opportunities to educate and share knowledge. One farm offers cooking demonstrations to showcase produce and inspire home cooks, as well as broaden their eating preferences.

3.3.2 Economic

The Downtown Growers’ Market and local co-op in Albuquerque were listed as other beneficial avenues of sales, where at the Growers’ Market farmers could make a better profit than selling to restaurants, and the co-op purchases large volumes and takes care of the selling side of the farm business. In Bernalillo county (where a few farms were located) there is a tax incentive for land owners who lease their land for agricultural purposes, which is how two of the farmers have acquired land to work on. One farmer says he is often approached by land owners who offer land at a very low cost, which he notes makes it easy for young farmers to start off here. Government support also comes in the form of grants for equipment like hoop houses, which are similar to greenhouses in that they provide an insulated growing area. At the beginning of the growing season, farmers can start their seedlings in a hoop house, which protects the plants from nightly frost or intense sun before they are strong enough to handle being in the ground. Three farmers interviewed for this study report using government sponsored greenhouses, which extended their growing season during periods of extreme temperature fluctuation.

Contrarily, one farmer thought that government support for things like hoop houses creates an unstable dependency where farmers build their business expecting this aid, and if subsidies did not return the following year, the business could fail. In regards to land leasing, there is the instability of owners deciding to sell the land or change the usage at any point, making it difficult to plan for the long term in terms of soil fertility and investing in stewarding the land over a long period of time.

Labor costs were considered the biggest economic inhibitor for farmers, particularly due to their practices of organic farming (whether certified or not). Some of the farms worked with volunteers or interns, but this also requires a certain amount of training and therefore more time and energy for what is often temporary and intermittent help.

3.3.3 Environment

While some farmers noted the benefits of a long and sunny growing season, others noted that the extreme temperature fluctuations between seasons and annual May-June heat wave made it difficult for plants to adjust and survive into the following season. Also, the dry climate limits the farmers if there is competition from other water users such as residential or housing developments. One farmer from this study claimed that his produce was superior in quality and taste to other local growers due to his liberal use of water, which in such a dry region begs the question of whether or not it is in the best interest of the local ecosystem, including human communities & economies, to use resources in this way versus growing heavily water dependent crops in a more suitable climate.

The methods of irrigation in New Mexico are particularly interesting as many farmers still use a historic system called “Acequia” which transports water from the river through canals. From this source, farmers can set up drip irrigation or use a flooding method. Many farmers in this study use a combination of the two, yet one observed, “It may be too easy to just turn a switch and have water,” referring to a drip irrigation system which is often perceived as the most resource conserving method of irrigation, but human habits of seeking convenience, and potential forgetfulness, could make this method less water conscious.

Another farmer noted, “For me when I think about my future farming, the only thing I hear meteorologist saying is, ‘The Southwest is only going to get dryer.’ So it is hard to imagine a future farming here, but right now I look around and it seems great.” He continued, “Farmers think very much in terms of next month, or tomorrow. I think for me we have wells and the water table is pretty high, and supposedly the aquifer is not depleted, though I find that hard to believe.” Two other farmers noted losing crops within the last season due to stronger summer heat waves, which they attribute to a changing climate. Another farmer commented, “farming in the desert is great as long as you have a well,” suggesting water availability as potential hindrance to new and future farmers. From these interviews, there did not seem to be any water

conservation effort or planning in place as current water availability is supposedly stable. With an uncertain future water availability, this region may be vulnerable to reduced water access.

Out of 8 farmers interviewed, all were organic but only 3 had certification from the United States Department of Agriculture (USDA). Certification was mainly used for marketing purposes and to communicate to consumers the standards of production in a way the average person could understand. Most farmers did not see certification as a worthy use of time, money or effort, instead relying on personal relationships, communication, knowledge and curiosity of chefs and consumers to validate the worth of their product. Additionally, the local co-op interviewed for this study has their own auditing process which does not require organic certification but does have a set standard all producers must meet in order to do business with the co-op distribution. Consumers who buy their products can trust that each supplier has met this standard of agricultural practices, which is publicly available on the co-op website.

3.4 Logistics of Food Sourcing

In an interview with a representative from the local co-op distribution company, he described the role of distributors in local food systems as “often overlooked.” This company works within the “local” area which they define as roughly within a 300-mile radius from the Rio Grande Valley. This is one of the most water rich areas in the state, and consequently produce grown close to the river is often transported outwards. This company audits all producers they work with, not requiring them to be certified “Organic” but to meet their own standards of good farming practices. As previously noted, this distributor is the primary food supplier of Los Poblanos, and helps fill in the gaps of food which cannot be sourced locally at certain times of the year or at all. This aggregation also saves time and coordination, which is already in high demand for operating FTT restaurants such as Los Poblanos. While many of the farmers included in this case study do list the local Grower’s Market to being a beneficial venue to sell produce, others noted the convenience of working with the local co-op distributor.

3.5 Value Chain Perspective

The concept of “Value-Chains” was brought up by multiple participants during interviews, which is another way of seeing supply and demand chains, but with a stronger focus on adding “value” to all increments of this system. A representative from a local non-profit explained that “value” can be but is not limited to an economic measurement, and could also

mean developing a relationship between farmers and purchasers, or stewarding the land versus exploiting the resources available. A representative from the local co-op adds to this, stating, “If anyone along that chain is being cut short [by value, not necessarily profit], the chain is broken and the process doesn’t work. There is more than just buying and selling, there’s peoples livelihoods at stake.” The value chain perspective is especially relevant in this study due to the interdisciplinary application of social, economic and environmental interests, which can be seen throughout the FTT system. When talking about the customers who eat at LP, the Head Chef explained:

“In this industry you’re feeding people, so it is important to take care in what you do. Because you are extending outwards to people you don’t even know, and you’re affecting them. You can make them sick, you can make them happy, or remind them of something from the past. It is an industry with a lot of karma, and that karma presents itself very quickly.”

In this description, food is a vehicle for care passed from farms to the dining table, and restaurants play an integral link to pass consumer support back to the farmers.

3.6 Future of the Local Food System

A key value of FTT and LF movements is that they encourage a shift in the dominant forms of agriculture and food consumption in the USA today. Unsustainable practices can lead to soil erosion, biodiversity reduction, water pollution and other negative consequences (Day & Hall 2016). Additionally, the reliance on fossil fuels used in many agricultural inputs such as pesticides and fertilizers is unsustainable, while organic agriculture eliminates synthetic chemical inputs, decreases soil erosion, conserves fresh water quality and improves soil organic matter content and biodiversity (Day & Hall 2016).

According to Day & Hall (2016) 14% of Americans are considered “food insecure,” and some wonder whether a local area can support cities. Day & Hall (2016) found that local areas can sometimes supply enough food resources for small and midsized cities, but it depends on diet. Low to no meat diets require 30-40% less land than the average American diet (Day & Hall 2016). There is also a question over whether local food is overly valorized, and some argue it is better to grow crops where they are best suited without input and less energy and then transport it (Day & Hall 2016).

3.7 New Generation of Farmers & Chefs

One point of conflict within the growth of FTT is the imbalance between new farmers and restaurants to buy from them. The head farmer at LP described the influx of new farmers who often share the values of sustainability and local sourcing, but problems occur when the number of producers outgrow the number of restaurants willing to buy from them. This farmer stated, “The number of producers is growing faster than the number of restaurants who are buying. So every time there is a new farmer who is trying to sell their produce to a restaurant or the co-op, that’s just cutting the sales from existing farmers who are already selling there. There is growth in both areas, one is just a lot faster than the other.” Albuquerque is a relatively accessible area to begin farming, as one farmer notes “people often approach me to farm their land” referring to the land leasing tax incentive. The Head Chef described the influx of new farmers as a supporting force in the FTT movement, stating, “Most people don’t want to do this type of work. But all the young farmers are the ones helping bring this to the forefront, making people be conscious about what you eat, be aware of who is producing your food.”

On the subject of chefs, one farmer noted, “We have great chefs. The ones we work with are awesome. We could use like 20-30 more.” A few other participants describe the absence or departure of chefs who wish to source locally and sustainably, nicknaming this phenomenon “brain-drain” where those individuals who share this perspective are likely to leave to places like the West Coast where they are part of the majority, not the minority, and infrastructure in social & economic terms is readily available to support more sustainable food systems. So the question then becomes, how to market food to local restaurants and create more business relationships in the area?

3.8 Growth of Farm-to-Table Economy

Three farmers noted sending samples of their products to chefs, but this was often to either remind existing customers to keep ordering from them or to promote a new crop they just started growing. One farmer interviewed for this study also works in marketing, and noted that she has seen a dramatic increase in FTT marketing within the last 5 years. Another farmer stated that marketing and customer service are essential to being a farmer in modern times, and examples of this include using social media to educate and entice consumers, as well as promote fresh harvests, or having a credit card machine set up at the Grower’s Market so that buyers can make large purchases without using cash.

At the end of the day, the main inhibitor to the growth of local and sustainable buying is economics. One farmer stated, “Economics must change to be truly ecological, and consumers have to learn why they pay more for this kind of food.” Chefs were described in several interviews as the instigators and leaders of the FTT movement, and they find economic value as well in the produce that adds social and environmental value, “Chefs realize that flavor and quality affects the bottom line of their economy.” Yet if only some chefs think this way and act on it based on purchasing decisions, what will influence the minds other chefs? “Consumer demand is driving this movement. How much do they want it? I don’t know. And how much are they willing to pay for it? That’s a whole other issue, but this is what is going to drive the FTT movement,” noted another farmer who sees consumers as equally influential in the progress of FTT.

As suggested by a member of a local non-profit organization that works within the Farm-to-Table movement, local governments could further support this effort through purchasing subsidies. Many farmers noted receiving assistance in a variety of ways, whether it be less expensive land through tax incentives or grants to fund projects like hoop houses. Yet working closer on the side of consumers could also help generate growth in the Farm-to-Table movement, both in restaurants and other food industries.

3.9 Authenticity of “Farm-to-Table” and “Local”

The misleading use of phrases like “Farm-to-Table” and “Local” are not new to current literature discussions (Long 2010, Mikkola 2012, Sims 2009). Local food is often thought of as environmental, supportive of local economy and people, but sometimes this is merely a marketing tool not based on purchasing actions (Mikkola 2012). Authors Sims (2009) and Long (2010) both suggest story telling as a way to provide transparency around geographical and cultural claims related to food.

Restaurants can better market local food by telling a story of food production, processing, marketing and consumption, and supplement the story with infographics to better reach consumers (Mikkola 2012). While “telling a story” may be too lengthy to include on all menu’s, Inwood et al. (2008) suggests having a rotating “Specials” menu where local is expected to change frequently, thereby also drawing attention to the uniqueness of the local products used. Transparency and knowledge sharing can relate products to a place and culture, and help

consumers consciously support sustainable economies, cultures and environments they visit (Mikkola 2012; Sims 2009).

Information about where and how LP sources its food is readily available on the company website, menu and in conversation with staff members. Menus change seasonally and the concept of “specials” is already in practice. Another of telling a story to reflect the agriculture and terroir is seen in the new cocktail menu that will feature flavors from LP’s own farm, connecting the taste to a physical place. Yet it is unclear how discerning consumers are when they see this information versus some of the less authentic advertising. Is it enough to list names of farms, or does there need to be more transparency around the quantities, frequencies and validation by the farming community themselves to distinguish food sourcing practices among restaurants? Reflecting on one farmer’s suggestion to have a grower or community based standard which requires restaurants to reach a certain volume of locally produced goods to be considered “Farm-to-Table,” could be a solution to clarifying and defining these terms. Yet as seen with Organic certification, these definitions and subsequent auditing of some form could place economic and bureaucratic stress on the community members this effort is trying to support. This is an area which would benefit from further research, to determine what information is most useful to consumers who want to discern between restaurants based on sustainable food purchasing practices, and how to best share that information.

3.10 Suggestions for the Future of Farm-to-Table Movement in Albuquerque

The final research question focused on the future of local food and farming systems in Albuquerque, and participants had many suggestions as to how to better support FTT business models at various points in the supply chain. A few of these suggestions are highlighted below:

Figure 5. Participant Brainstorm

Social

A farmer suggested a grower based verification rating for “FTT Restaurants” to ensure that those who claim to source locally are purchasing at least 20% of their food from the region. This would preserve the authenticity of “FTT” and “Local” as used in marketing.

Economic

A representative from a local non-profit suggested local policy incentives for restaurants to buy local, allowing local government to help support this movement.

Environmental

A local fruit grower suggested a technical solution to pest issues and to reduce spraying in a collective way. Farmers could enroll in a voluntary reporting system to flag pest outbreaks and send alerts to nearby growers. They can then spray minimally, in a coordinated way to get the most impact with less chemical usage overall.

Other suggestions included shared farm equipment exchanges to minimize cost and resource use, as well as an increase in education based events to foster knowledge sharing between producers and consumers. These suggestions overlap in the fields of social, economic and environmental disciplines, indicating the complex nature of food and farming systems.

3.11 Limitations

The personal limitations of the researcher are primarily unfamiliarity with the region being studied, and approaching this thesis from an outsider’s perspective. It took a lot of time to learn about the climate, culture and geography of this area. Luckily, the method of using a snow-ball sample system helped in finding local growers who would have otherwise been difficult to locate or contact without a reference. Yet it should be noted that there were a few primary food growers who could not be interviewed after multiple attempts to contact these individuals. This

difficulty was most often due to the time of year in the growing season when these interviews were being conducted, and farmers were often very busy.

In some ways, it was beneficial to keep participants listed anonymously, because it could have made them more comfortable to speak openly and honestly about some of the struggles they face in their industry. However, for readers in the Albuquerque community it could have been more relatable and impactful to learn about different actors in the food and farming community, and even for interview participants to see how their peers responded to the questions.

Interning at the farm and restaurant for 6 months provided an excellent learning experience and basis for this study, which could not have been fully realized during a singular interview or even spending a few days observing the business. Participating in the daily operations of both the farm and restaurant shed light on the detailed description of sustainable food practices that are largely absent from more general, larger scale literature.

The researcher's educational background is in Agroecology and Environmental Science & Policy, indicating support for sustainable agricultural practices as opposed to conventional ones. While every effort was made to present an unbiased and well-rounded argument throughout the report, valorization of the FTT & LF movements may be present.

The subjects covered in this report could have also included a strength and weakness assessment of LP in relation to their FTT practices, where employees at all levels self-assessed the business to identify areas that could be improved. This data could have provided a useful tool for LP, and possibly for other restaurants or businesses to use as comparative examples. Instead, the a related angle of looking at supporting and hindering forces to the FTT movement was analyzed in Albuquerque and brought up in each interview, ending the study on a more broad focus than how it began. Yet hopefully the focus and findings of this study will inspire LP and other FTT restaurants to keep striving for sustainable practices and see this concept as a constantly evolving goal rather than a static end.

4. Conclusion

The goal of this study was to observe and explore LP as a farm-to-table restaurant, and a potential model for sustainable food systems. This is not to say that the LP model is one that

could or should work everywhere, but rather it is a rare example of a dedicated philosophy to social, economic and environmental sustainability which has not been explored in depth in current literature on the subject. The perspectives gathered from studying Los Poblanos and other actors in the local food system altogether paints a complex and rich image of what is happening within the FTT movement in Albuquerque, NM. This study finds that while sustainable food purchasing may be the primary indicator for restaurant sustainability, restaurants are better able to sustain their economic ability to make these purchases based on food management practices such as reducing and repurposing waste. The role of chef's and consumers is important to the growth of this movement, where both play integral parts in the supply and demand cycle, along with local growers, to educate, authenticate and value local food systems. A key factor in food sourcing is the level of interest and knowledge of chefs, as they are the primary purchasers of food. Farmers who source to LP stated, "Los Poblanos is very committed to local, not everyone is," and "You need a particular kind of chef to make FTT successful economically, like paying farmers enough and then managing the produce." One farmer noted, "I've seen Farm-to-Table restaurants close in Albuquerque. It's difficult to manage costs, especially when you're not paying Sysco [national distribution company] prices you need to manage your waste." The way food is managed after it is delivered is equally important to food purchasing decisions when understanding the system of food cycling through a restaurant, and how it can be done within a sustainable business model.

In Albuquerque, the FTT movement could best be supported by collaboration between farmers, local governments, consumers and also by increasing the number of chefs who work with local produce in meaningful volumes. This interest from chefs and consumers could be catalyzed by marketing and education efforts, as well as clear demand for truly local food sourcing.

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Appendix 1: Food & Farming Systems in New Mexico

According to the United States Department of Agriculture's (USDA) latest census data (2012), most farms are between 1-8 acres, while the second largest majority of large farms are +1,000 acres. Livestock and pasture to feed the animals greatly dominates the agricultural land use, as in 2012 livestock sales accounted for 76% of market value products sold, while 87.9% of farmland was dedicated to pastures (USDA 2012). As of 2015, dairy sales accounted for the largest market in the state, followed by cattle and calves. For crops, pecans are the predominant crop in terms of sales, followed by onions, chilies, hay, poultry & eggs, cotton, corn for grain, and wheat as other top commodity crops. Dry weather is an inhibitor to dairy and livestock production, and nearly 1/3 of the animal feed by tonnage is corn. Interestingly, purchasing animal feed is listed as the greatest product expense, followed by purchasing the animals themselves, which costs more than manufactured inputs and hired labor combined. (NMDA 2015)

The farmers themselves are predominantly white and male, followed by individuals of Spanish, Hispanic or Latino origin, and then American Indian. Roughly half of farmers report this occupation as their full-time career, whilst the remaining half have other primary occupations. (USDA 2012)

The homepage of the New Mexico Department of Agriculture hints at some of the important topics or values they support. "Taste the Tradition" and "Grow the Tradition" slogans signify the encouragement of local and culturally relevant food production and consumption. Additionally, the Organic Program is listed on the home page with information regarding who can be accredited through this program. (NMDA 2012)

Appendix 2: Marketing & Logistics Review

In a study examining the potential of increasing the presence of local food through conventional distribution channels in Pennsylvania, researchers found that integration is very difficult (Bloom & Hinrichs 2011), which could be why producers and consumers often seek out alternative channels such as farmer's markets, farm stands, CSA's and other means of direct or short circuit marketing (Feagan 2008; Gilman 1999). In urban areas, researchers found high demand for local products through distributors, but producers preferred to sell through farmer's

markets or other direct avenues where they could earn more money, and also avoid exclusive selling contracts which many distribution companies require (Bloom & Hinrichs 2011). Conversely, in rural areas there was less demand for local food sourced through distributors because consumers were more likely to look for these products at a farm stand (Bloom & Hinrichs 2011). Producers noted frustration with distributors who may not handle or store their products to preserve their quality (Bloom & Hinrichs 2011). Once produce leaves the farm, factors like temperature control can adversely affect food safety if not monitored closely (Scheule & Sneed 2001). Due to the difficulty of integrating local food into conventional food systems, producer cooperatives for processing and distribution could be a way to balance the logistics and desires of both producers and restaurants (Bloom & Hinrichs 2011). Inwood et al. (2008) also suggested local distributors as opposed to only working with direct marketing, as this can be logistically challenging and undesirable for many chefs. Local distributors are more desirable than national ones, as the larger the company and producer base is, the more likely the food sourced will seem “generic” (Inwood et al. 2008). Some chefs like having direct relationships with farmers, and discussing the potential harvest seasons and menu planning, so it is important to note that there is not a single solution for every restaurant wishing to source local products (Inwood et al. 2008). Inwood et al. (2008) suggests that further research be done in terms of what barriers and opportunities farmers see in improving sourcing options to local businesses, as well as examining the restaurant or chef’s perspective on making local sales more feasible. Cowee & Curtis 2009 suggest that farmers market their products in the form of samples, providing a seasonal schedule and estimated volume and prices, as well as advertising practices such as being organic or hormone free to further supply local foods in local restaurant systems.

Appendix 3: Methods Review

The patterns which develop during coding are analyzed in relation to current literature on relevant topics (DeCuir-Gunby et al. 2011). Data driven codes are developed by identifying themes from all interviews, compares them, creating code words or phrases in the form of a code book, then linking coded material together and checking for reliability (DeCuir-Gunby et al.

2011). Comparatively, theory driven codes are developed before reading the transcription, but this method could influence or direct the study too strictly for the purposes of this thesis. Authors DeCuir-Gunby et al. (2011) and Weston et al. (2001) agree that coding is part of the data analysis, and encourage researchers to describe the background and potential influences of the coders such as academic backgrounds to provide transparency around how they may influence the research. This thought links back to the Agroecology perspective of including human influence within the methods and also study of the subject itself. Another parallel between the methods section and methodology frameworks is that coding prioritizes the most relevant text and findings, and allows the researcher to zoom in and out to see both the small and bigger picture (Weston et al. 2001), which is similar to systems and holonic thinking.

Appendix 4: Interview Questions

Restaurant interview questions:

1. Describe the values and priorities of your restaurant related to food sourcing, and how these are incorporated into your daily operations?
2. In what ways does the menu reflect these values?
3. How is the sourcing of local food explained or demonstrated to consumers? Does LP engage public consumers, workers, colleagues, etc.?
4. Are there aspects of the agricultural practices you have an agreement with farmers on?
5. What is the relationship between LP and other local producers and restaurants? To what degree is there collaboration or a community movement towards supporting sustainable dining?
6. What are some economic benefits and inhibitors to sourcing locally, organically, or to support other related values?
7. Looking at the FTT movement as a whole, describe the supporting and restraining forces in the FTT dining food system.

Current state -----> Optimum state

Supporting Forces

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Hindering Forces

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Farm Interview Questions:

1. Describe the values and priorities of your farm related to growing food, and how these are incorporated into your daily operations?
2. Are there production practices which restaurant buyers agree upon with you, or that are an important factor when marketing your produce to local restaurants?
3. Current research indicates that FTT restaurants purchase between 10-20% locally at the most. How can local food be better marketed to restaurants?
4. How would you describe New Mexican cuisine and food culture? Also, location specific farming practices?
5. Looking at the FTT movement as a whole, describe the supporting and restraining forces in the FTT dining food system.

Current state -----> Optimum state

Supporting Forces

Hindering Forces

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Local Distributor Questions:

1. How does this business differ from standard, national distribution companies?
2. What kinds of trends do you notice in terms of what farmers supply and what restaurants request in relation to agricultural practices (i.e. chemical inputs, certifications of standards)?
3. Looking at the FTT movement as a whole, describe the supporting and restraining forces in the FTT dining food system.

Current state -----> Optimum state

Supporting Forces

Hindering Forces

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Compost Disposal Interview Questions

1. Describe your role in the local food system in relation to Los Poblanos Restaurant?
2. How can waste management in restaurants affect the community in terms of environmental, economic and social well being?
3. What do you see as supporting and hindering forces in improving sustainable waste management in the restaurant industry?

Current state -----> Optimum state

Supporting Forces

Hindering Forces

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Non-profit or Government Organization Questions:

1. What kinds of programs or initiatives support FTT dining (on grower or consumer end)?
2. Looking at the FTT movement as a whole, describe the supporting and restraining forces in the FTT dining food system.

Current state -----> Optimum state

Supporting Forces

Hindering Forces

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