

“GETTING YOUR BOOTS DIRTY”: OPPORTUNITIES FOR FARM TO SCHOOL
IN THE SOUTHERN SAN JOAQUIN VALLEY OF CALIFORNIA

By

Ross J. Eskridge

A Thesis Presented to

The Faculty of Humboldt State University

In Partial Fulfillment of the Requirements for the Degree

Master of Arts in Social Science: Environment and Community

Committee Membership

Dr. Noah Zerbe, Committee Chair

Dr. Yvonne Everett, Committee Member

Dr. Jayne McGuire, Committee Member

Dr. Yvonne Everett, Program Graduate Coordinator

December 2017

ABSTRACT

“GETTING YOUR BOOTS DIRTY”: OPPORTUNITIES FOR FARM TO SCHOOL IN THE SOUTHERN SAN JOAQUIN VALLEY OF CALIFORNIA

Ross J. Eskridge

In the past twenty to thirty years, critics-both public and private-have scrutinized the national network of public school nutrition programs and the food they serve in cafeterias. Negative claims particularly voice concerns about the quality of foods available to students. School food items have been characterized as highly processed, lacking in nutritional value, and unappetizing in taste and appearance. Furthermore, industrialized, non-locally sourced public school food has been blamed for contributing to high rates of childhood obesity and associated health risks. In response to these claims, federal, state and local governments have pushed for changes in public school nutrition programs. A growing number of nutrition programs in California have steered an alternative course by implementing programs designed to improve the nutritional value, education, and sensual perceptions of foods by sourcing foods from local or regional farms/distributors. One of these programs is Farm to School. This research seeks to understand the practices and perceptions of Farm to School stakeholders in the agriculturally rich Southern San Joaquin Valley. This research examines programs in Tulare, Kern and Fresno Counties as case studies. Qualitative data was collected primarily through semi-structured interviews with various stakeholders such as nutrition

service directors and staff, and program support staff from public health agencies. The results of this research begin with an overview of stakeholder motivations for Farm to School programming and continues with an analysis of the procurement models and the infrastructure capacity of the region. Particular attention is given to the degree to which traditional and alternative procurement networks and infrastructure capacity facilitate Farm to School efforts. The research will inform regional public nutrition personnel and offer models to follow in order to revamp their existing programs. Likewise, the research will contribute to the nation-wide Farm to School movement that seeks to connect primary and secondary public school children to local agricultural producers.

Keywords: public school nutrition, non-conventional nutrition programs, Farm to School, case studies, procurement, infrastructure, capacity, nutrition, student health, childhood obesity, local/regional food

ACKNOWLEDGEMENTS

I want to first thank my wife Jennifer Eskridge who has stuck by my side and encouraged me during the high and low points of this journey. Without her love, support, and unwavering dedication to our shared dreams I could not have realized this thesis. I would then like to thank all of my family and friends who have supported me in this endeavor. Next, I want to dedicate this work to my two children Jade and Sawyer who were born during this journey. My prayer and hope is that you grow up in a world, and are educated in schools that value not only you as individuals but cultivate passion and connections for the communities and environments that you surround you!

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vi
LIST OF APPENDICES.....	vii
INTRODUCTION.....	1
METHODS.....	6
LITERATURE REVIEW.....	12
RESULTS AND DISCUSSION.....	29
Motivations for Farm to School Programming.....	30
Procurement within the Traditional Paradigm.....	38
Procurement within the Alternative Paradigm.....	44
Capacity within the Traditional Paradigm.....	46
Capacity within the Alternative Paradigm.....	50
CONCLUSION.....	54
REFERENCES.....	60

LIST OF TABLES

Table 1-Top Ten Agricultural Counties with Total Value and Rank	4
---	---

LIST OF APPENDICES

Appendix A-Interview Schedule.....	65
Appendix B-USDA My Plate Graphic	68
Appendix C-Research Participant Information.....	69

INTRODUCTION

Farm to School programs arose from two growing interests in our society. The first was the growing problem and awareness of childhood diet-related illnesses such as obesity and diabetes. Health problems during childhood are important to address “because of the rapid increases in incidence and the extent to which childhood obesity serves to predict adult obesity and eventual adulthood obesity-related health problems” (Bagdonis et al., 2009: 107). Secondly, programs arose from an increasing focus on the “industrialized agriculture of the modern food system and the social distancing this creates between food production and consumption” (Bagdonis et al., 2009: 108). As modern agriculture has become increasingly industrialized in recent history there has been a corresponding gap and subsequent disconnect between the spaces of food production and consumers.

Farm to School efforts began in Southern California during the mid-nineties and since then have expanded across the states. According to the National Farm to School Network website in 2015 there were 411 schools involved, 20 districts and about 72 Farm to School programs in California. Farm to School efforts in California represent an “investment in the health of...students by working to make young people more aware of issues relating to food, agriculture, and nutrition—and of the importance of having access to healthy food” (Joshi and Berry, 2007: 9).

Widespread adoption of these models could have numerous social, economic, and environmental benefits. Some of these benefits might include the “building [of]

relationship[s] between schools and nearby farms in order to help children understand where their food comes from; ... [and] creat[ing] stable markets for local and regional farmers” (Poppendieck, 2010: 14). Farm to School programs “provid[e] a model for positively influencing children’s eating habits through school cafeteria improvements, hands-on nutrition education and community involvement and support” (Joshi and Berry, 2007: 1) Furthermore, “direct marketing to schools, rather than to the many layers of brokers and agents, wholesalers, and processors that normally intervene between a grower and the end consumer, can allow farms to earn a sufficient profit” (Poppendieck, 2010: 14). Farm to School programs offer a wide variety of benefits that can improve the health of school aged children while providing alternative markets for farmers. Yet, as a fledgling movement Farm to School programs face a host of challenges and barriers that influence the extent to which they are successful.

Farm to School programs in California and the Central Valley in particular offer one path to re-regionalizing and reinvigorating California’s vast and diverse agricultural economy (Joshi and Berry, 2007: 12). However, Farm to School efforts are not a panacea to restoring regional food consumption. Allen and Guthman have argued that Farm to School programs are oftentimes relatively minimal in contributing to the incomes of small and medium-sized farmers. The authors cite a study conducted in 2002 that reported that Farm to School procurement from local farms accounts for only one to ten percent of smaller farmers’ incomes (2006: 407). Despite this figure, Farm to School

efforts still contribute, however minimally, to small-scale farmers' incomes. Perhaps with program expansion these percentages could increase.

This thesis focuses on Farm to School programs in the Southern San Joaquin Valley of California. In particular, the research focused on Tulare, Fresno and Kern counties. The Southern San Joaquin Valley is a region that contains a vast semi-arid landscape of rich and fertile soils that drive the primary economic enterprise- agriculture (see table below). Despite the widespread production of food, a minimal amount of what is produced is consumed locally. Moreover, schools are just one of what one would expect to be the viable consumers of locally/regionally grown foods. However there are barriers and challenges that discourage the connection between the farms and schools. This thesis seeks to illuminate the reasons why political and economic barriers exist and the ways that the various challenges can be mitigated in an effort to expand Farm to School in the Southern San Joaquin Valley.

Table 1-Top Ten Agricultural Counties with Total Value and Rank

County	2014		2015		Leading Commodities
	\$1000		\$1000		
Tulare	8,084,478	1	6,980,772	1	Milk, Cattle & Calves, Oranges, Grapes (Table)
Kern	7,552,160	2	6,878,664	2	Almonds, Grapes (Table), Milk Tangerines
Fresno	7,066,750	3	6,605,943	3	Almonds, Poultry, Grapes (Raisin), Milk
Monterey	4,493,427	4	4,841,519	4	Strawberries, Lettuce, Broccoli, Cauliflower
Stanislaus	4,397,286	6	3,879,333	5	Almonds, Milk, Chickens, Walnuts
Merced	4,429,987	5	3,589,900	6	Milk, Almonds, Chickens, Cattle & Calves
San Joaquin	3,234,705	7	2,732,900	7	Almonds, Milk, Grapes (Wine), Walnuts
Ventura	2,137,032	10	2,198,555	8	Strawberries, Lemons, Raspberries, Celery
Kings	2,471,746	8	2,021,052	9	Milk, Cattle & Calves, Almonds, Cotton (Pima)
Madera	2,265,641	9	2,016,726	10	Almonds, Milk, Pistachios, Grapes (Wine)

Source: <https://www.cdfa.ca.gov/statistics/PDFs/2016Report.pdf>

I begin by discussing the qualitative methods that were used during the course of the data gathering process, and the epistemological perspectives and theoretical techniques incorporated during data analysis. I then review the pertinent literature on Farm to School with a particular emphasis on the works that discuss the foundational research question concerning political and economic factors. The subsequent chapter

provides a discussion of the data collected during the thesis endeavor. The results and discussion focus on the strong correlation between Farm to School success and the procurement and capacity realities within which the programs are situated. I conclude by examining suggestions and implications for further research and praxis to expand and strengthen Farm to School programs in general and those in the Southern San Joaquin Valley in particular.

METHODS

Research on Farm to School programs can be conducted using both quantitative and qualitative research methods. This project utilizes qualitative methods in order to gain a deeper and nuanced perspective of Farm to School in the San Joaquin Valley. Qualitative methods allow the researcher and research participants to provide ground-level details and insights into Farm to School programs. Qualitative inquiries create opportunities to explore the perceptions and practices of people involved in the expansion of Farm to School programs in the Southern San Joaquin Valley. Due to the fact that Farm to School programs vary greatly across the nation and there is no one-size-fits all model, the particular details illuminated through qualitative methods allow for a working understanding of how Farm to School programs operate in particular locales.

Standpoint epistemology, which situates the production of knowledge within the social experiences, provides a route to grasp the perspectives' of Farm to School stakeholders. Likewise, this study also incorporates a grounded theory method which is a reflexive and inductive process used aimed at the construction of a theoretical model of Farm to School programs in the case study region. This approach illuminates the challenges and barriers of Farm to School programming in the Southern San Joaquin Valley.

Standpoint epistemology provides an avenue to conduct research at the ground-level from the perspectives of those working to create and expand Farm to School programs. As Hesse-Biber and Leavy (2004: 17) describe, "standpoint is not only

located within specific individuals but also within communities as well as in 'how things are put together.'" They continue to further argue that "a multidimensional standpoint provides useful information on how communities are structured politically and how their members promote or inhibit political activism" (2004: 17). Farm to School practitioners operate within a political-economic paradigm facilitated by Big-Agriculture as well as Federal and State program rules and regulations. Standpoint epistemology allows researchers to better understand how stakeholders navigate these realities.

This research explores Farm to School activities at the ground level based on the perspectives of food service directors, farmers, and community partners. According to Gegeo and Watson-Gegeo (2001: 79), standpoint epistemology allows for an exploration of "socially situated knowledge that addresses local problems." Standpoint is also appropriate for this research because of the personal connection that I have with the case study region. I grew up in and live in the southern San Joaquin Valley, where I have long been involved in the local agricultural community through activities such as the growing of crops and livestock raising. From 4th grade through high school I was active in 4-H and FFA, which ultimately culminated in receiving my American Farmer FFA Degree in 2004. Furthermore, because my mother has been a food service director for more than twenty years I have been involved in the topic of nutrition services for nearly two-thirds of my life; I have also worked in numerous positions within school food service prior to and during the course of the research project. My life experiences not only led me to

address Farm to School as a research topic but they also allow for a reflexive dialogue between myself and the participants of the study.

As mentioned above, case studies are the primary methodology used in this study. As Creswell points out in Qualitative Inquiry and Research Design (2007: 73), “case study research is a qualitative approach in which the investigator explores a bounded system (a *case*) or multiple bounded systems (cases) over time, through detailed, in-depth collection involving *multiple sources of information*,...and reports a case description and case-based themes” [emphasis in original]. In this study, the issue is Farm-to-School, and the cases are of two counties that are bound within the San Joaquin Valley. This study on Farm to School represents a collective case study which, according to Berg (2009: 326), involves “extensive study of several instrumental cases, intended to allow better understanding, insight, or perhaps improved ability to theorize about a broader context.” Case studies are useful when looking at the issue of Farm to School in the southern San Joaquin Valley because, although this region is geographically large, all of the seven counties making up the Valley possess similar political, economic, and social realities. Therefore, case studies provide a detailed or what Geertz (2007) calls a “thick description” of Farm to School activities in the Valley that may be transferable throughout the region in order to expand and establish alternative food systems such as Farm to School.

I have also incorporated grounded theory in order to enhance the data gathered within the case studies. As Berg argues in Qualitative Research Methods for the Social

Sciences (2009: 320), “theory can be uncovered and informed as a consequence of the data collection and interpretations of this data made throughout the development of the case study--hence, a grounded theory case study.” According to Charmaz (2005: 507), grounded theory methodology offers “a set of flexible analytic guidelines that enable researchers to focus their data collection and to build inductive middle-range theories through successive levels of data analysis and conceptual development.” This aspect is important when investigating Farm to School programs in general and particularly within the San Joaquin Valley, because the Farm to School movement and analytic research on the topic are relatively new in the realm of school food. As noted above, the descriptive nature of Farm-to-School literature creates a need for additional research that contains in-depth theoretical analysis regarding challenges and barriers.

I designed an interview schedule that included both open and close-ended questions (see Appendix A) that explored various aspects of Farm-to-School activities in the San Joaquin Valley. Questions progressed from questions that explored general aspects regarding the particular program in which the research participants are involved, to questions that focused narrowly on challenges and barriers identified in the literature. The schedule was designed to elicit conversation from food service directors, farmers, and community partners, and therefore contained questions that may or may not have applied to the particular participant based on categorical position. In this instance non-applicable questions were skipped. The semi-structured, yet focused, nature of the schedule allowed for the flexibility to throw out irrelevant questions, and probe for more

information on a certain topic. I conducted eleven interviews during the data collection process. Of the eleven three were not utilized within this thesis. Interview data from participant 2 was omitted from thesis they did not operate within the Southern San Joaquin Valley. Data from 5, and 9 were omitted from the thesis because the interviews were short and did not yield sufficient data for comprehensive analysis. (See Appendix C for more details about research participants). The eight interviews resulted in saturation point in which interviewees discussed similar challenges and obstacles associated with regional Farm to School programs.

Initial efforts to locate participants began with a search on the National Farm-to-School Website of participating programs located in the San Joaquin Valley, however this inquiry provided few results. I attended a 2011 California Department of Education workshop titled “Fresh Fruits and Vegetables: A Centerpiece for a Healthy School Environment” located in the Valley, where I was introduced to a community partner working on Farm to School. This community partner put me in contact with others working on the project, which led to a number of participants via a snowball method.

I followed the grounded theory method of analysis and interpretation. I began with 'initial coding' process in which the contents of each transcript were quickly read through, and analyzed word-by-word and line-by-line. Initial coding allows for the data to speak for itself without being conformed into existing categories. According to Charmaz (2006: 48, 57), “initial codes are provisional, comparative, and grounded in the data.” I then moved onto focused coding in which the significant data was grouped into

similar categories “to synthesize and explain larger segments of data.” After the focused coding process I reviewed my codes and compared them to the current theories on Farm to School to examine the extent to which they conformed or differed from existing theories. If my codes did not conform to the existing theories I created a new theory to explain the phenomenon.

The ultimate aim of this research project was to gain an understanding of Farm to School programs in the Southern San Joaquin Valley and to construct an analysis of the relative strengths and weaknesses of the programs. Standpoint epistemology and grounded theory are effective methodological tools to meet this objective. Furthermore, participant observation data acquired while working in a school nutrition program provided a profound opportunity to critically evaluate and analyze the nuances described and observed during the research process.

LITERATURE REVIEW

The USDA's Alternative Farming Information Center lists 188 sources in a 2011 publication entitled "Farm to School: A selected Annotated Bibliography." According to its authors, "[t]his bibliography attempts to represent selected documentation from a wide range of resources: peer reviewed literature databases, organizational Web sites, report citations, conference proceedings, Cooperative Extension Service publications, and more" (USDA, 2011: np). Although this bibliography lists a large number of sources (that has actually grown in number in the six years since publication) these authors, along with others, note that "[i]nformation resources for Farm to School activities are *underrepresented* in the formally published academic literature. Most materials exist as informal papers and research reports on individual organizational Web sites or as articles in regional/local news, trade and popular publications" (emphasis added, USDA, 2011: np).

This literature review focuses on the relatively small corpus of work that has been published in peer reviewed journals, academic literature and government documents. The content of peer-reviewed journals, academic literature and government documents on the topic of Farm to School can be divided into thematic sub-sets, and it is insightful to examine how these themes have developed over time. This literature review will primarily focus on the topics most relevant to the focus of this thesis: childhood health and nutrition education, as well as procurement and capacity.

The issue of childhood health is raised in nearly all of the peer-reviewed, academic, and government document literature on Farm to School. Childhood obesity was the most cited childhood health concern raised within the literature for two main reasons. First, it is one of the motivating factors that initiated the Farm to School movement. As Joshi and Berry (2007), Valliantos et al. (2004), and Conner et al. (2011) discuss, Farm to School programs arose in part as a way to improve the nutritional quality of school meals which were viewed as contributing to the epidemic. Secondly, childhood obesity is commonly used in the literature (see Feenstra & Ohmart (2012), Joshi et al. (2008), Joshi and Ratcliffe (2012) and Izumi et al. (2006)) as a hook to draw attention to the need for Farm to School programs and as a way to legitimize Farm to School as a positive health promoting movement.

One of the prominent ways that Farm to School seeks to address the issue of childhood obesity is through nutrition education. Authors such Bagdonis et al. (2009), Feenstra and Ohmart (2012), and Conner et al. (2011) illuminate and discuss how nutrition education encompasses a number of different curriculum objectives across the Farm to School movement. The primary objectives are the idea that students' eating habits can be improved by increasing their knowledge of and experiences with healthy foods such as fruits and vegetables. A number of authors, such as Kloppenburg et al. (2008), Carlsson and Williams (2008), Bagdonis et al. (2009), Conner et al. (2011), and Feenstra and Ohmart (2012), argue that the issue of childhood obesity and remediation

methods such as nutrition education are embedded within, and shaped by contemporary socio-political and economic realities.

Childhood obesity is a very real and serious problem affecting the youth of the United States. The reasons for the recent upswing of school-aged obesity rates are not clear-cut, but eating habits play a prominent role in the epidemic. As Sociologist Marion Nestle (2007: 10) notes in her book Food Politics: How the Food Industry Influences Nutrition and Health, “increased calories in American diets come from eating more food in general, but especially more foods high in fat (meat, dairy, fried foods, grain dishes with added fat, sugar (soft drinks, juice drinks, desserts), and salt (snack foods).” Oftentimes the consumption of these products is not merely a manner of personal choice but is tinged with issues of access, education and mainstream food systems that promote these types of foods. Problems associated with access are prominent in various regions across the country but particularly in rural or inner-city regions where grocery stores may not be available due to a basic lack of them or the distance they are from the community. Grocery stores may also lack a wide selection of fruits and vegetables or other whole foods that tend to be more nutritious than pre-prepared ‘junk’ foods. The mainstream corporate foods system often promotes products that are characterized and advertised for their convenience and appealing flavors rather than their nutritional value.

The epidemic is further complicated because of the American mantra of individualism, which places blame for a person's weight on the individual rather than external factors. Such blaming fails to account for the socio-political and economic

realities of our society and our especially the current food system. Allen and Guthman (2006: 411) argue that “obesity rhetoric is another trope of neoliberal governance that separates the deserving from the undeserving by effectively valorizing those who in their thinness embody more self-control in a world where fast, junky food is everywhere.” Furthermore, Kloppendburg, Wubben, and Grunes (2008: 441) assert that, “Americans are embedded in a food system in which what we eat too often undermines the health of our own bodies, the communities in which we live, and the environment on which we depend. [And] this deep, structural problem is manifested nowhere more clearly than in the lives of our children.”

This is not to say that individuals are absolved from the role they play in what they put into their bodies. But structural and societal factors must be taken into consideration in order to better understand unhealthy eating habits. This is especially true when investigating the eating habits and the resultant health of children and adolescents, who are often profoundly influenced by what their parents or guardians provide or what they are offered at school.

A number of Farm to School authors, including Berkenkamp (2006), Loppenburg and Hassanien (2006), Allen and Guthman (2006), Bagdonis, Hinrichs, and Schafft (2009), Carlton and Williams (2008), and Izumi, Wright and Hamm (2010), discuss the movements’ connection with childhood and adolescent health as well as the issue of food access and/or food security. In fact, these structural conditions lie at the core of Farm to School programming. For example, the National Farm to School program states on their

website that, through Farm to School, “students gain access to healthy local foods” (NFSN accessed December 6, 2014: np). In addition, Carlton and Williams (2008: 402) note that “food security is a broad, multifaceted concept that can be described at the global, national, community, household, individual, or cultural level and can be approached from both SFS [school food service] and anti-poverty perspectives.” The widespread lack of food access and adequate food security among individuals and communities is a symptom of the contemporary food system that often places the interests of capital above the dietary needs of individuals. Feenstra and Ohmart (2012: 281) observe that “despite being one of the richest countries in the world, hunger as a result of inadequate, nutritious food is still a problem in the United States. Now, it is also frequently accompanied by over nutrition, overweight, and obesity.” The authors address the fact that it may not necessarily just be the case that students lack access to food in general, but their ability to consume and connect with more nutritious foods such as fresh fruits and vegetables, is in need of improvement.

The provision of fresh fruits and vegetables from local or regional farmers is the main way in which the Farm to School movement seeks to mitigate the childhood health problems that often result from a lack of access to nutritious foods. However, merely getting fresh foods on the school lunch tray is oftentimes not enough to achieve the end goal of improving the health of children and adolescents. Oftentimes students must be convinced of the nutritional benefits of eating fruits and vegetables and this most readily occurs through various forms of nutrition education.

Farm to School authors (c.f. Joshi and Azuma (2009), Joshi and Berry (2007), Joshi, Azuma, and Feenstra (2008)) and programmatic materials (c.f. National Farm to School Network) tend to promote the use and necessity of nutrition education curriculums to promote one of the main goals of the Farm to School movement of increasing students' consumption of fresh fruits and vegetables. The National Farm to School website emphasizes that, "education[al] opportunities such as school gardens, cooking lessons and farm field trips" are key aspects of many Farm to School programs (NFSN, 2017). Authors and Farm to School advocates Joshi and Berry (2007: 8) note that "experiences from existing programs prove that innovative nutrition education, experiential education, and marketing programs for the salad bar are key to generating enthusiasm about the farm to school program and maintaining strong participation in the cafeteria real program." In addition, their review of Farm to School literature, Joshi, Azuma, and Feenstra (2008: 233) also find that although "study designs vary greatly [...]" findings consistently indicate that the farm-to-school approach results in students eating more fruits and vegetables per day in the cafeteria, classroom, or at home, making positive lifestyle changes, as well as improving knowledge and attitudes about healthy eating and sustainable agriculture." The encouragement of nutrition education in Farm to School programming is thus a widely discussed topic across nearly all Farm to School materials.

Discussion of Farm to School procurement is also widespread within the literature. The issue of procurement of local/ regional agricultural products is two-fold in

many instances. One side deals with the issue of the supply of agricultural products, while the other deals with demand and capacity of school nutrition service programs to be able to receive, store, process, and serve local/regional agricultural products. Like many of the thematic topics concerning Farm to School, the nuances of procurement activities vary from program to program and the geographic region in which the specific program operates; however, a survey and analysis of the literature reveals similar issues across all Farm to School programs.

Farm to School programs are imbedded within a highly structured and efficient paradigm that can be characterized by three main actors: (1) Nutrition service administrators, (2) USDA and Department of Defense (DoD) commodity programs, and (3) large-scale broad-line distributors such as SYSCO. For example, Izumi, Wright, and Hamm (2010: 337) present that,

buying food directly from individual farmers departs substantially from dominant school food procurement practices. School food service professionals operate under extremely tight time and budget constraints. These conditions favor “broad-line” distributors—essentially one-stop-shops which carry nearly all of the food, supplies, and equipment needed to operate a food service kitchen.

School food service programs primarily procure food through either the broad-line distributors noted above or through USDA and DoD commodity programs. Conner et al. (2011: 135) also explain this paradigm noting that when “[p]laced in a systems construct, the NSLP is comprised of a complex network of federal-level agencies, large industrial farms, industrial-scale food processing plants, national distribution networks, state and local procurement systems, and virtually every public school district in the United

States.” It is within this complex and entrenched system that the Farm to School movement operates, and many of the procurement challenges that practitioners face are a direct result of the dominant agro-industrial food system.

At its most foundational level, Farm to School procurement requires access to locally and/or regionally produced goods, because a lack of access undermines Farm to School efforts. Fortunately, schools across the country have found innovative ways to gain access to a number of products grown within the defined parameters of their individual program. According to Vallianatos, Gottlieb, and Hasse (2004: 415) “farm-to-school programs designed to increase the amount of food that schools procure from local and regional farms can be found in a variety of forms in number of states.” Food can be secured through numerous avenues ranging from on-site school gardens to farms located hundreds of miles away, depending the programs definition of ‘local’. Farm to School programs utilize a variety of different methods and markets to supply school breakfast and lunch programs. Moreover, “[a]s Farm to School programs began to mature, it became more obvious that the distribution system for getting food from farm to plate was a major challenge” (Feenstra and Ohmart, 2012: 283). The markets that the literature identifies include farmers markets, direct-sales from farmers, regional distributors, grower cooperatives, non-profit broker/foragers, and for-profit brokers/distributors. Some schools utilize one method of procurement, while others take advantage of various options and source through multiple avenues (Joshi and Berry, 2007). Each of the above

mentioned procurement sources provide numerous benefits and barriers that will be broken down below.

One method of procurement is purchasing produce and making connections with producers directly at farmers' markets. According to Joshi and Berry (2007: 10) "in this model, the school district places produce orders directly with growers selling at the local farmers market or with the farmers' market manager. The farmers' market also serves as a pick-up point for the produce ordered, which is usually transported by the school district." This model has numerous advantages: the variety of produce available—the large quantities of specific types of produce that can be purchased from numerous farmers--; competitive pricing, and a single supply point. However, the model also has some barriers, the largest of which is the availability of farmers markets in particular locales because farmers markets do not exist in all towns with schools.

Valliantos, Gottlieb & Hasse (2004: 417) identify a supply side disadvantage of the farmers' market model using the example of the Santa Monica-Malibu Unified School District, revealing that,

purchases from farmers at first were modest, partly a reflection of the number of farmers (as many as twenty-five) from whom the food-service director purchased specific items. By the third year, however, the school food service director decided to purchase primarily from only a handful of farmers, limiting further the revenues of most of the farmer participants but significantly increasing revenues for the primary group.

The authors do not give reasons for the purchasing concentration, but the tendency towards concentration highlights the fact that farm to school purchases may be advantageous for some farmers and not so for others.

Direct sales from farmers and growers is perhaps the most ideal Farm to School model because it is the most intimate connection between the consumption of what is being grown or produced in a particular locale by members of those locales. Despite this ‘romantic’ vision, direct sales from local farmers and or growers is complex and at times out of the realm of feasibility for numerous school nutrition service programs.

The direct sales model involves direct communication and monetary exchange between the school and farmer/grower, and offers the most transparent procurement models. “[B]y purchasing directly from farmers, schools are able to have the most direct relationship with farmers and be most closely connected to where their food comes from” (Joshi and Berry, 2007: 10). Some other advantages of direct sales include “having easier opportunities to establish close relationships with food growers, and a greater possibility of finding farmers able to grow product specifically for school use” (Joshi and Berry, 2007: 10). Similarly, when discussing Farm to School programs in Vermont, Kloppenburg, Wubben and Grunes (2008: 447) add that “Farm to School projects in rural school districts in particular may also enjoy the additional advantage of a sense of commitment to purchasing from farmers who are part of the community.” Another benefit identified in the literature is that schools that deal directly with farmers/growers have the opportunity to participate in farm tours and ‘farmer in the classroom’ presentations (Joshi and Berry, 2007: 10).

Although a direct relationship with and connection between the producers of food served to school children are highly desirable, authors such as Kloppenburg, Wubben and

Grunes (2008), Izumi, Rostant, Moss, and Hamm (2006), and Joshi, Azuma, Feenstra (2008) highlight the barriers of this model rather than its advantages. Perhaps this focus is due to a desire to tease out these roadblocks in an effort to expand this model which would benefit consumers who are getting a fresh, healthy product while producers would receive the financial revenues from schools.

In their research of the Wisconsin Homegrown Lunch Project, Kloppenburg, Wubben and Grunes (2008: 446) found that,

[a]ll Farm to School projects encounter difficulties of one kind or another. Though a rare number of such impediments have been identified, they cluster around three central concerns: cost (schools are under budgetary strictures, prices of sustainable/organic produce are high), procurement (institutional buyers prefer to deal with few vendors to maximize the efficiency of ordering and delivery), and supply (farmers need to provide sufficient volumes of product consistently over the seasons in ready-to-use form).

In their review of Farm to School literature, Conner et al. (2012: 322) also found that “[o]ne of the most prominently cited barriers is the higher cost of locally produced food as compared to that of conventional foods sourced through the ordinary supply chains...” The cost factor is very important to nutrition service directors because they must keep the meal costs at a low enough rate to be able to cover the costs with the federal reimbursement rate while covering operational costs such as staffing and equipment. In their survey of 383 food service directors in Michigan, Izumi, Rostant, Moss, and Hamm (2006: 172, 170) discovered that “cost was cited by the food service directors as the primary concern with purchasing local food.” In fact, “close to half

(45.5%) of food service directors reported that their institutions would not be willing to pay a higher price to purchase local foods.”

On the supply side of the direct sales model, farmers are trying to make a living and therefore must demand certain prices for their goods that are sufficient to cover their operating costs while increasing their profit margins. Little data exists on the actual figures of direct farmer/grower sales, but Joshi, Azuma, Feenstra (2008: 23) provide data that income/revenue estimates for farmers are around 5% of total income for all of their sales not just products sold to Farm to School programs. For these reasons, the oftentimes higher cost of local/ regional foods impedes the direct sale of the goods to schools.

The logistical aspects of ordering, invoicing and billing are also issues that can affect and complicate the direct sales model. Izumi et al. (2006: 336) observe that “developing and maintaining direct face-to-face relationships with individual farmers often creates additional administrative...work.” Numerous nutrition service directors spend much of their time dealing with the logistics of serving hundreds, even thousands of school meals, so they may be discouraged from engaging in direct sales with farmers because of the added paperwork and coordination required of the model. According to Valliantos, Gottlieb and Hasse (2004: 418), “the logistics of ordering, billing, and delivery have been an obstacle” in nearly all Farm to School programs. These concerns with ordering and billing are largely issues that reflect the traditional school food service paradigm where programs order the majority of their food and non-food items from

broad-line distributors who make the ordering system more streamlined as regular business practice. The convenience of broad-line distributors in the school food system is made very clear by Izumi, Wright and Hamm (2010: 336) as they describe that “school food service professionals operate under extremely tight time and budget constraints. These conditions favor ‘broad-line’ distributors...that are able to offer competitive prices, financial incentives, streamlined service, and the convenience of buying food and non-food items.”

A number of other structural restraints affect the viability and reliability of direct sales between farmers and schools including transportation, storage, and processing. The majority of school nutrition service programs in the United States have been reliant upon broad-line distributors. As a result, school transportation, storage and processing infrastructure are not equipped to handle farm direct products. In her research on Farm to School in Minnesota, JoAnne Burkenkamp (2006: 8) echoes this point affirming that broad-line distributors “offer standardized delivery systems, streamlined ordering and billing and mitigation of various quality control and liability issues.” Not all school districts have transportation to pick up produce directly from farms and farmers may also lack suitable transportation vehicles or may not have the time or employees to deliver products to school kitchens. Kloppenburg, Wubben, and Grunes (2008: 448) found this to be an issue in Wisconsin as well, noting that “many institutional food services...receive the vast majority of their fresh produce in a minimally processed form; that is, having already been washed, chopped/sliced/diced and bagged.” Carlsson and

Williams (2008: 409) similarly point out that “distribution-related factors in the United States (distance, quantity, frequency, seasonality) and invoicing complexity contribute to the resistance by food service directors to purchase within the [local/regional] food system.” Conner et al. (2011: 137) contribute to the discussion on these infrastructure related issues arguing that “many lunch programs require additional financial resources to fund the equipment and human resource development needed to receive, handle, prepare, and serve locally grown whole foods.”

The direct sales procurement model is also heavily influenced by the reliability and quantity of supply. Schools typically require large quantities of produce in order to serve the required portions to all students. Schools are also required to meet specific serving sizes mandated by the Federal government. Lastly, food service directors typically make monthly or rotating menus in advance and need to know what fruits and vegetables they will be serving in those meals. These factors create barriers for schools when sourcing directly from one or a handful of farmers. Berkencamp (2006: 12) identified this problem describing that food service directors agreed that the

most common [issues] were quality control problems, product not being delivered on the date or time agreed, and products that did not meet specifications” of size requirements...in most cases, the district was relying on only one farmer and didn’t have a back-up plan if that farm’s delivery fell through.

Research completed and explained by Kloppenburg, Wubben and Grunes (2008: 448) found similar supply-side factors to be a significant impediments to Farm to School.

Structural barriers, such as a lack of processing equipment, storage space, and transportation affect nearly all Farm to School programs across the United States no matter what procurement model the particular program utilizes. Despite the various structural barriers schools and farmers are utilizing a wide array of procurement methods to make the connection between farms and schools. Although the structural barriers identified above can stymie Farm to School efforts, certain procurement models such as regional distributors, grower cooperatives, non-profit brokers/foragers and for-profit broker/ distributors offer viable avenues to aid schools Farm to School goals.

The most extensive treatment of regional distributors is discussed in the article “Farm to school program: Exploring the Role of Regionally-Based Food Distributors in Alternative Agrifood Networks” by Izumi, Wright and Hamm (2010: 337, 345). According to the authors, “these intermediaries [regional distributors] can be conceptualized as mid-tier agrifood enterprises that buy and sell food on a more regional, as opposed to a more national or international scale. They operate in the space between global marketing of agriculture commodities and direct marketing of food to consumers.” The authors used four companies working with Farm to School programs in the Upper Midwest and Northeast regions of the United States as case studies for their research. The businesses “all considered farm to school programs as niche markets that they could directly or indirectly fill better than their larger competitors because of their proximity to and relationships with farmers [and schools].” The authors concluded that overall, the companies succeed in supplying schools with more reliable quantity and quality of

produce, at prices that were agreeable to schools. Furthermore, in referencing this research, Feenstra and Ohmart (2012: 285) note that the “product supplied [by regional distributors] retains its seasonality and local identity.” It is reasonable to conclude from these sources that the use of regionally-based distributors is a viable procurement model for Farm to School programs to meet their goals of providing local produce on student trays.

Grower cooperatives/collaboratives bring local and regional farmers together to maximize their ability to market and distribute their products. Joshi and Berry (2007: 11) discuss how Community Alliance of Family Farmers groups in various regions of California have begun working with Farm to School programs to meet their procurement needs. They detail how the group has “grown from a small collaborative of farmers selling to local school districts, into a social enterprise that is serving schools, hospitals, colleges, and corporate dining facilities.” Feenstra and Ohmart (2012: 285) provide examples of other cooperatives in California and Florida that mobilized to meet the procurement needs of school districts. As they note “some of these arrangements worked better than others, but they all became ways in which FSDs could maintain a nontraditional system alongside a traditional one.” Cooperatives appear to be a win-win for small to medium size farmers and schools with Farm to School programs.

Foragers and non-profit brokers are yet another viable procurement model for Farm to School programs. Foragers are “either hired by the district or supported through grant money, [and] act as a liaison between the district and farmers” (Feenstra and

Ohmart, 2012: 285). “The forager’s role was to find farmers who wanted to sell to the district, and then meet with the kitchen manager, provide information about produce availability and volume, and help the manager to think about how to integrate seasonally available produce into the menu cycle” (Feenstra and Ohmart, 2012: 285). Joshi and Berry (2007: 11) also argue that “the model has the advantage of easing the school district into undertaking the foraging function on its own, which should be the ultimate goal.” The forager model has the potential to be a vital part of the sustainability in schools to facilitate and establish long-term Farm to School programs.

Farm to School literature focuses primarily on four main factors: childhood health, nutrition education, procurement and capacity. All are issues that also arose within the Farm to School cases studied within this research and are quite similar to the information discussed above. This research does not fill a particular gap within the literature but instead adds to the rich texture and complexity of Farm to School programs. Additionally, a number of articles reviewed above are based on research and findings done in California such as Joshi and Berry (2007), Valliantos, Gottlieb and Hasse (2004), and Fenestra and Ohmart (2012). The focus of these articles was in regions outside of the Southern San Joaquin Valley, therefore the results of this thesis will add another layer of understanding to how Farm to School programs operate in California. To this end, the data and discussion that follows this review will examine to what extent Farm to School programs in the Southern San Joaquin Valley relate or differ from the discourses examined above.

RESULTS AND DISCUSSION

Based on the interviews conducted with Farm to School stakeholders during the data collection process of this thesis, motivational components as well as the dual issues of procurement and capacity were identified as the three most commonly cited elements. All interview participants spoke about these three aspects to a certain extent. Furthermore, participants spoke about procurement and capacity in the context of two different paradigms—a traditional and an alternative. In nearly all instances the traditional paradigm characterized by heat and serve frozen, processed and packaged foods served as deterrent to Farm to School programmatic objectives; whereas the alternative paradigm of fresh foods sourced locally and regionally and prepared on-site better facilitated Farm to School programs.

Procurement and capacity will be examined within both the existing agriculture paradigm and the development of a new paradigm to meet the needs and goals of Farm to School programs in the Southern San Joaquin Valley. These two paradigms will be treated as infrastructures that either promote or inhibit Farm to School programming. The two paradigms will be labeled as *traditional* and *alternative*. Furthermore, for the purposes of this thesis the terms procurement and capacity are defined in the following ways: *Procurement* is defined as the locating, purchasing, and transportation of locally/regionally farmed products from the point of origin to schools; *Capacity* is defined as the ability of school food service programs to store, transport within the district, process, and serve local/regional farm products.

What follows is a discussion of the results collected and analyzed from qualitative interviews. Results were analyzed with an orientation toward what aspects they lend to an understanding of Farm to School Programs in the Southern San Joaquin Valley. Similarly, particular attention was given to how local/regional and school-site characteristics serve to inhibit or promote Farm to School.

The results and discussion section is laid out in the following manner. First, I discuss the motivations that interviewees identified as being reasons why they took an interest in Farm to School. After gaining an understanding of participant motivations I then examine procurement and capacity within both the traditional and alternative paradigms.

Motivations for Farm to School Programming

Motivations for Farm to School programs come from a variety of sources such as individuals, locally or regionally-based concerns, and from the State and Federal level. All of the motivations fall under the broad umbrella term described by participant # 1. She argued that motivations for Farm to School programming in the Southern San Joaquin Valley are borne out of a goal to meet a ‘triple-bottom-line’ of (1) *economic sustainability*, (2) *environmental concern*, and (3) *equity*. *Economic sustainability* refers to the creation of a local and regional economy that provides fair prices for farmers (both large and small) and consumers, such as school districts. The *environmental concern* is based on the idea that large-scale mono-crop farming is becoming less viable in the region due to environmental factors such as inconsistent hydrologic conditions and over-

production of mono-crops. Finally, *equity* involves a basic concern for access to nutritious foods for all community members in general, and for school-aged children in particular.

All participants discussed an economic motivation for their involvement in Farm to School. The primary economic motivation discussed is the need to improve the declining state of the local and regional agricultural economy. Agriculture is the main economic driver in the region and therefore many other sectors of the economy are either directly or indirectly tied to agriculture. Stakeholders expressed a concern and desire to re-regionalize the economy for the benefit of all community members. For example, participant # 3 noted that Farm to School “is a way that all schools and farmers can work hand in hand to benefit everyone. And then you are pumping money back into the economy that stays local.” Similarly, when asked about the widespread interest in Farm to School programs participant #1 expressed that she “suspects that it is coming from the fact that economically we are in such big trouble that folks are really looking at the assets that exist around them and what can be made out of that other than hope that some big magic thing is going to come and fix things.” She continued with a description of the work of a handful of business committees. “There is a big push from the partnership of the regional economic summit but it was all concentrated on agriculture value-chain stuff and it was mostly big farmers, but really looking at how we use what we have and try to stimulate [the local/regional economy].” Economic motivations for programs that would assist the local economy range from interests at the large-scale level as described above

with large-scale farmers and regional committees to more grassroots efforts focused more on medium to small-scale farmers.

The emphasis on medium and small-scale farmers primarily focuses on the creation of a system that would not replace the large-scale agriculture but a system in which smaller producers could benefit economically by capturing local and regional consumers such as schools. Participant # 1 describes this system by stating that “it is really looking at triple-bottom line stuff and looking at not to compete with Big Ag but to really create a parallel universe where small and mid-sized farmers have the ability to aggregate and distribute regionally.” In order for this parallel system to function sustainably there would have to be a number of financial and personnel supports in place. For example, participant #1 notes that it would be necessary

to stimulate some entrepreneurial stuff around value-chain work. Local value-chains and to aggregate groups in a way that they have a way that they all have an ability to do things like get capital or qualify for loans. That’s one of my big issues for trying to stimulate this farm to institution, that people have the desire and knowhow.

Another participant discussed one important economic aspect that motivated him to get involved in Farm to School, that of stable and reliable contracts between small and medium-sized farmers and school districts. He argued that he “wants to help these guys stabilize the economy and also [secure] contracts so they aren’t having to sell at the roadside stands.” He continued by arguing “that’s how you stabilize the economy, in order for [the farmer] to be able to grow enough strawberries to supply a large school district he is going to have to hire twenty workers and...so he created jobs now those

people that were working are going to go and spend [their wages] in the stores and so now you start to get the little town's economy back." Economic motivations concern the entire local and regional economy and focus on farms of all sizes.

Although the environmental concern represents the least mentioned motivational category, it is nonetheless a powerful motivating force behind Farm to School programs. As defined above, the *environmental concern* is based on the idea that large-scale monocrop farming is becoming less viable in the region due to ongoing drought conditions. Participant # 1 discussed the first portion of the category when she argued that "I see the big Ag folks being really scared, their era of getting bigger and bigger at whatever cost to the environment" is coming to an end. All natural environments eventually meet their limits when used in capitalist production, just as forests can only be clear-cut for a certain amount of time, soils and water systems can only be pushed so far before the viability of the resources begins to decline.

The second portion of the *environmental concern* has to do with the intrinsic value of agricultural spaces such as school gardens. Participant # 10 spoke to this motivational element by relating the story of a student at one of her school sites who was experiencing difficult circumstances at home. She told of how the garden became a place of refuge for the student and that he was "incredibly lucky to have a garden and to be able to have a place to go. So to be able to take that pain and to filter it." She said "that connection with Farm to School and the garden, it's just not about feeding the kids, it created one more area to be able to save kids." This student's story demonstrates the

positive and healing connection that can exist between people and the spaces in we inhabit and with which we interact.

The most commonly cited motivational category which was discussed by six of eight participants, was equity. This category encompasses a range of motivations that aim to provide equity in access to nutritious foods for all community members in general, but for school-aged children in particular. Stakeholders discussed a number of reasons for being motivated by a drive for equitable access. Many participants explained that despite the region being the leading agricultural producing region of the state and the nation, a great number of its people are unable to consume the bounty of locally grown produce. For example, participant # 6 argued that “we have more agricultural commodities grown in the valley and less than five percent of them are consumed here locally, that means through schools, through stores, through any source. We are shipping it out.” Likewise, participant # 7 related we “had a sense that we had this tremendous amount of agriculture locally and we need to figure out how to create local access for the fruits and vegetables. Because in our research a lot of it was being packaged and sent out and not staying here locally.” A farmer/ broker carried this motivation further by saying that “we are fighting a battle you know I don’t know how we are going to fix it. We hear about food deserts, we have food deserts [in the South Valley] in many little communities, and there are a lot of communities.”

Many of the small communities in the area are dependent on agriculture for jobs, yet many of the members of those communities that work in agriculture lack access to the

foods that they help produce. Brown and Getz (2011: 134) support this claim in their research in Fresno County by discussing “the challenges of seasonal variability in agricultural production and the fact that farmworkers have borne the brunt of these burdens through low wages and unstable employment, often accompanied by food insecurity and hunger.” Farm to School provides an avenue to narrow the accessibility gap that exists with the dominant agriculture system by facilitating more direct connections between producers (both owners and workers) and consumers.

Motivations of equity also come from the top-down through government agencies and programs. Participants discussed that they and many other stakeholders are motivated by what participant # 5 termed a “perfect storm” in which “you have the USDA with these new requirements, you’ve got the school trying to figure out how to do it and we’re trying to figure out how to link schools with farms.” The analogy of the perfect storm describes the alignment of local disparities in equitable access and federal mandates to redefine regulatory methods to address these issues across the country.

Accordingly, one nutrition service director expressed his interest in Farm to School as being partly motivated by USDA regulations because “we have to serve more fruits and vegetables, so that is why I am very interested in connecting with farmers in the Valley. I mean we grow the most fruits and vegetables as anybody. It is a perfect marriage to me.” In a very real sense the new USDA regulations provided the Farm to School movement with the legislative and executive support needed to institutionalize its programmatic targets.

A nutrition education specialist pointed to another Federal mandate that has motivated Farm to School programs, “the Healthy Hunger Free Kids Act (HHFA) has really changed how school food service looks at their delivery and the local wellness policies that are in place in schools.” The HHFA demanded that schools examine the extent to which these systems and policies provided equitable access to nutritious foods. Another governmental agency and program that motivated stakeholders to gravitate towards Farm to School was a Community Transformation grant from the Center for Disease Control. This grant identified Farm to Institution as one proposed area that communities could work on in order to increase access to nutritious foods as a way to mitigate the negative health effects of food deserts such as diabetes and other diet-related health problems. Participant # 1 elaborated on the details of another grant aimed at the promotion of local products saying that the grant will “help them work on a scope of things such as branding of local/ regional things, and certifying people who are using local produce...so there would be some incentive for people to begin to source locally.” Regardless of whether equitable access comes from the ground-up or from the top-down, access to fruits and vegetables plays a key role in Farm to School programs.

Despite these motivational frames the relative successes and limitations of Farm to School programs in the Southern San Joaquin Valley are influenced by the procurement, storage, processing and serving capacities of existing infrastructure as well as the political economy in which they are embedded. Due to these realities it is useful to adapt the concept of a ‘vortex’ as discussed by Fairhead and Leach (2003: 26) in their

book Science, Society and Power: Environmental Knowledge and Policy in West Africa and the Caribbean. The research of Fairhead and Leach focuses on “the production of knowledge about tropical forests, and [how] attempts to govern them, have become increasingly internationalized.” They describe the global discourse as a vortex in which a multitude of theories combine into a cyclonic body of rhetoric that can only be truly understood with a consideration of the unique local circumstances when the vortex touches the ground. For example, the authors argue that “the manner in which localized experiences are drawn into this vortex is a matter for empirical inquiry, as are the extent and ways in which consensus and conformity in knowledge and approaches to management of the forest are generated” (27). The Farm to School movement can be conceptualized in a similar manner in which discourses, laws and regulatory practices at the federal, state, and local levels shape and are shaped by the realities existing in the particular locales in which Farm to School exists.

The ability of Farm to School Programs to create connections between locally and regionally farmed goods and school children primarily depends on procurement and capacity. Farm to School practitioners must utilize existing infrastructure to achieve these aims when possible and in some cases must forge new procurement models and capacities. The issues of procurement and capacity of the traditional agricultural paradigm and shifts in this paradigm are the primary focus of this project for two main reasons. The first is the simple fact that these issues were the most commonly discussed by Farm to School stakeholders within the course of data collection. All ten participants

discussed various aspects of procurement and capacity to a particular degree. The second reason for the focus is that procurement and capacity lie at the heart of the primary objective of the Farm to School movement, as listed on their homepage, which seeks to “enrich the connection communities have with fresh, healthy food and local food producers by changing food *purchasing* and education practices at schools and early care and education settings” (www.farmtoschool.org [emphasis added]). Without the ability of schools to procure, store, process, and serve locally/regionally farmed products Farm to School programs can not realize the primary mission of the movement to “enrich the connection communities have with fresh, healthy food and local producers” identified above. Therefore, the factors of procurement and capacity will be analyzed in the following discussion.

Procurement within the Traditional Paradigm

School nutrition service programs have long been a part of the agribusiness network in which they simply represent another customer for broad-line distributors such as SYSCO and regional distributors. This arrangement is largely borne out of convenience and perceived reassurance for the school nutrition program. But as a result, many school food service programs lack the time and resources to make the connections with local farmers. The relationship between large-scale distributors and school districts is relatively simple but includes numerous factors that make it difficult to re-orient operations to align with the local/regional procurement goals of Farm to School. The data collected over the course of this research found no nutrition service directors that were

fundamentally opposed to sourcing locally, they simply just struggled to find the time or resources to make it happen. This difficulty was due in large part to the deeply rooted nature of the dominant paradigm in which large distributors supplied schools with their products that went directly into the nutrition service program.

Prior to a critical examination of the prohibitive aspects of the traditional procurement paradigm, it is necessary to understand the lure of the paradigm. As noted above, there are two reasons why the traditional paradigm is beneficial to the needs of school food service programs, namely convenience and reassurance. Convenience comes in the form of ordering/billing, transportation, and a relatively regular and dependable supply of necessary products. This convenience in part facilitates the widespread practice of nutrition food service programs drafting menus months in advance or rotating menus seasonally from year-to-year.

Reassurance for school food service programs comes primarily in the form of trust in food quality and safety. Large broad-line distributors make it relatively easy for school food service programs to operate for a number of reasons. Procurement from companies like Sysco and other regional produce vendors is made easy through the extensive network of ordering, processing and storage facilities, reliable supplies, and transportation. For instance, ordering is often streamlined through traveling salespeople, and complex invoice and billing technology which combine to make placing and purchasing products much easier than it may be with individual farmers under the Farm to School model. Extensive processing and storage facilities and transportation networks

allow these large companies to aggregate produce from all over the world and process, pack, and deliver service ready foods for school lunch trays. Reliability is a great concern for directors because they often plan menus at least a month in advance and therefore rely on having the products they put on the preplanned menus.

Nutrition programs also often create revolving menus in the sense that the previous years' menus are reused the following year or menus don't change month to month but rather season to season. The reliable supply of products provided by large-scale distributors allows for these typical menu types. Schools must ensure that the foods that they serve meet certain nutritional category requirements such as grains, fruits, vegetables, protein and dairy (see Appendix B for 'My Plate'). Broad-line distributors can usually guarantee that their products meet these specifications because they have been specifically designed or cultivated with them in mind. This issue is complicated when considering the fact that Farm to School based menus must be more flexible and amendable to local/regional availability. One participant highlighted this argument in support of the reliance of food service programs on large companies when he noted that fruits and vegetables are grown "seasonally, so it's only going to be available once its ready to be harvested, whatever it is, for a week maybe 3-5 days, maybe 8-10 days depending on what it is and so the inability of the school to know when that is [makes planning difficult]." These barriers certainly don't eliminate Farm to School participation but they certainly favor traditional procurement practices.

Another lure of the large distributors that participants related was the assurance of food safety that is provided by large distributors. One director noted that “to me it’s about safe, then fresh, and then cost—those are my goals.” Another director related that he was “really concerned with any hurdles that have to do with food safety. I want to know about what [rules and regulations] vendors that I buy fruits and vegetables from...have to do to their fruits and vegetables before they send them to us.” He went on to note, that “we are required in food service to buy from certified food vendors like SYSCO.” Ensuring that the foods served to students are not only nutritious but are also free from pathogens that may cause sickness is of primary concern to food service directors. These concerns draw and keep food service directors trusting in the traditional paradigm and hinder Farm to School efforts and goals.

As previously discussed, the dominant sourcing paradigm is a large obstacle of Farm to School programing. A health/nutrition advocate argued that “the entrenched nature of the food delivery system to schools and the food purchasing practices of schools is one of the reasons why the commonsensical locally grown produce in schools isn’t happening.” She continued by arguing that “corporate America really does make it easier for school districts and I think that it is very difficult for me to believe other than there is so much money sloshing around, school food systems are about the money.” Although they are publicly funded programs, school food service programs are not exempt from the dominance of corporate capitalist influences. This reality is due to the peculiar situation of school food service programs from their conception during the 1930s. From the start

school food service programs have had a two-fold purpose which is to provide both nutrition to children as well as markets for agricultural products. Historian Susan Levine argues “the school lunch program that emerged during the depression was shaped by a market-based model of surplus commodity disposal even more than on theories of nutrition or plans for children’s welfare” (2008: 40). Based on this historical reality it is not surprising that the dual agricultural goals of the USDA to provide economic markets and childhood nutrition frequently favor economic imperatives.

Corporate and USDA imperatives often dictate more than just school food service programs. In a similar way farmers are constricted by the dominance of the large produce vendors because the vendors often represent one of the only available market for their products. Local farmers, like many producers operating within a capitalist system, are driven by profit above any moral obligation to the local/regional economy. In this case, Participant # 8 noted for example “a farmer could probably make twice as much by selling [produce] to Japan, so is the farmer going to do what’s right and introduce it to local kids or [operate] in the business realm? Do they send it to Japan and get twice the amount per case?”

Another stakeholder argues that the main reason that produce is not staying local is mainly dictated by profit motives. He argues that “if I’m the buyer and I buy your product you don’t care because as long as you get paid as the grower. So wherever one can get the most money they’re going to send it to them. So we are not getting the fresh stuff here.”

Participant # 8 added another nuance to this point when he discussed the inability of small-scale farmers to compete with the large producers that sell to the large distributors, which effectively drives down produce prices. He discussed a recent encounter with a client who grows “broccoli...[and] can plant it, grow, pick and ship it for a cost of about \$2.75 a box, that’s his cost so he is doing 70,000-100,000 boxes per day seven days a week. And a small farmer that is doing 40 or 50 acres and he sells to schools he’s not going to beat that price he is going to be more like 6-7 dollars a box. And the Westside (of the Valley) farmer can sell his broccoli for \$4 a box guaranteed on the contract so he is guaranteeing himself \$1.25 a box. You can’t compete with them.” These points demonstrate that farmers and growers are subject to the agro-industrial complex of large scale distributors and complexity of the agricultural market.

In addition, produce vendors control farmers’ production methods. In particular, one participant noted that “they [the farmers] have been trained by all of the middle-men to do their farming in a certain way.” Correspondingly, another participant adds that “the grower is getting screwed all the way around because it is the middle guy that’s squeezing, the produce brokers they are the ones that are making all of the money.” Participant # 8 also discussed the control that ‘the middle’ has over the produce market by arguing that “he is tired of hearing [that produce must go through a produce company], the grower is ready to go it’s not the grower’s fault it’s the institutions’ [the schools and governmental agencies] fault.” Moreover, one stakeholder worried about the co-option or the suppression of Farm to School programs when she notes that “those are

the kind of realities involved in changing the current system. Those guys have so much more money and resources to suppress the beginning efforts that people are making to initiate a new system.” Whether this fear is true or not does not negate the fact that some Farm to School stakeholders are fearful of the negative influence of agri-business.

The traditional procurement paradigm offers both benefits and costs for the system in which school food service programs and Farm to School programs are situated. These aspects not only affect the schools or the Farm to School programs but also complicate and at times dictate production practices and available markets for farmers and growers. Despite the complexity and strength of the traditional paradigm and its relative incompatibility with the goals of the Farm to School movement, food service districts that are participating in Farm to School have forged a path within and around the established system. These paths demonstrate efforts to cultivate a new system that mutually benefits farmers, schools and produce vendors.

Procurement within the Alternative Paradigm

Farm to school practitioners in the Southern Central Valley are working to create a new system that connects consumers to the land and people that produce our food. As one stakeholder argued “we are saying that there is another market over here, a very substantial market, it’s huge, but they will need to think about doing business a little-bit differently.” Stakeholders described two systems to ensure that locally grown produce will make it into schools and onto student trays.

One system is the development of a network of local or regional stakeholders to act as conduit between schools and producers. This system would eliminate the reliance on large produce vendors and replace them with smaller vendors that act more as mediators or brokers between farmers and schools. One stakeholder described this system by stating that,

There is going to [be a] need for companies that specialize and say ‘okay I am focused on this’ and say ‘okay I know what you need, I have the facilities and wherewithal to retrieve it and bring it to my facility, structure it in a manner in which to deliver to the schools or leave it in its original packing state, turn it around in a period of time where it is fresh and at a reasonable cost

One nutrition service director discussed her success collaborating with a small, local broker. She related, “we partnered with him...and we turned everything over to him to go out and talk to farmers.” She continued by discussing the beneficial relationship between the broker and farmers because, “these local farmers have the fruit, they know how to pick it and are willing to deliver it to your school site but they don’t have the communication technology that they need. Such as fax machines and that sort, and so I said to the broker, what do we do? And he said, we’ll buy them a fax machine.” This relationship demonstrates the symbiosis that can exist between producers and consumers when mutual benefits are recognized, and community members work together toward a common goal of a nutritionally and economically healthy community. The relationship between the small broker, food service director, and farmer is a beautiful example of the type of cohesion and stability that can be fostered through Farm to School programs.

The second system involves dissolving the middleman altogether by having schools deal directly with farmers. Stakeholders argued that cutting out the middleman would increase the profits of farmers and decrease the cost paid by school districts. For example, one stakeholder argued that the farm direct model is dependent on the fact that all farmers become food safe certified and that school districts trust the certification. He argued that “you have to get rid of the middle person, when you eliminate them or when they [schools] quit buying produce from them and eat the fresh produce come in from the grower that is when it going to change.” Eliminating the middleman will not be an easy task because of the entrenched nature of the dominant paradigm but can be a surmountable obstacle if the middleman is invested in the Farm to School program and its goals of procuring local products. Eliminating the middleman should be a long term goal of the Farm to School program if the ultimate objective is a direct relationship between the farm and school; however, in the short-term the middleman represents a vital conduit between farmers and schools.

Capacity within the Traditional Paradigm

As noted above, the term ‘capacity’ refers to the infrastructure and skills/knowledge of staff that exist within the school food service programs. Infrastructure includes storage facilities such as refrigerators, freezers, dry storage, processing equipment, and sinks and other produce washing equipment. The skills and knowledge of nutrition service staff includes the receiving, processing, preparation, and serving abilities of the employees at the school sites. The relative successes and

challenges associated with nutrition service programs practicing Farm to School greatly depend upon the capacity available to get products from the farm to the lunch tray.

Although participation in Farm to School is possible under the traditional paradigm, traditional facilities and skills/ knowledge can pose barriers to Farm to School programming. Nutrition service directors discussed the difficulties they faced when implementing Farm to School programs due to the limitations inherent in the traditional school-site facilities. For example, many school kitchens lack the storage facilities, refrigerators or equipment to adequately store and process farm fresh products. Under the traditional paradigm, foods often arrive at school kitchens from broad-line distributors already processed, packaged, pre-portioned, frozen or canned, and nearly ready to serve and therefore site-based facilities to store and prepare fresh produce are non-existent and unnecessary.

The reasons for a reliance on the traditional paradigm are numerous and extends beyond the realm of the nutrition service program itself. One director noted that increasing the infrastructural capacity of school facilities is oftentimes constrained by the financial resources of schools. She argued that “it is budgets and I think, you know rightfully so, they [district officials] want to run our department as they run the rest of the district. And sometimes they forget that we manage our own budgets and that we have our own budgets.” The lack of these facilities can also be attributed to fiscal realities such as constrained construction budgets that districts face when building new schools or renovating existing buildings or high student numbers. Nutrition service budgets are

complex and are subject to district, State, and Federal purchasing protocols that can hinder day-to-day operations and program needs.

In addition to these fiscal situations school nutrition service programs are also shaped by non-fiscal barriers. For example, the alignment of school nutrition programs to the fast food paradigm that dominates our society can restrict Farm to School objectives.

Participant # 9 elaborated on this issue indicating that

we don't have typical cafeterias anymore in the Central Valley, we have 'grab and go stations' outside because for instance our schools are so impacted. Like for instance this school that you are on right now there's 915 kids on this campus. We have a bubble class coming up next year, so we will have over a 1,000 kids. We have one lunch period of 30 minutes, so we have carts set up all over campus and we have to take the food to the kids. And with the food safety rules you can't take food outside unless it is covered. And I really think that my fruit and vegetable consumption would increase, because they like to have a variety, and right now it is just too difficult [under the current conditions just described].

These insights illustrate a number of aspects of the traditional paradigm. Not only does the foods served resemble the fast-food model of thaw, heat and serve, but the service methods resemble those models as well.

Facility and equipment capacities or limitations also complicate Farm to School objectives. To demonstrate this point, one director discussed the fact that his ability to meet the food safety requirements of local and state health department officials limits his ability to serve large quantities of fresh produce simply because he does not have the sink capacity to properly and efficiently wash farm direct produce. He related his frustration saying that "we have a three compartment sink that is used quite a bit and it... [dictates], depending on the size of your school, your ability to rinse 3,000 apples. That takes a lot

of labor, time and you don't have those capabilities. [So therefore], I am looking into what it takes to do that in a more efficient manner.” This director argued that because of these factors he is wary of participating in Farm to School. With regard to the potential of food borne illnesses, the traditional paradigm provides him peace of mind. To put it differently, broad-line corporations like SYSCO are food safety certified and therefore it is easier to purchase from them and not have to be as concerned with ensuring safe products.

Farm to School programing is also complicated by the lack of skills and knowledge of staff members. In order to meet the food safety requirements of local and state health departments as well as the preparation and portioning aspects of food services requires a well trained staff. One director noted that “it was painful at first, training staff how to handle the fruit fresh out of the orchards or off the vine.” It is necessary to train staff how to process and portion when implementing Farm to School because under the traditional paradigm foods often only require minimal preparation such as opening cans or cooking or thawing frozen food items prior to placing them on student trays.

Participant # 9 spoke to the barrier created when shifting from traditional to Farm to School saying “I think that a goal of the process is that it could be a little less time consuming on my staff. It seems like it takes a lot of man-power to do the extra washing, sizing, and cutting and all of that... But a goal would be to have a better process in place for them so that the process for my staff is better. Because it is a lot of hand-on work and I think that may be one of the reasons that people don't get into Farm to School.” The

shift to the Farm to School model requires a different and at times more specialized skill-set from employees but again this is not an insurmountable obstacle.

Capacity within the Alternative Paradigm

Despite the significant barriers imposed on Farm to School programing by the traditional school nutrition service paradigm, programs have opportunities to increase their ability to participate in Farm to School by shifting their capacity toward an alternative paradigm of practice. As has been previously detailed, Farm to School programing requires infrastructure and staff that are equipped to meet the inherent demands and requirements of storing, processing, and serving farm direct commodities. At the school site level, participants discussed the increase of staff training in the areas of the skills and knowledge required to store and wash produce as well as portion and process it for consumption. One participant noted that after focused training

now we have a good system in the kitchen where we are able to do most of the processing ourselves. We actually get oranges by the bin, and this is the difference. You are getting farm fresh, the best fruit you can possibly get. It hasn't been gassed it was picked off of the tree maybe the day before. One day we had grapes in here that were picked the morning that they were served on the lunch trays and you might be getting odd sizes but you are able to control the portions you are putting on the trays and so for us it has really been a gift.

Although a well-trained, skilled and efficient staff is a major factor in advancing Farm to School, programming it is just one piece of the alternative paradigm.

The other, and perhaps more significant aspects of the alternative paradigm, are the storage, processing, preparation, and distribution infrastructure at the school sites. When these factors are in place and properly oriented, Farm to School programing is

greatly increased and strengthened. Participants discussed a range of these types of capacities from industrial-type automated processing and packaging machines down to simple salad/ fruit bar carts. One stakeholder spoke about the facilities of a large school district in the region that serves about 18,000 students. She related that “he has storage facilities, processing equipment, and he has the tracking capability which some farmers have and some farmers don’t. He has all the loading bay equipment, he has the washing space and then he’s got a packing machine so he can take carrots, wash them, prep them, and then wrap them in individual packages.” She continued to argue that “it [all] takes up space in his kitchen and the wrapping and packaging equipment, well it is conveyor belts so if [other nutrition service facilities] don’t have the space in your kitchen then you can’t do that.” This nutrition advocate hit on an interesting point in that there exists a great difference at times between the capacities of large more urban school districts as opposed to smaller more rural districts.

Smaller districts that do not have the space or the budgets to build and operate the large-scale facilities that are described above can modify their kitchens and storage capacities in other ways. For example, participant # 4 mentioned that he had been in discussion with regional personnel to acquire “a grant through the USDA to get equipment that... [he] might need.” He also elaborated how his program is seeking to acquire processing equipment as well as serving equipment to expand their stock of salad bars. Motivation for these improvements is based on his observation of current “fruit and vegetable bars... [that have good] participation. Students enjoy taking an apple, a pear,

carrot sticks, zucchini sticks and jicama.” Likewise, one nutrition education advocate related her work with “the California Grape Commission...to secure 28 brand new salad bars for our schools that were doing nutrition education.” She continued excitedly saying “we also just heard that we are going to get another round of salad bars for the schools that didn’t get them last time around.” Although it can be difficult to improve upon the existing infrastructural capacity of school food service operations, there are numerous opportunities to make the necessary modifications in order to increase Farm to School participation.

Farm to School programs in the Southern San Joaquin Valley face numerous challenges, yet in many regards these challenges are surmountable. The challenges faced by practitioners in the region are not necessarily unique and affect Farm to School programs in other parts of California and the nation. This thesis primarily investigated the issues of procurement and capacity and the ways in which Farm to School stakeholders navigate these factors. Throughout the course of the research two paradigms emerged--a traditional which was characterized as a ‘business as usual model’ where stakeholders relied on broad-line distributors for procurement along with existing infrastructure and staff skills for capacity. Correspondingly, an alternative paradigm was also at play in which stakeholders began to create new methods of procurement such as farm direct or through local or regional produce distributors. In addition, the alternative paradigm utilized available resources such as funding and staff development to improve their capacity to intake, store, process, prepare and serve locally/regionally sourced

products. For the most part the traditional paradigm tended to constrict or limit Farm to School efforts whereas the alternative paradigm provided for an expansion of Farm to School efforts in the case study region.

CONCLUSION

“Getting your boots dirty” describes the intense effort necessary to make things happen. Through this thesis, it is clear that the Farm to School movement and stakeholders in the San Joaquin Valley possess the desire to move forward. However, there are many limitations. The pathway of food from the soils or the animals that produce them to the consumer is not straight and direct but rather it is contoured by the complex social, political, economic realities associated with modern agriculture.

This thesis and the research of which it is comprised provides texture to and expands upon an understanding of the factors at play when developing and operating Farm to School programs. In addition, the data adds to the corpus of work on Farm to School across the United States in general, and provides insights into programs within the case study region. Despite these contributions, there exist at least two limitations to the study.

One limitation is the limited number of operational Farm to School programs in the region during the time data was collected. The above discussion might have been expanded if the data set was larger. More operational Farm to School programs would have added to not only the amount of data collected, but may have also strengthened the research findings. In addition, a larger data set may have provided more pragmatic examples of the shift from the traditional and alternative paradigms which would be beneficial to educating stakeholders about barriers, opportunities and best-practices.

The second limitation to the thesis is that the majority of research participants were nutrition service directors or health advocates and only two participants were farmers/brokers. This limitation did not allow for a detailed perspective on the supply-side factors involved in local/regional Farm to School programs. The data set included one farmer/broker and one Farm to School liaison who used his relationships with farmers and nutrition service directors to facilitate working relationships. It was difficult to make contact with farmers and even more difficult to schedule interviews with them as the nature of their job schedule was not conducive to in-depth interviews. These issues could have been overcome, but the focus of the thesis question was to understand Farm to School from the nutrition services angle. The focus choice was shaped in large-part by my personal connections to and experience working on the school-site side. It would be interesting to expand upon the thesis to include the supply-side of Farm to School and to look at all of the moving parts and components that operate within both the traditional and alternative paradigms.

Currently Farm to School Programs continue to grow across the United States with the National Farm to School Network reporting in 2017 that there are 42,587 programs operating at some level in 42% of US schools, engaging some 23.6 million students with the help of forty states with Farm to School supportive policies. In California programs continue to expand across the state and the California Farm to School Network has recently moved under the umbrella of the California Department of Food and Agriculture Office of Farm to Fork. The network shift demonstrates that Farm

to School stakeholders continue to expand the goals and objectives of the program and that Farm to School is becoming more codified within the government of California. Regionally in the Southern San Joaquin Valley it is difficult to find information about the current state of Farm to School due to scant references or information on the California Farm to School Network website. There is no contact information for the region as there is for all other regions of California. Due to this lack of information it is difficult to ascertain any information about the status of Farm to School programs in the region. Regardless of the lack of available information Farm to School programs will continue to navigate the traditional paradigm as well as trek and make a pragmatic alternative path geared toward meeting Farm to School objectives.

As the literature and this research have shown, Farm to School requires much more than a farm-to-table model. The globalization and industrialization of agriculture that has taken place over the past 300 years, and has intensified since 1945, has created numerous economic and political exchanges between producers and consumers. Farm to School is not insulated from these various characteristics because school nutrition programs are nested within the modern food system in similar ways to other exchange points such as supermarkets, restaurants, or other common methods available to purchase food. Due to the embedded nature of Farm to School, it is necessary for programs to embrace these realities and operate pragmatically within them in order to realize the particular goals of each program.

Many policies and safety procedures that hinder forward movement. For example, the National Food Service Breakfast and Lunch Programs and the National Farm to School Program are part of the Department of Agriculture and are therefore subject to USDA rules, regulations and goals of the executive agency. Further, because the programs are part of the larger executive branch they are also subject—to and can at times be complicated—by bureaucratic structures that may limit or promote Farm to School depending on the current administration. For example, under President Obama Congress passed legislation that promoted the implementation of new dietary guidelines and school wellness policies that favored a shift toward Farm to School with increased fruit and vegetable requirements. Although there has not and may not be a significant shift away from or strengthening of these aspects under the current administration, changes within Congress and the Presidency always have the power, through legislation and executive action, to influence USDA rules, regulations, and requirements.

In a similar way, school nutrition service programs—regardless of whether they are practicing Farm to School or not—must meet the food health and safety regulations of the state, county or local municipality in which they are located. The potential risks associated with food-borne illnesses are of great concern to nutrition service practitioners—justifiably. It follows then that many nutrition service directors are wary of assuming full responsibility for these risks in the event of food-borne illnesses from products procured directly from local/regional farmers. Within the traditional paradigm the assumption of risk is often placed on the large distributors who ensure that they are

selling safe foods and bear the brunt of responsibility should a problem arise. This concern was echoed throughout the Farm to School literature as well as during this thesis research. While, these points do not make Farm to School any less viable, they represent issues that must be addressed to ensure Farm to School goals.

Traditional infrastructures allow for rudimentary Farm to School programs, but unfortunately, they can also limit opportunities to make progress. The traditional paradigm creates barriers to Farm to School programs primarily because it undermines the ultimate goal of creating a more direct and meaningful connection between producers and consumers or farmers and school-aged children. Despite this, the traditional paradigm can be altered in minor ways to act as a starting point for Farm to School, for example, food service directors can request local and/or regional products. The traditional system can also provide for some of the storage and processing requirements of Farm to School such as refrigerator space and minimal processing equipment. However, as noted in this thesis, oftentimes Farm to School were limited by existing infrastructure, due to inadequate facilities and poorly trained staff.

The emerging alternative paradigm creates avenues to move beyond the limitations imposed by the traditional paradigm and to realize more transformative opportunities. It includes numerous elements such as expansion of school-site facilities, transportation networks, retraining staff members, and closer relationships with farmers and local/regional distributors. In addition, it is rooted in a nuanced understanding of the varieties of agricultural production such as seasonality, crop production levels, and

adverse climatic factors. Farm to School literature as well as data gathered from thesis participants demonstrate that the transition from the traditional paradigm toward the alternative is not easily or quickly accomplished, but takes time and concerted effort on behalf of all stakeholders. Furthermore, the shift is not immediate but is rather an evolutionary and reciprocal process, and must be viewed as such for forward progress toward Farm to School goals and objectives. This is largely the case because of the entrenched and established nature of the traditional methods of school nutrition service guidelines, health requirements, procurement, processing, preparation, and service. Notwithstanding these limitations, the Farm to School program continues to expand throughout the United States and within the Southern San Joaquin Valley because of stakeholders that are willing to “get their boots dirty.”

REFERENCES

Adamick, K. (2012). *Lunch money: serving healthy school food in a sick economy*. New York, NY: Cook for America.

Allen, P., and J. Guthman. 2007. From old school to farm-to-school: Neoliberalization from the ground up. *Agriculture and Human Values* 23 (4), 401–415.

Bagdonis, J.M., Hinrichs, C.C. & Schafft, K.A. (2009) *Agriculture and Human Values* (2009) 26 (1-2), 107-119.

Berg, B. L. (2009). *Qualitative research methods for the social sciences*. Boston, MA: Pearson.

Berkenkamp, JoAnne, "Making the Farm / School Connection: Opportunities and Barriers to Greater Use of Locally-grown Produce in Public Schools" (2006). Leopold Center Pubs and Papers. 153.

Berry, M. & Joshi, A. (2007). *A Growing Movement: A Decade of Farm to School in California*. Center for Food & Justice, Urban and Environmental Policy Institute.
Retrieved from
http://scholar.oxy.edu/cgi/viewcontent.cgi?article=context=uep_faculty

Brown, S., & Getz, C. (2011). Farmworker Food Insecurity and the Production of Hunger in California. In Alkon, A. H., & Agyeman, J. *Cultivating food justice: race, class, and sustainability*. Cambridge, MA: MIT.

Charmaz, K. (2010). *Constructing grounded theory*. Thousand Oaks, CA: Sage Publications.

Conner, D. S., King, B., Koliba, C., Kolodinsky, J., & Trubek, A. (2011). Mapping Farm to-School Networks Implications for Research and Practice. *Journal of Hunger & Environmental Nutrition*, 6(2), 133-152.

Conner, D., King, B., Kolodinsky, J., Roche, E., Koliba, C., & Trubek, A. (2012). You can know your school and feed it too: Vermont farmers' motivations and distribution practices in direct sales to school food services. *Agriculture and Human Values*, 29(3), 321-332.

Creswell, John W. (2007). *Qualitative inquiry and research design choosing among five approaches* Thousand Oaks, CA: Sage Publications.

Fairhead, J., & Leach, M. (2003). *Science, society and power: environmental knowledge and policy in West Africa and the Caribbean*. Cambridge: Cambridge University Press.

Feenstra, G., & Ohmart, J. (2012). The Evolution of the School Food and Farm to School Movement in the United States: Connecting Childhood Health, Farms, and Communities. *Childhood Obesity*, 8(4), 280-289.

Gegeo, David & Watson-Gegeo, Karen. (2001). "How We Know": Kwara'ae Rural Villagers Doing Indigenous Epistemology. *The Contemporary Pacific*. 13(1),55-88.

Geertz, Clifford. (1973). "Thick Description: Toward an Interpretative Theory of Culture." In *The Interpretation of Cultures*. New York: Basic Books.

Hesse-Biber, Sharlene & Leavy, P & Yaiser, M.L.. (2004). Feminist approaches to research as a process: Reconceptualizing epistemology, methodology, and method. *Feminist Perspectives on Social Research*. 3-26.

National Farm to School Network. (n.d.). Retrieved March 02, 2015, from <http://www.farmentoschool.org/>

Izumi, B. T., Rostant, O. S., Moss, M. J., & Hamm, M. W. (2006). Results From the 2004 Michigan Farm-to-School Survey. *Journal of School Health*, 76(5), 169-174.

Izumi, B. T., Wright, D. W., & Hamm, M. W. (2010). Farm to school programs: Exploring the role of regionally-based food distributors in alternative agrifood networks. *Agriculture and Human Values*, 27 (3), 335-350.

Joshi, A., Azuma, A. M., & Feenstra, G. (2008). Do Farm-to-School Programs Make a Difference? Findings and Future Research Needs. *Journal of Hunger & Environmental Nutrition*, 3(2-3), 229-246.

Kloppenburg, J., and N. Hassanein. (2006). From old school to reform school? *Agriculture and Human Values* 23, 417–421.

Kloppenburg, J., Wubben, D., & Grunes, M. (2008). Linking the Land and the Lunchroom: Lessons from the Wisconsin Homegrown Lunch Project. *Journal of Hunger & Environmental Nutrition*, 3(4), 440-455.

Levine, S. (2010). *School lunch politics: the surprising history of America's favorite welfare program*. New York: Princeton University Press.

Nestle, M. (2002). *Food politics how the food industry influences nutrition and health.*

Berkeley, CA: University of California Press.

Patel, R. 2007. *Stuffed and starved: Markets, power and the hidden battle for the world's*

food system. London, UK: Portabello Books.

Poppendieck, J. (2010). *Free for All:" Fixing School Food in America.* Berkeley, CA:

University of California Press.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: the art of hearing data.*

Thousand Oaks, CA: Sage Publication.

Schneider, L., Chriqui, J., Nicholson, L., Turner, L., Gourdet, C., & Chaloupka, F.

(2012). Are Farm-to-School Programs More Common in States With Farm-to-School-Related Laws? *Journal of School Health*, 82(5), 210-216.

Vallianatos, M., R. Gottlieb, and M.A. Haase. (2004). Farm to school: Strategies for

urban health, combating sprawl, and establishing a community food systems approach. *Journal of Planning Education and Research* 23, 414–423.

Yin, R.K. 2003. *Case study research: Design and methods*, 3rd ed. Thousand Oaks, CA:
Sage.

Appendix A-Interview Schedule

1. How long have you been in the food service industry?
2. Could you talk about some of the reasons why you choose this field?
3. How long has this nutrition program been in operation?
4. Can you provide a general overview of the program?
5. Have you been in your current position throughout your time in the program?
6. -If not, could you explain your former roles and how you arrived at your current position?
7. -If yes, can you discuss the origins of the program (such as, why was it pursued? What did it offer that the previous nutrition program lacked? How long did it take to implement, or is it still in the process of implementation?)
8. How many students does the program feed?
9. Are breakfast and lunch offered by the program?
10. -If so, which meal time has the greater number of meals served?-If not, why not?
11. What are the nutrition program's goals?
12. What are your personal goals for the program?
13. Could you talk about the success of the program?
14. What are some particular program successes?
15. Which Farm-to-School program goals do you most relate to?
16. In what ways does your nutrition program achieve these goals?
17. Are there any facilities, personnel, parent organizations, student demand etc...? Particular to the school district that aided in the relative success of the program?
18. On the other hand, are there any challenges that the program has had to overcome?

19. Similarly, can the relative success of the program be attributed to any elements outside of the district? -such as: community support, relative access to local or regional food-shed.
20. How successful has the program been in sourcing local/regional items?-What has aided in these successes?
21. How has the program overcome any challenges related to local/regional availability of food items?
22. What percentage of foods served contain locally/regionally sourced items?
23. What do you think about government regulations concerning nutrition services?
24. Do you find any of these guidelines and/or regulations problematic?
25. If so, how do you work with them?
26. Do they limit what you are able to do as far as your programs?
27. What would you change about the regulations to make them more accommodating to you or your program?
28. In what ways have you received government support?, School District support?, Community support? How could support be improved?
29. Is there anything else that you would like to add?
30. In what ways does the program practice nutrition education?
31. In what ways and to what degree do 'competitive foods' influence participation in the Farm-to-School program?
32. Has the program experienced difficulty in sourcing locally-grown produce? If so, what are these difficulties?
33. If the program has experienced difficulties with sourcing, how have these difficulties been overcome?
34. What percentage of the foods served in the school nutrition program are purchased from local sources?

Appendix B-USDA My Plate Graphic



Source: <http://www1.ccs.k12.in.us/uploads/0015/1096/myplate.png>

Appendix C-Research Participant Information

Research Participants

Participant Number	Job Title	Type of Organization	General Location
1	Nutrition/Community Health Policy Advocate	Non-Profit	Urban, Fresno County
2*	Nutrition Service Director	Large Public School	Urban North San Joaquin Valley
3	Nutrition Service Director	Medium-Sized Public School District	Rural, Fresno County
4	Nutrition/Community Health Policy Advocate	Non-Profit	Rural and Urban, Tulare County
5*	Nutrition Service Director	Large Public School	Urban, Fresno County
6	Public Health Department Policy Analyst	County Health Department	Urban, Fresno County
7	Nutrition Education Program Director	County Department of Education	Rural and Urban, Tulare County
8	Produce Vendor/ Grower	Private Farming Company	Rural, Fresno and Tulare County
9*	Nutrition Service Director	Medium-Sized Public School District	Rural, Tulare County
10	Farm Insurance Agent/Farm to School Liaison	Independent Liaison	Rural and Urban, Fresno, Tulare, Kings, and Kern County
11	Nutrition Service Director	Medium-Sized Public School District	Rural, Tulare County

*Note: Interview data from participant 2 was omitted from thesis because they did not operate within the Southern San Joaquin Valley. Data from 5, and 9 were omitted from the thesis because the interviews were short and did not yield sufficient data for comprehensive analysis.