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2016

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UNIVERSITY OF CALIFORNIA
SANTA CRUZ

**FARM-TO-COLLEGE PROGRAMS: RELOCALIZATION, SUSTAINABLE
DEVELOPMENT, AND ECOLOGICAL AND SOCIAL SUSTAINABILITY**

A dissertation submitted in partial satisfaction
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

SOCIOLOGY

by

Linda L. Wallace

June 2016

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Abstract

FARM-TO-COLLEGE PROGRAMS: RELOCALIZATION, SUSTAINABLE DEVELOPMENT, AND ECOLOGICAL AND SOCIAL SUSTAINABILITY

Linda Wallace

Identifying ways of achieving sustainable development has become a worldwide concern. Farm-to-college programs are thought to promote sustainable development, but the extent to which they fit the characteristics of sustainable development (economically viable, promoting social and economic equity, and enhancing environmental health) is unknown. Using data collected primarily from semi-structured phone interviews with farm-to-college program managers and case studies to answer this question, this dissertation examines the extent to which farm-to-college programs support sustainable development, in the form of sustainable agriculture and relocalization (local food), through their purchasing practices. The study found that a majority of the farm-to-college programs included in the interviews largely fit the characteristics of relocalization used as indicators, including 1) purchase of locally produced farm products, 2) purchase of farm products from small farmers, and 3) direct relationships with the local farmers from whom they purchase. The study also found that in general the programs poorly fit many of the characteristics used as indicators of sustainable development, which included 1) purchase of sustainably produced food and food produced under safe and fair working conditions (“socially just” food); 2) inclusion of criteria to distinguish sustainably produced food and “socially just” food; 3) significant purchases of sustainably

produced and “socially just” food; and 4) inclusion of waste reduction measures. Most programs fit the characteristics of environmental sustainability to a greater degree than they fit the characteristics of social sustainability. However, the extent to which the programs fit the characteristics of sustainable development and relocation combined was satisfactory, indicating that farm-to-college programs are a potential way to promote sustainable development.

Acknowledgement

I would like to extend my thanks and appreciation to Wally Goldfrank without whose ongoing support and encouragement I could not have completed this dissertation

CHAPTER 1

HOW WE EAT AFFECTS THE WORLD

“How we eat determines to a considerable extent how the world is used.”

—Wendell Berry, 2010

Sustainable development, usually described as development that is economically viable, environmentally sound, and socially just, and the reduction of greenhouse gas (GHG) emissions, through a decrease in the level of fossil fuels used in the production and transportation of products, have increasingly come into public awareness as remedies for climate change and the growing number of extreme weather events experienced in the United States and around the world (Sathaye & Najam, 2007). Concern about reducing the U.S. carbon footprint, which means reducing GHG emissions and shifting to more sustainable development, has spread to both corporations and individuals. Most large U.S. companies, including food service companies, now include information about their carbon footprint in corporate responsibility and sustainability reports (Murray 2012; Sodexo Sustainability Report, 2012). Individuals are advised in popular magazines and online green websites to choose food produced close to home as a way to reduce “food miles,” the distance food travels from farm to table, and reduce their carbon footprint (Simple Green Living, 2013). While not a direct outgrowth of efforts to reduce our carbon footprint, local food has been gaining popularity as a way to increase the freshness and taste of

food while reducing food miles, protecting the livelihoods of small farmers, supporting local economies, and fostering relationships between producer and consumer (Bendfeldt, Walker, Bunn, Martin & Barrow, 2011; Harris, Lott, Lakins, Bosden & Kimmons, 2012; Merrigan & Bailey, 2008; Ng, Bednar & Longley, 2010; Pollan, 2006; Vogt & Kaiser, 2006). These projected economic, environmental, and social outcomes place “local food” in a category of sustainable development known as “relocalization.” Purchasing local food does not, however, guarantee that the food has been produced without the use of pesticides, herbicides, genetically modified organisms (GMO), or other potentially harmful input. And it does not guarantee that the food was produced under safe and fair working conditions. In fact, the local food movement has come under criticism from academics as a white middle-class movement that excludes low-income communities and communities of color (Alkon & Agyeman 2011; Guthman, 2011). Nevertheless, buying local food is a recognized and growing trend.

According to the website of Performance Foodservice, a leading U.S. food service distributor:

Buying locally grown produce is one of the fastest-growing trends in both the retail and food service industries. The National Restaurant Association has once again named ‘Locally Grown’ as the #1 trend in the industry, citing consumer awareness and demand for these products as continuing to be “hot” as the country continues to embrace sustainability in its buying habits (Performance Foodservice, 2014).

The local food movement is manifested in the growing popularity and proliferation of farmer's markets, whose number increased 180% between 2006 and 2014. It is also reflected in the growth of community-supported agriculture (CSA), "slow food," and regional cuisine, and the direct purchase of produce and other local farm products by restaurants and institutions, including farm-to-school and farm-to-college programs, where food is purchased directly from local farms to serve in school cafeterias and dining halls (Martinez et al., 2010). In addition to reducing food miles, farm-to-college programs, with their enormous purchasing power, have been identified as potential new markets for farmers that meet higher levels of social and environmental responsibility, or sustainable development, than conventional markets (Strochlic & Hamerschlag, 2006).

My interest in local sustainable agriculture began when I was a child growing up in an agricultural community in Central California. I remember the smell and taste of the chemical spray drifting by my house as crop dusters "dusted" nearby fields. I always wondered if my early exposure to pesticides was linked to the asthma I suffered from as a child. I remember too the farm workers stooped over planting and harvesting the strawberries and other crops in the fields surrounding my community. Children, some of them my classmates, worked in the fields alongside their parents in the summer and on weekends. Once when I was in the fourth grade, the carpool I was riding with on a field trip returned a girl to the labor camp where she was living. Farm workers did not live in town. I vividly remember the girl's house. It was a tarpaper shack with a broken window and dirt in front instead of a lawn, so different from my

new tract house with flowers and a lawn in front. When I was twelve, I decided to pick strawberries with a friend on the farm she worked on over the summer. I couldn't keep up, the work was too hard, the sun was too hot, and I didn't go back the next day. But I have been concerned about the working and living conditions of farm workers and the harmful effects of pesticides and fumigants ever since.

Redclift and Woodgate argue that it is crucial to identify sustainable alternatives to the current resource-intensive and fossil fuel-dependent global food system and to understand how new economic models and processes of production, distribution, and consumption can promote ecological sustainability and social equity in order to support a shift to more sustainable forms of development (Redclift & Woodgate, 1997; Tilman, Cassman, Matson, Naylor & Polasky, 2002). Although it is a potentially more sustainable alternative model of distribution and consumption, very little is known about the degree to which farm-to-college programs actually promote sustainable development and agriculture. My research addresses this deficit and makes an original contribution to understanding the extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization by examining whether the programs 1) incorporate ecological farming practices and socially equitable labor practices in their purchasing criteria; 2) purchase products from farmers that meet higher levels of environmental and social responsibility; 3) purchase from small family farms; 4) take measures to reduce waste and conserve natural resources; and 5) foster direct relationships between the producers and the consumers of farm products, in particular dining services and students. I also examine

how and why farm-to-college programs are established, including the initial importance of social justice and ecological sustainability and whether the programs in my study are growing.

Using participant observation to understand the intricacies of establishing a farm-to-college program, I took part in the establishment of the farm-to-college program at the University of California, Santa Cruz (UCSC), as the facilitator, later co-facilitator, of the campus Food Systems Working Group from 2004 to 2007. However, most of my data was collected from phone interviews conducted in 2008 and 2009 to obtain information about the purchasing practices related to ecological and social sustainability of 52 dining services managers and chefs who operate farm-to-college programs at large, mid-size, and small colleges, both public and private, across the United States. In addition, I interviewed a mid-size food service company that operates farm-to-college programs at several universities and a sustainable agriculture certifier that measures the social and environmental performance of the producers and food handlers it certifies. I also obtained information, via a phone interview, from a regional produce distributor that supplies farm-to-college programs. Additionally, I collected information about the farm-to-college programs, food service companies, and distributors from secondary sources, including university, food service company, and distributor websites. My primary purpose in obtaining information about distributors was to determine whether distributors are able to verify 1) where the products they sell were grown (supply chain traceability) and 2) the use

of uncertified sustainable production methods (ecological and social) by producers in their supply chain.

I found that a majority of the farm-to-college programs included in my interviews practiced a form of sustainable development known as “relocalization,” which focuses on meeting local needs locally, thereby reducing distance between producers and consumers and fostering producer-consumer alliances and relationships. Based on the grading instrument I developed, the programs largely fit the characteristics of relocalization I used as indicators, including purchase of locally produced farm products, purchase of farm products from small farmers, and direct relationships with the local farmers from whom they purchase. In addition to all programs purchasing locally produced food (the definition of *local* varied), 87% of the interviewees reported that purchasing from small family farms was a major component of their program. Eighty-seven percent of the interviewees also reported that their program made purchases ranging from less than 5% to more than 50% of their total local purchases from small family farms. And 31% said more than 50 percent of their programs’ local purchases were from small farms. Like UCSC, a majority of the interviewees, 85%, reported that their programs included opportunities for chefs and other food service staff to meet participating farmers and provided opportunities for student education or involvement. Not surprisingly, a majority of the programs achieved a good or excellent score for relocalization.

On the other hand, I generally found that the programs poorly fit many of the characteristics of sustainable development I used as indicators, which included 1)

purchase of sustainably produced food and food produced under safe and fair working conditions (“socially just” food); 2) inclusion of criteria for purchase of sustainably produced food and inclusion of criteria for purchase of “socially just” food; 3) significant purchases of sustainably produced and “socially just” food; and 4) inclusion of waste reduction measures used as indicators of environmental sustainability. Most programs fit the characteristics of environmental sustainability to a greater degree than they fit the characteristics of social sustainability.

The extent to which ecological and social justice practices were incorporated into the programs varied considerably. While a large majority of the interviewees, 92%, reported their programs included the purchase of sustainably (ecologically) produced farm products, the same number also reported their programs did not have criteria for the purchase of sustainably grown produce or the programs either did not purchase sustainably grown produce or the criteria used to determine whether or not produce was sustainably produced were very informal. However, 31% of the programs did have formal criteria for sustainable dairy, beef, poultry, and seafood. Thirty-eight percent of the interviewees reported that more than 50% of the local farm products they purchased were sustainably produced. Seventy-three percent of the interviewees reported purchasing organic farm products, but the majority, 56%, stated that 10% or less of the farm products purchased were organic. In contrast, 100% of the produce (but not meat, dairy, or poultry) purchased by the UCSC farm-to-college program in 2006–2007 was sourced locally from certified organic producers (Kolbus, Winslade & Kelly, 2007).

Only 56% of the respondents reported that their programs included purchase of products from farms that provide safe and fair working conditions, much lower than the 92% reporting that their programs included purchase of sustainably produced farm products. Interestingly, later in the interview, only 44% of the respondents said they knew their program purchased food produced under safe and fair working conditions, which may indicate confusion about what safe and fair working conditions are. Despite the number of interviewees stating their programs purchased equitably produced food, the majority of farm-to-college programs in my sample said only 10% had guidelines for purchasing from farms that provide safe and fair labor conditions. The uncertainty of whether farm-to-college programs actually purchased local food from farms that provide equitable labor conditions is not surprising since the distributor I interviewed reported that distributors have no way of tracking whether the uncertified produce they sell is produced under safe and fair working conditions. Furthermore, in contrast to the Perez and Allen study of the preferences of UCSC dining consumers, which found that 80.1% of respondents considered improving the working conditions of hired workers to be very important, only 38% of the food service managers and chefs I interviewed reported student requests for food produced under safe and fair working conditions. The UCSC farm-to-college program, unlike other farm-to-college programs interviewed here, purchased 100% of its local produce from a farmer collaborative whose members were known to pay fair wages and provide one or more benefits to their workers.

Like UCSC, almost all of the interviewees, 96%, reported that their programs included recycling and other waste reduction measures. Nevertheless, the majority of the programs received a poor grade for sustainable development. However, a majority of the programs received a satisfactory grade or better overall grade when relocalization and sustainable development were combined.

The following section presents background on the global food system and its negative externalities that have contributed to the concurrent rise of the local food movement, including farm-to-college programs. This chapter also contains a statement of the problem that my research addresses, the purpose of my research, an overview of methods, a definition of terms, and a brief description of the content of subsequent chapters.

Background

Food systems in both advanced capitalist and developing countries have become increasingly global over the past several decades, requiring food to travel long distances between producer and consumer. They have also become resource intensive, using high levels of energy, water, and chemicals; are characterized by crop monocultures; and are dominated by large agribusinesses and other corporations. Holtz-Gimenez reports that 20% of the world's greenhouse gasses are produced by "industrial agriculture" and food transportation (Holtz-Gimenez, 2011). According to Miguel Altieri, a professor at the University of California, Berkeley, "widespread use of pesticides, synthetic fertilizers, animal drugs, and mechanization has resulted in

water, air, and food pollution” (Altieri, 2002, p. 197). In addition, pesticides have been shown to affect human health (Moore, 2002). The introduction of genetically modified organisms also carries environmental and health risks (Altieri, 2002). Along with the increase in chemicals, pesticides, and mechanization have come significant increases in agricultural productivity, which have resulted in cheaper food and more food available for export (Committee on Twenty-First Century Systems Agriculture; National Academy of Sciences, 2010).

Food produced in the global system is characteristically low cost, highly processed, and mass produced. Low prices typically rely upon weak environmental protection and cheap labor. Although “hidden from public attention” in the United States, where the farm labor supply is composed mostly of new or recent immigrants and agricultural labor is excluded from the protections of the National Labor Relations Act, the industry does not provide the employment compensations, benefits, or working conditions found in most other sectors, including restrictions on child labor, overtime limits, Workers’ Compensation, and collective bargaining rights (Bon Appetit Management Company Foundation; United Farm Workers, 2011; Majka & Majka, 2000). Unable to compete in the global food system, the number of farms (mostly family farms) in the United States, many of which were located in the Midwest, declined from a peak of 6.8 million farms in 1935 to 2.1 million in 2002 (Hoppe & Banker, 2006).

In addition, health problems in the United States, including obesity and adult onset diabetes, have increasingly been linked by recent studies to the typical

American diet, including cheap fast foods and highly processed foods containing high-fructose corn syrup and fat (Pollan, 2006; Schlosser, 2001). Consequently, a trend toward healthier diets that include more fresh fruits and vegetables has been emerging in the United States over the past decade or two. This trend includes growing consumer demand, increasing by more than 20% a year, for organic produce and food products that have been grown without chemical fertilizers and pesticides (Sligh, 2002). As a result, organic agriculture has become one of the fastest-growing segments in U.S. agriculture (Shreck, Getz & Feenstra, 2005; Sligh, 2002).

Although not identical, organic agriculture is often thought of as sustainable agriculture, which encompasses the broad parameters of sustainable development, meaning economically viable, environmentally sound, and socially equitable (Shreck, Getz & Feenstra, 2005). An overlapping movement supporting local agriculture, also thought of as sustainable agriculture, is likewise underway in the United States and is manifested in the growing popularity and proliferation of farmer's markets, community-supported agriculture, "slow food," regional cuisine, and direct purchase of produce and other local farm products by restaurants and institutions, including farm-to-school and farm-to-college programs, where food is purchased from local farms to serve in school cafeterias and dining halls. While agribusinesses and large corporations not characterized by the attributes commonly associated with sustainable agriculture (such as small, family owned, local, and embedded in the community) are beginning to dominate the high-value crops and the most profitable segments of organic commodity chains, farm-to-school programs emphasize direct connections

between small local producers, schools, and students (Guthman, 2004; Sligh, 2002). In this way, farm-to-college programs appear to be a form of sustainable development known as relocalization. This refers to returning to a more local and ecologically friendly economy where market exchanges are more deeply embedded in social relations.

Concurrent global and local food trends illustrate Polanyi's theory of the double movement. One movement, global industrial agriculture, supported by government policies since World War II, is promoting a global food system characterized by concentration (large corporations), cheap labor, chemicals, mechanization, commodity crops, transporting food over long distances, and environmental degradation. In response, the other movement, local food, is promoting local food systems, generally characterized by protection of the environment and the livelihoods of small farmers, support of rural economies, and embedded social relations. As a result of the growing local food movement and concern about the environmental impacts of global industrial agriculture, the U.S. government is beginning to adopt policies and programs supporting local and regional agriculture and food. Ironically, the dining services operations of many colleges are contracted out to one of three large corporations: Sodexo, Compass Group, and ARAMARK, two of which are transnational corporations.

Statement of the Problem

Redclift and Woodgate (1997) argue that new institutions, processes of production, and measures of human welfare promoting ecological sustainability and social equity need to be identified by sociologists in order to support a shift to sustainable development. In their study of best labor practices on California organic farms, Strohlic and Hamerschlag (2006) point to farm-to-college programs as potential new markets for farmers who meet higher levels of social and environmental responsibility than conventional markets. However, the extent to which farm-to-college programs actually promote agricultural development that is economically viable, environmentally sound, and socially just is currently unknown.

Prior to 2008, much of the literature and research about farm-to-college programs focused on program characteristics and how to start a program (Markley, 2002; Murray, 2005). Later literature and research, often conducted by researchers associated with the Departments of Nutrition, addressed ways to overcome barriers to local sourcing and to promote farm-to-college programs frequently as a means to enhance healthy eating (Merrigan & Bailey, 2008; Ng, Bednar & Longley, 2010; Vogt & Kaiser, 2008). More recently farm-to-college research has examined whether campus food initiatives with commitments to sustainable food purchase can be transformative (Bartlett, 2011). Other research has explored the sustainability practices of college dining services in general and at urban universities, but not dining services associated with farm-to-college programs (Chen, Arendt & Gregoire, 2010; Pothukuchi & Molnar, 2014). None of the research examines the extent to which

farm-to-college programs support ecological farming practices and equitable labor conditions.

Research on farm-to-college programs that documented purchase of organic food as part of an overview of farm-to-college programs includes 1) a survey of 70 farm-to-college programs carried out by Murray in 2005 as part of her University of Washington master's thesis; 2) an ongoing Community Food Security Coalition survey conducted online from 2004–2012; and 3) a report on 18 interviews with farm-to-college programs conducted by Markley, who is the National Farm-to-College Program manager for the Community Food Security Coalition (Markley, 2002, 2012; Murray, 2005). These studies focus on the general characteristics of farm-to-college programs. Murray emphasizes large public universities and also examines student involvement. Although the three studies found that many programs include purchase of organic food from local farmers, none of these studies addressed the issues of social justice and sustainable agriculture or whether relationships between local farmers and the farm-to-college programs are fostered by local purchases.

However, the Center for Agroecology & Sustainable Food Systems at the University of California, Santa Cruz (UCSC), did publish a research brief by Perez & Allen (2007) that looked at social justice and sustainable agriculture in the context of consumer food preferences. The study, "Farming the College Market: Results of a Consumer Study at UC Santa Cruz," examined the food preferences of campus consumers in regards to such issues as protecting the environment, pesticides in the

food system, treatment of animals in the food system, and working conditions of farm labor. The results regarding social justice were somewhat unclear. While the study found that 80.1% of participating UCSC students, staff, and faculty identified improving the job conditions of hired workers on farms and in food processing as very important to them, only 37.7% of the respondents indicated that they had a strong interest in union labeling, which verifies union wages were paid to workers, as opposed to 58.7% who indicated a strong interest in fair trade labeling and 62.3% who expressed a strong interest in a label that guarantees humane treatment of animals. Of the respondents, 32.5% said they would be willing to pay more for a dining hall meal plan that featured “food produced in a ‘socially just’ manner,” 26.5% said they would not pay more, and 41.2% were unsure. Perez notes that further research is needed to understand why there is less support for trade unions than fair trade. Research is also needed to determine the extent to which farm-to-college programs actually support “socially just” food that contributes to fair wages and safe working conditions for farm workers.

Additional farm-to-institution research that addressed sustainably produced food within the context of value-based supply chains was sponsored by the Center for Agroecology and published in the *Journal of Agriculture, Food Systems, and Community Development* (2011). The research, based on a national survey of college students, a survey of institutional food service buyers in California, and in-depth interviews of people in the California distribution system, focused on “how to foster farm-to-institution programs by exploring barriers, opportunities, and potential

solutions from different perspectives” within value-based supply chains (Feenstra, Allen, Hardesty, Ohmart & Perez, 2011). The term, *value-based supply chain*, was used to denote a “supply chain providing local, regional, sustainable, family-farmed, or organic food.” The findings of the study are organized into three types of flows: product flow, financial flow, and information flow. Information flow was found to be likely most important in supporting farm-to-institution value-based food chains. The study does not define the terms, *local*, *regional*, *sustainable*, *family farmed*, or *organic*, but does confirm that the demand for producing, distributing, and purchasing food characterized by these terms is relatively strong among food service buyers who have learned about these values from professional organizations, food service management companies, and top administrators at their colleges. The researchers’ observation that information about sustainability and fair labor associated with the production of farm products is not easily accessed by buyers at various points in a supply chain and warrants further research.

A survey of 138 college and university dining services administrators conducted by Chen, Arendt, and Gregoire focused on identifying sustainability practices existing in college dining services (not farm-to-college programs) and found that waste reduction was the most frequently used sustainability practice by university dining services administrators and that the purchase of organic and local products was less practiced among this group. The study also found that colleges and universities located in the Northeast had the highest sustainable practices scores and those in the South had the lowest scores (Chen et al., 2010).

Focused on “food justice,” Pothukuchi and Molnar’s research assesses benefits of university sustainable food system activities to inner-city neighborhoods rather than the purchase of food that supports “social justice” for farm workers. Pothukuchi and Molnar surveyed 21 urban universities to determine the prevalence of sustainable food system activities within the universities that facilitate access to healthy food by surrounding inner-city neighborhoods, such as community gardens, community-supported agriculture, and farmer’s markets. The study found that, although a low level of sustainable food activities existed in a majority of the schools, there was little evidence of a “comprehensive integrated approach” to sustainable food system activities benefiting inner-city neighborhoods (Pothukuchi & Molnar, 2014).

Purpose of the Research

The purpose of my research was to:

1. gauge the extent to which farm-to-college programs fit the characteristics of sustainable development and agriculture, i.e., social justice and ecological sustainability, including relocalization;
2. explore why, when, and how farm-to-college programs are being established, including whether promoting “social justice” and ecological farming practices are factors; and

3. determine if there are differences in the extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization based on region, size, and form of management.

Based on the above purposes, my study asks three major research questions:

1. *What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?*
2. *Do farm-to-college programs incorporate ecological farming practices and/or socially equitable labor practices in their purchasing criteria?*
3. *What are the means by which and the reasons why farm-to-college programs are being established in the United States, and are these programs expanding?*

Assumptions and Expectations

Based on my knowledge of the farm-to-college literature and my participation in the establishment of a farm-to-college program, it is my assumption that farm-to-college programs can be characterized as a form of “relocalization” that illustrates Polanyi’s theory of the double movement with relocalization promoting greater protection of nature, social relations, and the livelihoods of small farmers than the free-market-based global food system. By definition, college purchase of food from local farmers provides a new source of income for participating farmers and decreases

food miles, thereby reducing fossil fuel use and carbon emissions in the transportation of food from producer to consumer (although some research disputes this).

I expect my findings to show that most farm-to-college programs 1) support the environment through purchase of produce from local farmers who incorporate one or more sustainable production methods; 2) foster the development of relationships between food service personnel, farmers, and students (re-embedding economic activity more deeply in social relations); and 3) require institutional changes (policies, requirements, and regulations) to implement particularly in public colleges. A prerequisite change in institutional purchasing policies and regulations supports the premise that institutional changes are necessary to support a shift to more sustainable development (Redclift & Woodgate, 1997).

Based on the findings of a 2005 UC Davis study of farm labor practices and social standards on organic farms in California, I can make the assumption that most participating farms do not incorporate worker-supportive labor practices and therefore do not encompass the broad conception of sustainable agriculture as ecologically sustainable and socially just (Shreck, Getz & Feenstra, 2005).

Limitations and Assumptions

Sample surveys. Error is always inherent in a sample survey because a complete census is not taken. Since I did not include the entire population of colleges with farm-to-college programs in my research, my results are subject to sampling error. I initially contacted 66 of the 120 colleges known to have farm-to-college

programs in 2008. Fourteen of the colleges I contacted did not respond. Fifty-two of the colleges responded, resulting in a 79% response rate. In addition, I made the assumption that the entire population of colleges with farm-to-college programs was included in the approximately 120 farm-to-college programs that responded to the Community Food Security Coalition's online survey of farm-to-college programs in 2008 when I selected my sample. However, it is possible that not all the colleges and universities with farm-to-college programs completed the CFSC survey in 2008, though I did find that 167 colleges had completed the survey by winter 2011.

Non-sampling errors can also occur in a sample survey due to the inability to obtain correct information from each respondent sampled as a result of how each respondent interprets questions or definitions and editing, coding, and data processing errors. My data may contain non-sampling errors resulting from the various and inconsistent ways respondents interpreted the definitions of *ecological sustainability* and *socially just working conditions*, which I did not specifically define for them.

Questionnaires. While questionnaires are usually considered to be an objective research tool that can produce generalizable results, the results are vulnerable to various weaknesses in addition to sampling errors, including faulty design, biased design and wording, respondent unreliability, lack of information, misunderstanding, and restraint; errors in coding, processing, and statistical analysis; and faulty interpretation of results (Oppenheim, 1992). A weakness in my research may have been lack of information among some of the respondents regarding the purchase of food grown using sustainable methods. Another problem I encountered

was a majority of respondents asserting what they believed or hoped about the wages and working conditions of farm workers who grew the food that they purchased, rather than acknowledging that they did not know what the working conditions and wages of the farm workers were. An exception was respondents who had visited the farm themselves or had third-party certification verifying the farm was using sustainable farming methods, including paying fair wages and providing safe working conditions for farm workers.

Definitions of Key Terms and Concepts

Certified organic. All products sold as “organic” must be certified. Organic certification verifies that the product complies with USDA organic regulations. Organic farmers are not allowed to use synthetic pesticides or fertilizers, genetically modified crops, growth hormones, or antibiotics. Organic meat and poultry can be fed only organically grown feed. Certification includes the annual submission of an organic system plan and inspection of farm fields and processing facilities to verify that mandated organic practices and recordkeeping are followed. Certification is carried out by organizations accredited by the USDA (U.S. Government Publishing Office, 2016). According to the Food Alliance, organic certification does not guarantee that workers receive fair wages, “that animals are raised humanely, or that wildlife habitat is protected and enhanced” (Food Alliance, 2012). At the end of 2014, there were 19,474 certified organic producers in the United States, a 250% increase in U.S. certified organic operations since 2002, when the USDA’s National Organic Program began regulating the standards for organic production of agricultural

products (Alonzo, 2015). Consumer demand for organically produced products has grown by double digits most years since 1990. Organic food sales now account for 4% of total U.S. food sales (United States Department of Agriculture Economic Research Service, 2015).

College dining services. College dining services provide breakfast, lunch, and dinner seven days a week for students residing on campus as well as for commuters who may only eat lunch on campus. Food is typically purchased through a meal plan that provides a certain number of meals per week. The student pays for a specific meal plan at the start of the semester and details of the plan are stored on a computer system. Student ID cards are then used to access the meal plan. The college typically tracks the students' usage of their plans by counting either the number of purchased meals, points, or dollars. Most schools offer several different options to students for using their meal plans. Students generally use their meal plan in the main dining hall but often have the option of purchasing meals in smaller dining halls, cafes, restaurants, bars, convenience stores, or even fast-food chains located on campus. College dining services in the United States are either self-operated by the college or contracted out to a food service company.

Three large corporations—Sodexo, Compass Group, and ARAMARK—dominate the contracted college dining services, which are a sub-segment of the food service industry.

Sodexo is a member of the larger Sodexo Group, a French multinational, with operations in 80 countries. According to the electronic trade magazine, Food Management, the Sodexo Group earned more than \$22 billion in total revenue in 2014, with approximately 37.5% of the total generated by the North American Division (Food Management, 2015). Sodexo, ranked number three by Food Management, is one of the leading food and facilities management services companies in North America and provides an array of services to more than 6,000 corporations; health care, long-term care, and retirement centers; schools, colleges, and the military (Food Management, 2012).

United Kingdom-based Compass Group PLC focuses primarily on food service, has over 500,000 employees in over 50 countries, is listed on the London stock exchange, and reports annual revenues of 26.3 billion USD. Education is one of six sectors of Compass Group's food service business, the others being business and industry, including fine dining, defense, vending, health care, and seniors. Compass Group USA is a division of Compass Group PLC and includes a number of operating companies, including the corporate and university food service company Bon Appetit, known for its sustainable sourcing practices (Compass Group, 2015).

ARAMARK, headquartered in Philadelphia, has more than 270,000 employees worldwide. The publicly traded company reported 14.8 billion USD in sales in 2014. Their customers include 400 colleges and universities in the United States. ARAMARK provides food service, facilities management, and uniform and

“career apparel” to schools and universities, health care institutions, stadiums and arenas, and businesses in 21 countries (Aramark, 2015).

Eco-labels. Eco-labels help consumers distinguish more environmentally friendly, humane, and socially just products. They are affixed to products by growers and manufacturers to inform customers that these products meet certain conditions or standards. There are generally three types of labels: 1) first-party labels issued by producers without independent review, such as pasture-raised and locally grown labels; 2) second-party labels issued by trade organizations, membership organizations, and the industry; and 3) third-party certification labels issued by an organization independent from the producer verifying that the product meets certain standards, such as certified organic and certified fair trade. Currently there are hundreds of eco-labels in use in the United States. Food-related eco-labels include fair trade, certified organic, locally produced, humane treatment of animals, U.S. grown, Food Alliance certified (sustainable agriculture), and union (Buck, 2009). The USDA does not have a label for meat raised without hormones, although organic and grass-fed labels do not allow hormone use (Environmental Working Group, 2011). The USDA also does not publish a uniform standard or definition for antibiotic-free meat. However, the USDA does approve producer-provided labels indicating that meat is from animals raised without antibiotics. Each producer can develop its own antibiotic standard, which is then approved by the USDA before it can be used. Milk without bovine growth hormone may be labeled “From cows not treated with

rBST/rBGH,” which means that the producer claims not to have administered these hormones to its cows (Grace, 2016).

Farm-to-college programs. Farm-to-college programs involve the purchase of local or regional farm products directly from farmers and producers or through distributors by campus dining services for use in meal preparation and special events on campus. Programs vary in scale from occasional, small, informal special events and meals to large, official, well-established programs that regularly incorporate local products into everyday dining hall meals. Many farm-to-college programs provide educational opportunities for students, including farm tours, farmer in the classroom sessions, chefs in the classroom, culinary and nutritional education, as well as opportunities for chefs and other dining services staff to develop direct relationships with local farmers.

Farm products are produced locally on small, medium, or large farms and either purchased directly from the farmer or a farmers’ co-op/consortium by dining services or indirectly from local, regional, or national distributors who source from local and regional farms or indirectly from other distributors who source from local or regional farms. The definition of *locally produced* varies from “food produced within 50 miles of the farm-to-college program” to “food produced within a particular geographical region or state in which the program is located.”

Farm labor and farm types. The *farm labor* and *farm types* definitions below are used by the United States Department of Agriculture (USDA) National

Agricultural Statistics Service (NASS) and were taken from the USA NASS Farm Labor (November 2012) report (NASS, 2012). Farm workers who plant and harvest fruits and produce on large farms in California, Oregon, Washington, Texas, Florida, and North Carolina, the six largest farm worker states, are frequently employed as contract labor rather than hired workers (Bon Appetit, United Farm Workers, 2011).

Hired worker. A hired worker is any worker who was paid for at least one hour of agricultural work on a farm or ranch. The worker type is determined by what the employee was primarily hired to do, not necessarily what work was done during the survey week. Types of workers include the following:

Field workers. Field workers are employees who are engaged in planting, tending, and harvesting crops, including operation of farm machinery on crop farms.

Livestock workers. Livestock workers are employees who tend livestock, milk cows, or care for poultry, including operation of farm machinery with livestock or poultry.

Supervisors. Supervisors are hired managers, range foremen, and crew leaders.

Other workers. Other workers are employees engaged in agricultural work not included in the other three categories, such as bookkeepers and pilots.

Contract labor. Contract workers are not paid by the farm or ranch. They are paid by a crew leader, contractor, or other person with an agreement with the farmer

or rancher to pay them. Contractors perform pruning, thinning, weeding, or harvesting of fruit, vegetable, or berry crops, but do not operate machines.

Farm types. Farm labor is employed on these three types of farms:

Field crops. A farm producing wheat, rice, corn, soybeans, barley, dry beans, rye, sorghum, cotton, popcorn, tobacco, or other such crops.

Other crops. A farm producing vegetables, melons, berry crops, grapes, tree nuts, citrus fruits, deciduous tree fruits, avocados, dates, figs, olives, or nursery or greenhouse crops. This category also includes farms producing potatoes, sugar crops, hay, peanuts, hops, mint, and maple syrup.

Livestock or poultry. A farm producing cattle, hogs, sheep, goats, milk, chickens, eggs, turkeys, or animal specialties such as furs, fish, honey, etc. (NASS, 2012).

Local food. There is no consensus on a geographically based definition of *local food*. Definitions vary from “food produced, marketed, and consumed within a 50-mile radius” to “food produced, marketed, and consumed within a geographical region.” The 2008 Farm Act limits the total distance a product can be transported and remain eligible for marketing as a “locally or regionally produced agricultural food product” under the USDA Value-Added Agricultural Market Development Program to “400 miles from its origin or the state in which it was produced” (Martinez, et al., 2010). According to Ilbery and Maye, the distances that are perceived to delineate “local” may also vary by region depending on the ability to source supplies within a

short distance or further away (Ilbery & Maye, 2006). In less densely populated areas where supplies are more difficult to source nearby, “local” is more likely to be considered to constitute a larger geographical area than in more densely populated areas where supplies are more readily available (Selfa & Qazi, 2005). However, there is general agreement that local food is characterized by a reduction in the distance between producer and consumer, a short food supply chain, which allows the consumer to connect with the “place of production and, perhaps, the people involved and methods used to produce the product” through package labeling or personal communication (Marsden et al., 2000, cited in Martinez. 2010).

Relocalization. Relocalization is a form of sustainable development that promotes a return to locally owned businesses in order to strengthen local economies, reduce environmental impacts, and redevelop local community linkages (Magdoff, Foster & Buttel, 2000). From an economic point of view, keeping commerce at the local level results in a multiplier effect, meaning that dollars are recycled through a community several times before leaving the community rather than being immediately taken out of the community by corporations headquartered in distant cities (Magdoff et al., 2000). In addition, community links are enhanced through a shortened supply chain and the establishment of relationships between consumers and local farmers, as well as other businesses (Levidow & Psarikidou, 2011).

From an environmental standpoint, local products are believed to be more energy and emissions efficient because less fossil fuel is used to transport and store them, thus reducing GHG emissions that cause global warming (Pirog, Van Pelt,

Enshayan & Cook 2001; Jones, 2002; Blanke & Burdick, 2005). In addition, local products frequently require less packaging and therefore don't contribute as much refuse to landfills. However, in a USDA research paper, Martinez (2010) points to other studies that show distance is not an adequate measure of impact (Coley, Howard & Winter, 2009; Saunders & Hayes, 2007) nor particularly relevant because transportation accounts for only a small share of energy use (Weber & Matthews, 2008). According to Weber and Matthews, while food is generally transported long distances, transportation represents a relatively small percentage (11%) of the life-cycle GHG emissions associated with food compared to 83% associated with food production.

Small family farms. The USDA Economic Research Service (USDA-ERS) classifies farms organized as proprietorships, partnerships, and family corporations that are not operated by a hired manager and have gross incomes of less than \$350,000 as small family farms (Hoppe & Banker, 2013). In 2003, the USDA Economic Research Service reported that 98% of all farms in the United States were family farms, and of these 91% were small family farms. Of U.S. farms, 2% were non-family farms. While non-family farms accounted for 14% of total agricultural output, large-scale family farms, which made up 7% of all U.S. farms, accounted for 59% of all production (Hoppe & Banker, 2006).

Social justice. Within the context of sustainable agriculture, social justice includes economic viability of small farms, along with quality of life of farmers, farm families, and farm communities, as well as employment equity, meaning safe and fair

working conditions and living wages for farm workers and others employed in the system. In addition to social justice within sustainable agriculture, the food movement is beginning to address “food justice,” which focuses on food consumption and access to healthy, affordable food by low-income communities and communities of color (Alkon & Agyeman, 2011).

Sustainable agriculture. The Agricultural Sustainability Institute at UC, Davis, defines *sustainable agriculture* as “integrating three primary goals: environmental health, economic profitability, and social and economic equity” (UC Davis Agricultural Sustainability Institute, 2016). The Committee on Twenty-First Century Agricultural Systems (“the Committee”) and the National Research Council (NRC) expand on these goals in their book, *Toward Sustainable Agricultural Systems in the 21st Century*, by adding a fourth goal derived from the Farm Bill definition of *sustainable agriculture*: satisfying human needs for food, fiber, and feed, and contributing to bio-fuel needs (Committee on Twenty-First Century Agricultural Systems; National Research Council, 2010, p.23). They also point out that a number of different methods can be used to move toward meeting sustainability goals and that the methods used will affect each goal differently. Further, each goal has corresponding objectives that represent different ways of meeting a goal. Soil health, water quality, air quality, biodiversity, and animal health are the objectives the Committee and the NRC identify for enhancing environmental quality and the resource base (environmental health). However, the method chosen to meet one objective may hinder meeting another, so trade-offs will have to be made. The same is

true of the goals. For example, increasing crop production to meet human needs for food may require adding chemical inputs that may negatively impact soil health and biodiversity, thereby hindering efforts to meet the goal of enhancing environmental quality. As indicated by the UC Davis definition of *agricultural sustainability*, all of the goals must be integrated and balanced in a sustainable system. Moreover, the Committee and the NRC stress that sustainability is a process toward meeting the goals rather than a particular end state or use of a particular set of methods (Committee on Twenty-First Century Agricultural Systems; National Research Council, 2010). In addition, as explained by the Committee and the NRC, ways to measure progress toward meeting sustainability goals must be identified, which, like meeting sustainability goals, is a very complicated task.

Organic farming focuses on ecological agricultural practices, including soil fertility, crop rotation, and natural pest control. It does not address social and economic equity. In contrast, sustainable agriculture embraces broader principles that can include conservation of soil, water, and energy; wildlife habitat and biodiversity protection; just treatment of farm workers; and economic viability of small farmers. Unlike organically produced food, which is labeled and certified by a third party that verifies mandated organic production methods were used, sustainably produced food is typically not certified or labeled and therefore is very difficult to identify. Although only a small fraction of sustainably produced food is certified, certification is available.

An Oregon-based non-profit, the Food Alliance, operates a small but growing certification program (330 certified farms and ranches compared to 17,600 certified organic farms and processors) that measures environmental and social sustainability based on an evolving sustainability standard and use of a third-party site inspection to verify requirements are met (Food Alliance, 2015). The Food Alliance sustainability standard addresses soil and water conservation, integrated pest management and pesticide reduction, wildlife habitat and biodiversity protection, safe and fair working conditions, humane use of animal growth hormones, and a sustainable product chain of custody (Food Alliance, 2015).

Sustainable development. Sustainable development is broadly considered to have three components: 1) economic sustainability, in the production of goods and services; 2) environmental sustainability, in the maintenance of nonrenewable resources, renewable resources, and environmental sink functions; and 3) social sustainability, in the equitable distribution of goods, services, and opportunities, and in the equitable treatment of workers (Harris, Wise, Gallagher & Goodwin, 2001).

Not unsurprisingly, social sustainability is the component of sustainable development that is the most overlooked. According to Pearsall & Krueger (2012), a number of scholars have observed that “social justice has been subordinated to environmental indicators and conventionally understood economic growth” in many if not most public and private sustainability initiatives within the United States as well as the Global North and South in general (Pearsall & Krueger, 2012). There are strongly differing views on how sustainable development should be implemented in

practice, which are based in part on the degree of environmental protection and social equity thought to be necessary for sustainable development as well as the desirable degree of stakeholder participation in bringing about sustainable development and the scope of sustainable development.

Values-based supply chain (VBSC). VBSCs are concerned about where and how farm products are produced. They consist of food producers, processors, third-party certifiers, distributors, and food retailers, including food service management companies that “preserve the identity of the farmers and ranchers who raised or grew the product being sold, as well as any environmental, social, or community values incorporated into its production” (Lerman, 2012, p. 2). In addition, VBSCs are theoretically characterized by trust, transparency, fairness, and collaboration between participants (Lerman, 2012; National Good Food Network, 2015).

Organization of Subsequent Chapters

Subsequent chapters include a review of theories and research related to farm-to-college programs in Chapter 2; research design and methods in Chapter 3; an analysis of the data collected from a survey of 52 farm-to-college programs in Chapter 4; a case study of the establishment of the UCSC farm-to-college program and three smaller case studies of farm-to-college programs in other regions of the United States in Chapter 5; mini case studies of a food service management company, a regional produce distributor, and a food certification program in Chapter 6; and in

Chapter 7 a discussion of the findings, conclusions, and recommendations for future research.

CHAPTER 2

REVIEW OF RELATED LITERATURE: THEORIES, CONCEPTS, AND RESEARCH

Redclift and Woodgate contend that new institutions, processes of production, and measures of human welfare promoting ecological sustainability and social equity need to be identified by sociologists in order to support a shift to sustainable development. Farm-to-college programs are thought to promote sustainable development and agriculture. However, the extent to which farm-to-college programs actually fit the characteristics of sustainable development and agriculture that is environmentally sound and socially just is currently unknown. The theories and research included in the following literature review provide an understanding of what sustainable development is and why a shift to development and agriculture that promotes ecological sustainability and social equity is needed to remedy the environmental degradation and unjust labor practices attributed to the globalization and industrialization of agriculture. The review also includes theories that encompass likely reasons and means by which farm-to-college programs are established.

The research findings presented focus on two subjects: farm-to-college programs and farm workers. The farm-to-college research examines the characteristics of farm-to-college programs, including purchase of organic food, benefits of farm-to-college programs, barriers to establishing these programs, and

ways to overcome these barriers. These studies address sustainability-related topics, including decision-making and implementation of sustainable practices by food service and university administrators, and student priorities regarding ecologically produced and "socially just" food, although the research was not carried out in the context of farm-to-college programs. The farm worker research provides recent findings regarding working conditions and wages of farm workers that highlight the social justice issues related to agricultural practices in the United States. However, none of the studies address the subject of my research, which is the extent to which farm-to-college programs fit the characteristics of sustainable development and agriculture in promoting social justice and ecological farming practices.

Theories and Concepts Related to Farm-to-College Programs

My proposed research is informed by literature on 1) the political economy of agriculture and food systems, 2) sustainable development and agriculture (ecological and social) and relocalization, 3) Polanyi's double movement theory and his perspective regarding market exchanges embedded in social relations, 4) the politics of consumption and reflexive consumption, 5) the new social movement theory and student sustainability movements, 6) organizational change and innovation, 7) the science of taste and the role of taste in food choice, and 8) the local food movement. An examination of these theories provides ways of understanding the means by which and the reasons why farm-to-college programs are established. In addition, the theories lay out the parameters of sustainable development I use to measure the extent

to which farm-to-college programs meet the characteristics of sustainable development that is environmentally sound and socially just.

Political economy of agriculture and food systems. Through an analysis of the history and forces behind the global restructuring of local and national agro-food systems, we can see how and why the production and distribution of food has changed as global capitalism and industrial agriculture permeate every locality and nation state in the world. These changes include the decline of small farms in the United States, lower prices for agricultural products, and cheap immigrant farm labor, as well as harmful environmental impacts on water, soil, and air. The restructuring of local and global agriculture and its externalities provides a context for the need for sustainable alternatives that promote ecological farming practices and social justice for both small farmers and farm workers.

Although production has also increased, according to Magdoff, Foster, and Buttel, concentration and centralization of agriculture, accompanied by the introduction of costly chemicals, mechanization, and more recently biotechnology, has resulted in rural dispossession around the world (McMichael, 1994; Magdoff et al., 2000). Magdoff, Foster, and Buttel make the point that small farmers are on a treadmill where the prices they receive for their products continuously go down as the cost of farm inputs go up, forcing them to adopt factory farming and new technologies and increase the scale of production in order to stay in business. Farmers who can't keep up on the treadmill are forced out of farming (Magdoff et al., 2000).

According to Mark Richie and Kevin Ristau, in a 1987 report prepared for the League of Rural Voters Education Project, U.S. farm policies were instrumental in lowering commodity prices and forcing small farmers out of agriculture in order to modernize agriculture by increasing reliance on mechanization and petroleum-based fertilizers and pesticides and replacing small and mid-size farms with corporate farms (Richie & Ristau, 1987). The number of farms in the United States decreased from 6.8 million in 1935 to only 1.8 million in the mid-1990s, but increased to 2.1 million in 2003 (Hoppe & Banker, 2006; Magdoff et al., 2000). Beyond the impact on farmers, loss of small farms negatively impacts the vitality of rural communities.

U.S. international trade policies, such as the North American Free Trade Agreement (NAFTA), and low commodity prices in the United States have disadvantaged small farmers in other countries. Loss of small farms in Mexico and Central America, including dislocations caused by NAFTA, and a steep drop in the price of Mexican corn, due to a surge in imports of cheap U.S. corn, has spurred immigration to the United States, where the farm labor supply is generally composed of poorly paid new or recent immigrants (Brown & Getz, 2011; Majka & Majka, 2000; United Nations Conference on Trade and Development [UNCTAD], 2014; Wise, 2009). According to a 2006 CBS News report, as many as two million Mexican farmers lost their livelihoods between 1997 and 2006, and many of these farmers came to the United States seeking jobs (Pinkston, 2006; United Nations Conference on Trade and Development [UNCTAD], 2014; Wise, 2009).

The Bon Appetit and United Farm Workers 2011 farm worker inventory surmises that “foreign workers, out of desperation, may be willing to accept substandard wages and working conditions.” Substandard working conditions and low or no wages are not new to farm workers in the United States. Slaves worked the cotton plantations in the South, often under brutal and inhumane conditions, until the Civil War ended slavery in 1865. California Mission Indians were subjected to forced agricultural labor and life-threatening corporal punishment under Spanish mission rule from 1769 through 1834 (Archibald, 1978; McWilliams, 1946). Beginning in the late 1860s, after the United States had seized California in the Mexican-American War and the transcontinental railroad was completed, California growers have been producing high-value crops that require large numbers of seasonal farm workers. These seasonal farm jobs have been filled by Japanese, Mexicans, Filipinos, and Okies and Arkies, all of whom were subjected to poor working conditions and low wages (Martin, 2011).

According to Brown and Getz, California growers have continuously kept farm workers marginalized through a number of mechanisms, including government intervention in labor policy, “the ideological construction of a racialized agricultural working force,” being systematically denied better wages and working conditions, and a continuous supply of new groups of immigrant workers (Brown & Getz, 2011). Since fixed costs are inflexible, growers have endeavored to increase profits by reducing the cost of labor. Marginalization of farm workers has enabled growers to keep labor costs down and profits up by employing farm workers part-time and

seasonally, just in time for planting and then again just in time for harvesting crops. Consequently, farm workers are seldom employed year round, generally earn very little, and frequently suffer from food insecurity and hunger (Bon Appetit Management Company Foundation and United Farm Workers, 2011; Brown & Getz, 2011).

Farm workers employed by farm labor contractors (FLC), 50 to 75% of farm workers in California, often earn even less (Bon Appetit Management Company Foundation and United Farm Workers, 2011; Majka & Majka, 2011). Farm labor contractors, who are paid by growers to supply workers, are responsible for farm worker supervision and discipline and may also provide transportation to the fields and housing for workers (Majka & Majka, 2011). Reminiscent of earlier labor practices, several cases of forced labor perpetrated by FLC and growers who bring agricultural workers to the United States to fill temporary agricultural jobs (H-2A workers) have been uncovered in Florida over the past decade (Bon Appetit Management Company Foundation and United Farm Workers, 2011; Estabrook, 2011).

California, Florida, Washington, Texas, Oregon, and North Carolina are the states with the largest farm worker populations (Bon Appetit Management Company Foundation and United Farm Workers, 2011). Hired farm workers make up one-third of all those working on farms in the United States. The majority of hired farm workers are employed on large farms with sales over \$500,000 per year. The

remaining two-thirds of those working on farms in the United States are self-employed farm operators and members of their families (USDA Economic Research Service, 2015).

Farms growing crops that require hand harvesting, such as strawberries and citrus in California, hire farm workers who, in addition to low pay, are often are not entitled to receive overtime pay or meal or rest breaks (Bon Appetit Management Company Foundation and United Farm Workers, 2011). This is because farm work is exempt from many of the protections of the National Labor Relations Act (NLRA) and the Fair Labor Standards Act (FLSA), as well as many state protections, including collective bargaining, minimum wage, child worker protections, the provision of Unemployment Insurance and Workers' Compensation, occupational and safety health standards, heat stress and pesticide exposure protection, mandatory rest and meal breaks, and substandard housing, although some states do include farm workers in these protections under state law (Bon Appetit Management Company Foundation and United Farm Workers, 2011; Estabrook, 2011). Interestingly, farm work was exempted from the provision of collective bargaining under the National Labor Relations Act, which was passed as part of President Roosevelt's New Deal in the 1930s, as a compromise between Roosevelt and Southern Democrats, who were not willing to support the Act if it gave agricultural workers, mostly African Americans at the time, the right to form unions and collective bargaining afforded to other workers (Estabrook, 2011). Despite the growing interest of American consumers in where their food comes from, the Bon Appetit/United Farm Workers

farm labor inventory found that the hardships, poor working conditions, and low wages farm workers experience are “invisible” to the American public (Bon Appetit Management Company Foundation and United Farm Workers, 2011).

The low wages paid to farm workers in the United States mirror the low prices farmers receive for most agricultural products purchased from the largest agribusinesses and food corporations and the farmer’s declining share of the food dollar after paying for input costs (Magdoff et al., 2000). This decline can be partly explained by the increasing share of the food dollar spent on processing, transportation, marketing, and corporate profit (Stewart, 2006). The largest agribusinesses and food corporations virtually control the price of the raw agricultural products they purchase to transform into consumer food products, according to Magdoff, Foster, and Buttel, who note that “cheapening the cost of obtaining raw food products is a key to corporate profitability”(Magdoff et al., 2000). Melanie Warner reports in her 2013 book, *Pandora’s Lunchbox: How Processed Food Took Over the American Meal*, that 70% of U.S. at-home and away-from-home food sales are from processed foods (Warner, 2013). According to USDA food researcher Howard Elitzak, “Generally, the farm value share decreases as the degree of processing increases” (Elitzak, 1999). The U.S. farmer’s share of retail food expenditures, which was 47% in 1952, had dropped to 23% by 1997 (Elitzak, 1999). According to the USDA’s Economic Research Service, by 2004, farm shares had declined even further to 19% for fresh vegetables and 20% for fresh fruits (Stewart, 2006). In 2013, farmers received only 17.4 cents of every food dollar spent by U.S.

consumers (USDA Economic Research Service, 2015). In addition to reducing the farmer's share of the food dollar, processed foods, particularly ones containing refined grains, fats, and sugar, and their increased consumption by American consumers "contribute to obesity, heart disease, stroke, cancer, diabetes, osteoarthritis, and other health conditions that impose economic costs through increased health care expenditures and lost productivity" (Guthrie, Lin, Okrent & Volpe, 2013).

Along with the negative impacts on small farmers and farm labor brought about by the changes to local and national agro-food systems, the growth of industrial agriculture has also generated ever-growing ecological problems, including water, air, and food pollution through widespread use of pesticides, synthetic fertilizers, animal drugs, and mechanization (Altieri, 2002). According to the Pesticide Action Network, the current industrial food system, which is dependent on oil for both transportation and petrochemical-based pesticides and fertilizers, is "responsible for 1/3 of global greenhouse gas emissions" and therefore contributes substantially to global warming (Pesticide Action Network, 2015). Additionally, the Food and Agriculture Organization of the United Nations reported in 2006 that the agricultural livestock subsector, which includes factory farms, is a large contributor of non-petrochemical greenhouse gas emissions (Steinfeld et al., 2006).

Industrial agriculture uses 70% of the earth's fresh water and U.S. agriculture contributes up to 75% of all water quality problems in streams and rivers, including algal bloom from fertilizer runoff that depletes oxygen in the water and causes dead

zones where few organisms can survive (Altieri, 2011; Pesticide Action Network, 2015). Contamination of groundwater by nitrogen fertilizers is widespread in rural areas around the world. In the United States, 25% of drinking water wells contain nitrogen in a form that is hazardous to human health (Altieri, 2011). Altieri points out that synthetic nitrogen fertilizers can also become air pollutants and have been found to contribute to the destruction of the ozone layer and global warming (Altieri, 2011).

The Pesticide Action Network warns that many biologists believe biodiversity collapse caused by industrial agriculture, which is based on crop monoculture, genetically uniform crops, heavy use of pesticides and chemical fertilizers, and genetically engineered seeds, is a greater danger to humanity than climate change (Altieri, 2011; Pesticide Action Network, 2015). The growing demise of bees and other beneficial species, such as bats and amphibians, is linked to pesticides (Pesticide Action Network, 2015). Pesticide exposure also affects human health by increasing the “risks of cancer, autoimmune disease (for example, lupus, rheumatoid arthritis, and asthma), non-Hodgkin’s lymphoma, Parkinson’s disease” and other health problems (Pesticide Action Network, 2015). The health of farm workers who are regularly exposed to pesticides by mixing and spraying pesticides on crops; planting, weeding, and harvesting crops sprayed with pesticides; and living near a treated field is disproportionately affected by pesticides compared to other sectors of the population (Bon Appetit Management Company Foundation and United Farm Workers, 2011; Pesticide Action Network, 2015). It has been well documented that farm workers and their children unduly suffer from acute pesticide poisoning, cancer,

birth defects, and learning disabilities (Altieri, 2011; Estabrook, 2011; Reeves, Katten, and Guzman, 2002).

According to Guha and Martinez-Alier, the market undervalues negative externalities that affect the poor, such as farm workers (Guha & Martinez-Alier, 1997). They explain that valuation of externalities, such as the ecological and health problems caused by agribusiness, is not a “neutral analytic exercise, but rather a function of economic power” (Guha & Martinez-Alier, 1997). Further, the fact that within the capitalist global economy the first objective of food production is the growth of profits, not human well-being or environmental health, helps to explain the prevalence of low wages, loss of small family farms, and weak environmental protections within the global food system (Magdoff et al., 2000).

Sustainable development, relocalization, and social sustainability. The theories and goals of sustainable development, including social sustainability and relocalization, provide indicators of sustainable development and lay out the broad parameters I use to measure the extent to which farm-to-college programs meet the characteristics of sustainable development that is environmentally sound and socially just. I also include statistics generated by the USDA that show the magnitude and characteristics of the local food movement, of which farm-to-college programs are a part, as well as the results of USDA research that examined claims that local food supports local farmers and communities and is more environmentally sound than conventional agriculture.

The concept of sustainable development emerged approximately 30 years ago within the context of extreme poverty in the South, high consumption of global resources in the North, degradation of the environment, growing inequality within and between states, and North-South relations. The term, *our common future*, was introduced in the 1987 Brundtland Report, produced by the United Nations World Commission on Environment and Development, and is defined as “development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.”

In 1992, the UN presented sustainable development as official policy in a document called “UN Sustainable Development Agenda 21,” issued at the UN’s Earth Summit (Conca, Albery & Dabelko, 1998). “Agenda 21” was an action plan that laid out a strategy for addressing environmental and development issues, including poverty, based on sustainable development, which was endorsed by a majority of countries (Conca et al.; 1998). At the time, it was thought that economic growth would resolve both poverty and environmental degradation in the South and environmental problems in the North through technological development (Sachs, 1997; UN World Commission on Environment and Development, 1987). The most recent Agenda 21 sustainable development goals were developed by the UN Open Working Group on Sustainable Development Goals and will serve as the basis for integrating the sustainable development goals into the post-2015 development agenda when adopted (UN Open Working Group on Sustainable Development Goals, 2014). A majority of the 17 goals developed by the Working Group pertain to ecological

sustainability and social justice. These goals highlight the characteristics of ecological farming practices, including reversal of land degradation (soil conservation), stopping biodiversity loss (biodiversity protection), and managing water sustainably (water conservation) and sustainable agriculture, which includes the preceding measures along with pesticide reduction and safe and fair working conditions. Equitable labor practices, which I discuss in the section on social sustainability below, are also emphasized in the goals.

Harris et al. have recognized a growing consensus that sustainable development has three components consistent with the Brundtland definition: 1) economic sustainability, in the production of goods and services; 2) environmental sustainability, in the maintenance of nonrenewable resources, renewable resources, and environmental sink functions; and 3) social sustainability, in the equitable distribution of goods, services, and opportunities, and the equitable treatment of workers (Harris et al., 2001). However, strong differences occur over how sustainable development should be implemented in practice, which reflects Jacobs' argument that sustainable development is a contestable concept.

According to Jacobs, "contestable concepts are complex and normative, and they have two levels of meaning" (Jacobs, 1999). The first level of meaning contains core ideas and is often vague, while the second level is political and contested (Daly, 1996; Jacobs, 1999). Jacobs, along with Daly and Goodstein, maintain that there is already first-level agreement on the meaning of *sustainable development* since most countries endorsed Agenda 21, and it is the second level of meaning, where

disagreement exists because such contestation represents a political struggle over the direction of social and economic development (Daly, 1996; Goodstein, 2002; Jacobs, 1999). Because no other terms communicate the core ideas associated with a contestable concept, terms like *sustainable development* and *liberty* are easily understood at the first level of meaning even though they may be interpreted in different ways (Jacobs, 1999). Jacobs identifies six core ideas within the term, *sustainable development*:

- 1) Merger of economic development and environmental protection
- 2) Concern about the impact of current activity on future generations
- 3) Protection of the environment by reducing pollution and environmental degradation and using resources more efficiently
- 4) Fulfillment of the basic needs of the poor of this generation
- 5) Quality of life, which represents more than economic growth
- 6) Political participation of all “stakeholders” in bringing about sustainable development

He draws the first five ideas from the Brundtland Report and *Caring for the Earth*, a publication of the World Conservation Union (IUCN), and the last, participation, from Agenda 21 (Jacobs, 1999). Jacobs also identifies four “fault lines,” derived from these core ideas, where disagreement most often occurs on how sustainable development should be carried out: through 1) protection of the environment, 2) fulfillment of the basic needs of the poor, 3) participation, and/or 4)

quality of life. The combined positions taken on these “fault lines” translate into three distinct conceptions of sustainable development.

Scholars in the field have identified the three competing conceptions of sustainable development as 1) “conservative,” 2) “environmental management,” and 3) “home.” These conceptions are based in part on differing views of the degree of environmental protection and social equity necessary for sustainable development, as well as the desirable degree of stakeholder participation in bringing about sustainable development and the scope of sustainable development. The “conservative” conception, which for the most part represents the status quo, is based on neo-liberal ideology and relies on free-market competition to attain sustainable development. The “environmental management” conception advocates rational planning based on scientific knowledge rather than the market as the best tool for managing the global environment and achieving sustainable development. The “home” conception of sustainable development is a participatory strategy for meeting local needs locally.

Table 1 below locates the position of “conservative,” “environmental management,” and “home” conceptions of sustainable development and corresponding practices on each of four core aspects of sustainable development represented by a fault line.

Table 1

Competing Conceptions and Agents of Sustainable Development

Conception	Agent	Degree of Environmental Protection			Role of Social Equity			Degree of Participation			Scope of Sustainable Development		
		L	M	H	L	M	H	L	M	H	L	M	H
Conservative	Market	X			X			X			X		
Environmental Management	Science/Gov			X		X			X			X	
Home	People			X			X			X			X

Relocalization. Food system relocalization is an alternative to the dominant global agro industrial food system that supports small and mid-size farmers and local economies and may also support the environment in a number of ways.

Relocalization most resembles the “home” conception of sustainable development discussed above and is the form of sustainable development that most closely characterizes farm-to-college programs. In fact, farm-to-school programs have been described by Guthman as one of the institutions of the alternative (local) food movement along with farmer’s markets, community-supported agriculture (CSA), community gardens, and demonstration programs (Guthman, 2015). Relocalization advocates a participatory strategy of development focused on meeting local needs locally, thereby reducing distance between producers and consumers and fostering producer-consumer alliances and relationships (Woodhouse, 2000; Agarwal &

Narian, 1996). From an economic point of view, keeping commerce at the local level results in a multiplier effect, in that dollars are recycled through a community several times before leaving rather than being immediately taken out of the community by corporations headquartered in distant cities (Magdoff et al., 2000). In addition, community links are enhanced through a shortened supply chain and the establishment of relationships between consumers and local farmers and other businesses (Levidow & Psarikidou, 2011). From an environmental standpoint, local products are believed to be more energy- and emissions-efficient because less fossil fuel is used to process, package, transport, and store them, thus reducing GHG emissions that cause global warming (Blanke & Burdick, 2005; Hendrickson, Hart, Gale-Sinex & Stevenson, 1995; Jones, 2002; Pirog et al., 2001).

The energy efficiency of local miles has, however, been questioned by a number of researchers. Theories of relocalization and recent studies of the characteristics of local food production and sales provide a broad framework for my examination of the extent to which farm-to-college programs fit the characteristics of sustainable development and assist in the analysis of my findings, including enabling me to make comparisons, for example, between the reasons consumers purchase local food and the reasons farm-to-college programs purchase local food, as well as evaluating the effectiveness of farm-to-college programs as a form of sustainable development, for example, the efficacy of reducing food miles and the value of supporting local farmers.

A shift to the local, although relatively small, is evident in the growing popularity of farmer's markets, community-supported agriculture, regional cuisine, and direct purchase of produce and other local farm products by restaurants (in farm-to-table programs) and institutions (in farm-to-school and farm-to-college programs). According to a 2011 USDA Economic Research Service study, the number of farmers participating in direct-to-consumer sales through farmer's markets, roadside stands, on-farm stores, and community-supported agriculture increased 58% between 1978 and 2007. The constant dollar value of direct farmer-to-consumer sales increased 77% to \$1.2 billion during the same time period (Low & Vogel, 2011). The number of farmer's markets alone increased 180% from 2006 to 2014, with 8,268 farmer's markets operating in the United States in 2014 (Martinez et al., 2010). However, direct-to-consumer sales are not the only form of local farm product sales, as farmers also sell their products locally through intermediated marketing channels, such as grocers, restaurants, institutions, and regional distributors. Regional food distribution hubs, which aggregate locally sourced foods to meet "wholesale, retail, institutional, and even individual demand," are in fact becoming an essential element in the growth of local food systems via intermediated sales (Vogel & Low, 2015).

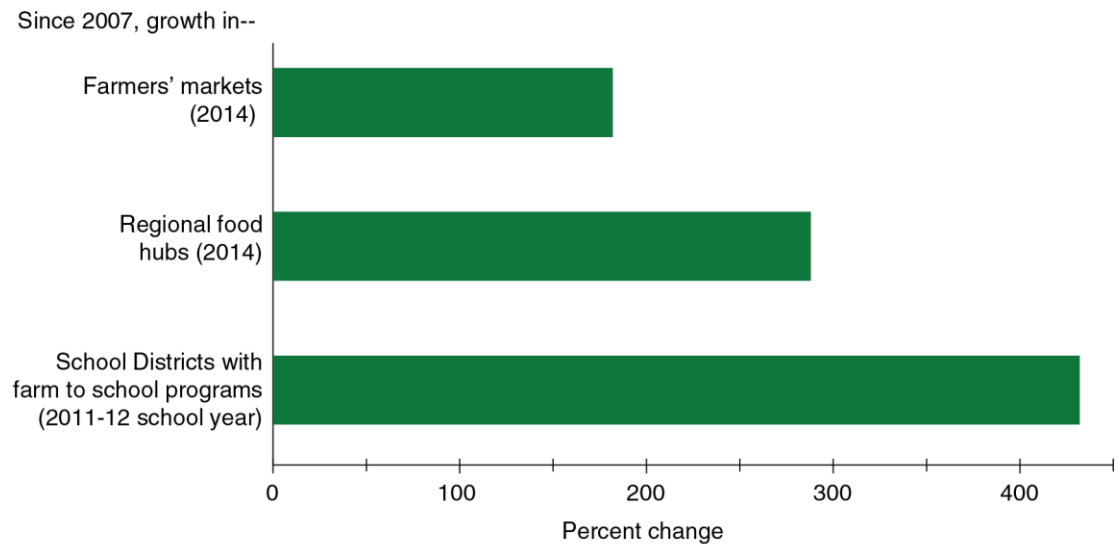
Total local food sales, direct-to-consumer sales combined with intermediated sales, grossed \$4.8 billion in 2008, the first year intermediated local sales were tracked by the USDA (Low & Vogel, 2011). By 2012, total local sales had risen 21% to \$6.1 billion, \$1.31 billion in direct-to-consumer sales and \$4.8 billion in intermediated sales, according to the USDA Economic Research Service estimates

cited by Low and Vogel in their updated 2015 report on trends in local and regional food systems prepared for Congress at the request of the House Agricultural Committee in 2014.

Another element in the shift to local food is the increasing number of public schools that source locally produced food through the USDA Farm to School Program established by the 2010 Healthy Hunger-Free Kids Act. The number of farm-to-school programs jumped from 400 in 2004 to more than 2,300 in 2011, and more than 4 out of 10 public school districts participated in some form of farm-to-school activities in the 2011–2012 school year (Vogel & Low, 2015). In order to help local producers meet the food safety standards of institutional buyers, the USDA Risk Management Agency is funding the development of “innovative” and available food safety tools (United States Department of Agriculture [USDA], Know Your Farmer, Know Your Food, 2015).

Direct marketing of local food products to end users, via farmer’s markets, farm stands, CSA, and so forth, and intermediated marketing channels, direct to restaurants, grocers, universities, and other institutions, are important strategies for increasing the U.S. farmers’ share of the food dollar and the financial viability of small farms in the United States. Local food sales can also have a positive impact for local economies. For a majority of farmers who market food locally, the sales represent a major portion of their total gross sales.

Figure 1
Increase in local & regional marketing channels



Sources: USDA, Agricultural Marketing Service, Food Nutrition Service; National Farm to School Network.

Figure 1 Increase in Local and Regional Marketing Channels. Reproduced from *Trends in U.S. Local and Regional Food Systems: A Report to Congress*, by Low, et al., 2015, *AP-068* Economic Research Service/USDA p.3.

According to the 2011 USDA Economic Research Service’s local marketing study, “almost two-thirds of all local food producers reported that local food sales accounted for at least 75% of their total gross sales” (Low & Vogel, 2011, p. 4). Direct-to-consumer marketing sales are highest in the Northeast, the West Coast, and near a few metropolitan areas (Low & Vogel, 2011). Direct marketing accounts for a higher percentage of sales for smaller farms than it does for larger farms (Martinez, S., et al., 2010). Small farms (less than \$50,000 in gross annual sales) accounted for 81% of all farms with local food sales in 2008; medium-sized farms (\$50,000–\$249,999 in gross sales) accounted for 14% of local food sales; and large farms (over \$250 in gross sales) accounted for 5% (Low & Vogel, 2011). While small farms are

more likely to market direct to the consumer than large farms, large farms account for almost 70% of total local sales (Low & Vogel, 2011). Nevertheless, the USDA local marketing study found that local food sales have “a potential for community economic development in certain areas of the country, particularly those close to urban areas” (Low & Vogel, 2011, p. 13). This conclusion was based in part on the finding that once farmers exceed \$10,000 in gross sales, their operating expense ratios may be lower than the average farm not engaged in local sales, “implying that local food sales farms may reach profitability at a lower gross sales point” (Low & Vogel, 2011, p. 9).

Furthermore, the USDA report to Congress identified additional empirical evidence found by Martinez et al. (2010) in support of the concept that “local economic benefits may accrue from greater local retention of dollars spent on food from spillover to local business and increased entrepreneurship” (Low et al., 2015). Martinez et al. (2010) and Swenson (2009) were also cited in the USDA report to Congress as noting that import substitution, that is, consumers purchasing local food rather than food imported from other countries or states, is the most direct way local food systems can positively impact local economies “when local workers and businesses spend additional income (multiplier effects) on inputs or other products locally that increase economic impact” (Low et al., 2015, p.17).

In addition to measuring the extent of local food sales, the USDA report to Congress highlighted research quantifying the extent of grocery shopper purchases of locally produced foods and identifying shopper reasons for buying locally produced

food. According to the “nationally representative” 2011 U.S. Grocery Shopper Trends Survey cited in the report to Congress, more than 80% of the grocery shoppers surveyed reported occasionally buying local foods and 9% reported buying local foods “whenever possible” (210 Analytics, LLC, 2011). The survey also found that most shoppers (83%) identified freshness as the main reason for purchasing locally produced food. The second most frequent reason given for purchasing locally produced food was support for the local economy (68% of respondents) and the third was taste (56% of respondents) (210 Analytics, LLC, 2011).

As well as supporting local farmers, local production for local consumption may also support the environment in a number of ways, including greater use of environmentally friendly farming practices and reduced fossil fuel usage. The U.S. Department of Agriculture examined the environmental practices of local and regional food producers who sell direct to consumers (DTC) in its report to Congress. Called “Trends in U.S. Local and Regional Food Systems: A Report to Congress,” this report was based in part on its study comparing input use by conventional producers not selling direct to consumers (non-DCT) and DTC producers, but was unable reach a clear conclusion on the environmental benefits of local foods (Low et al., 2015). However, the study did find indications that DTC producers, with the exception of fruit, nut, and berry crops, generally utilize environmentally sensitive practices to a greater extent than non-DCT producers. The study found that DTC producers applied a higher proportion of manure to all types of crops than non-DTC producers, although DTC producers and non-DTC producers applied similar

proportions of chemical fertilizers to all crops, except fruits, nuts, and berries, to which DTC producers applied a higher proportion of chemical fertilizers. DTC producers were less likely to apply pesticides and herbicides than non-DTC producers, except to fruits, nuts, and berries (Low et al., 2015). While the study found that “only” 5% of DTC farms were organic farms in 2012, this percentage is more than seven times as high as the overall U.S. percentage of organic farms, which was only .7% of all farms in 2012 (Agri-View, 2014; Low et al., 2015; United States Department of Agriculture, Economic Research Service, 2013). In addition, the study found that DTC producers were more likely than non-DTC producers to use “environmentally friendly farming methods ascribed to organic production” (Low et al., 2015). Furthermore, almost half of certified organic farms market in local food outlets (Low et al., 2015).

In looking at other environmental aspects of local food, the U.S. Department of Agriculture report to Congress indicated that despite numerous claims that reducing the distance between consumers and producers cuts fuel used for transportation and GHG emissions, recent research shows that transportation of food represents only 11% of emissions from GHG and the mode of transportation may be a more important indicator of fuel use than distance (Low et al., 2015). Water and train transport use less fossil fuel and emit fewer GHG emissions than truck transport and substantially less than air transport (Low et al., 2015; Pimentel et al., 2008). The finding that transportation does not represent a large percent of GHG emissions is consistent with other research findings by Martinez et al. (2010), Coley et al. (2009),

Weber & Matthews (2008), and Saunders & Hayes (2007), showing that transportation is not an adequate measure of the environmental impact of food production and distribution. According to a study by Canning et al., more than 10 times as much energy is used for processing, packaging, and selling food than transporting it (Canning, Charles, Huang, Polenske & Waters, 2010). Nevertheless, food produced locally for local consumption likely uses less energy for processing and packaging than non-DTC production. While 70 to 75% of food grown on farms in the United States is processed to some degree, local food, which is sold fresh at farm stands and farmer's markets, in CSA boxes, and to grocers, institutions, and restaurants is generally not processed or packaged (Low et al., 2015; Warner, 2013). However, Low et al. suspect that fresh local foods prepared at home may create more waste from spoilage and less efficient preparation than processed food.

In response to the efforts by local farmers and advocacy groups in recent years, the federal government has added policies and programs to support local purchasing, including grants and loans to help farmers sell directly to consumers and to build food hubs to facilitate sales of local farm products to institutions and grocery retailers, as well as the support for farm-to- school programs (National Sustainable Agriculture Coalition, 2016).

Social sustainability. Social sustainability is inherent in sustainable development, as presented by Brundtland in *Our Common Future* (1987). It is not possible to have a stable, healthy society with poverty and extreme income disparity. Two of the six core ideas within the term, *unsustainable development*, which Jacobs

identified from his analysis of *Our Common Future*, relate to social justice both within and between generations: “the impact of current activity on future generations” and “fulfillment of the basic needs of the poor of this generation (as well as equity between generations)” (Jacobs, 1999). Not unsurprisingly, social sustainability is the most overlooked component of sustainable development. According to Pearsall and Krueger (2012), a number of scholars have observed that “social justice has been subordinated to environmental indicators and conventionally understood economic growth” in many, if not most, public and private sustainability initiatives within the United States, as well as the Global North and South in general.

In this section, I examine social justice as it relates to 1) preserving the natural environment for future generations; 2) meeting the needs of the poor in this generation, particularly the rural poor; and 3) relocalization and agriculture in the United States, including small farmers and farm labor. The new UN goals for addressing social justice that I examine below provide a guide in my analysis of my findings regarding farm-to-college programs and social justice.

What is to be sustained for future generations and what is to be distributed?

Sustainable development’s core ideas regarding future generations contain two questions, what is to be sustained for future generations, and what is to be distributed, as underscored by Dobson, in his introduction to *Fairness and Futurity* (Dobson, 1999). There is no agreement on whether protecting the natural world is a necessary condition for justice between generations. Views on what should be preserved for future generations range from passing on a “stock of natural capital resembling our

own” to providing future generations with satisfaction of their wants based on the premise that all capital is fungible (Barry, 1999; Holland, 1999; Goodstein, 2002).

Opposing positions on the necessary degree of environmental protection required for future generations are called *strong and weak sustainability*. *Strong sustainability* (linked to technological pessimism) and associated with the “home” and “environmental management” conceptions of sustainable development rests on the position that there are finite limits to material growth and that man-made capital cannot be substituted for nature (natural resources, renewable and nonrenewable, and environmental waste sinks), which therefore must be protected for future generations. Some include society as well as communities and cultures in their concept of protection “because only cohesive societies can protect nature” and because they have intrinsic value, particularly indigenous communities in the South (Jacobs, 1999). *Weak sustainability* associated with the “conservative” conception of sustainability, which shares Brundtland’s optimism that technology can resolve environmental problems and expand the earth’s carrying capacity, represents the dominant economic view that other capitals can be substituted for natural capital and nature does not have to be preserved intact for future generations (Goodstein, 2002; Daly, 1996).

This premise is based on the view that sustainability depends on the maximization of human welfare over time. Maximization of welfare is equated with “maximization of utility [human happiness] derived from consumption” (Harris, 2001). Like neo-classical economists, conservatives and neo-liberals believe consumption will remain constant or increase if proceeds from consumption of

nonrenewable resources are reinvested in reproducible capital and capital value remains constant (Goodstein, 2002).

Economists compare the monetary value (costs and benefits) of current and future consumption (consumption by future generations) of natural resources through time discounting. Discounting tends to have a present bias. For example, as explained by Harris, using a 10% discount rate, the value of one million dollars one hundred years from now would be the same as \$72 today. It follows that it would be considered acceptable to impose costs of one million dollars on people a hundred years from now in order for people to enjoy \$72 of consumption today (Harris, 2001). Another potential problem in using discount rates to calculate intergenerational equity is the acceptance of “a specific pattern of preference” regarding the relative welfare of present and future generations (Ackerman, 2001). Ackerman argues that there is no logical basis for using a numerical discount rate for calculating intergeneration equity. Instead, he advocates careful examination of costs and public debate over alternatives (Ackerman, 2001).

Toman cautions that, while some issues may lend themselves to market calculations, a safe minimum standard is required to protect essential resources and environmental functions. He suggests using the criteria of possible severity and irreversibility of ecological damage in deciding which framework applies. This approach, also called the precautionary principle, would supersede economic analysis when there is uncertainty about possible outcomes and there is a large potential for ecological damage (Toman, 1992). Similarly, Rawls’ concept of a “just savings

principle” implies that each generation passes on to the next generation a “fair equivalent in real capital” (Langhelle, 2000; Rawls, 1999).

Advocates of strong sustainability, who would prefer to give the environment intact to future generations so they can decide how to use it, do not support reliance on markets to protect the environment because in their view reliance on markets will ultimately reduce environmental space available for future utilization and therefore future possibilities. Future equity also requires dealing with today’s inequality of wealth (resources) and income because present inequalities are replicated and magnified in future generations.

Fulfillment of the basic needs of the poor of this generation. This is one of the six core concepts of sustainable development identified by Jacobs. It is also one of the four “fault lines” within the core concepts over which disagreement on how sustainable development should be carried out most often occurs (Jacobs, 1999). Proponents of the three main conceptions of sustainable development differ strongly in the degree of social justice thought necessary in this generation. Proponents of the “conservative” conception, who rely on free-market competition to achieve sustainable development, take the position that social justice issues like poverty are not a part of sustainable development. Proponents of the “environmental management” conception, which advocates rational planning based on scientific knowledge, identify a moderate role for social justice in the form of economic concessions to Southern governments as necessary in order to obtain political cooperation in managing the environment. Proponents of the “home” conception

envision a participatory strategy for meeting local needs locally, which theoretically includes a large role for social justice. The most recent Agenda 21 sustainable development goals include several goals related to fulfilling the needs of the poor in this generation and reducing inequality within and among countries (Open Working Group of the General Assembly on Sustainable Development Goals, 2014).

Reducing inequality among countries. The goals of reducing inequality among countries and ensuring sustainable consumption and production address three long-standing issues: 1) North-South inequality, including over-consumption by the affluent and under-consumption by the poor, which reflect the greater economic and political power of the North; 2) finite natural resources; and 3) the environmental costs of non-sustainable development. While Brundtland understood poverty to be a great threat to the environment, it is now understood that the industrial North and its affluent consumers are a greater source of environmental degradation than the poor. For example, although GHG emissions generated by prosperous developed countries and recently rapidly developing countries like China appear to be the major cause of global warming/climate change, the most looming environmental threat facing the world today, and its most devastating impacts, disruption to food supplies, heat waves, and rising sea levels, fall mostly on poor countries in the South (Goodstein, 2002). Nevertheless, poor countries in the South are being asked to limit economic development associated with GHG emissions and to bear a share of the costs of climate change. In response, these developing countries claim they have the right to develop and that environmental problems caused by over-consumption are the

North's responsibility to mitigate (Wise, 2001). Jacobs argues that the North's conception of sustainability, which emphasizes environmental protection and conservation, allows the North to ignore the very unequal distribution of resource use and consumption between North and South. It also allows the North to avoid "the uncomfortable challenge to consumption patterns and international economic relations implied" by the concept of equity (Jacobs, 1999). Furthermore, Benton and Goodstein note that the Northern position can be used to justify regulation of the South's resources, such as tropical forests, which the North wants to preserve as sinks for its excessive carbon emissions and some industries want to exploit for their biodiversity and pharmaceutical potential (Benton, 1999; Goodstein, 2002).

The UN's new sustainable development goals related to reducing inequality among countries and ensuring sustainable consumption patterns include targets to "achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average," as well as implementing special and differential treatment of developing countries, particularly the least developed countries, and encouraging development assistance to countries with the greatest need (United Nations Department of Economic and Social Affairs, 2014). In addition, targets have been proposed to ensure enhanced representation of developing countries in global economic and financial institutions. In order to encourage more sustainable consumption, one target addresses reducing inefficient fuel subsidies, such as those enjoyed in the United States by the oil and gas industry that encourage "wasteful consumption" (United Nations Department of Economic and Social Affairs, 2014).

Other targets address reducing waste and ensuring that people have information and awareness for adopting sustainable lifestyles. In regards to fairness and climate change, Goal 13 proposes that developed countries target \$100 billion annually “to address the needs of developing countries in the context of meaningful mitigation actions” (United Nations Department of Economic and Social Affairs, 2014).

Ending poverty. Although the UN initially adopted the position that poverty and environmental degradation in the South should be alleviated by economic growth, it is now focusing on enhancing the livelihoods of the poor to alleviate poverty and reverse environmental degradation. This is a strategy more in line with research findings indicating that targeted poverty reduction is more effective than economic growth in reducing poverty in countries with unequal distribution of income (Adelman & Morris, 1973; Sachs, 1997; Cornia & Court, 2001; UN World Commission on Environment and Development, 1987). The UN’s new sustainable development goals related to ending poverty address the needs of farm workers as well as small farmers in the United States along with the poor in developing countries.

Ensuring rights to ownership and control of land, appropriate technology, and financial services needed by small farmers are incorporated in the UN targets for ending poverty. The goal to end hunger and promote sustainable agriculture includes doubling the agricultural productivity and incomes of small farmers and correcting distortions in world agricultural markets as well as ensuring the access to safe and nutritious food all year round needed by farm worker families suffering from hunger.

The goal to promote full employment and decent work for all is particularly significant for farm workers whose working conditions are often unsafe and whose employment is frequently seasonal and underpaid. UN employment targets include protection of labor rights, safe and secure working environments for all workers, including migrant workers, elimination of child labor, and full employment and decent pay (United Nations Department of Economic and Social Affairs, 2014).

Social justice within the context of relocalization and agriculture in the United States. Theories of relocalization and statistics on local food production for local consumption indicate that relocalization addresses social justice both within and between generations. Within the current generation, the relocalization approach to sustainability is theoretically associated with reducing the ecological footprint of the North in countries located in the South, thereby freeing natural and human capital to benefit local communities, as the economic viability of small farms in both the North and South increases. Increasing the viability of small farms in the South is a UN strategy for reducing poverty and fostering ecological sustainability in developing countries (Hoffman, 2013). The U.S. ecological footprint expanded into the South as family farms and farm share of the food dollar declined in the United States due to the growth of agri-business and globalization. Now local production for local consumption is a growing strategy in the United States for increasing the farmers' share of the food dollar and the financial viability of small farms. Within the context of the global restructuring of local and national agro-food systems and the dramatic

reduction in the number of small farms in the United States, increasing the viability of small farms can be seen as a social justice issue.

In addition to small farmers, future generations may also benefit from today's local food movement and relocalization by inheriting healthy farmland. In contrast to the ever-growing ecological problems, including soil depletion and water and air pollution, through widespread use of pesticides, synthetic fertilizers, and intensive production methods attributed to industrial agriculture, the local food movement is concerned with organic and sustainable farming practices. And USDA findings indicate that local farmers producing for local consumption are more likely than non-local producers to use the environmentally friendly farming methods ascribed to organic production (Altieri, 2002; Scheer & Moss, 2011; Low et al., 2015).

However, despite its benefit to small farmers and perhaps to future generations, the local food movement has come under criticism from academics as a white middle-class movement that excludes low-income communities and communities of color (Alkon & Agyeman, 2011; Guthman, 2011). According to Alkon and Agyeman, the local food movement ignores "the racialized implications" of its social change strategy, which calls for economic support for small local and organic farmers, a group from which people of color have been excluded in the past, and local decision-making, which has been associated with exclusionary practices in the past as well (Alkon & Agyeman, 2011). Alkon and Agyeman argue that the mostly white middle-class members of the local food movement need to examine how

their white privileged lives shape their access to, and the meanings they give to, eating local organic food. They also need to look at how they may be demeaning those who eat industrial food and do not have access to fresh local food or cannot afford it, and for whom access to even industrial food may be difficult (Alkon & Agyeman, 2011). The ill treatment of farm workers within the U.S. agricultural system is another social justice issue not generally addressed by relocalization and the local food movement, which focuses on improving the lot of small local and organic farmers. Justice for farm labor is also not addressed by organic farmers who tend not to provide better wages or benefits than conventional farmers, according to a 2005 study by Shreck, Getz, and Feenstra. Furthermore, farm labor poverty will likely be reproduced in future generations. However, it should be noted that most small farmers do not employ farm labor, but rather the majority of hired farm workers are employed on large farms with sales over \$500,000 per year (United States Department of Agriculture Economic Research Service, 2015).

Polanyi and the double movement. Polanyi provides a critique of the “self-regulating” market economy in his 1944 classic, *The Great Transformation*, which many contemporary scholars find relevant today (Baker, Epstein & Pollin, 1998). On a broad level, Polanyi’s analysis provides one explanation for the farm-to-college movement: the natural inclination of people to protect their habitation (homes and livelihoods) from an economic system (the global industrial food system) that degrades the environment and destroys the livelihoods of small farmers. Farm-to-college programs are part of the local food movement, which is generally considered

a response to the ills of the global industrial food system and is characterized by purchasing food locally from small and mid-size farmers. Purchasing food locally supports farmers and the local economy, as well as provides fresher, tastier food that has not traveled long distances from “farm to table.” In addition, a shorter food chain promotes relationships between producers and consumers (dining service staff and students), thereby bolstering social cohesion.

Polanyi argues that economies were embedded in social relationships prior to the emergence in 1834 of the “self-regulating” market economy, when the Speenhamland system in England, a form of relief meant to mitigate rural poverty, was abolished and a competitive labor market was established. However, because a self-regulating market must operate without impediments that can distort the forces of supply and demand, social relationships that would interfere with the operation of the market became embedded in the economy instead, thus undermining social cohesion. This transformation required the means of production, labor (people), nature (land), and money (a medium of exchange representing value), to become “commodities” so they could be bought and sold for profit in the market at market prices. But because people and nature are not true commodities that can be produced in factories, their treatment as commodities in a free-market economy triggers an inherent resistance. People instinctively act to protect their “habitation” (homes and livelihoods) against the impersonal pursuit of profit. This intrinsic conflict between the operation of a free-market economy and the protection of people and nature creates what Polanyi called a *double movement*: 1) the expansion of markets for goods and 2) the

incorporation of measures to protect labor, land, and money in “powerful institutions.”

To illustrate the mechanics of the double movement, Polanyi provided the example of unemployed workers in a free-market economy (Block & Somers, 2014). Free-market economies go through cycles of high prosperity and economic downturns characterized by low prosperity. During times of low prosperity, workers lose their jobs. The unemployed do not receive assistance and instead are expected to accept work at lower wages to obtain employment. Because the unemployed workers are typically unable to find employment at lower wages, they and their families soon face destitution and starvation. This is what Polanyi means when he says a purely self-regulated market will destroy the “human substance of society.” However, rather than quietly starve, the unemployed, and their champions, demand assistance from the government. This resistance movement is the half of the double movement seeking protection of habitation and nature. The protective measures provided by government take the form of work standards, minimum wage, workplace safety, and so forth, which in turn are impediments to “self-regulation” of the market. Polanyi sees the conflict between the free operation of the market and its negative impact on people and nature as an inherent contradiction within free-market economies (Polanyi, 1957; Harris, 2000).

During the height of the industrial revolution in nineteenth-century England, children and other factory workers suffered from atrocious abuse at the hands of factory owners, including forcing young children to work long hours in horrible

conditions. In response, a resistance movement emerged to which Parliament reacted by regulating the age (to nine years) and the hours children could work in factories (Factory Acts). The abuse of children and factory workers is an example of the destruction of the human substance of society caused by an unregulated market.

Similarly, Franklin Delano Roosevelt responded to the struggle of farmers and the unemployed who lost their livelihoods during the Great Depression with the New Deal, which included employment programs and bank regulation. A program designed to help farmers survive market downturns and prevent depletion of the soil due to high-production agriculture was also put in place (Philpott, 2008). The program paid farmers to take land out of cultivation when prices dropped and discontinued payments when prices rose. This stabilized prices. A New Deal agency, the Soil Conservation Service, was also mobilized to help Dust Bowl victims rehabilitate their over-exploited and depleted land. The stock market crash of 1929 and subsequent bank failures, which contributed to the Great Depression, were caused in part by lack of regulation of free-market forces. High prices for wheat during World War I enticed farmers in the Great Plains region to plow up grasslands to plant wheat, thereby depleting the soil, which contributed to the Dust Bowl (History.com, 2009). According to Block and Somers (2014), Polanyi saw the New Deal and its protective programs as an alternative to a market society and “the beginning of a transition to social arrangements under which the market would again be subordinated to social relations” and the U.S. economy would be protected from the world market (Block & Somers, 2014, p 57).

In the 1970s when Earl Butz served as Secretary of Agriculture under Richard Nixon, FDR's program began to be dismantled. Rather than protect small farmers from destructive forces of economic downturns and greed, Butz established policies and programs to encourage farmers to "get big or get out." He promoted concentration, chemicals, mechanization, commodity crops, farming all available land "fencerow to fencerow," and production for the global market. Butz's policies and programs resulted in the loss of "tens of thousands of farms" and growing concentration in the farm industry, along with overproduction of commodities and "cheap food" (Philpott, 2008). Nevertheless, the global industrial agro-food system promoted by Butz became what is now considered "conventional agriculture." The local food movement, and broader alternative food movement, arose in response to the negative environmental and social impacts of the global industrial agro-food system, including the loss of small and mid-size farms, declining rural economies, and loss of flavor in food transported long distances. The global industrial agro-food system and U.S. participation in it was shaped by government policies and market forces. In fact, Polanyi argues in *The Great Transformation* that free-market economies are created intentionally through government policies, another contradiction within the concept of a self-regulating economy (Polanyi, 1957).

The local food movement has generated a cultural and market response to the global agro food system, including the growing popularity of local food, increasing the number of farmer's markets, community-supported agriculture, and farm-to-school programs, which in turn support local farmers. These forms of local

purchasing increase interaction between producers and consumers and foster the move toward greater embeddedness of local economies in social relations. The local and alternative food movements have also begun to make a political impact and have generated government programs and policies to support local and regional agriculture and food systems.

The 2014 Farm Bill provides over \$1.2 billion for local agriculture, small farmers, new farmers, and organic farming. However, these funds are a very small portion of the nearly trillion-dollar Farm Bill (\$489 billion for mandatory programs and authorization to appropriate additional discretionary funds) approved for FY 2014–FY2018. The bulk of the mandatory funds, \$391 billion, are for nutritional assistance (mostly SNAP, formerly called Food Stamps), a program for the poor that even eligible farm workers may use. Ninety-eight million dollars is allocated for agricultural production, including funding for conventional agriculture and a safety net (crop insurance in the amount of \$41 billion) for the incomes of conventional commodity farmers (Johnson & Monke, 2014; National Sustainable Agriculture Coalition, 2014; National Sustainable Agriculture Coalition, 2016). Farm-to-school advocates have also pushed Congress into allocating funds through the USDA Farm to School Grant Program to assist in initiating farm-to-school programs and activities that provide health benefits to children and economic benefits to local farmers and farm communities.

The congressional support provided to small and mid-size farmers in response to their demands for assistance in making a decent living from farming, while

protecting the environment, providing fresh and healthy food for local consumers, and contributing to the health of their communities is an example of Polanyi's double movement. While the scale is small, protective measures are being provided by government against the loss of small and mid-size farms, the decline of rural communities, and the pollution and health issues associated with the global industrial agro-food system.

Politics of food consumption and reflexive consumption. Michael Pollan, popular food movement writer and UC Berkeley professor of journalism, has expanded Wendell Berry's classification of eating as an "agricultural act" to include an "ecological act" and a "political act" (Pollan, 2011). The concept of reflexive consumption as a political act may provide another possible explanation for the emergence of farm-to-college programs. Students may be making food choices (local, organic, socially just) as an expression of their ethics and view of themselves as ethical consumers and thus influence the purchasing choices of dining services, which in turn may support small farmers and the local economy.

However, some question whether reflexive consumption is political. Goodman and DuPuis explore the politics of food consumption in their 2002 paper, "Knowing food and growing food: Beyond the production-consumption debate in the sociology of agriculture," and find that reflexive consumption can be a political act. However, they note that conclusions about the potential of reflexive consumption as a political act to reshape the food industry depend on the lens one uses to examine consumption politics and the particular regional social formation from which one views the

phenomena (Goodman & Dupuis, 2002). They argue that the organic food movement, along with the fair trade and slow food movements, have blurred the line between the actions of organized social movements and individual acts of reflexive consumption based on notions of fairness, personal health, food quality, and environmental health. As a result, new understandings of political action have emerged that encompass forms of reflexive consumption. Goodman and DuPuis also find that these movements have created alliances and blurred distinctions between food producers and consumers, a phenomenon that they see as political action and that they maintain is central to a discursive view of politics. Nonetheless, their review of the literature shows that “discursive perspectives ‘see’ politics in places where a production-centered framework finds only a failed attempt to overcome capitalist forces” (Goodman & Dupuis, 2002). While acknowledging that a discursive production–consumption perspective on the food system does not look to political acts of consumption for the “overthrow of capitalism,” they explain that this perspective considers reflexive consumption to be much more than a “niche marketing opportunity” (Goodman & Dupuis, 2002). In fact, Goodman and Dupuis consider consumer actions to be political acts when used in “any way that affects the future form of society,” which could include a shift toward a more local food economy (Goodman & Dupuis, 2002).

Consumer consumption preferences for local and healthier food indeed appear to be triggering new trends in the food industry. Recent articles in food industry publications indicate that “sustainability-driven” shoppers, who make eco-friendly

purchasing decisions, are beginning to reshape the behavior of the food industry, which is starting to adopt measures and practices to protect the environment and to provide more locally produced and healthier food choices to consumers.

Information Resources, Inc. reported that half of the 22,000 U.S. consumers polled in their 2008 study indicated they consider at least one sustainability factor when selecting brands to buy or stores for shopping. Respondents were asked to determine the impact of four key sustainability features in their product and store selection: 1) organic, 2) eco-friendly products, 3) eco-friendly packaging, and 4) fair treatment of employees and suppliers. One-fifth of the respondents were classified as “sustainability-driven,” taking at least two sustainability factors into account when making their selections (Young, 2009).

In addition, the National Restaurant Association reported in 2005 that the provision of healthier food in response to consumer demand is a growing trend in the food service industry (National Provisioner, 2005). In 2009, the National Provisioner published a report on sustainability and measures being taken by companies to reduce pollution, waste, and energy use, including reducing packaging and using recycled packaging materials.

Investment in companies marketing sustainable seafood is also a nascent trend addressing depletion of the world’s fisheries (Young, 2009). Further, a survey of more than 1,800 professional chef members of the American Culinary Federation forecast locally grown produce would rank first in hot trends for 2010 and locally sourced meats and seafood would rank second (National Restaurant Association, 2009).

Goodman and DuPuis would classify the phenomenon of eco-friendly purchasing decisions triggering upstream effects on the food industry as an example of consumer political action because these purchasing decisions are affecting the form of food production (for example, environmental protections and support of local food economies). However, others might classify this phenomenon as an example of demand based on taste, ethics, and self-identity shaping the type of food offered in the marketplace. The upstream effect of supporting the local economy would be no different than demand for fossil fuels supporting the oil industry.

Furthermore, while Goodman and DuPuis argue that the purchasing choices of individuals can be political when they result in a shift in agricultural production, nevertheless, agricultural production is not in itself political, even though government food and agricultural policies are political. Although there is no widely agreed upon definition of what is political, political generally is understood to relate to the affairs of the state or government or individual or group actions aimed at influencing the policies or actions of the state. Based on this definition, lobbying Congress for changes to the “Farm Bill” (food and agricultural policies) to provide more support for small farmers and locally grown food can be seen as a political action. Reflexive consumption is likely a factor in the local food movement’s success in fostering an increase in local food purchases and production for local consumption. In fact, Starr argues in her 2010 article, “Local Food: A Social Movement?”, that local food is a social movement that takes place in the market and is spreading a new paradigm of

“food production, distribution, and consumption,” an accomplishment Goodman and DuPuis might see as a result of political action (Starr, 2010).

Student social movements. Student social movements (the new sustainability movement) have been responsible for the establishment of farm-to-college programs on some college campuses. The environmental movement in the North is considered a “new social movement” whose educated members (or network of supporters) are interested in quality of life and are drawn primarily from the middle and upper classes. Mertig and Dunlap identify two branches of contemporary environmentalism: One is the more traditional conservation of nature and the other is the newer and broader general protection of the environment (Mertig & Dunlap, 2001). New awareness of the links between the environment and human health have revitalized environmental groups, triggered demands for more governmental regulation, and spawned the organic food movement (Riel, 2001). On college and university campuses in the United States, sustainability has become a movement that includes university purchasing, landscaping and grounds, transportation, energy and utilities, solid waste management, hazardous waste management, and dining services (Keniry, 1995). The University of California (UC) Regents approved a new system-wide policy in 2003 to adopt green building practices and clean energy standards as a result of organized student pressure. In the fall of 2004, students launched the UC Sustainable Foods Campaign of the California Student, which sought the UC Regents’ commitment to sustainable campus food systems by “implementing guidelines that prioritize local, organic, and socially responsible purchasing, as well

as waste reduction and green dining facility standards” (Wallace, Galarneau & Vail, 2006). The UC Regents added sustainable food service guidelines to its policy on sustainable practices in September 2009; the policy was revised to update sustainable food service practices in 2011. The guidelines, which focus on environmental sustainability, require each campus to purchase 20% of its food from sustainable sources by 2020 and to obtain green business certification (University of California, Office of the President, 2015). In 2013, dining services at Berkeley, Davis, Santa Barbara, and Santa Cruz exceeded the 2020 goal of purchasing 20% of its food from sustainable sources (University of California, Office of the President, 2014).

The Real Food Challenge, a student organization active on more than 300 college campuses across the United States, is another example of a sustainability-oriented student social movement. The Real Food Challenge was founded in 2008 with a goal of shifting \$1 billion in campus food purchases away from industrial agriculture and junk food toward “real food,” which fulfills at least one of these categories: local and community based, ecologically sound, and fair and/or humanely produced.

Either domestically produced or internationally produced food can fulfill the “fair” category. Domestically sourced food must be self-certified by the grower who produced it or certified or monitored by one of two approved programs in order to count as “fair food”: the Agricultural Justice Project or the Coalition of Immokalee Workers’ Fair Food Program (FFP). According to its website, the Agricultural Justice Project has certified only six farms and businesses (Agricultural Justice Project,

2016). Food Alliance certification is not accepted (Real Food Challenge, 2016). Only self-certification and Food Alliance certification were available to verify that food was produced under safe and fair labor conditions when I surveyed the farm-to-college programs in 2008 and early 2009. The Agricultural Justice Project had not yet been launched and the Coalition of Immokalee Workers was focusing on human rights standards for farm workers working in Florida tomato fields.

Fair food agreements requiring participating food retailers not to purchase from growers who violated the human rights of workers were signed with Bon Appetit, Compass, and Aramark after my interview with Bon Appetit in 2008. According to the Coalition of Immokalee Workers' blog, as of June 2010, Sodexo had refused to sign the agreement, although the company subsequently did sign the agreement (Coalition of Immokalee Workers, 2010). The Fair Food Program (FFP), which was not founded until 2011, expanded in 2015 to include "the summer operations of Florida-based growers in Georgia, North Carolina, South Carolina, Virginia, Maryland, and New Jersey, as well as to pepper and strawberry farms in Florida" (Fair Foods Standards Council, 2015).

According to a recent article in GreenBiz, 140 campuses have signed on to the Real Food Challenge, which requires colleges and universities to measure (using the Real Food Calculator) and report the amount of sustainably produced food purchased and served on their campus (GreenBiz, 2014). In response to student organizing and advocacy, the California State University Board of Trustees, including Governor Jerry Brown, approved a statewide sustainable food policy on May 21, 2014, that requires

all 23 California State University (CSU) campuses to ensure that 20% of their food purchases are from farms and businesses that meet the Real Food Challenge guidelines by 2020. This will mean that \$20 million of the \$100 million CSU campuses spend on food will be spent on sustainably and fairly produced food. In addition to the CSU campuses, 25 colleges and universities across the United States have adopted the Real Food Challenge goal of purchasing 20% “real food” by 2020 (Real Food Challenge, 2014).

Organizational change. At times it is the dining services director at a university who decides to initiate a farm-to-college program. The literature on organizational change, which primarily focuses on business in a corporate setting, provides insight into why and how dining services directors might make a decision to establish farm-to-college programs. Shriberg finds that colleges and universities tend to offer more individual freedom to change than other types of institutions because control is more dispersed and fractured (Shriberg, 2002). While the motivation of organizations and employees who do not benefit economically from the adoption and implementation of innovations (such as college and university dining services operators and managers) has not generally been considered in the organizational change literature, Hage claims that the motivational impact of “making the world a better place” in the implementation and adoption of “radical innovation” may have considerable motivational impact (Hage & Aiken, 1970; Hage & Dewar, 1973; Hage, 1999). This theory is consistent with the findings of research sponsored by the Center for Agroecology, which found that institutional purchasing of local, sustainably

produced food was often influenced by professional organizations promoting the value of sustainability. In his 1999 review of the organizational change and innovation literature, Hage argues that future research needs to “more directly access whether or not the successful implementation of radical process innovations involves some vision of a better society.”

DiMaggio & Powel offered a theory of organizational change that provides additional insight into why farm-to-college programs are being established at many colleges and universities across the United States. In their 1983 article, “The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields,” DiMaggio and Powell explain that organizations within an established field (such dining services) become increasingly similar during the process of structural change instituted by managers and other actors (DiMaggio & Powel, 1983).

They identify three, often overlapping, mechanisms that move organizations toward isomorphic change: 1) coercive, 2) mimetic, and 3) normative. Coercive processes can stem from government influence or mandates, such as laws and regulations that affect particular industries and organizational fields. Mimetic processes are often encouraged by uncertainty and may be an attempt to increase legitimacy or success through adoption of successful models. Models can be diffused through industry trade associations, such as the National Association of College & University Food Services (NACUFS), to which approximately 550 institutions of higher education from across the United States and Canada belong. Customers, that

is, students purchasing meals in the case of college dining services, may also encourage mimetic isomorphism. Normative processes provide legitimacy and are often associated with professionalism. Universities determine the curriculum required to obtain professional degrees (credentials) and, as a result, ensure that professionals in particular fields have similar training and ideas. The similarity of ideas and training tends to result in professionals within a particular field promoting similar organizational changes. Normative isomorphism can also result from the exchange of information within professional organizations, such as NACUFS. DiMaggio and Powel hypothesize, “The greater the participation of organizational managers in trade and professional associations, the more likely the organization will be, or will become, like other organizations in its field.”

Taste. The taste and flavor of food appear to underlie in part the growing local food movement, including some farm-to-college programs. Alice Waters, one of the founders of the local food movement, said the following in the introduction to her cookbook, *The Art of Simple Food*:

I was searching for flavor, not philosophy, but what I found was that the people who were growing the tastiest food were organic farmers in my own backyard, small farmers and ranchers within a radius of a hundred miles or so of the restaurant who were planting heirloom varieties of fruits and vegetables and harvesting them at their peak (Waters, 2007).

Bon Appetit Management Company similarly turned to local purchasing because the best-tasting ingredients were produced locally:

Our path toward greater sustainability started as a quest for flavor. When you cook everything from scratch, you want the freshest ingredients. That led us to launch our Farm-to-Fork Program back in 1999—long before local food became the welcome trend it is today (Bon Appetit Management Company, 2015).

Taste is a complex sense. It is biological, a natural sense like smell and touch, passed down over millions years, and social, influenced by culture, meaning, and values, as well as emotional and a source of pleasure (McQuaid, 2015). Our sense of taste is very closely linked to our sense of smell. Our senses of vision and touch can also be involved in how we experience food, but to a much lesser extent. The taste of food is limited to five basic tastes: sweet, salty, bitter, sour, and umami (savory), although individuals can experience these tastes differently (McQuaid, 2015). In fact, some people, often geographically grouped, have a genetic limitation that reduces their ability to taste bitter (McQuaid, 2015).

Smells, however, are almost limitless, there being as many as one million (McQuaid, 2015). Our minds mix taste and smell together so they become indistinguishable (McQuaid, 2015). Flavor, our “sensory impression” of food, is determined by both smell and taste, but smell is the more powerful component (McQuaid, 2015; Science of Cooking, 2015). According to journalist Mark Schatzker,

author of *The Dorito Effect: The Surprising New Truth about Food and Flavor*, beginning in the 1940s, flavor has slowly been leached from food grown in the United States, as fruits and vegetables, as well as poultry, were increasingly bred for appearance (for example, supermarket tomatoes), yield, pesticide resistance, size, and transportability (Schatzker, 2015). Another problem, according to Harry Klee, a professor of horticulture at the University of Florida, cited by science writer John McQuaid in his book, *Tasty: The Art and Science of What We Eat*, is the lack of connection between the grower and consumer in terms of flavor: The grower is paid by weight, not flavor, and has no incentive to “produce a tomato that tastes good” (McQuaid, 2015). This loss of flavor, which corresponds with the globalization and industrialization of agriculture and the decline of small farms, has elicited a backlash from people wanting to enjoy the pleasure of eating fresher, more flavorful food.

The sense of taste begins with the taste buds located on the tongue. Taste buds have cells that detect sweet, salty, bitter, sour, and umami. Although other taste receptors are also located in the palate and the throat, most are located on the tongue, about 10 thousand (McQuaid, 2015). When we eat, the cells in the taste buds communicate the taste of the food to the brain, and a moment later we perceive the taste (Lewis, 2013; McQuaid, 2015). There is a huge range in taste perceptions among humans, which differs from other sense perceptions that only vary a little from person to person. This is particularly true of the taste of bitter, which evolved over hundreds of millions of years as a way to warn against taking toxins into the body. Even bacteria can taste bitter. Because there are an incalculable number of poisons in

nature, many different receptors are required to taste the various kinds of bitter. In contrast, only a few sugars taste sweet and the job of the receptor is simply to detect sweet. Also, while bitter foods warn of toxins, the taste of sweet signals to the body that something delicious and “biologically vital” is about to be consumed. This is because sugar is the “foundation of earth’s food chain” (McQuaid, 2015). In fact, according to McQuaid, “sweetness is the most basic form of tastiness, and of pleasure itself” (McQuaid, 2015).

The taste of food carries emotion. McQuaid pointed out in his book, *Tasty: The Art and Science of What We Eat*, that “food is written into our memories and emotions” (McQuaid, 2015). We remember enjoying homegrown tomatoes and the homemade apple pie we ate growing up and want to experience these pleasures again. According to McQuaid, wanting is a “state of desire,” which is powered by dopamine, a neurotransmitter that is released in a region of the brain associated with pleasure (Mandal MD, 2013; McQuaid, 2015). Just smelling food we associate with pleasure can make our mouths water. Liking, according to McQuaid, is the pleasure we derive from the good taste of a food. Combined wanting and liking create learning, which enables us to find and acquire tasty food (McQuaid, 2015).

What is acceptable to eat is culturally determined (James, 1997; McQuaid, 2015). According to anthropologist Allison James, “food marks our cultural identities,” and statements such as “we eat insects, they don’t” illustrate “shared patterns of consumption” as well as shared views of what is acceptable to eat, although what we eat as a culture does bear traces of trade and travel (James, 1997).

McQuaid (2015) explains that what a culture considers disgusting and unacceptable to eat has no biological basis and is social in origin (McQuaid, 2015). For instance, Guthman cites examples of disgust at organic food expressed by African-American youth on a field trip to an organic demonstration farm. Later, when the youth were asked what *organic* means, their responses included “dirty,” “disgusting,” and “gross” (Guthman, 2015). Guthman attributes this type of response to the perception of alternative food (local and organic food) as “white” by people of color, especially African Americans, who see alternative food as not real or normal food, unlike the food they buy from the supermarket (Guthman, 2015). Guthman also speculates that African Americans may associate the alternative food discourse about small-scale farming and “putting your hands in the soil” with “images of slave labor,” rather than the nostalgia this discourse elicits in privileged white people (Guthman, 2015).

In the context of sociology, taste is associated with an individual’s preferences and the classification and ranking of items of consumption, such as fashion (clothing), food/cuisine, music, and works of art, according to their desirability, social status, and more recently congruency with one’s self-image. For a number of years, class was considered the primary determinant of taste. In fact, Bourdieu maintains that “the taste of the ruling class is always the legitimate taste of a society” (Bourdieu, 1984). However, according to Miele, over the past two or three decades, “new social formations” (neo-tribalism) or “the practices of more ‘individualized’ and ‘self-reflexive’ actors, moved by personal motivations and the search for self-identity, have been acknowledged as now having a more important role than class belonging”

(Miele, 2006). Miele cites Warde (1997) as identifying this shift from “Bourdieu’s conceptualization of consumption as habitus (structure generating practices) to consumption as a domain of freedom as conceived by post-modern theorists such as Bauman, Giddens, and Beck” (Miele, 2006). Yet individual consumption molded on the preferences of a neo-tribe seems somewhat akin to taste shaped by class, although neo-tribes are fleeting in contrast to the stability of classes. In addition, Miele notes that the role of emotions, desires, and pleasure in consumption began to be acknowledged by theorists such as Featherstone (1991, 1995) (Miele, 2006). The conception of taste as a tool in the creation of an individual’s self-identity through consumption, for instance as a locavore (one type of neo-tribe) who eats locally grown foods to support the local economy and farmers, underlies reflexive consumption, which may contribute to the growth of the local food trend along with the desire to consume local food because it is pleasurable and tastes better.

Farm-to-College Related Research

The farm-to-college research described below provides considerable information on the characteristics of farm-to-college programs that I use as context for examining my questions about the nature of farm-to-college programs and as points of comparison with the data I collected in my study. Murray’s farm-to-college survey (2005) and the Food Security Coalition’s ongoing survey (2002–2012) provide very detailed data on the characteristics of farm-to-college programs in the United States, including purchase of organic products, geographic distribution of farm-to-college programs, and barriers and benefits to operating farm-to-college programs.

Research by Vogt and Kaiser (2006), Merrigan and Bailey (2008), Ng, et al., (2010), Bendfeldt et al., (2011), and Harris, Lott, Lakins, Bowden, and Kimmons (2012) further examines the benefits of and barriers to operating farm-to-college programs, mostly from a health and nutrition perspective. The barriers identified in these studies provide comparisons for the data I collected on barriers faced in establishing farm-to-college programs. Additional farm-to-institution research by Feenstra, Allen, Hardesty, Ohmart, and Perez (2011) focuses on how to foster farm-to-institution programs by exploring barriers and opportunities as well but from different viewpoints on the supply chain. This very comprehensive study provides useful data on student food preferences, food service administrator motivation for purchasing local food, and the farm-to-institution supply chain, which provide background and points of comparison in the analysis of my data. In another study, Bartlett (2011), who was very instrumental in establishing the farm-to-college program at Emory University, considers the transformational potential of farm-to-college programs. Chen and Arendt (2010) address sustainability in their study of sustainability practices adopted by college dining services administrators, and they identify regional differences as well. In other research, Chen, Gregoire, Arendt, and Shelley (2011) examine why dining services administrators adopt sustainability practices. However, farm-to-college programs are not the subject of either of these two sustainability-related studies, which instead focus on college dining services in general. Social justice is addressed in only two studies. Perez and Allen (2007) survey food-related perspectives and preferences of students and others who eat at University

of California, Santa Cruz, dining halls, including social justice preferences.

Pothukuchi and Molnar (2014) examine whether the implementation of sustainable food system practices at public universities extends to social equity benefits in surrounding urban communities. Neither of these studies, however, examines farm-to-college purchasing practices that address treatment of farm labor or ecological farming practices.

Surveys conducted by the Community Food Security Coalition and Murray. One hundred and thirty U.S. and Canadian colleges and universities that purchase local farm products responded to the 2004 online survey conducted by the Community Food Security Coalition (CFSC) of farm-to-college programs (Markley, 2011). Responses to the survey, which were ongoing until 2012, indicated that farm-to-college programs continue to be established. In addition to the CFSC survey, Murray, a University of Washington graduate student, conducted an online survey of 70 farm-to-college programs and 6 semi-structured phone interviews with large public universities in 2005. This provided a useful overview of farm-to-college programs in the United States and several points of comparison for the data generated in my study (Murray, 2005).

Both Murray's and the CFSC's surveys found wide variation among farm-to-college programs, including school size, school location, type and size of food service operation, annual amount spent on local food products, and purchase of organic food products. However, both identified some consistency in the year programs were initiated and by whom they were initiated. Over half of the colleges and universities

surveyed by Murray started their programs in 2002. The median program start year for schools surveyed by the CFSC was also 2002. The oldest program in the schools surveyed by Murray began in 1987, while the oldest program responding to the CFSC survey began in 1986.

Both Murray and CFSC found that most programs were initiated by food service personnel, as 67 out of 89 programs responding to the CFSC survey were initiated by food service personnel and 22 were initiated by students. In Murray's survey, 30 out of 30 programs responding to the question about program initiation reported that it was initiated by food service personnel, and 17 of these were initiated jointly by students and food service personnel.

Murray also discovered that, although farm-to-college programs are located throughout the United States, most are concentrated in the Northeast, the Midwest, and the West Coast. Approximately two-thirds of the schools surveyed by Murray were private colleges and most of these were small liberal arts schools that included the oldest farm-to-college programs in operation. Similarly, 79% of the 126 schools responding to the CFSC survey were private colleges and universities and 21% were public. However, Murray found that the number of large public colleges and universities with farm-to-college programs was growing. The schools surveyed by Murray and CFSC ranged in size from approximately 500 to 50,000 students.

Annual spending on purchase of farm products ranged from \$200 to \$1.5 million in the Murray survey and from \$500 to \$875,000 in the CFSC survey. The average annual expenditure in the CFSC survey was \$162, 337, the median being

\$25,000. Murray notes that the amount spent on local farm products was generally a small fraction of most college's overall food budget.

Of the colleges responding to Murray's survey, 70%, or 39 out of 56, purchased local organic farm products. A slightly larger percentage, 79%, or 80 of the 106 schools responding to the CFSC survey, purchased "some" local organic farm products, while 21%, or 26, did not purchase any. A majority of the programs were located at colleges and universities with contracted food services. Out of the 129 respondents to the CFSC survey, 71%, or 92, had contracted services and 29%, or 37, were self-operated. It was found that 57%, or 40 of the 70 schools surveyed by Murray, had contracted services and 43%, or 30, were self-operated. However, a majority of the larger schools (88%) surveyed by Murray were self-operated and only 12% contractor managed.

Research addressing benefits of and barriers to operating farm-to-college programs. A number of researchers conducted research aimed at identifying benefits and barriers to operating farm-to-college or farm-to-institution programs between 2006 and 2012. Many of these studies were undertaken by academics with a health and nutrition perspective who sought to obtain information that would assist in the establishment of farm-to-college programs. Harris, Lott, Lakins, Bowden, and Kimmons (2012) identify farm-to-institution (colleges and hospitals) programs as a way to align food services with health and sustainability guidelines like those developed by the U.S. Department of Health and Human Services (HHS) and the General Services Administration (GSA), which support local sourcing (U.S.

Department of Health and Human Services [HHS] and General Services Administration [GSA], 2011; Harris et al., 2012). They note that institutions represent considerable purchasing power that can result in regional, social, economic, and ecological benefits as institutions increase local sourcing, including improved agricultural profitability, increased employment in food production, and greater local availability of healthy and sustainably produced foods.

A number of barriers to local sourcing were identified, including cost, lack of availability, food safety, liability considerations, and lack of skilled labor to prep food (Harris et al., 2012). Bendfeldt et al.'s 2011 study also concluded that local purchasing can improve a locality's economic wealth, increase local availability of healthy food, and improve the health of the population (Bendfeldt et al., 2011).

Ng et al. surveyed 99 college food service administrators in 2010 to identify the challenges, benefits, and strategies of implementing a farm-to-college program. Like Harris et al., they identify lack of availability of local product and cost as challenges, as well as distribution methods and administrative support. In addition to identifying farm-to-college programs' economic benefits to the community through providing a reliable market for local farmers and the health benefits to customers by increasing their consumption of fresh fruits and vegetables, Ng and Bednar identify benefits to the college. These include 1) connecting the college to the community, 2) improving the public image of the college, and 3) increasing sustainability awareness among students, faculty, and staff (Ng et al., 2010). Additionally, Ng et al. found a number of strategies to be helpful in implementing a farm-to-college program,

including 1) finding a source of acceptably priced local food products, 2) assessing whether student customers are interested in local farm products, 3) developing a backup plan when local products are not available, 4) maintaining good relationships between buyers and sellers, 5) educating students about the program, and marketing it to the college community, 6) getting support from upper administration, 7) establishing relationships with other food service operators who purchase local farm products, 8) maintaining adequate skilled staff to prepare local products, 9) arranging food service staff visits to local farmer's markets, and 10) setting up a food advisory committee (Ng et al., 2010).

Merrigan and Bailey (2008) looked at barriers to implementing farm-to-college programs through a New England perspective using Tufts University as a case study. The reason they cite for establishing a farm-to-college program is to support the goals of the "buy local movement." These include preservation of farmland, supporting the local economy, and improving the freshness and flavor of food served at the university. Merrigan and Bailey found difficulties in establishing a farm-to-college program in New England that are exacerbated by its short growing season and small agricultural base. These difficulties include trouble in finding local growers and local seasonal availability that does not match the academic season. They also identified difficulties presented by purchasing directly from small farmers, including coordination of deliveries, farmer difficulty in meeting insurance requirements, inability of farmers to meet volume requirements, and substitution of other items, which in turn result in menu and food prep changes. However, the most critical

barrier to implementing a farm-to-college program they found was lack of student demand.

Vogt and Kaiser's research findings note many of the same benefits of farm-to-institution (colleges and hospitals) programs as later studies, including support of local farmers and the economy, better consumer nutrition, and higher-quality food with better taste (Vogt & Kaiser, 2006). They also add such benefits as knowing the source of the product, greater variety of food, student adoption of better eating habits, less use of pesticides and chemicals, and less environmental impact. Vogt and Kaiser warn that the implicit dietary argument for regional food is that the nutrient content is higher, but the nutritional quality of the food depends on growing methods and time between harvest and consumption. As in other studies, Vogt and Kaiser identify lack of trained staff to prep produce as a barrier, along with limited storage and processing facilities, the lower cost of commodity food, product and grower availability, liability insurance issues, food safety, and quality. They also identify two essentials for program success not identified by other research: farmers' co-ops, which allow farmers to pool their produce, and a central distribution facility.

Research on fostering farm-to-institution programs. The 2011 research of Feenstra et al. is aimed at identifying “how to foster farm-to-institution by exploring barriers, opportunities, and potential solutions from different perspectives in the supply chain.” Their research is based on a national survey of college students, a survey of institutional food service buyers in California, and in-depth interviews with farmers and distributors in the California distribution system.

Table 2

Most Common Farm-to-College Benefits Identified in the Five Studies

Benefits	Harris et al.	Bendfeldt et al.	Ng et al.	Merrigan & Bailey	Vogt & Kaiser
Support local economy and farmers	yes	yes	yes	yes	yes
Improve access to healthy food and health	yes	yes	yes		yes
Improve freshness and taste of food	yes			yes	
Support environment	yes			yes	

Table 3

Most Common Farm-to-College Barriers Identified in the Five Studies

Barriers	Harris et al.	Bendfeldt et al.	Ng et al.	Merrigan & Bailey	Vogt & Kaiser
Lack of availability	yes		yes	yes	
Cost	yes		yes	yes	
Lack of student demand				yes	
Liability issues	yes			yes	
Distribution and delivery			yes	yes	yes

The researchers used a “values-based supply chain approach” (food identified with the values of local, or regional, sustainable, family farmed, and organic) in their study and sought to understand interactions within the supply chain “as a system” (interconnected whole) through collection of both data and perspectives from participants. The study does not define the terms, *local*, *regional*, *sustainable*, *family farmed*, or *organic*, but does confirm that the demand for “producing, distributing, and purchasing” food characterized by these terms is relatively strong among food service buyers, who have learned about these values from professional organizations, food service management companies, and top administrators at their colleges.

The students surveyed rated food safety, freshness, taste, convenience, nutrition, price, and humane treatment of animals (listed in order of importance) as most important with more than 60% of respondents identifying these qualities as important. Slightly more than 50% of the students rated living wage as important, and somewhat more than 40% rated sustainably produced as important. Approximately 18 to 30% of the students surveyed identified local, organic, and small farms as important, with small farms rated the least important. When asked how they would prefer to obtain more information about their food, the highest percentage, 62.2%, said they would like to obtain information from product labels.

The findings of the study are organized as “three types of flows: product flow, financial flow, and information flow.” Findings on product flow in the distribution system indicate that “while broadline distributors tend to dominate the market, alternative distribution networks are emerging in response to consumers’ desire to

confirm that they are buying local products” (Feenstra et al., 2011). Information flow was found likely to be most important in supporting farm-to-institution value-based food chains. Although pricing information is easy to communicate, information about sustainability and fair labor associated with the production of farm products is not easily accessed by buyers at various points in a supply chain. This type of information has not traditionally been included in negotiations between producers, distributors, and buyers, and may not be considered unless it is specified as a criterion in formal bids and purchase orders. As part of improving information flow, the study found that students need to be educated about the value of local, sustainable, organic, and small farms to garner their support for sustainable food. Also, producers and distributors need information about aggregating and processing farm products and reaching institutional buyers (Feenstra et al., 2011).

Research on the transformative potential of farm-to-college programs.

Bartlett (2011) considers the potential of farm-to-college programs to promote the incorporation of social and environmental concerns into public policy. The study is based on a sample of 30 colleges and universities identified as innovators in sustainability and food initiatives. The study concluded that “academic components” of sustainable campus food initiatives legitimate and promote public distrust of industry reassurances about the conventional system, expand public debate, and lay “the groundwork for political action and regulatory reform” (Bartlett, 2011, p. 111).

Consumer preferences survey. Perez and Allen’s study examined the preferences of UCSC campus consumers regarding food issues such as protecting the

environment, pesticides in the food system, treatment of animals in the food system, and working conditions of farm labor (Perez & Allen, 2007). The study did not reference UC, Santa Cruz's farm-to-college program, which includes purchasing criteria that supports the environment or fair wages and safe working conditions for farm labor. The study shows that improving the conditions of hired workers on farms (affirmed by 80.1% of the respondents) and reducing the use of pesticides in the food system (affirmed by 76.9% of the respondents) were considered very important by survey respondents. However, interest in the union label, which certifies union wages were paid to workers and workers were represented by a union, was expressed by only 37.7% of the respondents. This response did not correspond to the much greater respondent interest (80.1%) in improving the conditions of hired workers on farms and was much less than respondent interest in labels certifying that food was organic (64.4%).

Sustainability practices and intentions of college dining services

administrators. A survey of 138 college and university dining services administrators conducted by Chen, Arendt, and Gregoire (2010) focused on identifying sustainability practices present in college dining services operations (not farm-to-college programs). The study found that waste reduction was the sustainability practice most frequently used by university dining services administrators and the "high-profiled" purchase of organic and local products was practiced less often. The study also found that colleges and universities located in the Northeast had the highest sustainable practices scores and those in the South had the

lowest scores (Chen et al., 2010). In 2011, Chen, Gregoire, Arendt, and Shelly published their research on the factors affecting the intention of university dining services administrators to adopt sustainability practices, and again the study did not focus on farm-to-college programs. The theoretical framework for the study was based on the theory of planned behavior, which considers “intention” to be the best predictor of behavior. The study found that pressure from others had the most influence on dining services managers’ intention to implement sustainable practices, followed by the administrator’s personal views about sustainability. The study defines *sustainable practices* as “activities or practices of college and university dining services staff that conserve resources” (Chen et al., 2011).

Food justice. Focused on “food justice,” Pothukuchi and Molnar’s 2014 study assesses benefits of university sustainable food system activities on inner-city neighborhoods. According to Pothukuchi and Molnar, many urban universities have made a commitment to improve their local neighborhood. Pothukuchi and Molnar surveyed 21 urban colleges and universities to determine the prevalence of sustainable food system activities within the colleges and universities that facilitate access to healthy food by surrounding inner-city neighborhoods, such as community gardens, community-supported agriculture (CSA), and farmer’s markets. The study found that, although a low level of sustainable food activities existed in a majority of the schools, there was little evidence of a “comprehensive integrated approach” to sustainable food system activities that benefited inner-city neighborhoods (Pothukuchi & Molnar, 2014). While this research does not address social justice

issues related to small farmers or farm workers, it does add to the evidence that social justice is seldom addressed by university sustainable food system activities.

Research Related to the Characteristics and Conditions of Farm Workers

The farm worker research discussed below helps in understanding why social justice is an issue for farm workers in the United States and why farm-to-college programs seldom adopt purchasing criteria addressing these issues. Shreck, Getz, and Feenstra's findings that a large majority of organic farms included in their study do not pay a living wage or offer benefits to their workers provides context for my examination of equitable labor practices in farm-to-college programs. The Bon Appetit and United Farm Workers inventory of farm workers in the United States provides background for understanding why social justice for farm labor might not be included in farm-to-college programs.

Bon Appetit and United Farm Workers study. Bon Appetit Management Company Foundation and the United Farm Workers prepared a very thorough inventory of the characteristics and conditions of U.S. farm workers in 2011. Based on publically available data, it included state laws and regulations affecting farm workers and their working conditions in the six states with the largest populations of farm workers: California, Florida, Washington, Texas, Oregon, and North Carolina. The researchers found there is little public awareness of the conditions and problems within the farm worker community. The invisibility of farm workers is attributable to the lack and inadequacy of public data about these conditions and problems.

Based on 2007 data, the study reports that there are about 1.4 million farm workers in the United States and approximately a third of them live in California, which is more than the combined total for the next five largest farm worker states. Of all farm workers, 78% are male, with an average age of 37. A little over half are parents living with their spouses. The large majority of farm workers are not born in the United States. Of these farm workers, 99% are contract workers and 75% of the hired workers are Hispanic/Latino. Over three quarters of the contract workers are unauthorized, but fewer than half of hired workers, or 45%. Most farm workers have low levels of education, eight years on average, and approximately one-third of hired workers and two-thirds of contract workers do not speak English, and even more do not read English. A majority of farm workers, 72% of hired workers and 53% of contract workers, are classified as “settled” and do not migrate. The remainder travel 75 miles or more between work locations or residences and are classified as “migrants.”

Based on 2007 Census of Agriculture data, the study shows that only about a quarter of the more than two million crop farms in the United States hire farm labor. The type of crop determines the amount of labor required. Crops requiring hand labor employ the largest number of workers. Half of the farms in California use farm workers and over half in Texas use farm labor, although three quarters of the farms in Texas grow grains and other crops that do not require much human labor. Less than a third of the farms in the other top farm worker states hire farm labor. The season determines when workers are required. Most farm workers, about three quarters, do

not work more than nine months out of the year and earn very little. “One quarter of all farm workers had family incomes below the federal poverty line,” according to Bon Appetit Management Company Foundation and United Farm Workers (2011). The size of a farm’s labor force determines the labor regulations that the grower must follow. Smaller farms may be exempt from regulations.

The conditions and problems facing farm workers in the United States are documented in the study and include low wages and long hours, few labor protections for children and youth working as farm workers, exploitive farm labor contractors, poor housing and transportation, lack of Unemployment Insurance, no collective bargaining rights in most states, forced labor, performing hazardous work without Workers’ Comp in many states, workplaces that are exempt from OSHA standards and inspections in many states, heat stress, and exposure to pesticides.

Overall, the study found that farm workers are employed in one of the most hazardous occupations in the country but have “far fewer legal protections” than “employees in other sectors of the U.S. economy” (Bon Appetit Management Company Foundation and United Farm Workers, 2011). They are excluded from protection under the National Labor Relations Act as well as being exempt from many protections under the Fair Labor Standards Act (FLSA). Only California workers have the right to collective bargaining. The study concluded that lack of regulatory oversight and enforcement “not only leaves employers unaccountable to basic health and safety standards but also leaves farm workers vulnerable and

invisible to the public eye” (Bon Appetit Management Company Foundation and United Farm Workers, 2011).

Farm workers in organic agriculture. Shreck, Getz, and Feenstra examined the labor practices of organic farmers in California to determine whether organic farms provide better working conditions for farm workers than conventional farms (2005, 2006). Because organic farming is often conflated with sustainable farming, which encompasses both ecologically sound and socially just farming practices, it is assumed that organic farming practices address working conditions for farm workers. However, organic certification standards do not include labor standards or social criteria.

Shreck et al. carried out two studies in 2004: one based on in-depth interviews with selected organic farmers and the other based on a mail questionnaire with responses from 188 farmers. About 75% were small farmers with annual sales of less than \$50,000. Two-thirds of the farmers responding to the mail questionnaire reported hiring farm labor. The mail questionnaire focused on the farmers’ thoughts about social sustainability and organic farming. Most respondents thought organic agriculture was more socially sustainable than conventional agriculture. But more than half did not think social standards should be added to organic certification standards and most did not provide benefits such as living wage, health insurance, and paid vacations for their workers. Several respondents reported that they could not afford health insurance themselves. However, more than one-third of the farmers provided at least one “fringe” benefit to their workers. Most of these tended to be

larger all-organic (as opposed to conventional and organic) operations. A majority of responding farmers felt that providing a living wage and benefits for workers would be a financial burden (Shreck et al., 2005, 2006).

CHAPTER 3

RESEARCH DESIGN AND METHODS

This chapter presents the research design and methods I used to investigate my research questions:

1. *What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?*
2. *Do farm-to-college programs incorporate ecological farming practices and/or socially equitable labor practices in their purchasing criteria?*
3. *What are the means by which and the reasons why farm-to-college programs are being established in the United States, and are these programs expanding?*

Research Rationale and Purpose

Farm-to-college programs have been identified as potential new markets for farmers who meet higher levels of social and environmental responsibility in the production of food than conventional markets (Strochlic & Hamerschlag, 2006). However, the extent to which farm-to-college programs actually support agriculture that is economically viable, environmentally sound, and socially just is currently unknown.

The primary purpose of my research is to gauge the extent to which farm-to-college programs fit the characteristics of sustainable development and agriculture, including relocalization, by examining whether the programs in my sample 1) incorporate ecological farming practices and socially equitable labor practices in their purchasing criteria; 2) purchase products from farmers that meet higher levels of environmental and social responsibility; 3) take measures to reduce waste and conserve natural resources; and 4) foster direct relationships between farmers, dining services, and students (the producers and the consumers of farm products purchased by farm-to-college programs). A second purpose is to explore why, when, and how farm-to-college programs are established. A third purpose is to determine if there are differences in the extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization based on region, size, and form of management.

Assumptions and Expectations

My definition of *sustainable agriculture* is based on the definitions used by the Agricultural Sustainability Institute at UC, Davis, and the definition developed by the Committee on the Twenty-First Century Systems Agriculture, and it incorporates four main goals: 1) the production of food to meet human needs, 2) promoting environmental health, 3) enhancing economic viability, and 4) promoting social and economic equity and enhancing the quality of life for farmers, farm workers, and rural communities. Meeting these goals is an ongoing and changing process in which various methods can be used, as opposed to just one particular method. Relocalization

(local food) is one method of meeting the goals of sustainable development that focuses on enhancing the economic viability of small and mid-size farms and the quality of life for farmers and rural communities.

Drawing on my knowledge of the farm-to-college literature and my participation in the establishment of a farm-to-college program at the University of California, Santa Cruz (UCSC), I can characterize farm-to-college programs as a form of “relocalization.” Illustrating Polanyi’s theory of the double movement, relocalization promotes greater protection of nature, social relations, and the livelihoods of small farmers than the free-market-based global industrial food system. By definition, purchase of food from local farms by farm-to-college programs provides a new source of income for participating farmers and decreases the distance food must travel to college dining halls, thereby reducing fossil fuel use and carbon emissions in the transportation of food from producer to consumer (although some research disputes this).

Many farm-to-college programs support the environment through purchase of farm products from local farmers who incorporate one or more sustainable production methods. According to The Princeton Review’s Guide to 322 Green Colleges, there is a “rising interest among students in attending colleges that practice, teach, and support environmentally responsible choices” (Seltzer, 2012). Based on student interest, one of the 10 criteria the Princeton Review used for rating a college’s commitment to sustainability was “the percentage of food expenditures that goes toward local, organic, or otherwise environmentally preferable food” (Seltzer, 2012).

In addition, many farm-to-college programs foster relationships between food service personnel, farmers, and students (re-embedding economic activity in social relations) because purchase of local food reduces the distance between producers and consumers and consequently is likely to promote relationships between producers and consumers (Levidow & Psarikidou, 2011). For example, sourcing locally often requires coordination between university dining services, local farmers, farmers' co-ops, and food hubs.

However, it cannot be assumed that all such programs will automatically incorporate worker-supportive labor practices. Therefore, not all farm-to-college programs will encompass the broad conception of sustainable agriculture that promotes environmental health (ecological sustainability) and social and economic equity (social justice), thereby enhancing the quality of life for farmers, farm workers, and rural communities. This supposition is also based on the 2005 UC Davis study of farm labor practices and social standards on organic farms in California, which showed that most organic farms were unable to incorporate worker-supportive labor practices (Shreck et al., 2005).

Based on the findings of Murray and Chen, I expected the programs to vary and those established in the Southeast to be less likely than those in the Northeast and West to include ecological purchasing practices. Murray found that most farm-to-college programs are concentrated in the Northeast, home of many small liberal arts colleges; the Midwest, a region with many small farm foreclosures; and the West Coast, the forefront of the healthy food movement. She also found that farm-to-

college programs vary considerably (Murray, 2005). Chen found that colleges and universities located in the Northeast had the highest sustainable practices scores and those in the South the lowest scores (Chen et al., 2010).

In addition, I expect that institutional changes (policies, requirements, and regulations) will be required to implement farm-to-college programs, particularly at public colleges. This expectation is based on the bidding requirements imposed at public institutions and my own involvement in establishing a farm-to-college program at a public university. A prerequisite change in institutional purchasing policies and regulations in order to establish a farm-to-college program supports the premise that institutional changes are necessary to support a shift to more sustainable development (Redclift & Woodgate, 1997).

Research Design

This research incorporates both qualitative and quantitative methods. The two methods are intended to complement each other in providing a comprehensive understanding of farm-to-college programs and answering my research questions. I used case studies, one major and three smaller, to gain a deeper understanding of four types of farm-to-college programs and three enterprises that serve farm-to-college programs: a food service management company, a regional produce distributor, and a sustainable agriculture certifier.

The farm-to-college case studies are presented in Chapter 5, and the food service management, produce distributor, and certifier case studies are presented in

Chapter 6. Data for the major farm-to-college case study, including detailed information on the establishment of the program, were collected using participant observation and selected supplementary secondary data, mostly reports, purchasing guidelines, emails, and articles in campus publications. Data for the three smaller farm-to-college case studies were collected from structured phone interviews using an interview schedule and from supplementary secondary data, mostly from campus websites. In-person semi-structured interviews, via an interview schedule with both closed-ended and open-ended questions, were used to collect data for the food service management and the sustainable agriculture certifier case studies, along with supplementary secondary data obtained from company websites. I also used supplementary secondary data obtained from the company website to fill in information about the regional produce distributor not obtained from the phone interview I conducted with the company using an interview schedule. In addition, I completed 52 structured phone interviews with farm-to-college programs across the United States using an interview schedule. These interviews, which included a few semi open-ended questions along with mostly closed-ended questions, provided basic facts and quantitative data about farm-to-college programs. General demographic information about the farm-to-college programs was obtained from the CFSC online survey of farm-to-college programs and campus websites. The data obtained from the farm-to-college interview survey and secondary data are presented in Chapter 4.

Population and Sample

Case studies: Farm-to-college programs. The University of California at Santa Cruz (UCSC) farm-to-college program is the subject of the major case study. I selected UCSC (West region) as the subject of this case study because it represents one distinct type of farm-to-college program and I had gained a deep understanding of the UCSC program and its origins as a participant observer while the program was being established. The UCSC farm-to-college program represents the type of program that purchases directly from a local farmers' co-op, is operated in-house at a public university, and whose establishment was initiated and led by students.

I also included three smaller case studies that represent other distinct types of farm-to-college programs selected from different regions of the United States: 1) a program at Hamilton College (Northeast region) that represents the type of program located at a small private college initiated and operated by its food service contractor, which sources directly from small local farmers, and a regional produce distributor; 2) a program at Emory University (Southeast region), spearheaded by a professor and the university administration, which represents the type of program located at a mid-size university operated by a major food service corporation, which sources farm products produced in a multi-state region from major distributors; and 3) a program at Iowa State University (Midwest region) that represents the type of program initiated and established by the dining services director at a large public university, which is operated by in-house dining services and sources farm produce statewide directly from farmers.

Case studies: Management, distributor, and certifier. Case studies of three enterprises serving at least two or more of the farm-to-college programs I interviewed were included in the research: a food service management company, a regional produce distributor, and a sustainable agriculture certifier. Each company is part of a values-based food supply chain that serves farm-to-college programs. A values-based food chain differentiates farm products by the values incorporated into the production process (environmental, social, community benefits) and may also differentiate the farm that produced the product and tell its story, as food moves through the chain from field to table. In addition, the members of a values-based food supply chain have a collaborative relationship and distribute “rewards and responsibilities” of participation in the chain equitably (Lerman, Feenstra & Visser, 2012). The three enterprises were included to gain insight into the ability of a food service management company to source locally at various locations throughout the United States and ways it can accomplish this, as well as to supplement responses from chefs who were interviewed in various programs operated by the company. These responses included the ability of a distributor to trace the origin and methods used to produce the farm products it procures and sells to farm-to-college programs, the treatment of farm labor on the farms from which it sources, and how a certifier defines *sustainable agriculture* and verifies that farms meet defined sustainability standards.

The food service company included in the case studies is Bon Appetit Management Company, a mid-size firm that operates 16 of the farm-to-college programs I interviewed, all located at private colleges and all but two at small

colleges. Bon Appetit, which is known for local sourcing and serving tasty, healthy food on college campuses, is owned by Compass North America, number one of the top three domestic food service companies (ranked by revenue) in the United States and the largest food service company in the world (Food Management, 2014). There are approximately 844,000 food service operations in the United States (Grossbauer, 2001).

Duck Delivery is the regional produce distributor included in the case studies. According to the International Food Service Distributors Association (IFDA), there are more than 15,000 food distribution companies, including broadline food service distributors, specialty food distributors, and a variety of local/regional distributors (Perkins & Caldwell, 2013). The largest distributor in the United States is Sysco Corporation, a broadline distributor with 125 distribution centers across the United States (Food Service Interactive, 2013). Sysco provides distribution services to many of the farm-to-college programs I interviewed. Duck Delivery is a mid-size distributor that supplies produce to two or more of the Northwest farm-to-college programs I interviewed. The company offers a complete line of Food Alliance certified products, organic produce, and “local” Northwest products. I also interviewed the Food Alliance, a non-profit organization that provides “third-party certification for sustainable agriculture and sustainability standards for a wide range of agricultural products.” There are only two or three other sustainable agriculture certification programs in the United States. The Alliance is the oldest and largest of these certification programs. Several of the farm-to-college programs I interviewed either

purchased or hoped to purchase Food Alliance certified products when they became available in their region. Duck Delivery uses Food Alliance certification as its standard of for sustainable farm products.

Interview survey: Farm-to-college programs. The subject population of the structured phone interviews consisted of farm-to-college programs operating in U.S. colleges and universities in 2008. The sample included in the interviews was drawn from the approximately 120 college and university (n=120) farm-to-college programs that had completed the Community Food Security Coalition (CFSC) online farm-to-college survey in June 2008.

I was given access to the surveys and contacts by Kristen Markley, who developed and managed the CFSC online survey. According to the National Center for Education Statistics, there were 2,719 four-year colleges and universities located in the United States in 2008–2009, the years my interviews were conducted. Of these, 652 (24%) were public and 2,067 (76%) were private. Private schools consisted of both non-profit (1,537) and for-profit (530) colleges and universities (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2009). For-profit private schools typically offer vocational, career, or technical programs for commuters and long-distance students. While I was unable to find supporting documentation, it is unlikely that a majority of the for-profit colleges have residential facilities offering traditional dining services. If it is assumed that only the four-year private non-profit and public colleges and universities offer dining services, the total number of four-year colleges with dining services would

have been 2,189 in 2008–2009. Furthermore, based upon information provided by the National Association of College & University Food Services (NACUFS), a professional organization that provides educational and networking resources to the 550 college and university food service members from the United States and Canada, this number may be high. NACUFS estimates that the number of U.S. colleges and universities that provide significant dining services may be closer to 1,000, slightly less than half of the four-year public and non-profit colleges and universities in the United States.

A geographical region was assigned to each of the 120 colleges that had completed the online survey based on their location: Northeast, Southeast, Midwest, or West. The regions were based on U.S. Census Regions (U.S. Census Bureau). I identified a target of 66 interviews from the 120 colleges and universities that had completed the CFSC survey (55% of the target population) in order to obtain a large enough sample to conduct a statistically significant analysis. A target number of interviews was identified for each geographical region based on the percentage of colleges and universities with farm-to-college programs responding to the CFSC online survey: 27% located in the West, 20% in the South, 30% in the East, and 23% in the Midwest.

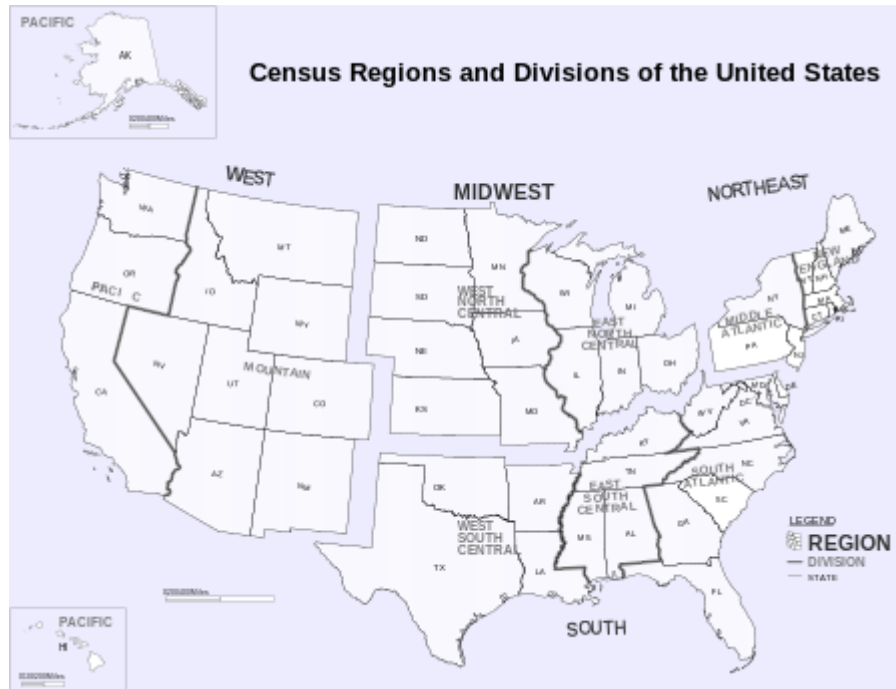


Figure 2. Census Regions and Divisions. Source: Census Bureau https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.

These percentages vary from the percentage of all four-year public and private non-profit colleges and universities located in each of the four census regions: 15% in the West, 31% in the South, 27% in the East, and 27% in the Midwest (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2009). The targeted number of programs to be interviewed was randomly selected from each region. The selected programs were then placed into the following categories: 1) type of school—public or private; 2) size—small, mid-size, or large; and 3) type of dining services—in-house or contracted.

Fourteen (21%) of the 66 selected farm-to-college programs I contacted did not respond, resulting in a response rate of 79%. The final sample included 52 (n=52) small, mid-size, and large public and private universities and colleges located across

the United States. Of the colleges and universities, 25% were public institutions and 75% were private institutions, closely approximating the overall percentages of private and public colleges and universities in the United States in 2008–'09, according to the National Center for Education Statistics. Fourteen of the schools were located in the West (27%), 10 were located in the Midwest (19%), 10 were located in the South (19%), and 18 were located in the Northeast (35%). The 52 colleges represent a sample of 43.3% of the colleges and universities that had completed the CFS online farm-to-college survey in June 2008 and 2.37% of the 2,189 four-year colleges and universities assumed to offer dining services. The sample would represent an even larger percentage of colleges and universities, 5.2%, if the NACUFS estimate of approximately 1,000 colleges and universities with significant dining services were used to calculate the percentage.

Data Collection and Instruments

Data were collected in four ways: 1) participant observation; 2) structured phone interview with selected college and university food service providers and a regional produce distributor; 3) in-person semi-structured interviews with a food service management company and a sustainable farm certifier; and 4) analysis of secondary data, including data from the Community Food Security Coalition's online survey of farm-to-college programs, program flyers, brochures, websites, and other written materials.

Case studies: Participant observation. Data for the major farm-to-college case study, including detailed information on the establishment of the program, were

collected using participant observation and selected supplementary secondary data—mostly reports, purchasing guidelines, emails, and articles in campus publications.

Role as participant observer. The case study builds on my involvement in the establishment of the UCSC farm-to-college program as coordinator and later as co-coordinator of the Campus Food Systems Working Group (CFSWG) from 2004 to 2007. My primary focus as coordinator was to work with the organizations and students that made up CFSWG to develop guidelines for purchase of local, organic, and "socially just" food by dining services. Later as co-coordinator of CFSWG, I worked with the central purchasing buyer for dining services and other CFSWG members to develop the sole source contract with the farm consortium that enabled dining services to purchase local organic produce directly from nearby farms. During the time I was CFSWG coordinator and co-coordinator, I simultaneously played two separate roles: subjective participant and objective observer. My goals were twofold: 1) to gain a deep understanding of the process used to establish the farm-to-college program as an objective observer, including familiarity with the aims and tactics of the students and organizations working to achieve this end; and 2) to assist in the process of establishing the program as a subjective participant.

Data collection as participant observer. I kept records of the plans, procedures, and actions employed by CFSWG to develop guidelines for purchase of local sustainable food by dining services and to foster the cooperation of dining services in adopting the guidelines. I also maintained records of the strategies and actions of other student groups working to organize students in support of the

establishment of the farm-to-college program, as well as the responses of dining services and its new assistant director to these efforts. In addition, I used the knowledge I gained through personal involvement with the project to interact with and gain further access to the groups working to influence dining services to adopt the purchasing guidelines and establish a farm-to-college program at UCSC.

The records I collected were kept in files under these headings: 1) “CFSWG,” which included meeting agendas and minutes, emails, articles about the formation of CFSWG, minutes from the Earth Summit, and my notes; 2) “Guidelines,” which included drafts, definition of terms, assignments, emails, cover letter drafts, my notes, and final versions of the cover letter and Guidelines; 3) “Background,” which included articles about student efforts to oust the prior dining services management company and to introduce organic food in the dining halls, information about other groups that worked for adoption of the Guidelines, and my notes; and 4) “Farmers’ Collaborative,” which included information about the farms that made up the collaborative, meeting agendas and minutes, emails, descriptions of events in which the farmers participated, information about the sole source contract, the RFP for the sole source contract, notes from meetings about produce offerings and pricing, and notes from negotiations with purchasing, along with published articles pertaining to the establishment of the farm-to-college program.

Case studies: Interviews. Data for the three smaller farm-to-college case studies were collected from structured phone interviews using an interview schedule and supplementary secondary data, mostly from campus websites. In-person semi-

structured interviews, via an interview schedule with both closed-ended and open-ended questions, were used to collect data for the food service management and the sustainable agriculture certifier case studies, along with supplementary secondary data obtained from company websites. I also used supplementary secondary data obtained from the company website to fill in information about the regional produce distributor not obtained from the phone interview I conducted with the company using an interview schedule.

Interview schedules: Mini farm-to-college case studies. I used the same interview schedule to conduct the mini case study interviews as I used for the farm-to-college phone interviews (see farm-to-college interview section below). The questions asked addressed all three of my research questions. The farm-to-college programs included in the mini case studies were also included in the larger farm-to-college sample.

Data collection: Mini farm-to-college case studies. The three mini farm-to-college interviews were conducted by phone between September, 2008, and February, 2009. The interviews were conducted with an in-house dining services farm-to-college program coordinator, a food service management company sustainability coordinator, and an executive chef for a food service management company. Contact information was obtained from the Community Food Security Coalition (CFSC) online farm-to-college survey. The interviews were conducted using the interview schedule described in the farm-to-college interview section below and lasted 45 minutes on average. The questions asked addressed all three of my research

questions. The interviews were not taped. Data were recorded in handwritten notes corresponding to each question and then transcribed into typewritten form. In one case, additional information was emailed by the interviewee after the interview, and in another, additional information was obtained from an interview with the food service management company. Supplementary data was also collected from secondary sources, including university and management company websites, and, in one case, the website of a center for sustainable agriculture that had provided initial funding for the farm-to-college program.

Interview schedule: Food service management company. I designed an interview schedule (see Appendix A) to interview a food service company that managed dining services at 16 of the private colleges included in my farm-to-college interviews. A structured interview schedule with set questions was used in order to obtain specific data relevant to my research that could also augment data provided by chefs interviewed at colleges with dining services managed by the company. A few open-ended questions were included to allow for free-flowing conversations on certain topics. The interview was designed to resemble the food service managers' interview schedule in order to supplement the answers provided by the chefs interviewed at the 16 colleges and universities where the food service management company was contracted to provide dining services. I was referred back to the food service management company many times by the chefs I interviewed at these colleges and universities for answers to questions related to the food management company programs and policies. The interview schedule consisted of 27 questions with a

choice of responses, usually including “other” to allow for unanticipated responses. The questions asked addressed all three of my research questions regarding the nature of farm-to-college programs and the extent to which they fit the characteristics of sustainable development and agriculture, the incorporation of ecological farming practices and/or socially equitable labor practices in their purchasing criteria, and how and why the programs were established.

Data collection: Food service management company. The interview with the food service management company was conducted in person at company headquarters in Palo Alto, California, on December 12, 2008. I interviewed the vice president of Strategy, who oversees the company’s culinary development and purchasing policy and leads marketing and communications. She helped develop the company’s local purchasing program and was instrumental in the company’s farm worker research project. I emailed the food service management company to request an interview and set up the interview via phone with the interviewee. The interview was conducted using the interview schedule described above and lasted approximately one hour. The interview was not taped. Data were recorded in handwritten notes corresponding to each question and then transcribed into typewritten form. Supplementary data was also collected from secondary sources, primarily the management company website.

Interview schedule: Distributor. I designed an interview schedule (see Appendix B) to interview a distributor who supplies farm products to the farm-to-college programs included in my research. Mostly close-ended questions were used

rather than open-ended in order to obtain relevant answers to questions on specific topics. The interview schedule was designed in part to address questions that arose during my interviews with dining services managers. These questions centered on whether or not a distributor could distinguish local farm products from non-local farm products, sustainably produced farm products from conventionally produced farm products, and products produced under safe and fair working conditions from ones that were not. The questionnaire consisted of 28 questions with a choice of responses, usually including “other” to allow for unanticipated responses. The questions asked primarily addressed my research question regarding the incorporation of ecological farming practices and/or socially equitable labor practices in farm-to-college program purchasing criteria.

Data collection: Distributor. The interview with the produce distributor was conducted by phone on March 13, 2009. The name and contact information for the distributor were provided by a farm-to-college program in the Northwest. I interviewed the university sales coordinator who worked with the company’s university accounts. The interview was conducted using the interview schedule described above and lasted approximately one hour. The interview was not taped. Data were recorded in handwritten notes corresponding to each question asked and then transcribed into typewritten form. Supplementary data was also collected from secondary sources, primarily the company website.

Interview schedule: Sustainable farm certifier. I designed an interview schedule (see Appendix C) to interview an organization that certifies sustainably

produced farm products sold to a few of the farm-to-college programs I interviewed. Several additional colleges and universities disclosed that they had wanted to purchase certified sustainably produced farm products but were unable to locate a certified farm in their region at the time of my interview. The interview schedule was designed to obtain relevant answers to questions on specific topics and to allow free-flowing conversations on topics of interest. The schedule consisted of 16 open- and closed-ended questions primarily focused on how a certifier defines *sustainable agriculture* and verifies that farms meet defined sustainability standards. These questions addressed my research question regarding the incorporation of ecological farming practices and/or socially equitable labor practices in farm-to-college program purchasing criteria.

Data collection: Sustainable farm certifier. The interview with the produce certifier was conducted in person at company headquarters in Portland, Oregon, on March 11, 2009. I emailed the organization to request an interview, as suggested by Kristen Markley, who developed and managed the CFSC online survey, and set up the interview via phone with the interviewee. I interviewed the certification director who oversaw development and administration of the company's certification standards and policies. The interview was conducted using the interview schedule described above and lasted approximately one hour. At times the interviewee expounded considerably on questions I asked and free-flowing conversations ensued. The interview was not taped. Data were recorded in handwritten notes corresponding to each question asked

and then transcribed into typewritten form. Supplementary data was also collected from secondary sources, primarily the company website.

Farm-to-college program: Interview survey. I completed 52 structured in-depth phone interviews with farm-to-college programs across the United States using an interview schedule. These interviews, which included a few semi open-ended questions along with mostly closed-ended questions, provided basic facts and quantitative data about farm-to-college programs.

This data addressed all three of my research questions:

1. *What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?*
2. *Do farm-to-college programs incorporate ecological farming practices and/or socially equitable labor practices in their purchasing criteria?*
3. *What are the means by which and the reasons why farm-to-college programs are established in the United States, and are these programs expanding?*

General demographic information about the farm-to-college programs was obtained from the CFSC online survey of farm-to-college programs and campus websites. The interview schedule was submitted to the University of California, Santa Cruz, Office of Research Compliance (IRB), for approval. The IRB reviewed the

proposed use of human subjects in the project and determined whether the project was approved and exempt from further IRB review on April 18, 2008.

Interview schedule: Farm-to-college programs. I designed an interview schedule (see Appendix D) to survey dining services managers and chefs who operate farm-to-college programs at the selected colleges. The majority of questions were closed-ended rather than open-ended to ensure that all interviewees were asked the same questions and the answers to the questions could be aggregated and compared. However, a few open-ended questions were included to allow the interviewee to answer in his or her own words. The interview schedule was comprised of 22 questions with a choice of responses, usually including “other” to allow for unanticipated replies, and 5 open-ended questions.

Questions were grouped into two categories. The first category focused on the components of farm-to-college programs and included questions aimed at determining the extent to which the programs fit the characteristics of sustainable development and relocalization. These questions addressed the following topics:

- Major program components (purchasing of sustainably produced products, waste reduction, farmer/chef/student interactions)
- Purchasing from small family farms
- Purchasing sustainably produced and worker-supportive farm products

- Student requests for sustainably produced and worker-supportive farm products
- Chef and student visits to local farms

The second category focused on the establishment and expansion of farm-to-college programs and included questions about the following:

- Individuals and groups involved in establishing the program
- Factors impacting the decision to establish the program
- Barriers to establishing the program
- Factors contributing to the decision to include or not include environmental and farm worker–supportive purchasing criteria
- Policy changes required in order to establish the program
- Expansion of the program

The above categories were preceded by a section with contact and demographic information obtained from the CFSC online survey and college websites. A final question, #27, asked interviewees to recommend local farmers and distributors to interview. Each of the two main categories included questions intended to address my three research questions listed above in the overview of the farm-to-college interviews.

Prior to designing the interview schedule, I consulted with Jan Perez, associate specialist, Social Issues, at the Center for Agroecology and Sustainable Foods Systems (CASFS), University of California, Santa Cruz, who conducts food-related research for CASFS. Perez suggested that rather than “starting from scratch,”

it would be practical to build on the ongoing Community Food Security Coalition farm-to-college online survey of approximately 120 farm-to-college programs. I contacted Kristen Markley, Farm-to-College Program manager for the Community Food Security Coalition, to discuss the idea. Markley agreed and gave me access to the survey questions and results of the ongoing farm-to-college survey, as well as contact information for dining services managers who had completed the online survey. Markley offered to publish my results on the Community Food Security farm-to-college website, but the site was closed down in 2012. At the suggestion of Markley, I reviewed the “evaluation tool” used by the Food Alliance, a third-party certification program in Oregon, to determine whether a farm operation meets their criteria for ecological farm practices and worker safety and wages. After reviewing the information already available from the farm-to-college survey and the Food Alliance “evaluation tool,” I drafted and sent my questionnaire to Jan Perez for review and comment. I incorporated her suggested changes and finalized the first version of my questionnaire, which was tested on the first two food service managers interviewed. I modified the questions regarding what factors contributed to including or not including ecological criteria and social justice criteria in farm-to-college programs after my first interviews.

Data collection: Farm-to-college programs. The interviews were conducted by phone over a 14-month period from June, 2008, to August, 2009, and lasted approximately 45 minutes. Interviewees were primarily dining services managers/directors and head chefs from the colleges and universities included in my

study, but I also interviewed farm-to-college and sustainability coordinators as well as professors, purchasing and production managers, and an AmeriCorps Vista worker. Occasionally, I interviewed more than one person from a program.

The process I used to contact interviewees was based on advice from Shermain Hardesty, Extension economist and director, Rural Cooperative Center, Department of Agricultural and Resource Economics, UC Davis, whom I contacted at Perez's suggestion. Hardesty had conducted phone interviews with dining services food purchasers at colleges and universities for the CASFS USDA-funded Farm-to-Institution Research Project and suggested that I send an advance email to all the dining services managers I planned to interview describing the purpose of my research, my link to the Community Food Security survey, and how long the interview would take. She suggested saying the interview would take 15 minutes, although in practice the interviews generally lasted 30 minutes to one hour.

Based on Hardesty's suggestion, I sent an advance email to the 66 dining services managers I planned to interview (see Appendix E). I followed up with a phone call to set up an appointment for the interview. Fourteen of the 66 dining services managers I contacted did not respond. I phoned the responding interviewees at the scheduled time and conducted the interview using the interview schedule described above. The interviews were not taped. Data were recorded in handwritten notes corresponding to each question asked and then transcribed into typewritten form. Supplementary data was also collected from secondary sources, primarily college and university websites and the CFSC online survey, including demographic

data for each school and data about the farm-to-college programs not collected during my interviews.

Analysis

Case studies. I analyzed each of the four farm-to-college cases individually in order to capture their unique characteristics as program types and then prepared a cross case analysis to compare their similarities and differences. I also analyzed the food service management, the distributor, and the sustainable agriculture certifier cases individually and then compared the three companies vis-à-vis their participation in a values-based food supply chain. Although they occupy different positions, each company is part of a values-based food supply chain that serves farm-to-college programs. The ultimate purpose of each analysis was to address my research questions and issues.

Case studies: UCSC participant observation. The process for analyzing the data I gathered for the major farm-to-college case study using participant observation included several stages. First, I reviewed my files containing the data I had collected on the background of the UCSC farm-to-college program, CFSWG, the Purchasing Guidelines, and the farmers' collaborative. Then I organized the data into categories: 1) local landscape; 2) overview of the 2006-'07 farm-to-college program, including purchase of local, sustainable, and "socially just" food; Purchasing Guidelines; and farmer, student, chef, and dining services relations; 3) why and how the program was established, including the organizations involved and their roles, establishment of the

farmers' collaborative, and the sole source contract; 4) helps and hindrances to establishing the program; and 5) expansion of the program. Categories 2 through 5 followed the format of the farm-to-college interview schedule in order to allow comparison with the three mini case studies, which were based on interviews using the schedule. Data included in the local landscape category were derived from secondary sources described above in the data collection section. Next, I organized the data into a written form, eliminating less important information and identifying pertinent quotes. Then I interpreted the data. Finally, I integrated the data, interpretation, and quotes into a descriptive presentation of 1) the characteristics of the farm-to-college program, 2) incorporation of ecological farming practices and/or socially equitable labor practices in its purchasing criteria, and 3) how and why the program was established. The description was organized chronologically and focused primarily on the establishment of the program.

Case studies: Farm-to-colleges interviews. The process for analyzing the interview data gathered from the mini farm-to-college case studies also included several stages. I first transcribed the interview and secondary data into a readable form, eliminating less important information and identifying pertinent quotes. I next organized the data into categories: 1) local landscape, 2) overview of the 2008-'09 farm-to-college program, 3) why and how the program was established, 4) helps and hindrances to establishing the program, and 5) expansion of the program. Categories 2 through 4 followed the format of the interview schedule. Data included in the local landscape category was derived from secondary sources. The data included in the

other three categories was gathered from the interviews and secondary sources, primarily college dining services and sustainability sites suggested by the interviewees. I then interpreted the data as needed. Finally, I integrated the data, interpretation, and quotes into a descriptive presentation of each individual case, which addressed 1) the characteristics the farm-to-college program, 2) incorporation of ecological farming practices and/or socially equitable labor practices, and 3) how and why the program was established. Each case analysis also included data about the local landscape to be used in the cross case analysis.

Cross case analysis: Farm-to-colleges interviews. The cross case analysis of all four programs focused on comparison—what is similar and what is different. I first reviewed the individual case studies and then listed areas of comparison, which included region, climate, and growing season, type and size of school, year program started, definition of *local*, percentage of food dollars spent on local purchases, purchases from small farms, purchases of organic and sustainably produced food, purchases of food produced under safe and fair working conditions, waste reduction, student, chef, and farmer interactions, and who was responsible for initiating the farm-to-college program. Next, I prepared a chart comparing the four programs in each area. I also prepared a second chart comparing what students requested from dining services at the four schools. Finally, I wrote a narrative description of my findings in each area of comparison, including possible reasons for differences, and an assessment of the success of each program in meeting its purchasing goals, with an interpretation of each school's results based on the length of time the program had

been in operation, the experience and motivation of the program implementer, and the availability of farms producing certified sustainable farm products.

Case studies: Food service management, produce distributor, and sustainable agriculture certifier interviews. The process for analyzing the interview data gathered from the mini farm-to-college case studies included several stages. I first transcribed the interview and secondary data into a readable form, eliminating less important information and identifying pertinent quotes. I next organized the data into categories. Each case included a company background category. The other categories were similar across cases but individualized as needed.

The food service management analysis included categories like those used for the mini farm-to-college case studies, such as purchasing policies for local small farms and organic and sustainably produced food, farm labor working conditions and wages, producer-consumer relations, student education, and establishment of the company's programs and expansion of the programs. The produce distributor categories included company services, locally sourced produce, produce sourced from small farms, organic and sustainably grown produce, food produced under safe and fair working conditions, what universities request, and establishment of the company's programs. The sustainable farm certifier categories were company certification programs in 2009 focusing on certification criteria and processes, establishment of the company and its programs, and expansion of programs. Categories generally followed the format of the interview schedule. Data were gathered from the interviews and secondary sources, primarily company websites

recommended by the interviewees as supplementary sources of data. I then interpreted the data as needed. Finally, I integrated the data, interpretation, and quotes into a descriptive presentation of each individual case.

The food service management case supplied data that supplemented the answers provided by the chefs I interviewed who worked for the food service management company. It also indicated how the farms that supplied local food were differentiated and introduced to the students who dined at the management company's campus cafes and restaurants. The produce distributor case addressed the important question of whether or not a distributor can distinguish local farm products from non-local farm products, sustainably produced farm products from conventionally produced products, and products produced under safe and fair working conditions from ones that were not. The case study also described how the company differentiated the farm products with values (ecological, social, and local) it distributed to its customers, including in farm-to-college programs. Finally, the sustainable farm certifier case provided criteria that could be used to determine whether farm products were produced using ecological farming practices and/or socially equitable labor practices. In addition, the case illustrated how a certification label can differentiate sustainably produced farm products from conventionally produced farm products. Data presented in the three case studies supplemented data collected from the 52 farm-to-college-interviews and helped in understanding the ability of farm-to-college programs to support ecologically sound and socially

equitable agriculture as well as the extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization.

Cross case analysis: Food service management, produce distributor, and sustainable agriculture certifier interviews. The cross case analysis of the three companies focuses on comparison of 1) how the enterprises participate in the values-based food chain, 2) what values they promote, and 3) how they differentiate the values incorporated in the farm products they serve, distribute, or certify. I first reviewed the individual cases and then identified values to include in the comparison: 1) local, 2) farmer identity/relationships, 3) ecologically sustainable production practices, and 4) safe and fair working conditions. Next, I prepared a chart based on the data I had collected from the interviews for the case studies, identifying how each company participated in the values food chain and comparing the values each company differentiated. I also prepared a second chart identifying how each company differentiated the values it supported. Finally, I wrote a narrative description of my findings in each area of comparison.

Farm-to-college: Interview survey. The data collected from secondary sources to provide descriptive characteristics of the colleges and farm-to-college programs included in the survey are presented in Chapter 4 in a combination of tables and narrative description. The characteristics identified include size of the college, type (public or private), state and region, management (self-operated or contract), and name of the management company. Regions were adopted from U.S. Census Regions of the United States (U.S. Census Bureau).

The data collected from the farm-to-college program interviews was analyzed to answer my three research questions listed below. The responses selected by the interviewees from the list of categories provided for the closed questions asked during the program interviews were tabulated using Microsoft Excel, and the percentage of programs selecting each option within each response category was calculated. Responses to the five open-ended questions were analyzed by reading over the responses carefully to identify common themes. Three of the open-ended questions asked how the respondent knew a farm or farm products fit into a category like “sustainably produced” and the fourth asked if and how respondents would like to expand their programs. The fifth question asked for names of distributors to be contacted for future interviews and was not analyzed. The themes, which were generally very limited, were converted into coding categories and the responses tabulated. The percentage of programs selecting each category was then calculated. Descriptive statistics (mean, minimum and maximum values, median) were not included. Survey results were grouped into three categories corresponding to my three research questions:

- 1. What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?*
- 2. Do farm-to-college programs incorporate ecological farming practices and/or socially equitable labor practices in their purchasing criteria?*

3. *What are the means by which and the reasons why farm-to-college programs are established in the United States, and are these programs expanding?*

Within each category, results were organized according to the interview questions asked, which generally corresponded to the order of questions in the interview schedule with the exception of the results for the extent to which the programs fit the characteristics of sustainable development and relocalization.

The extent to which the programs fit the characteristics of 1) sustainable development/sustainable agriculture (production of food, promotion of environmental health, promotion of social and economic equity, and economically viable) and 2) relocalization/local food (producing food for local consumption, supporting the local economy and small farmers, reducing the distance between producers and consumers, and fostering producer-consumer relationships) was determined by assigning points to each program according to its responses to selected questions (see the Evaluation Tool in Appendix F). More points were assigned for purchasing larger percentages of food from small farmers and food produced using environmental and worker supportive methods than were assigned for purchasing smaller percentages. The questions were taken from the interview schedule and serve as indicators for sustainable development and relocalization. The results for Question 8b were derived from the responses of each program to Questions 7 (open-ended) and 8 of the interview schedule.

The points earned by each program were totaled, and mean, median, and mode scores were calculated for sustainable development, relocalization, and combined scores, along with the standard deviation for each. A grade was assigned to each program for total points awarded in each category: sustainable development, relocalization, and combined total points, as well as for the mean, median, and mode scores for all programs combined. Grades were assigned using the following scale:

Table 4

Grading Scale

Category	Grade	Points
<hr/>		
Grades		
Overall		
	Excellent	83 and above
	Good	61–82
	Satisfactory	42–60
	Poor	22–41
	Failure	21 and below
Grades		
Sustainable		
Development		
	Excellent	55 and above
	Good	42–54
	Satisfactory	28–41
	Poor	15–27
	Failure	14 and below

Grades
Relocalization

Excellent	29 and above
Good	22–28
Satisfactory	15–21
Poor	8–14
Fail	7 and below

The grades assigned for the mean scores were used to arrive at the extent that the programs included in the survey fit the characteristics of 1) sustainable development, by reducing food waste and purchasing food produced using defined methods promoting environmental health and social and economic equity for farm workers, and 2) relocalization, by purchasing local food, purchasing food from local farmers, and developing relationships with local farmers. In addition, a prediction formula was developed with the Ordinary Least Squares (OLS) method using STATA software to predict the variables (region, school size, type of school, and type of dining services management) associated with statistically higher scores for sustainable development, relocalization, and total score, according to the grading system described above, and within a 95% confidence interval. The equation models the predicted score for all possible schools. However, the predictions are based on trends and predicted scores may not match actual scores.

Validity and Reliability

Case studies. Case studies are often difficult to generalize. It is problematic to make generalizations from findings derived from the study of only one case to an entire population. In addition, the data collected for case studies are often subjective and difficult to replicate (Becker, et al., 1994–2012). According to Becker, et al., case studies should be judged as credible and confirmable rather than valid and reliable (Becker, et al., 1994–2012). Nevertheless, the validity and reliability of case studies can be strengthened by cross checking data with multiple sources. In addition, the use of multiple data collection methods and sources can provide a more multidimensional case study than one based on only one data collection method and source.

Case studies: Participant observation.

Validity. Babbie maintains that the validity (an instrument measures what it is supposed to measure) of field research is very high because the researcher is obtaining the data she or he is seeking firsthand and in depth (Babbie, 1998). However, the results of field research, such as participant observation, focused on one case cannot be generalized from the single case to a larger population. Therefore, external validity is low and not an appropriate criterion to measure the credibility of the results.

Reliability. The reliability of the results of participant observation is often weak due to the subjectivity of the observer who has collected and interpreted the data (Babbie, 1998). Another observer might interpret the data differently.

Nonetheless, the data collected for the UCSC farm-to-college case study was corroborated with secondary sources, such as meeting minutes, reports, original documents, and interviews, as well as the observations of other participants, and therefore should be both reliable and confirmable.

Case studies: Interviews.

Validity. The external validity of a case study is low because a small and non-randomly selected sample cannot be generalized to the larger population from which it was selected (Vanderstroep & Johnson, 2009). However, the accuracy of the data included in my case studies is relatively high because the data was cross-checked between multiple sources, including the interviewee, articles written about the farm-to-college programs by others, dining services' websites, campus sustainability websites, program performance reports, and climate and growing season websites.

Reliability. While there may be reliability issues with the results of case studies based on individual observations, data for the farm-to-college mini case studies and the food service management, produce distributor, and sustainable agriculture certifier case studies were collected using interview schedules composed primarily of close-ended questions. Consequently, the results are relatively objective, replicable, and reliable.

Farm-to-college interview survey.

Validity. External validity, the ability to make generalizations from the findings, is expected to be high. The sample of farm-to-college programs that

participated in the interview survey represents 43.3% of the total farm-to-college programs that completed the CFSC online farm-to-college survey in June, 2008. Because the sample was both large and representative, the survey results should provide a relatively accurate representation of the entire population of farm-to-college programs. However, error is always inherent in a sample survey because a complete census is not taken. Since I did not include the entire population of colleges with farm-to-college programs in my research, my results are subject to sampling error. In addition, I made the assumption that the entire population of colleges with farm-to-college programs were included in the approximately 120 farm-to-college programs that responded to the Community Food Security Coalition's online survey of farm-to-college programs in 2008 when I selected my sample. However, it is possible that not all the colleges and universities with farm-to-college programs had completed the CFSC survey in 2008. By winter 2011, 167 colleges had completed the online survey. Nevertheless, cross checking indicates that the largest and most well-known programs operating at the time had completed the survey in 2008.

Non-sampling errors can also occur in a sample survey due to the inability to obtain correct information from each respondent sampled as a result of how each respondent interprets questions or definitions, and editing, coding, and data processing errors. My data may contain non-sampling errors resulting from the various and inconsistent ways respondents interpreted the definitions of *ecological sustainability* and *socially just working conditions*, which I did not specifically define for them.

Reliability. Because most of the questions included in the interview schedule were closed-ended, it is highly likely that different interviewers would get the same answers from respondents, particularly since fact-based answers, rather than opinions, were requested. However, respondents who did not track percentages of food produced under safe and fair working conditions or sustainably produced food purchased by the program typically estimated the percentages purchased and therefore might provide slightly different estimates at another time. In fact, responses would change over time as the percentages of sustainably produced food purchased by the program changed. Also, in the case of programs without formal purchasing guidelines, a respondent's perception of the percentage of sustainably produced food purchased by a program might change as he or she learned more about sustainability or the program adopted criteria for purchasing sustainably produced food. In addition, it is likely that responses to the few open-ended questions would vary somewhat if a different interviewer were conducting the interview.

Strengths and Weaknesses

Case studies. In general, case studies provide rich, in-depth, narrative descriptions of a case. However, such a small and non-randomly selected sample cannot be generalized to the larger population from which it was selected (Vanderstroep & Johnson, 2009). I collected data for the major case study using participant observation. Data for the three mini farm-to-college case studies was primarily obtained from phone interviews. Data for the food service management, produce distributor, and sustainable agriculture certifier case studies was also collected from interviews. See the interview schedule below in the

interview survey section for a discussion of strengths and weaknesses of interview schedules. Secondary data was used to supplement all six interviews to provide context for the case studies, including climatic and cultural conditions impacting the farm-to-college programs and the histories and values shaping the food chain enterprises.

Participant observation. A strength of participant observation is the depth of knowledge gained about the subject under study. Another strength is flexibility, as the researcher can modify research questions and design as new issues come up (Becker, et al., 1994–2012). However, as mentioned above, it is difficult to make generalizations from the findings derived from the study of only one case. Two additional weakness of participant observation are 1) the potential for the researcher to lose her or his objectivity by identifying too closely with the groups and processes under study and 2) the inevitability of the participant observer affecting in some way the groups and processes she or he is observing (Babbie, 1998). Although I did identify with both the Food System Working Group in which I participated and the process I was observing, I took steps to enhance my objectivity in documenting the establishment of the farm-to-college program at UCSC. I discussed my observations and interpretations with colleagues who were also involved with the establishment of the farm-to-college program to confirm that they were objective and consistent with their observations and interpretations. In addition, I used secondary data sources to corroborate and expand my own observations. I also relied on my awareness of my

subjectivity as a safeguard against losing objectivity. According to Babbie (1998), “sensitivity and awareness may provide sufficient safeguards” to avoid the problem.

Interview survey. A strength of surveys is that they can produce generalizable results. However, the results are not likely to provide in-depth information about the topic under study (Vanderstroep & Johnson, 2009). Combining closed-ended and open-ended questions in an interview schedule can generate more in-depth information than closed-ended questions alone. Because my interview schedule included a few open-ended questions along with the closed-ended questions, it allowed for the collection of more in depth data on certain topics.

Interview schedule. While questionnaires are usually considered to be an objective research tool that can produce generalizable results, the results are vulnerable to various weaknesses in addition to sampling errors, including faulty design; biased design and wording; respondent unreliability, lack of information, misunderstanding, restraint, or bias; errors in coding, processing, and statistical analysis; and faulty interpretation of results (Oppenheim, 1992). A weakness in my research may have been lack of information among some of the respondents regarding the purchase of food grown using sustainable methods. Another problem I encountered was a majority of respondents asserting what they believed or hoped about the wages and working conditions of farm workers who grew the food they purchased, rather than acknowledging that they did not know what the working conditions and wages of the farm workers were. An exception was respondents who had visited the farm themselves or had third-party certification verifying the farm was

using sustainable farming methods, including paying fair wages and providing safe working conditions for farm workers.

An additional problem related to the formation of four of the closed questions may have caused confusion for some of the interviewees. I incorrectly set up the percentage choices by including the same boundaries, that is, 30–40% and 40–50%. However, since these percentages were conveyed verbally to the interviewees and the interviewees were generally providing ballpark figures in response to my request for the percentage of, for example, sustainably produced food purchased by the program, I don't believe that the responses given by the interviewees were significantly affected.

CHAPTER 4

DATA ANALYSIS

In this chapter, the data I gathered from secondary sources and phone interviews using the methods described in Chapter 3 are presented in the context of the three research questions posed in my study. The data analysis below is presented in narrative form and tables, including selected comments from interviewees.

Characteristics of Colleges Included in Sample

The characteristics of the colleges and farm-to-college programs included in my research—size of the college, type (public or private), state and region, management (self-operated or contract), and name of management company—are presented below. This descriptive information is used to determine whether or not there are differences in the extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization based upon region, size, and form of management, and to make simple comparisons between college size and type of dining services management. Table 5 below shows the distribution of characteristics of farm-to-college programs surveyed by 1) geographic location, 2) size, 3) type (public or private), 4) management type, and 5) year the program was established.

The final sample of farm-to-college programs included in my survey consists of 52 (n=52) small, mid-size, and large public and private universities and colleges located across the United States. Of the farm-to-college representatives in my sample, 27% were from the West, 19% were from the South, 35% were from the Northeast, and 19% were from the Midwest. The regions were based on U.S. Census Regions (U.S. Census Bureau). These percentages are based on my sample of farm-to-college programs that had completed the CFS online farm-to-college survey in June, 2008, and vary from the percentages of all four-year public and private non-profit colleges and universities located in each of the four census regions: 15% in the West, 31% in the South, 27% in the Northeast, and 27% in the Midwest (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2009). The variance indicates that there are more farm-to-college programs in the West and Northeast than in the South and Midwest relative to the number of colleges and universities located in each region.

The majority of farm-to-college programs included in my sample were located at small private colleges that contract for dining services. Of the colleges, 67% were small (5,000 students or less), 15% were mid-size (5,001 to 20,000 students), and 17% were large (over 20,000 students). In addition, 75% were private and 25% were public, approximately the same as the ratio of public and private four-year colleges and universities in the United States (Snyder & Dillow, 2012). Dining services at 40% (21) of the colleges and universities were self-operated. Dining services at 89% of the large colleges (eight out of nine) were self-operated and at 63% of the mid-size

colleges (five out of eight). In contrast, dining services at only 23% of the small colleges (eight out of 35) were self-operated. Of the colleges and universities, 60% (31) contracted dining services out to a food service company. Of the large colleges, only 11% (one out of nine) contracted for dining services, and of the mid-size colleges, 38% (three out of eight) contracted for dining services. However, 77% of the small colleges (27 out of 35) contracted dining services. Of the small colleges contracting for dining services, 52% (14) contracted with Bon Appetit Management Company, a small food service company billing itself as providing “sustainable food service.” Of the 14 small colleges contracting with Bon Appetit, 12 were located in the West and the South, with the majority located in the West, where Bon Appetit is headquartered. Of the remaining 13 small colleges contracting dining services, two contracted with ARAMARK (7%), six with Sodexo (22%), two with Chartwells (7%), two with Parkhurst (7%), and one with AVI (4%). Two of the small colleges located in the Northeast had recently changed dining services providers. One changed from Bon Appetit to Sodexo and the other changed from Sodexo to Parkhurst. Two of the three mid-size colleges contracted with Bon Appetit and the other contracted with Sodexo. The only large college contracting for dining services contracted with ARAMARK.

Table 5

Characteristics of Colleges Included in the Sample

Region	Small Colleges	Mid-Size Colleges	Large Colleges	Private Colleges	Public Colleges	Dining Self-Operated	Contract Dining
West (n=14)	11 .79	2 .14	1 .07	9 .64	5 .36	3 .21	11 .79
South (n=10)	6 .60	2 .20	2 .20	8 .80	2 .20	2 .20	8 .80
Northeast (n=18)	12 .67	3 .17	3 .17	16 .89	2 .11	10 .56	8 .44
Midwest (n=10)	6 .60	1 .10	3 .30	6 .60	4 .40	6 .60	4 .40
Total (n=52)	35 .67	8 .15	9 .17	39 .75	13 .25	21 .40	31 .60

Analysis of Survey Data

In this section, each major question and sub-question is presented with an explanation of why it was asked and a description of the data resulting from my analysis. The data is organized by the major research questions posed in this study.

Nature of farm-to-college programs.

What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?

With the exception of safe and fair working conditions for farm workers, close to three quarters of the respondents reported their programs included all the activities I used as indicators of sustainable development (promoting environmental health, promoting social and economic equity for both farmers and farm workers, and economically viable) and relocalization (food purchases from local small farmers and fostering relations between producers and farm-to-college programs) in the question I posed regarding the major components of their farm-to-college programs. However, the extent of the purchases of food promoting environmental health and social and economic equity for small farmers and farm workers varied considerably. Organically produced food made up less than 10% of all local purchases for the majority of programs. While 40% of the respondents reported that sustainably produced food made up 50% or more of their program's local purchases, 38% of the respondents reported that they didn't know what percentage of sustainably produced farm products their program purchased. A larger percentage of respondents (52%) reported not knowing what percentage of food purchased by their program was produced under safe and fair working conditions, although 31% reported that 50% or more of their purchases had been produced under safe and fair working conditions. Furthermore, substantially fewer students requested food that was produced under

safe and fair labor conditions than either organic or sustainably produced food. Consistent with the characteristics of relocalization, the majority of the chefs at the farm-to-college programs I interviewed had visited the local farms from which the food was purchased, as had the students.

Based on the grading instrument I developed, the mean scores for sustainable development, relocalization, and the combined total scores indicated that the extent to which the programs in my survey met the characteristics of relocalization was good and the extent to which the programs met the characteristics of sustainable development was poor. However, the extent to which the programs met the characteristics of sustainable development and relocation combined was satisfactory.

Overview of major program components. To obtain an overview of the nature (makeup) of farm-to-college programs and an initial idea of the extent to which they fit the characteristics of sustainable development (promoting environmental health, promoting social and economic equity, and enhancing economic viability of farmers and farm workers) and relocalization (local purchasing from small farmers and development of relationships with producers), I asked the interviewees to report whether or not their programs included one or more of the activities listed in Table 6 below that I used as indicators of sustainable development and relocalization. These activities include 1) purchase from local farms, 2) purchase of farm products from small farmers, 3) purchase of organic farm products, 4) purchase of sustainably produced farm products, 5) purchase from local farms, 6) purchase of farm products from small farmers, 7) purchase of organic farm products,

8) purchase of sustainably produced farm products, 9) purchase from farms using safe and fair labor practices, 10) opportunities for chefs to visit farms, 11) student involvement or education, and 12) waste reduction.

Purchasing local, organic, and sustainably produced food provides support for the local economy as well as reduces carbon emissions and pesticide pollution (Hendrickson et al., 1995; Magdoff et al., 2000; Pirog et al., 2001; Jones, 2002; Blanke & Burdick, 2005). Including recycling and other waste reduction measures decreases the amount waste put into landfills, energy consumption (use of recycled products uses less energy than producing the same goods from virgin materials), and pollution. Safe and fair working conditions for farm workers promotes social justice, which is an essential component of sustainable development.

The percentage of programs reporting inclusion was 73% or above for all categories except safe and fair working conditions. Based on these percentages, it initially appeared that a majority of the farm-to-college programs in the sample substantially fit the characteristics of sustainable development. However, as reported below, the percentage of programs whose sustainable local purchases equaled 50% or more of all purchases and the percentage of programs with criteria requiring purchase of sustainably produced food and safe and fair working conditions was much lower. This variance highlighted the necessity of examining several indicators in order to determine the extent to which the programs in the sample fit the characteristics of sustainable development and relocalization.

All interviewees confirmed that their programs purchase locally produced farm products. In addition to farm products sourced from local farms, 31% of the interviewees noted that they also source from a school garden or farm. Several programs located in areas with short growing seasons reported that they extended the use of local farm products through the winter by purchasing and storing root vegetables for winter consumption, purchasing hydroponic tomatoes grown without pesticides in the winter, freezing and canning summer and fall produce, and making jams and jellies. The majority of chefs, and often program managers, interviewed had visited the local farms from which they purchased farm products, an indication that purchase of local food promotes relationships between producers and consumers, as anticipated. Fewer students, but nevertheless a majority, had also visited local farms, as opposed to the percentage of programs (85%) that include student education or involvement. As I expected, the percent of programs reporting purchase of organic farm products, 73%, and sustainably produced farm products, 92%, was very high. Also, as I anticipated, the percent of programs reporting purchase from farms providing safe and fair working conditions was lower, 56%.

Nearly all the programs, 96%, reported incorporation of waste reduction measures. In addition to recycling, the measures identified included the elimination of trays in the dining halls (students select less food and consequently waste less food), recycling oil for bio-diesel, composting pre- and post-consumer food scraps, using compostable “to-go” containers, documenting the quantity of student waste each week and reporting the results to the students, use of low-flow faucets and

energy-efficient lighting, and the provision of free reusable mugs to the students. However, the practice of waste reduction is not limited to farm-to-college programs. Chen, Arendt, and Gregoire’s study of sustainability practices present in college dining services operations (not farm-to-college programs) found that waste reduction was the sustainability practice most frequently used by all university dining services administrators (Chen, et al., 2010).

Table 6

Major Components of the Farm-to-College-Programs Included in the Sample

Component	Total N=52	Percentage
Purchase of locally produced food	52	1
Purchase from small family farms	45	0.87
Purchase of certified organic farm products	38	0.73
Purchase of sustainably produced farm products	48	0.92
Purchase of worker-supportive farm products	29	0.56
Opportunities for chefs to meet participating farmers	44	0.85
Student education or involvement	44	0.85
Waste reduction	50	0.96
School garden or farm	16	0.31

Student requests. In order to determine whether students supported sustainable development and relocalization, I asked if students had requested dining services to provide food grown by small family farmers, organic food and sustainably produced food, food produced under safe and fair working conditions, food produced with waste reduction measures, “local food,” or other. Of those I interviewed, 88%

(46) identified one or more categories of food or services requested by students. Over 60% of the respondents reported requests in one or more of the following three categories: 1) organic food, 2) sustainably produced food, and 3) waste reduction measures. Twelve percent of the interviewees (six) either did not respond or reported that students were already provided with what they wanted or did not have requests. One of these interviewees from a small private “Christian” college in the West, who had not received any student requests, said that the “kids are not in tune with sustainability. They are seven years behind secular schools. They don’t care.”

Of those interviewed, 54% (28) reported that students had asked for food grown by small family farmers. One interviewee representing a small public university in the West clarified, “There are only a small number of students who care.” Another interviewee from a small private college in the Northeast who reported no requests for food grown on small family farms explained, “Students want local, don’t care about small farms.” Sixty-nine percent of the interviewees (36) said students had asked for organic food. One of these, who represents a small private college in the West, said, “Most requests are for vegan, gluten-free.” Another interviewee from a small private college in the Midwest also reported requests for vegan. Of the interviewees, 63% (33) said they had received requests for sustainably produced food. In addition, 38% (20) reported requests for food produced under safe and fair working conditions. One of these interviewees who represents a small private college in the West clarified that students want “labor union grown food” and that this was a “big issue.” Several interviewees explained why students did not ask for food

grown under safe and fair working conditions. Two interviewees, one from a small private college in the Northeast and another from a mid-size private college in the Northeast, explained that their students wanted fair trade products more than safe and fair working conditions for local farm workers. Another representative from a small private college in the Northeast said that “labor was the least concern” of the students. The representative from a mid-size private college in the Northeast said that while “organic equals health” in the minds of the students, “farm labor has no personal impact.” The representative of a small private college in the Northeast known for sustainability said, “Students don’t know about farm labor, or ask.” Another interviewee from a small private college in the Midwest commented that students “want clothing made using fair labor, not food.” The representative of a large public university in the Midwest disclosed, “Students are concerned for animal rights, not farm workers.” The representative from another large public university in the Midwest explained that worker conditions “are not in the face and hearts of students.”

Of the respondents, 67% (35) reported that students had asked for recycling, composting, or other forms of waste reduction. One of these, the representative of a small private college in the Northeast, said that students want to go 100% tray-less and to give all leftovers to the homeless. Another who represents a small private college in the West said he receives occasional requests for recycling, but not many. An interviewee representing a program at a large public university in the Midwest said that students want recycling and do not ask for anything in the other categories. Of the interviewees, 8% said that students had requested local food. One representing

a small private college in the Midwest explained, “Students ask for local, but not specifically for food grown by small family farmers...students assume that asking for local is asking for food grown by small family farmers.” Another representative from a small private college in the Northeast said, “Our students want local, organic, sustainable, fair trade.”

Table 7

Student Requests for Food and Services Not Already Offered

Request	Total N=52	Percentage
Food grown by small family farmers	28	0.54
Organically grown food	36	0.69
Sustainably produced food	33	0.63
Worker-supportive food	20	0.38
Recycling, composting, waste reduction	35	0.67
Local food	4	0.08
No response	6	0.12

Purchase of sustainably produced farm products. In order to determine whether organic and sustainably produced farm products made up a significant portion of the local farm products purchased, I first asked what percentages of each program’s purchases were organic. I next asked whether they knew if they purchased sustainably produced farm products. I then asked what percentage was sustainably produced. The majority of interviewees, 56%, reported that 10% or less of the farm

products purchased by their program were organic. Only 12% of the interviewees reported that organic farm products represented 40% or more of their program’s total local purchases. One interviewee complained that organic food could not be mixed with conventional and required separate refrigeration. Another interviewee from a large public university in the Midwest said, “Organic is a bad word in [her state], which is a large-scale producer of corn and soy grown conventionally with chemicals.” Others explained that the cost of organic produce is prohibitive. Two respondents added that small farmers do not want to pay for organic certification.

Table 8

Percentage of Local Farm Purchases That Were Organic

Percentage of Total Purchases	Number of Programs N=52	Percentage of Programs
Less than 5%	15	.029
5–10%	14	.027
10–15%	1	.02
15–20%	3	.06
20–25%	2	.04
25–30%	3	.06
30–40%	1	.02
40–50%	2	.04
More than 50%	4	.08
Doesn’t know	4	.08
NA	3	.06

The percentage of interviewees reporting that they knew their programs purchased sustainably produced farm products was consistent with the percentage reporting that purchase of sustainably produced farm products was a component of their program, 92%. Of the remaining interviewees, 8% stated that they either did not purchase sustainably produced farm products or were unsure. One interviewee said that at her university sustainability did not mean no use of pesticides but rather low food miles.

Table 9

Percentage of Interviewees Who Knew They Purchased Sustainably Produced Farm Products

Percentage of Total Purchases	Number of Programs N=52	Percentage of Programs
Yes	48	.92
No	2	.04
Unsure	2	.04

Of the interviewees, 18% reported that 20% or less of the local farm products purchased by their programs were sustainably produced. An additional 12% of the interviewees stated that 20 to 50% of farm products purchased were sustainably produced. The largest percentage of interviewees, 40%, reported that more than 50% of the local farm products purchased by their programs were sustainably produced. The next largest group of interviewees, 19%, said that they didn't know what percentage of farm products purchased was sustainably produced. Twelve percent of

the interviewees did not respond or reported that the question did not apply to their program.

Table 10

Percentage of Local Farm Purchases That Were Sustainably Produced

Response	Number of Programs N=52	Percentage of Programs
Less than 5%	1	.02
5–10%	4	.08
10–15%	3	.06
15–20%	1	.02
20–25%	2	.04
25–30%	1	.02
30–40%	1	.02
40–50%	2	.04
More than 50%	21	.38
Doesn't know	10	.19
NA	4	.08
No response	2	.04

Purchase from farms providing safe and fair working conditions. I also questioned interviewees about their purchases of food produced under safe and fair working conditions, in order to determine whether socially just farm products made up a significant portion of the local farm products purchased. When I asked the interviewees whether they knew if their programs purchased products from farms that provided safe and fair working conditions (socially responsible farms), 44% (23)

stated they knew their programs purchased products from socially responsible farms. One of these explained that students are paid for their work on the campus farm. Another 10% (five) reported that they assumed or believed that safe and fair working conditions were used to produce the farm products they purchased. Three of the interviewees who either responded that they knew or assumed that they purchased from socially responsible farms later clarified that the local products they purchased were produced on family-owned and -operated farms that did not hire migrant help. Another interviewee reported that the question did not apply to his program because all purchases were from family-owned and -operated farms. Forty-two percent of the interviewees said that they didn't know whether safe and fair practices were used. One interviewee (2%) reported that she was hopeful the products they purchased were from socially responsible farms.

Although four of the Bon Appetit managers or chefs (four out of 16) reported that they knew the products they purchased were produced using safe and fair labor practices, including one chef who said there was a standard in place for all Bon Appetit vendors, Bon Appetit corporate explained that the company does not track the treatment of farm labor on the farms from which their Farm-to-Fork (farm-to-college) Programs purchase, but individual chefs may know from personal visits to the farms (interview with VP Maisie Greenawalt). One Bon Appetit respondent said to ask Bon Appetit corporate (see response from corporate above). I recorded "no" (per Bon Appetit) for three other Bon Appetit interviewees who did not respond to the question.

Table 11

Percentage Who Reported Purchasing Products Produced Using Safe and Fair Labor Practices

Response	Number of Programs N=52	Percentage of Programs
No	22	.42
Yes	23	.44
Assumes/believes so	5	.10
Hopes so	1	.02
Farmer owned and operated; no migrant help hired	4	.08
Other	1	.02

When I asked the interviewees what percentage of their local purchases were from farms that employ safe and fair labor practices, the majority, 65%, said they did not know what percentage of their local purchases were from socially responsible farms (23), or the question either did not apply to their program (six) or they did not respond (four). Of the interviewees, 31% (16) reported that more than 50% of their local purchases were from socially responsible farms. One interviewee said that 40–50% of his program’s purchases were from socially responsible farms, and another reported that 15–20% of his program’s purchases were from socially responsible farms. Combined respondents reporting any purchases of products from socially responsible farms was 35%, a much smaller percentage than the percentage of respondents (54%) reporting they either knew their programs purchased products

from socially responsible farms or assumed that their programs purchased products from socially responsible farms .

Table 12

Percentage of Local Farm Products Purchased from Farms Using Safe and Fair Labor Practices

Response	Number of Programs N=52	Percentage of Programs
Less than 5%	0	.00
5–10%	0	.00
10–15%	0	.00
15–20%	1	.02
20–25%	0	.00
25–30%	0	.00
30–40%	0	.00
40–50%	1	.02
More than 50%	16	.31
Doesn't know	24	.46
NA	6	.12
No response	4	.08

Purchase from small family farms. I asked the interviewees whether they purchased from small family farms because it is generally assumed that relocalization benefits small businesses. Of those I interviewed, 87% (45) stated that purchase from small family farms was a major component of their farm-to-college program (see Table 13 below). However, when I asked whether they actually knew if they purchased from small family farms, slightly more, 90% (47), responded that they did.

The variance is likely a result of a couple of colleges making only occasional purchases from small family farms. Ten percent (five) said they did not purchase from small family farms. One interviewee from a mid-size college said that her program focused on purchasing from local farms, not small family farms. Another interviewee from a large university in the South said that his school only purchases from small farms for local events, not day-to-day dining, because small farms do not have consistent availability.

Table 13

Percentage of Interviewees Who Knew They Purchased from Small Family Farms

Response	Number of Programs N=52	Percentage of Programs
Yes	47	.90
No	5	.10

When I asked how they knew the farms they purchased from were family farms, several provided more than one response. Six percent (three) of the interviewees said their program did not track this information. Just 10% (five) of the interviewees said that they assumed that their program purchased from small family farms, but had no verification, and one of those who stated he had no verification also said that his program did not track whether or not a farm was small. Of those I interviewed, 17% (nine) said they knew they purchased from small farms because there were small farms in the region.

One of these also replied that small farm purchases were not tracked, and another said you couldn't "be sure with distributors." Of the respondents, 60% (31) said they had visited the farms. Twelve of the 31 who had visited farms were chefs from Bon Appetit Farm-to-Fork Programs. According to the Bon Appetit website, Bon Appetit's Farm-to-Fork "supports true family farms where the owners live on or nearby the land, work it themselves" (Bon Appetit Management Company, 2016). One of the respondents said the farms he visited were less than 400 acres. Another said students also visited the farms and prepared profiles of each farm along with photos. Five of the interviewees who said they had visited the farms also reported that there were small farms in the region. Of the interviewees, 10% (five) stated that the question did not apply to them, and of those who said the question did not apply, two had already replied that their program did not track purchases from small farms. One small college that contracts with Sodexo for dining services reported that the question did not apply to their program because Sodexo does not source from small farms. Of the interviewees, 8% (four) reported that they purchased from growers' co-ops made up of small farmers, and two of these also reported that they had visited the farms or that small farms were located in the region. Two interviewees whose programs are located in Southern California said that they purchased through Community Alliance with Family Farmers (CAFF), which operated a farmers' co-op (the co-op is no longer in operation).

Of those I interviewed, 13% (seven) explained that there were other reasons why they knew they purchased from small farms. Two who stated other reasons had

also replied that they assumed that their program purchased from small farms but had no verification. Two said that they purchased from farmer's markets. The respondent from a program operated by Sodexo said that the management company had changed how it purchases to include some small family farms and the distributor was "forced" to make changes to include some family farms as a result. Three interviewees said that they rely on their distributors. One of these said her distributor purchases from a local distributor, and another said that his distributor, FreshPoint, sources from small local farms with 20–30 acres, some of which specialize in one or two crops. The third interviewee said that he relies on his distributor but no criteria for purchasing from small family farms were given to the distributor.

Table 14

How Interviewees Know Their Programs Purchase from Small Family Farms

Response	Number of Programs N=52	Percentage of Programs
Not tracked	3	.06
Assumption, no verification	5	.10
Small farms in region	9	.17
Has visited the farms	31	.60
Sources from growers' co-op made up of small farmers	4	.08
Other	7	.13
NA	5	.10

When I asked the interviewees what percentage of their local purchases were from small family farms, 31% (16) reported 50% or more of their local purchases were from small family farms. Of these, 10 respondents reported over 75% of their local purchases were from small family farms. One respondent from a small private college in the Midwest explained that 90% of his program's purchases, including produce, meat, and dairy, were from small local family farms. Another interviewee from a small private college in the Northeast reported that 80% of his purchases were

from small family farms. He purchases lobster from local fisherman, all of his dairy from small family farms in Maine, and until September, all of his apples from small local farms. He also buys from a distributor who purchases from small family farms. Twelve percent of the interviewees (six) reported purchasing from 25% to 50% of their local farm products from small family farms. Thirty-five percent (18) said 5% to 25% of their purchases were from small family farms. And 10% of the interviewees reported making 5% or less of their local purchases from small family farms. Twelve percent (six) did not know what percentage of their local purchases was from small family farms. Four percent (two) said that the question did not apply to their program. Both of these respondents had reported earlier that purchasing from small family farms was not a component of their programs. Combined respondents reporting any purchases of products from small farms was 87%, the same percentage of respondents reporting that purchasing from small family farms was a major component of their farm-to-college program.

Table 15

Percentage of Local Farm Products Purchased from Small Family Farms

Response	Number of Programs N=52	Percentage of Programs
Less than 5%	5	.10
5–10%	6	.12
10–15%	3	.06
15–20%	3	.06
20–25%	6	.12
25–30%	1	.02
30–40%	2	.04
40–50%	3	.06
More than 50%	16	.31
Doesn't know	6	.12
NA	2	.04
No response	0	.00

Relationships fostered between chefs, farmers, and students. I asked two questions to gauge whether farm-to-college programs foster relationships between

consumers, that is, chefs and students, and producers, meaning farmers. By focusing on local economies, relocalization is thought to reduce the distance between producers and consumers, thereby re-embedding economic activity in social relations. I asked if the chefs who prepare meals using products from local farms had visited the farms. I also asked if students had visited the farms from which farm products were purchased by the program. A majority of respondents reported that both chefs and students had visited the farms. Of those I interviewed, 73% (38) responded that chefs from their programs had visited the farms. Those responding affirmatively included interviewees from 13 of the 16 Bon Appetit programs represented in the sample. Interviewees from the other three Bon Appetit programs did not respond to the question. Of the interviewees, 19% (10) reported that chefs from their programs had not visited the farms from which their programs purchased farm products. One of these explained that the general manager had visited the farms but the chefs had not. Another reported that farmers come to the university to meet the chefs. Of these interviewees, 8% (four) did not respond to this question.

Table 16

Visits by Chefs to the Farms from Which Their Programs Purchase Farm Products

Response	Number of Programs N=52	Percentage of Programs
Yes	38	.73
No	10	.19
No response	4	.08

When I asked whether students had visited the farms from which their programs purchase farm products, 52% reported that students had visited the farms. One interviewee explained that about one-third of the student body had visited farms, saying, “It could be a sugar house in the winter or a sheep farm in the spring.” Another said that students went to a farm to help harvest squash and afterwards said that they “felt connected to the squash dishes served.” Two others reported that students work on the school farm, and another said that one class grew plants from 1812, the date the college was founded. Of the interviewees, 42% (22) responded that students had not visited the farms. However, four of them reported that student visits to farms were planned in the future. Another reported that students were not interested in visiting farms. One said that she did not know if students visited the farms and two others did not respond to the question.

Table 17

Visits by Students to the Farms from Which Their Programs Purchase Farm Products

Response	Number of Programs N=52	Percentage of Programs
Yes	27	.52
No	22	.42
Doesn't know	1	.02
No response	2	.04

Farm-to-college programs and sustainable development.

What is the nature of farm-to-college programs in the United States, and to what extent do they fit the characteristics of sustainable development and relocalization?

Extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization. Sustainable development has three components: 1) enhancing economic viability, 2) promoting social and economic equity, and 3) promoting environmental health. Sustainable agriculture, the form of sustainable development I examined along with relocalization, adds an additional component, production of food to meet human needs. Relocalization is a form of sustainable development that focuses on meeting local needs locally, thereby reducing distance between producers and consumers and fostering producer-consumer alliances and relationships. Based on the grading instrument I developed, the programs included in the interview survey largely fit the characteristics of

relocalization I used as indicators, including purchase of locally produced farm products, purchase of farm products from small farmers, and direct relationships with the local farmers from whom they purchase products. A majority of the programs achieved a good or excellent score for relocalization. On the other hand, in general, I found the programs poorly fit the characteristics of sustainable development/agriculture I used as indicators. These include adoption of criteria to differentiate sustainably produced food and food produced under safe and fair working conditions ("socially just" food), significant purchases of sustainably produced and "socially just" food, and inclusion of waste reduction measures. The majority of the programs received a poor grade for sustainable development. However, a majority of the programs received a satisfactory grade or better overall grade when the two programs were combined. Most programs fit the characteristics of environmental sustainability to a greater degree than they fit the characteristics of social sustainability.

The extent to which the programs in the sample fit the characteristics of sustainable development and relocalization was determined by assigning points to each program according to its responses to the questions included in the grading instrument, which served as indicators (see the farm-to-college interview survey in Chapter 3). The points earned by each program were totaled and mean, median, and mode scores calculated for sustainable development, relocalization, and combined scores, along with the standard deviation for each. A grade was assigned to each program for total points awarded in each category: sustainable development,

relocalization, and combined total points, as well as for the mean, median, and mode scores for all programs combined. Grades were assigned using the grading scale (see the farm-to-college interview survey in Chapter 3)

Table 18

Program Scores for Sustainable Development and Relocalization

Farm-to-College Programs (n=52)	Subtotal Sustainable Development	Grade	Subtotal Relocalization	Grade	Total Score	Grade
Mean Score	22.85	P	23.92	G	46.77	S
Median Score	22.00	P	23.50	G	45.00	S
Mode Score	16.00	P	19.00	S	51.00	S
Standard Deviation	9.81		5.76		13.59	S

Note. P = Poor, G = Good, S = Satisfactory

The grades assigned for the mean scores were used to arrive at the extent that the programs included in the survey fit the characteristics of sustainable development and relocalization. The percentage of programs falling within each grade category (excellent, good, satisfactory, poor, fail) was also calculated and used to illustrate the range of grades earned by the programs.

Table 19

Percentage of Programs Falling Within Each Grade Category

N=52	Grade	Number of Programs	Percentage of Programs
Overall Score	Excellent	1	.02
	Good	6	.12
	Satisfactory	28	.54
	Poor	17	.33
	Fail	0	.00
Sustainable Development	Excellent	0	.00
	Good	3	.06
	Satisfactory	12	.23
	Poor	30	.58
	Fail	7	.13
Relocalization	Excellent	12	.23
	Good	19	.37
	Satisfactory	20	.38
	Poor	1	.02
	Fail	0	.00

As I expected, all of the farm-to-college programs, except one, satisfactorily fit the characteristics of sustainable development. The majority (60%) received good or excellent grades for relocalization. All programs purchased locally produced food. Purchase of locally produced food supports the local economy, fosters consumer-producer relationships, and likely reduces carbon emissions from transporting

produce long distances, as well packaging required for farm products (Low, et al., 2015; Martinez, et al., 2010; Warner, 2013). Seventy-three of the chefs who prepare food and menus for the farm-to-college programs had visited the local farms where food purchased for the program was produced. Over half of the students, 52%, had visited farms where food was produced as well. Fostering producer-consumer relationships is a characteristic of relocalization (Agarwal & Narian, 1996).

On the other hand, the majority of programs, 58%, received a poor grade for sustainable development, meaning economic well-being, social equity, and environmental health. An analysis of economic well-being was not included in my research. While 96% of the respondents reported their programs included waste reduction, composting, recycling, and/or other environmental measures, the programs did not score as well on the other indicators of sustainable development. Though 73% of the respondents reported their programs included purchase of organically produced food, organic farm products made up 25% or more of the local purchases of only 19% of the programs and 50% or more of the local purchase of only 8% of the programs. Similarly while 92% reported their programs included purchase of sustainably produced food, sustainably produced farm products made up 25% of the local purchases of 48% of the programs and 50% or more of the local purchase of only 40% of the programs. The percent of programs reporting purchase from farms providing safe and fair working conditions was lower, 56%, as I anticipated. Food produced under worker-supportive labor conditions made up 25% of the local purchases of only 33% of the programs and 50% or more of the local purchase of

only 31% of the programs. Forty-six percent of the programs reported having formal or informal criteria for purchase of sustainably produced produce, while substantially more, 71%, of the programs reported having formal or informal criteria for purchase of sustainably produced meat, poultry, dairy, and/or seafood.

Eight of the 21 programs with informal criteria had only one criterion: purchase of milk without bovine growth hormone. Bon Appetit's formal requirements for purchasing sustainable seafood, hormone- and antibiotic-free hamburger, poultry, and dairy imposed on all Bon Appetit-managed farm-to-college programs, including the 16 programs included in the survey, provide one explanation for the difference. Bon Appetit does not have criteria for sustainably produced produce and does not require programs to purchase sustainably produced produce. However, like Bon Appetit, few programs (only 10%) had criteria for purchase of farm products produced under safe and fair working conditions. Nevertheless, the combined relocalization scores and redevelopment scores for participating programs brought the total scores up to a satisfactory level.

In addition to grading programs, a formula was developed to predict the variables (region, school size, type of school, and type of dining services management) associated with statistically higher scores for sustainable development, relocalization, and total score, according to the grading system described above. The equation modeled the predicted score for all possible schools. However, because the predictions are based on trends, the predicted scores were not expected to always match actual scores. The predictions for region, school size, type of school, and type

of dining services management associated with statistically higher scores for sustainable development, relocalization, and total score were as follows:

- **Sustainable development.** Based on the formula, small public schools in the Midwest with self-managed dining services were predicted to have statistically higher sustainable development scores than large private schools in the Northeast, South, or West with contracted dining services. The South and the Northeast, in combination with the above variables, were predicted to be the least likely regions to have statistically higher sustainable development scores.
- **Relocalization.** Based on the formula, small public schools in the Northeast with self-managed dining services were predicted to have statistically higher relocalization scores than large public schools in the West, South, or Midwest. The South and the West, in combination with the above variables, were predicted to be the least likely regions to have statistically higher relocalization scores.
- **Total score.** Based on the formula, small public schools in the Midwest with self-managed dining services were predicted to have statistically higher overall scores than large or mid-size private schools in the Northeast, South, or West with contracted dining services. The South, in combination with the above variables, was predicted to be the least likely region to have statistically higher overall total scores.

In each case, the school size was predicted to be small, the school type to be public, and dining services to be self-managed. However, the different types of food service contracts were not accounted for in the prediction model, so the outcomes of the predictions, particularly for the relocalization scores, may be somewhat skewed. Bon Appetit Food Management Company's Farm-to-Fork Program focuses on local purchases from small farms, including the development of relationships with local farmers, whereas the larger food service management companies, Sodexo and Aramark, do not have this focus. In addition, if considered alone, we could expect the scores of private schools to be higher than those of public schools, but when considered along with the other variables, private has less weight in predicting the overall score a school will have. The predicted regions varied with outcome: sustainable development scores, relocalization scores, and combined total scores.

The Midwest, in combination with small public schools and self-managed dining services, was the region predicted to have statistically higher overall and sustainable development scores. While the school receiving the actual highest score for sustainable development (assigned a grade of "good") did not match the type of school predicted, the region, school size, and type of dining services did match the prediction. The South and the Northeast, in combination with small public schools and self-managed dining services, were predicted to be the least likely regions to have statistically higher sustainable development scores. The South did not have any of the actual higher sustainable development scores and the Northeast did have one of the three highest sustainable development scores. However, considering the overall

characteristics of the college receiving the highest score for sustainable development and the lack of any of the highest scores for sustainable development in the South, the prediction formula was quite accurate.

The Northeast, in combination with small public schools and self-managed dining services, was the region predicted to have statistically higher relocalization scores. The school receiving the highest grade for relocalization (graded “excellent”) was a small school located in the Northeast, as predicted. But the school did not match the prediction for type of school and type of dining services management. The college was private rather than public and school dining services were contracted rather than self-managed. Again, the variance in dining services management may have been affected by not differentiating between the types of dining management in the prediction formula. A large majority of the other schools receiving the highest scores (graded “excellent”) for relocalization were also small private schools located in the Northeast. Dining services at two of these were self-managed, as predicted, while dining services at the other three small schools were contracted. Two of the three colleges were managed by Bon Appetit. Another college with a high actual score (graded “excellent”) for relocalization was located in the West, unlike the prediction, but the school was public and self-operated, as in the prediction. However, the school was mid-size, rather than small, as predicted. The South and the West, in combination small public schools and self-managed dining services, were predicted to be the least likely regions to have statistically higher relocalization scores. The South did not have any of the higher relocalization scores (graded “good” or “excellent”).

The West had two of the 12 higher scores. Again, when the overall characteristics of the schools receiving the highest grades for relocalization are considered together, along with the lack of any higher scores at schools located in the South and only two of the higher scores at schools in the West, the prediction formula was fairly accurate.

The Midwest, in combination with small public schools and self-managed dining services, was the region predicted to have statistically higher overall total scores. While the school receiving the highest score for sustainable development (assigned a grade of “excellent”) did not match the type of school predicted, the region, school size, and type of management did match the prediction. The South, in combination with small public schools and self-managed dining services, was predicted to be the least likely region to have statistically higher overall scores. The South did not have any of the six highest overall “total score” scores. Once again, considering the overall characteristics of the college receiving the highest score for overall total score and the lack of higher scores at any of the schools located in the South, the prediction formula was quite accurate.

Use of purchasing criteria requiring ecological and social justice practices.

Do farm-to-college programs incorporate ecological farming practices and/or socially equitable labor practices in their purchasing criteria?

This question was asked to determine whether programs could actually differentiate food produced using ecological farming practices that promoted

environmental health and socially equitable practices. Nearly half of all programs reported having either formal or informal criteria for purchase of sustainably grown produce, more than two-thirds of the programs reported having either formal or informal criteria for purchase of meat, poultry, dairy, or seafood, and only 10% of the programs had criteria for purchase of farm products purchased under safe and fair working conditions. In addition, there was a substantial variance between the percentage of respondents reporting they knew their program included purchase of worker-supportive practices and those reporting their programs included criteria for purchase of food produced under safe and fair working conditions.

Ecological farming practices. I asked interviewees how they knew the farm products they purchased were indeed sustainably produced in order to determine if respondents had an understanding of sustainable production methods. However, not all respondents defined what they considered to be sustainable production methods. And, like the definition of *local*, the definitions of *sustainably produced* varied. Of the interviewees, 25% (13) said they knew the produce they purchased was sustainably produced because they knew the farmers and their farming practices. One respondent from a small private college in the Northeast explained that he knew the farmer's practices from reading the farm profiles prepared by the students. Another interviewee from a small private college in the Midwest reported, based on his firsthand knowledge, "Most farms use sustainable practices. Produce purchased from the Amish is grown using horse-drawn farm implements." The largest group, 33%, reported that they knew the produce was sustainably produced because minimal or no

pesticides were used. One of these interviewees from a small private college in the Midwest explained that her program requires the producer to fill out a form stating that he or she does not use chemicals. However, most did not specify how they knew that minimal pesticides were used. Two of the interviewees who reported they knew minimal or no pesticides were used also reported that they knew the farmers and their farming practices. Four percent (two) of those reporting that they knew the produce they purchased was sustainably produced because they were familiar with the farmer's practices and minimal or no pesticides were used also reported that the farmers did not plant GMO crops. Ten percent (five) reported that they knew the produce was sustainably produced because the farmer practiced soil conservation and composting. All of the five also reported that they were familiar with the farmer's practices.

Of those I interviewed, 8% (four) reported that the question was not applicable to them, another 8% (four) stated they purchased organic produce that is by definition ecologically produced, and of these, two also responded affirmatively to other ways of knowing the produce they purchased was sustainably produced. Six percent (three) explained that they knew some of the produce they purchased met standards for sustainability. Two of these reported purchases of Food Alliance certified produce. Thirteen percent of the interviewees (seven) admitted they did not have a way of knowing the produce they purchased was sustainably grown. In addition, six respondents (12%) reported other ways of knowing the produce they purchased was sustainably grown. One of these said, "Bon Appetit has done the

research.” However, Bon Appetit does not have a standard for sustainably grown produce. Another three reported relying on their distributor. Two (4%) of the interviewees did not respond to the question.

Table 20

How the Interviewees Identified Sustainably Grown Produce

Response	Number of Programs N=52	Percentage of Programs
Knows the farmers and their practices	13	.25
Minimal for no pesticides	17	.33
Composting and soil conservation	5	.10
Crop diversity	1	.02
Water conservation	2	.04
No GMOs	2	.04
Certified Organic	4	.08
Meets a standard	3	.06
Other	6	.12
Not known	7	.13
Not applicable	4	.08
No response	2	.04

I asked the interviewees how they knew the dairy products (primarily milk) they purchased were sustainably produced. Of the interviewees, 65% (34) replied that the milk they purchased did not contain bovine growth hormone. One interviewee from a small private college in the Midwest reported she requested that the dairy she

purchased from switch from supplying milk that contained bovine growth hormone to milk without bovine growth hormone. The dairy eventually discontinued supplying milk containing bovine growth hormone, but it took two years to do so. Consistent with Bon Appetit Management Company (Bon Appetit) policies, none of the 16 programs managed by Bon Appetit purchased milk containing bovine growth hormone. Four of the interviewees, 8%, explained that they knew the milk they purchased was sustainably produced because they knew the farmers and their practices. Three of the interviewees (6%) reported other ways of knowing the dairy purchased by their program was sustainable. One of these explained that the cows are not milked when using antibiotics. Of the interviewees, 12% (six) stated the question did not apply to them because they knew the milk they purchased contained bovine growth hormone (five) or because they didn't know whether the milk contained bovine growth hormone (one). Six of the interviewees (12%) did not respond.

Table 21

How the Interviewees Identified Sustainably Produced Dairy Products

Response	Number of Programs N=52	Percentage of Programs
No bovine growth hormone	34	.65
Knows the farmers' practices	4	.08
Other	2	.04
Not applicable	6	.12
No response	6	.12

I also asked the interviewees how they knew the meat (beef, pork, and poultry) they believed to be sustainably produced was indeed sustainably produced. Of the interviewees, 50% (26) said that the meat contained no antibiotics or growth hormones. One of these interviewees from a small private university in the West explained that the beef he purchases is Food Alliance certified sustainably produced. One of the interviewees who responded that the meat they purchased had not been given growth hormones or antibiotics clarified that this was true only in one campus dining location. Three others explained that only some of the meat purchased did not contain antibiotics and growth hormones. None of the 16 Bon Appetit–managed programs purchased meat containing antibiotics or hormones. In my 2008 interview with Bon Appetit Management Company, the V.P. of Strategy confirmed that Bon Appetit suppliers must commit to 1) no antibiotics, 2) no added growth hormones, and 3) no animal byproducts in feed for chicken, turkey, or hamburger. Two interviewees reported that purchases by their programs did not contain antibiotics. Eight percent (four) of the interviewees reported that they knew the meat they purchased was sustainably produced because they knew the farmers who produced the meat and the farmers’ practices. Of those I interviewed, 33% (17) explained that the question did not apply because their program did not purchase sustainably produced meat. One respondent added that “some organic beef and poultry from a family farm is served at the faculty club but not in the dining hall.” Another 6% of the interviewees (three) did not respond to this question.

Table 22

How the Interviewees Identified Sustainably Raised Meat

Response	Number of Programs N=52	Percentage of Programs
No antibiotics or hormones	26	.50
No antibiotics	2	.04
Knows the farmers and their practices	4	.08
Not applicable	17	.33
No response	3	.06

Finally, all 16 of the programs managed by Bon Appetit use Monterey Bay Aquarium Seafood Watch guidelines, as required by Bon Appetit. In addition, respondents from seven other programs volunteered that their programs also use Seafood Watch guidelines to purchase sustainable seafood.

Table 23

How the Interviewees Identified Sustainable Seafood

Response	Number of Programs N=23	Percentage of Programs
Monterey Bay Aquarium Seafood Watch guidelines	23	1.00

In order to have a clear understanding of whether or not the programs had purchasing criteria in place for sustainably produced farm products and sustainable seafood, I analyzed the criteria used for purchase of produce, meat, poultry, dairy, and seafood. The data indicated only 4% of the programs had formal purchasing criteria

for produce. Of the programs, 38% had informal purchasing criteria for produce. In contrast, 31% of the programs reported having formal criteria for the purchase of sustainable beef, poultry, dairy, or seafood. Forty percent reported having informal criteria for the purchase of these products.

Table 24

Inclusion of Criteria for Purchasing Sustainably Produced Food

Response	Number of Programs N=52	Percentage of Programs
Formal criteria for sustainably produced produce	4	.08
Informal criteria for produce	20	.38
No criteria for produce	23	.44
Does not purchase sustainable produce	4	.08
No response regarding sustainable produce	1	.02
Formal criteria for sustainable dairy, beef, poultry, and seafood	16	.31
Informal criteria for sustainable dairy, beef, poultry, or seafood	21	.40
No criteria for dairy, beef, poultry, or seafood	3	.06
Does not purchase sustainable dairy, beef, poultry, or seafood	4	.08
No response	8	.15

Social justice practices. In contrast to the 56% of all respondents who reported that purchase of products from socially responsible farms was a major component of their farm-to-college program, only 44% (23) of the interviewees later said they knew their program purchased worker-supportive farm products. I asked the interviewees to explain how they knew the products they purchased were produced on farms that utilized safe and fair labor practices. Of the interviewees, 10% (five) responded that there was no objective way to know whether the farms utilized safe and fair labor practices. One respondent noted she did not have criteria for safe and fair farm labor practices now, but labor practices were “an up and coming issue.” Another 10% (five) said the labor practices of farms from which they purchased met adopted criteria. Two of these explained that Sodexo requires vendors to pay fair wages and provide safe working conditions. Two others reported that some of the farm products they purchase were Food Alliance certified. Another said he uses a questionnaire to determine whether safe and fair working conditions are provided. Of the interviewees, 19% (10) explained that criteria were not needed to determine whether safe and fair labor conditions were provided on the farms from which they purchased because the farms were owner-operated and little or no labor was hired. Seventeen percent (nine) of the interviewees said the question was not applicable to their program. One of these had also responded that criteria were not needed because the farms from which the program purchased were owner-operated and employed little or no hired labor. Thirty-three percent (17) explained that they knew the farms from which they purchased utilized safe and fair labor practices because they knew

the farmer and his practices. Four of those reporting that they knew the farmer had also reported that the farms from which they purchased were farmer-owned and -operated and employed little or no labor. Fourteen of the interviewees either did not respond (seven), believed that the provision of safe and fair working conditions was legally mandated (one), assumed safe and fair working conditions were provided (two), relied on vendors to handle this issue (three), or explained that organic farming methods eliminate farm worker exposure to pesticides (one).

Table 25

How the Interviewees Identified Products Produced Using Safe and Fair Labor Practices

Response	Number of Programs N=52	Percentage of Programs
No objective way to know	5	.10
Meets adopted criteria	5	.10
Farms owner operated; little or no labor hired	10	.19
Not applicable	9	.17
Knows farmers and their practices	17	.33
Other	7	.13
No response	7	.13

When I asked the interviewees if farms were required to meet specific criteria for their farm products to qualify as having been produced under safe and fair labor conditions, 65% (34) said their programs either did not have criteria for safe and fair labor conditions (24) or having criteria was not applicable to their program (10). Nine

of the 24 represented Bon Appetit–managed programs. At the time, Bon Appetit did not have criteria for safe and fair working conditions. One respondent said he hadn't heard of problems. Another said she hoped farm worker conditions were good. And a third interviewee said there was no need for criteria. The ten who said having criteria was not applicable to their program explained that either the local farmers from whom they purchase do not hire farm labor or adoption of criteria was not applicable to their program for some other reason, including no purchase of worker-supportive farm products. Twenty-one percent (11) said they were not sure if their programs had criteria for safe and fair labor conditions. And 6% of the interviewees (three) did not respond.

Of the interviewees, 8% (four) reported that workers were paid the minimum wage required by law on the farms from which their programs sourced farm products. Three who had also reported that their criteria required payment of the minimum wage required by law said that another criterion was the provision of Unemployment benefits, Workers' Comp, meeting legal safety requirements, and/or additional benefits such as sick pay. One of these explained that one of the farms from which he sources provides sick pay and health insurance to workers. Another explained that three farms from which her program sources meet Food Alliance worker requirements. Four respondents whose programs were all managed by Sodexo thought that Sodexo required workers to be paid minimum wage as required by law. According to Sodexo's website accessed in 2013, Sodexo has adopted a "Supplier Code of Conduct" that sets out the expectation that Sodexo suppliers will "not pay

less than the minimum wage in accordance with local laws” and “health, safety, and other workplace standards must meet all local laws and safety regulations.” However, it was not clear that the requirement applied to farm workers. In addition, the Supplier Code of Conduct information shown on their current website does list payment of minimum wage (Sodexo, 2016).

Table 26

Criteria for Safe and Fair Labor Conditions

Response	Number of Programs N=52	Percentage of Programs
Program does not have criteria	24	.46
Not applicable, so program does not have criteria	10	.19
Not sure if program has criteria	11	.21
Meet minimum wage laws	4	.08
Provide Unemployment and Workers' Comp	1	.02
Provide additional benefits	2	.04
Meet legal requirements for handling hazardous materials	1	.02
Food Alliance standards	1	.02
No response	2	.04

In order to have a clear understanding of whether or not the programs had criteria in place for purchasing farm products produced under safe and fair working conditions, I analyzed the criteria used for safe and fair working conditions. The data indicated only 10% of the programs had purchasing criteria. Of the respondents, 21% were not sure if their programs had criteria, 65% reported that their programs did not have criteria, and 4% did not respond to the question.

Table 27

Inclusion of Criteria for Purchasing Products Produced under Safe and Fair Working Conditions

College (n=52)	Has criteria	Not sure if program has criteria	No criteria	No response
	5	11	34	2
	.10	.21	.65	.04

Origin of farm-to-college programs.

What are the means by which and the reasons why farm-to-college programs are being established in the United States, and are these programs growing?

The three most frequently cited participants in making the decision to establish a farm-to-college program at the colleges and universities included in the interview survey were dining services managers, students, and university administration, with dining services managers cited most often. This is consistent with the results of both Murray's and CFSC's surveys, which found that most programs included in their surveys were initiated by food service personnel (Markley,

2011; Murray, 2005). The two most often cited final decision makers in establishing the farm-to-college programs were the food service management company and the school administration. While the majority of respondents reported barriers to establishing a farm-to-college program, contrary to my expectations, most reported that policy changes were not required. The two most common reasons respondents named for establishing a farm-to-college program at their college or university were to serve fresher and tastier food and to support local farmers and the local economy. These responses are consistent with the findings of a survey conducted by the Food Marketing Institute, which found that most shoppers identified freshness as the main reason for purchasing locally produced food. The second most frequently given reason was support for the local economy, and the third was taste (210 Analytics, LLC, 2011). The most often cited reason interviewees gave for including criteria for purchase of organic or sustainably grown produce in their program was the benefit to the environment, and cost was most frequently given as a reason for not including criteria for the purchase of organic and otherwise sustainably produced food. The large majority of respondents reported that no consideration had been given to including criteria for purchase of farm products produced under worker-supportive (socially just) labor conditions in their program. And most interviewees wanted to expand the farm-to-college program at their college or university.

How programs are established. In order to find out the means by which farm-to-college programs are established, I asked the interviewees 1) who was involved in making the decision to establish the program at their university and 2) who made the

final decision to establish it? Of those I interviewed, 24 identified more than one group involved in making the decision to establish a farm-to-college program. Of these interviewees, 40% (21) reported that dining services personnel or the manager were involved in making the decision to establish the program at their college; 19% (10) reported that faculty and/or staff were involved in the decision to establish the program; 37% (19) reported that students were involved; 37% (19) also identified the involvement of the university/college administration in making the decision to establish the program; 25% (13) reported that the food service management company was involved in making the decision to establish a program; 8% (four) said other groups or circumstances were involved in the decision to establish a farm-to-college program, including a Farm-to-School Partnership, a local non-profit, and a professor of nutrition. Four percent of the interviewees (two) did not respond to this question.

Table 28

Participants Involved in Making the Decision to Establish the Programs

Response	Number of Programs N=52	Percentage of Programs
Dining services manager	21	.40
Faculty/staff	10	.19
Students	19	.37
Food service management company	13	.25
University administration	19	.37
Other	4	.08
No response	2	.04

I next asked who made the final decision to establish the farm-to-college program. All interviewees except two responded by identifying one or more final decision makers. Both of the interviewees who did not identify a final decision maker explained that no formal decision was ever made. One said that the program evolved organically, and the other said that college and food service management guidelines were “just” followed.

Of the interviewees, 37% (19) identified the dining services manager as the final decision maker or one of the final decision makers. Six percent (three) identified faculty or staff as among the final decision makers. Another 6% (three) identified students as among the final decision makers. One of the interviewees who identified students as among the final decision makers explained that a campus service group composed of students, faculty, administrators, staff, farmers, the food service manager, and a community advocacy group that was formed to educate the school community about the importance of supporting the local food system had been the main force behind establishment of the farm-to-college program.

Food service management companies were identified by 29% of the interviewees (15) as the final decision maker or one of the final decision makers. Seven of the interviewees from Bon Appetit–managed programs identified the food management company as the only decision maker because Bon Appetit established the program independently. However, one interviewee explained that the university administration was also involved and had threatened to terminate Bon Appetit under pressure from the students if the management company stopped serving hamburgers

as a measure to reduce dining services’ carbon footprint. Another interviewee from a Bon Appetit–managed program said students at his college had pushed the university president to “sign Bon Appetit.” Of those interviewed, 42% (22) identified the university/college administration as among the final decision makers (nine) or the only final decision maker (13). Four percent of the interviewees (two) did not respond to this question.

Table 29

Final Decision Makers in Establishing the Farm-to-College Programs

Response	Number of Programs N=52	Percentage of Programs
Dining services manager	19	.37
Faculty/staff	3	.06
Students	3	.06
Food service management company	15	.29
University administration	22	.42
Other	2	.04
No response	2	.04

Barriers and policy changes. In order to determine if there were barriers or resistance to establishing the program, I asked whether the groups establishing the programs had encountered barriers and provided examples of types of barriers they might have encountered from which to select. I also asked whether establishment and implementation of the programs, particularly at public institutions, required institutional changes, that is, policies, requirements, or regulations. A prerequisite change in institutional purchasing policies and regulations would support the premise that institutional changes are necessary to support a shift to more sustainable development (Redclift & Woodgate, 1997). Of those I interviewed, 35% (18) reported that there were no barriers or resistance to establishing the farm-to-college programs at their university or college, 58% (30) reported that there were barriers or resistance to establishing the programs, and 8% (four) did not respond to the question.

The types of barriers identified ranged from insurance requirements to the unavailability of local produce during the school year. Of the interviewees, 12% (six) reported farmer difficulties in meeting insurance requirements. Another 13% (seven) reported difficulty in sourcing local produce during the school year since the produce season in their area is in the summer when school is out or other availability issues. Of those interviewees, 4% (two) said that small local farmers did not produce enough to meet dining service needs. One interviewee reporting a problem with volume represented a mid-size university in the South. The other represented a small college in the Northeast.

Of the interviewees, 25% (13) described financial barriers to establishing a farm-to-college program at their college or university. One interviewee from a small college in the West cited the cost of organic milk. He said it was expensive and would have cost \$17,000 a year more than non-organic milk; now it costs about the same as non-organic milk. Another interviewee representing a mid-size university in the Northeast explained that it was difficult to fit the cost of the program into the budget. A representative from a mid-size college in the South clarified, “Cost is a major issue in being able to implement local sustainable purchases. Prices for sustainable produce are higher. The university is not willing to pay more. Local and sustainable purchases must be cost neutral.” She added, “I think this is where not having much student support is a problem; students could agree to pay more.”

Additional difficulties were reported as well. Of those I interviewed, 12% (six) stated that delivery of the local farm products presented difficulties. One representative of a large university in the South said, “Staff wants food to come in a big truck, not a pickup.” Of these interviewees, 10% (five) noted that produce specifications were an issue. A representative of a small college in the Northeast explained that he needed specifications for items he wanted to purchase, so he took photos of lettuce, squash, etc., and developed a spec chart in color “so farmers could understand what the college wanted.” This eliminated the problem. A representative of a mid-size college in the West said that farmers who supply the program have to go through a state sanitarian who is “into food safety” to be approved. This requirement has presented some difficulties. A representative of a large university in the South

reported that in contrast to small local farmers, “main line distributors have clean standardized produce.” He explained that he wants “food that is easy and ready to use.”

Twelve percent (six) of the interviewees reported difficulties in working with the food service management company as a barrier to establishing a farm-to-college program. A representative of a small college in the South identified barriers in working with its management company such as corporate insurance requirements and corporate policies that limited local purchases. The representative of a small college in the Midwest reported that the corporate policies of the program’s management company were a barrier and that “the local manager is willing to try, but runs up against the [management company] system and who you can purchase from.” Another representative from a small Midwest college also noted that “the structure and regulations of the food service company presented barriers to implementing local purchasing.” He went on to explain that “there are many impediments to local purchasing by a college or institution. For example, the local processor did not have a machine to put each bacon strip on waxed paper, which is necessary for institutional food preparation. The cost of the machine was \$10,000.”

Lack of student “buy in” was mentioned as a barrier by two interviewees (4%). Other problems were mentioned by 10% of the respondents (five), including “figuring out what students will eat that is seasonal and local,” finding a distribution system that would source from small and local farmers, and gaining support from dining services before the “cultural shift” to local occurred with publication of *The*

Omnivore's Dilemma. A representative of a large college in the Midwest explained that the dining staff initially “put up resistance; they thought the new program was a criticism of the way they had done things in the past.”

Table 30

Barriers to Establishing the Farm-to-College Programs

Response	Number of Programs N=52	Percentage of Programs
No	18	.35
Yes	30	.58
Insurance requirements	6	.12
Kitchen infrastructure	1	.02
Produce not in season and/or other availability issues	7	.13
Volume produced not large enough	2	.04
Financial	13	.25
Delivery logistics	6	.12
Working with food service management company	6	.12
Produce specifications	5	.10
Student support	2	.04
Other	6	.12
No response	4	.08

I next asked if policies and regulations had been changed or developed to facilitate local and sustainable purchases. Contrary to my expectations, the majority of respondents reported that policies and regulations were not changed in order to establish the farm-to-college programs at their university. Of those I interviewed, 54% (28) said that policies and regulations were not changed. The reasons given ranged from no changes required to the corporate policies to regulations of the management company were inflexible and could not be changed. The representative from a small college in the West reported, “Can’t change Sodexo policies.” She explained this was why the program had to purchase from a large grower rather than small farmers. “[The grower] is a large operation and can meet Sodexo standards.” Another said, “Sodexo corporate tells local managers what they can and cannot buy.” A third interviewee from a small college in the Northeast said, “I had to adhere to corporate insurance and price policies.” In contrast, a representative from a small college in the South said that no changes in policies or regulations were needed because Bon Appetit itself required purchase of local and sustainable farm products.

Eight percent (four) did not respond to the question. One of these had reported earlier that the management company, Aramark, was very bureaucratic and highly structured. He explained, “The dining services manager had his hands tied in trying to carry out the farm-to-college program, so the college eventually hired a new food service company, AVI Food Services.” Three of the interviewees whose programs were managed by Bon Appetit said they didn’t know if policies were changed and suggested that I speak with Bon Appetit corporate. According to corporate, no policy

changes were required to the local purchasing program (Farm-to-Fork) under Bon Appetit, but under Compass (Bon Appetit became a subsidiary in 2002) policy changes were required, including insurance terms, the payment terms provided to farmers, and in quality assurance requirements.

Of those I interviewed, 31% (16) reported that policies and requirements were changed to implement the programs. Thirteen percent (seven) reported that insurance requirements were changed to accommodate local purchases from small farmers. A representative from a small college in the Northeast explained that the liability standards of Chartwells, the management company, needed to be relaxed but “got around this by using a distributor who meets insurance requirements.” The representative from a mid-size college in the Northeast reported that the minimum insurance coverage limits were waived. Ten percent (five) reported that pricing policies were changed. The representative from the mid-size college in the Northeast said dining services decided to pay more. The representative from a small college in the West said he sometimes had to pay higher prices. Sometimes he doesn’t buy certain types of produce because “the price is too high.” One interviewee from a large public university in the Midwest said that bidding requirements were changed. She explained that the dining services director had to meet with the purchasing director. “Now purchasing uses a different bidding process that specifies local as a specific requirement.” Four percent of the interviewees (two) reported that delivery requirements were changed. The representative of a small college in the West explained he “normally requires that produce is refrigerated to increase shelf life” but

he “has had to take deliveries in back of a pickup unrefrigerated, including leftovers from the farmer’s market.” Another representative of a small college in the West commented, “So many vehicles—would be easier to have a distributor.” One interviewee said that accounting requirements had to be changed to accommodate local farmers. One other interviewee from a small vegetarian program in the West reported that he had to take smaller quantities of produce than desired. “Had to get creative—combined different vegetables in stir-fries.”

Table 31

Policies and Regulations Changed or Developed to Facilitate Programs

Response	Number of Programs N=52	Percentage of Programs
No	28	.54
Yes	16	.31
Bidding requirements	1	.02
Insurance requirements	7	.13
Delivery requirements	2	.04
Quantity requirements	1	.02
Price policies	5	.10
Accounting	1	.02
Don’t know	3	.06
No response	4	.08

Why programs are established. In order to understand why farm-to-college programs are established, I asked the interviewees what factors impacted the decision to establish a program at their university. A majority of the interviewees identified more than one factor. The responses most frequently cited were to serve fresher, tastier food and to support local farmers and the economy. Of those I interviewed, 37% (19) replied that student demand for locally grown food was a factor. One interviewee representing a small college in the Midwest said, “Students are the drivers.” Another interviewee representing a mid-size college in the Northeast reported that “student demand was number one; we have a very active student group.” Of the interviewees, 10% (five) noted that a request from local farmers to purchase their produce was a factor in establishing the farm-to-college program. The representative from a large university in the South explained that farmers worked with the university to encourage the university to purchase their farm products after first working with farm-to-school programs in the area. Of the interviewees, 63% (33) replied that the desire to support the local economy and/or local farmers was a motive in establishing the farm-to-college program at their university. One respondent from a small private college in the Northeast explained, “Student interest coincided with corporate’s [Parkhurst, the food service management company] desire to support the local economy and small farmers.” Another respondent from a small college in the Northeast reported, “It is part of the college mission to support the local economy.” Sixty-nine percent (36) of the interviewees identified the desire to serve fresher, higher-quality food as a factor in establishing the program at their university. One

respondent from a large public university in the Midwest said, “The program was established to meet student demand and to provide high-quality food.” A respondent from one of the small private colleges in the Northeast operated by Bon Appetit explained that Bon Appetit started the farm-to-college program in order to serve higher-quality, fresher food, adding “we didn’t think of local purchasing as a political act, but merely as the way to get the highest-quality products.”

The desire to reduce food miles was a factor for 46% of the interviewees (24). And 50% (26) identified other factors as well. Of these, twelve interviewees cited environmental reasons, including reducing the school’s carbon footprint and meeting university sustainability goals. Another interviewee from a mid-size private university in the South identified a healthy rural economy, the environment, and social justice as the factors impacting the decision to establish a farm-to-college program. Another interviewee from a small private college in the Northeast explained that he started taking steps to establish a farm-to-college program after attending a Yale University conference with Alice Waters. Two of the interviewees did not respond to the question.

In order to understand why environmental criteria, defined as purchase of organic or sustainably grown produce, were or were not included in the programs, I asked each interviewee what factors contributed to either including or not including the purchase of sustainably grown produce. Of those I interviewed, 50% (26) provided reasons both for including and not including organically and sustainably

grown produce in their program. Ten percent of the interviewees (five) did not respond to either question.

Table 32

Factors Impacting the Decision to Establish a Program

Response	Number of Programs N=52	Percentage of Programs
Student demand for local food	19	.37
Request from local farmers to purchase their products	5	.10
Desire to support the local economy and/or farmers	33	.63
Desire to serve fresher, higher-quality food	36	.69
Desire to reduce food miles	24	.46
Other	26	.50
No response	2	.04

Of the interviewees, 38% (20) identified more than one factor affecting their decision not to include, or only minimally include, the purchase of organically or sustainably grown produce in their program. Eight percent (four) reported that there had been no consideration given to including the purchase of sustainably produced produce in their program. Forty-four percent (23) reported that one reason their programs did not include, or included only limited amounts of, organic or sustainably produced produce was that it was too expensive. One interviewee from a large public

university in the Midwest explained that while the expense of purchasing organic and sustainably grown produce was a factor, the university “initially did some subsidizing” to be able to include sustainably and organically grown produce. The representative from a small private college in the Midwest also reported that price was a factor “but students were willing to absorb the cost.” Thirty-seven percent of the interviewees (19) said that organic and sustainably produced produce were not readily available locally. Twenty-five percent (13) either had other reasons for not including sustainably produced produce in their program (six) or requested that I ask Bon Appetit (seven). Bon Appetit, rather than the college or university, determines the purchasing program. The representative from a small private college in the Northeast explained that the college already had an established organic farm in place before the farm-to-college program was established. The representative of another small private college in the Midwest said that his program did not require purchase of sustainably produced produce because the program did not want to exclude local conventional farmers. And 21% (eleven) either explained, or Bon Appetit clarified for them, that the programs did not initially include purchase of organically and/or sustainably produced products because their priority was purchase from small local farms, not organic or sustainably produced products.

Of those I interviewed, 40% (21) reported that purchase of organic or sustainably grown produce was in their program because these production methods are better for the environment; 38% (20) reported including the purchase of organic or sustainably grown produce in their program because the quality of this produce was

higher; and 29% (15) said that student demand for organic or sustainably grown produce was a reason organic and sustainably grown produce were included in their program. Eight percent of the interviewees (four) cited additional reasons for including organic and sustainably produced food. One respondent from a small college in the Midwest explained that “organic and sustainable are healthier.” Another said, “Concern for future generation and to protect the local environment.”

Table 33

Factors Contributing to Including or Not Including Environmental Purchasing Criteria

Response	Number of Programs N=52	Percentage of Programs
No consideration given to including purchase of organic or sustainably produced farm products	4	.08
Not including, organic and sustainably produced too expensive	23	.44
Not including, organic and sustainably produced not available locally	19	.37
Not including, purchasing locally from small farms a priority, not organic and sustainably produced farm products	11	.21
Not including, other	13	.25
Including, organic and sustainably produced better for the environment	21	.40
Including, organic and sustainably produced higher quality	20	.38
Including, student demand for organic and sustainably produced	15	.29
Including, other	4	.08
No response	5	.10

I also wanted to understand why social justice criteria were either included or not included as a component of the farm-to-college programs in order to gauge the extent to which farm-to-college programs fit the characteristics of sustainable development and agriculture. I asked interviewees what factor contributed to including or not including social justice purchasing criteria, that is, safe and fair labor practices, in their programs. Of those I interviewed, 83% (43) either stated that no consideration was given to including criteria for safe and fair labor practices in their programs (36) or provided reasons for not including criteria for worker-supportive practices (seven). Two of these interviewees (both representing small colleges located in Maine, stated that safe and fair labor practices were not an issue. “Fair labor standards are followed in the state of Maine,” one explained. Another said, “We don’t hear about problems and assume there are none.” One interviewee reported that the worker-supportive farmers’ collaborative, which the program wished to use as a supplier, didn’t work out because “too many hoops to jump through to be a Sodexo supplier.” Three others (6%) explained that the question didn’t apply to their programs because farmers in their area seldom hire farm labor. One interviewee representing a small private college in the Midwest explained, “Safe and fair working conditions are not an issue; most small farms do not hire migrant labor; no factory farms. This [safe and fair labor practices] might be an issue with poultry purchases.” Another, the representative from a small, private, self-operated college in the West, explained that he “knew the local farmers did most of the work themselves, so labor practices not an issue.” None of the interviewees reported that price or bidding

requirements were factors in not including social justice criteria in their purchasing requirements.

Of those I interviewed, 6% (three) responded that student demand was a factor in including social justice criteria in their program. An interviewee from a small private college in the Midwest explained, “Students bring this up. They hear about unfair labor issues from news stories, like about Coke and Pepsi. If dining services becomes aware of issues, they switch brands, like Chiquita bananas. Dining services changed to another brand.” When asked about farm labor practices in the United States, the interviewee said that he assumes that safe and fair labor practices are used unless he hears otherwise. Another interviewee from a small public college in the Midwest reported, “Because the program started from a food system perspective, not from wanting better tasting food, who harvests the crops has always been part of the program. Social justice and community service are very important on campus.” Two additional interviewees (4%) explained that student demand for fair trade was the factor contributing to the inclusion of social justice criteria in their program. A representative from a small college in the Northeast, whose program is managed by a large food service management company, said, “Corporate requires fair trade.” Six others (12%) provided various additional reasons for including safe and fair working conditions in their programs. The representative from a small private college in the Northeast said, “[It’s] just the right thing to do.” Another interviewee from a small private college in the South said that her program includes “responsibly produced food,” but did not define the term.

Two other interviewees representing programs managed by Sodexo explained that Sodexo “will not do business with farms/operations that employ unsafe and unfair labor practices.” Another representative from a mid-size private college in the South, whose program is also managed by Sodexo, suggested asking Sodexo. Finally, an interviewee from a small private college in the Midwest reported that she has “a committee working on sustainability [and] it seemed logical to include safe and fair working conditions [as] part of sustainability.” Of the interviewees, 4% (two) did not respond to either question. The two programs not responding were both managed by Bon Appetit, a company that does not require safe and fair working conditions for farm labor to be included in its Farm-to-Fork (farm-to-college) programs.

Table 34

Factors Contributing to the Decision to Include or Not Include Social Justice Purchasing in the Farm-to-College Program

Response	Number of Programs N=52	Percentage of Programs
Not including, no consideration given to including	36	.69
Not including, farmers seldom hire farm labor	3	.06
Not including, other	4	.08
Including, student demand for “socially just” food	3	.06
Including, students want “fair trade”	2	.04
Including, other	6	.12
No response	2	.04

Note: Fair trade by definition cannot be part of a local purchasing program.

Expansion of the programs. In order to get a sense of whether programs were growing, I asked interviewees if there were areas of their programs they would like to expand. Of the interviewees, all but two of those responding, 88 percent (46), reported that there were areas of their programs that they would like to expand. Of the respondents, 40% (21) reported that they would like to increase purchases from local farmers. One representing a small private college in the Northeast said he would like to increase purchases from local farmers “beyond special events. Now [purchases are] just for special events.” The representative from a small public university in the West said that she would like to add “real small” family farms as suppliers. Another

representative from a large public university in the West said that he “wants more flexibility in purchasing local while maintaining Aramark franchise compliance.” The representative from a private mid-size college in the Northeast said he would like to expand the purchase of local meat. The representative from a small private college in the West said he would like to increase local producers to 35%. The representative from a mid-size public college in the West said she planned to increase local purchases from 12% to 15% in 2009 and to 20% of all purchases the following spring. Another respondent from a small public college in the West said his goal for 2010 was “40% local purchases.” The representative from a large public university in the Midwest stated that her goal was “35% local, organic, sustainable in 2012.”

Of these interviewees, 8% (four) said they wanted to expand waste reduction measures. One interviewee from a mid-size private college in the South reported that she would like to have a composting facility on campus. Another representative from a small private college in the West also said he wanted to compost. Thirteen percent of the interviewees (seven) said they would like to expand purchase of organic or sustainably produced farm products. A respondent representing a large public university in the Northeast explained that he would like to contract for the production of organic produce because the supply in his area is limited. Another respondent from a large public university in the Southeast said he would like to expand the purchase of organic a “next step.” Fifty-two percent of these interviewees (27) added other ways they would like to expand their programs. The representative from a mid-size private university in the Northeast explained he is working with a 1,000-acre research farm

and “would like to plant for dining services, if feasible.” One representative from a small private college in the Northeast whose program is self-operated said he would like to expand his garden and “build a greenhouse to produce lettuce all year round.” Another representative from a small self-operated program in the Northeast said he would like to “expand storage, including a working root cellar and a large freezer.” The representative from a small self-operated college in the Midwest reported that they wanted to start a year-round farm and incorporate it into the school curriculum. A representative from small private college in the Northeast reported that he wanted to put a “bio-digesting anaerobic composter on a neighboring farm to produce electricity from methane.” Two interviewees said that they wanted to “expand everything.”

Table 35

Program Expansion

Response	Number of Programs N=52	Percentage of Programs
No	1	.02
Yes	46	.88
Increase purchases from local farmers	21	.40
Expand waste reduction	4	.08
Expand organic/sustainably produced farm products	7	.13
Other	27	.52
No response	4	.08

CHAPTER 5

CASE STUDIES

This chapter presents a case study of the farm-to-college program at the University of California, Santa Cruz (UCSC), a mid-size public university located in the West with in-house dining services that source organic produce from a local farm consortium.

I also include smaller case studies of three other distinct types of farm-to-college programs. The first is a program at a small private college, Hamilton College, located in the Northeast that was initiated and operated by the food service contractor, Bon Appetit. Bon Appetit sources directly from small local farmers and a New York distributor. The second case study is of a program at a private mid-size university, Emory University, located in the South. The program was spearheaded by a university professor and the university administration, and is operated by one of the three major food service corporations in the United States that sources regionally from distributors. The third case study is of a program started by the dining services director at a large public university with in-house dining services, located in the Midwest, Iowa State University. The program sources statewide directly from farmers. After the smaller case studies, I compare and analyze the four farm-to-college programs.

UCSC Farm-to-College Program

This case study builds on my involvement in the establishment of the UCSC farm-to-college program as coordinator and later as co-coordinator of the Campus Food Systems Working Group (CFSWG) from 2004 to 2007. My primary focus as coordinator was to work with the organizations and students that made up CFSWG to develop guidelines for purchase of local, organic, and "socially just" food by dining services. Later, as co-coordinator of CFSWG, I worked with the central purchasing buyer for dining services and other CFSWG members to develop the sole source contract with the farm consortium that enabled dining services to purchase local organic produce directly from nearby farms.

The local landscape. The physical and cultural environments of Santa Cruz combine to make it fertile ground for the establishment of a farm-to-college program. UCSC is located in Santa Cruz County, California, an area with a mild climate that enables Santa Cruz farmers to grow vegetables almost year round without having to worry about bolting in the summer or freezing in the winter (see the Plant Hardiness Zone Map for Santa Cruz below). The top crops grown in the county in 2007, vegetables, lettuce, berries, apples, and Brussels sprouts, were ones typically served in dining halls (United States Department of Agriculture, 2007). In the cultural realm, Santa Cruz is known as a progressive community that is at the forefront of the sustainable food movement. Students at UCSC also are known for their environmental activism. UCSC's Center for Agroecology & Sustainable Food Systems (CASFS) has been a leader in sustainable food and agriculture research and

education for over 40 years (Campus Food Guide, 2010). California had the largest number of certified and exempt¹ organic farming operations in the United States in 2008 (United States Department of Agriculture, 2014). Many of these organic farms were located in Santa Cruz County.



Figure 3. Southern California USDA Plant Hardiness Zone Map showing average annual extreme minimum temperature for the city of Santa Cruz, where UCSC is located. Source: <http://planthardiness.ars.usda.gov/phzmweb/maps.aspx>

¹ The National Organic Program exempts small farmers who follow the national organic standards to sell their product as organic if they sell less than \$5,000 per year and follow the national standards for production, labeling, and recordkeeping (National Organic Program §205.101 exemptions and exclusions from certification).

In addition, one of the first organic certification agencies in the nation, California Certified Organic Farmers (CCOF), was founded in Santa Cruz in 1973, and the owner of one of the consortium farms participated in its establishment (California Certified Organic Farmers, 2013). Another consortium farm became the first unionized organic berry farm in the United States in 1998.

In 2007, not a great many young people in the United States were entering farming as a principal operator, as the average age of the principal farm owner was 57.1 years and the fastest-growing group of farm operators was 65 years and older (United States Department of Agriculture, 2007). In contrast, according to a recent article in *Edible* by Deborah Luhrman, Santa Cruz County and neighboring areas have many small farms and beginning farmers due in part to three training programs located in Santa Cruz and Monterey Counties (Luhrman, 2014). The Agriculture and Land-Based Training Association (ALBA), the Center for Agroecology and Sustainable Food Systems (CASFS), and Cabrillo College offer training in organic farming to aspiring farmers, including former farm workers. Two of these training programs are members of the farm consortium that supplies local organic produce to the UCSC farm-to-college program. More than a few trainees from these programs have started small farms of their own in the area after the completion of their training. In 2007, there were 682 farms in Santa Cruz County covering 47,489 acres, according to the 2007 USDA Census of Agriculture. Of these farms, 359, over half, hired labor (United States Department of Agriculture, 2007). The average farm size was 70 acres, compared to the 1,108 average in nearby Monterey County and the 349-acre average

for the State of California (United States Department of Agriculture, 2007). The vast majority of farms in Santa Cruz County encompassed less than 49 acres, with very small farms of less than nine acres the most common size.

Overview of the 2006–2007 farm-to-college program. UCSC provides an example of a student-initiated farm-to-college program that supports local farmers and the environment in the process of obtaining fresh, high-quality produce. In 2005, dining services operated five residential dining halls that accommodated over 6,000 meal plan residents, three cafes, and four coffee kiosks. Its annual food budget in 2005 was \$4.5 million (McNulty, 2005). In 2006–2007, over 13% of all produce served daily at all five of UCSC's dining halls and the university center's restaurant was sourced from seven local certified organic farming operations with commitments to social responsibility (Kolbus et al., 2007). These farms, including one located on campus, make up the Monterey Bay Organic Farmers Consortium (MBOFC). The farms pool their produce through the Agriculture and Land-Based Training Association (ALBA) in Salinas to facilitate sales to UCSC dining services.

Overall 23.8% of all produce served on campus was certified organic (Kolbus et al., 2007). The organic produce not sourced from MBOFC was sourced by dining services' primary vendor from a very large grower with operations in California, Arizona, and Mexico. Although two dairies that produced organic milk and dairy products (Clover and Straus) were located within 150 miles of the UCSC campus, purchase of organic dairy was not included in the farm-to-college program in 2006–2007 as planned in the 2005/'06 purchasing goals for local, organic, and "socially

just" food. However, 100% of liquid dairy products purchased were bovine growth hormone free (Kolbus et al., 2007). Additionally, neither certified organic meat nor sustainably produced meat was included in the 2006–2007 local sourcing program. According to the 2006–2007 Campus Sustainability Assessment, 75–80% of the seafood served was certified by the Monterey Bay Seafood Watch program (Kolbus et al., 2007).

Both students and dining services chefs were provided with opportunities to meet the MBOFC farmers at special meals featuring local organic produce and sponsored farm visits, including many activities at the UCSC farm. In addition, UCSC offered a wide range of academic and extracurricular programs and activities focused on food systems and related topics. Waste prevention and recycling were also a major component of the UCSC farm-to-college program, including the use of fryer oils for biodiesel fuel. UCSC dining went “tray-less” in 2008, “saving 1,000,000 gallons of water and reducing food waste by nearly 38% in dining facilities” (UCSC Dining, 2008). Green Business Certification was granted to dining services by the City of Santa Cruz and the Monterey Bay Area Green Business Program in 2007 for three of its five dining halls and two of its three cafes. Dining services planned to obtain certification for the remaining dining halls and cafes within a year (Kolbus et al., 2007; University of California Santa Cruz, 2007). In addition, food service workers received higher pay and benefits than they did under the previous food service management company (Farm to Institution New England, 2016).

Purchasing local, sustainable, and socially just food. As indicated above, UCSC's farm-to-college program was successful in purchasing local, sustainable, and "socially just" food. CFSWG developed Purchasing Guidelines in 2004 (the "Guidelines") to assist the new in-house dining services organization in bringing "sustainable food" to campus (see Appendix G for the original 2004 Guidelines and accompanying cover letter, plus the amended 2005 Guidelines). The previous food service management company, a multinational corporation with an institutional approach to food services, had shown no interest in sourcing and serving organic food (Wallace, Galarneau, and Vail, 2004). CFSWG defined *sustainable food* as "food that is locally grown and organically produced by operations that use socially just employment practices" (Guidelines, 2004). This definition addresses all three interconnected principles of sustainable development: healthy economy, healthy environment, and social justice. Purchase of locally grown food would contribute to a healthy local economy by supporting local farmers and reduce carbon emissions by decreasing the distance food would need to travel to reach UCSC. Organic food would promote a healthy environment by eliminating synthetic pesticides and fertilizers that harm beneficial insects, reduce biodiversity, and contaminate water that runs off fields into rivers and the ocean. In addition, farm workers would be freed from dangerous exposure to toxic chemicals used in conventional farming. Finally, socially just employment practices would promote social justice.

The Guidelines laid out criteria for the selection of local organic vendors, as well as the primary vendor, who would provide the majority of the food items to

dining services. The Guidelines required both the primary vendor and the local organic vendors to source from suppliers who paid minimum wage or higher to workers and who provided safe workplaces, as mandated by law (Guidelines, 2004). Local organic vendors were also required to provide certified organic produce produced within 250 miles of Santa Cruz. Preference in selecting a local organic vendor, or vendors, was to be given to price-competitive bids that were “worker supportive,” as defined in the Guidelines. Preference in selecting the prime contractor was to be given to price-competitive bids meeting the greatest number of the criteria in the Guidelines below:

- **Buy local:** Local food is grown within a 250-mile radius of Santa Cruz. Priority is given to growers closest to Santa Cruz.
- **Buy seasonal:** Seasonal produce is produced locally during a given time of the year. Menu items are chosen according to what is locally available during the current season. This ensures that the products are fresher, of higher quality, and more nutritious.¹
- **Buy certified organic:** Chemical residues on non-organic food may be harmful to human health. Organic cultivation also improves environmental health.²

¹ “Buy seasonal” was eliminated as a separate preference in 2005 and incorporated into “Buy local.”

² The definition of “certified organic” was amended in 2005 to the United States Department of Agriculture (USDA) standards to which all organic produce must conform. Organic food grown in the United States must be certified by a third-party agency accredited by the USDA. Chemical residues on non-organic food may be harmful to human health. Organic cultivation also improves environmental health.

- **Buy humanely produced animal products:** Humanely produced animal products are cage-free, range-fed, and antibiotic-free.
- **Buy direct:** Cultivating closer relationships between producer and consumer helps to eliminate middle folk, delivers more income at the farm level, and empowers producers. Direct purchasing also helps to create an educational network among students, researchers, administrators, and producers that facilitates dialogue and fosters awareness of the production chain.
- **Buy certified fair trade:** Certified fair trade products are produced according to an established set of social criteria. Farmers generally use environmentally friendly cultivation methods and are paid per-pound commodity prices above open-market rates to ensure adequate family income. Certified fair trade products are purchased through democratically operated producer cooperatives.
- **Buy worker-supportive food products:** Worker-supportive products are purchased from socially just companies and organizations that incorporate one or more of the following:
 - Have a unionized work force
 - Have a clear, stated, and demonstrated orientation toward social justice and support for labor
 - Actively seek to build the capacity of their workers through the provision of education and training and opportunities for advancement

- Provide technical assistance and superior marketing alternatives to small-scale farmers

The Guidelines also identified annual goals for the purchase of locally grown, organic food from socially just operations by dining services. The goals for academic year 2004/'05 were 1) solicitation of a local organic bid to provide “locally grown, organic food from socially just operations for the UCSC dining halls beginning fall quarter, 2004” and 2) the value of sustainably produced produce will equal 2% of the total value of produce purchased by dining services (Guidelines, 2004; revised 2005).

The goals for academic year 2005/'06 were 1) execution of a local organic contract, 2) solicitation of a vendor to provide organic dairy products, 3) the value of sustainably produced produce will equal a minimum of 10% of the total value of produce purchased, and 4) the value of organic dairy purchased will equal 5% of the total value of dairy purchased. The goals for academic year 2006/'07 were 1) solicitation of a vendor to provide sustainable animal products (other than dairy), 2) the value of sustainable produce and dairy will increase by an additional 5% of total produce and dairy cost, and 3) the value of sustainable animal products purchased will equal a minimum of 2% of total animal purchases (Guidelines, 2004; revised 2005).

Dining services embraced the Guidelines to the extent feasible, eventually meeting all the requirements and preferences for selection of the local organic vendor and, to some extent, two of the preferences, local and organic, in the selection of the primary vendor. A local food distribution company was selected as primary vendor in

2004, and dining services sourced organic produce from the vendor when pricing allowed, but the produce was not sourced locally (Kolbus et al., 2007). Dining services also sourced antibiotic-free and hormone-free meat for the university center's restaurant in 2007, but not for the dining halls (Kolbus et al., 2007). In addition, dining services met the preference for purchasing fair trade since, as the result of a 2003 student initiative, it had already been purchasing certified fair trade coffee through Community Agroecology Network (CAN) (McNulty, 2003).

Dining services was also willing to issue a local organic Request for Quotation (RFQ) in 2004. The issuance of a local organic RFQ presented no special difficulties because “freshness” is a food quality attribute associated with locally sourced food and “organic” is also a food quality attribute (University of California Santa Cruz, 2005). However, including the preference for “worker-supportive food products,” specified in the Guidelines, was not possible in a standard RFQ because a producer's labor practices are not considered to be a characteristic of food. Furthermore, the dining services associate director made it clear that it would be impossible to verify and enforce any labor standards included in an RFQ.

Ultimately, in 2005, dining services entered into a sole source contract with ALBA, the umbrella for MBOFC and a non-profit organization, to provide local organic produce purchased from “worker-supportive” operations. The participating farms were Phil Foster Farms in San Juan Bautista, Coke Farm also in San Juan Bautista, Swanton Berry Farm in Davenport, Happy Boy Farm in Watsonville, New Natives Nursery in Freedom, ALBA in Salinas, and the UCSC CASFS farm located

on campus. A sole source contract provides more flexibility to include special requirements than does a competitively bid contract. The sole source organic RFQ issued by purchasing required that all farms supplying produce be located within 250 miles of campus, be certified organic, and provide a worker-supportive environment (see Appendix J for organic RFQ). All the farms making up MBOFC officially met the local and organic requirements and informally met the “worker-supportive” preference. All the farms were located within 250 miles of the UCSC campus, with the most distant only 50.5 miles away, and all the farms were verified to be certified organic. The MBOFC farms also reported that they provided above minimum wage and at least one additional benefit to their workers or provided training and advancement. The specifics of the difficulties in procuring “sustainable food” and the nuts and bolts of how the problem was addressed via the sole source contract are discussed in more detail in the section on how the farm-to-college program was established.

Table 36

Overview of the MBOFC Farms

Name	Location (Miles from UCSC)	Family Farm	Small Farm (Size)	Sustainably Produced	Safe and Fair Labor Practices
ALBA	Monterey County: 50.5 miles Santa Cruz County: 25.2 miles	No ALBA is a non-profit company	305 acres	Certified organic	Trains farm workers and limited-resource “aspiring farmers” to grow and sell produce
Coke	San Juan Bautista, San Benito County, CA: 35.9 miles	Yes	200 + acres 50 or so employees	Certified organic by CCOF	Pays above minimum wage; offered health care, but workers preferred higher pay.
Happy Boy	Santa Cruz County: 17.4 miles	Yes		Certified organic	
New Natives	Santa Cruz County: 14.8 miles	Yes		Certified organic by CCOF	Pays “good wages”; profit sharing.
Phil Foster	San Benito County: San Juan Bautista 37.5 miles; Hollister: 50.3 miles	Yes	250 acres	Certified organic by CCOF and IFOAM	Pays “fair wages”; benefits”
Swanton	Santa Cruz County: 3.5 to 12.1 miles	Yes	200 acres; 30–35 farm workers, plus managers, sales, farmer’s market, and delivery people: 50 total.	Certified organic by CCOF	Farm workers are union, United Farm Workers, AFL-CIO. Provides health and dental plans, vacation pay, holiday pay, and a pension plan.

UCSC Farm	Santa Cruz County: located on the UCSC campus	No	28 acres	Certified organic by	Unpaid apprentices and paid staff farm the land. Apprentices do not receive benefits other than free housing. Farm staff are university employees and receive wages and benefits.
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The Guidelines did not include a preference for purchasing from small family-owned farms. While the farms included in MBOFC were smaller in acreage, 250 acres or less under cultivation, than the 349-acre average-sized California farm, it was not determined whether the farms were small according to the U.S. Department of Agriculture (USDA) definition, which measures size according to annual sales, not acreage. In 2007, the USDA defined *small farms* as “farms with sales of \$250,000 or less in farm product commodities.” In 2007, 91% of all farms in the United States were small farms (United States Department of Agriculture, 2007). Excluding the campus farm, ALBA, and Swanton, which currently has 10 non-related co-owners, including workers, the farms are family-owned. The USDA Economic Research Service (ERS) considers farms owned by the principal operator or people related to the principal operator by blood or marriage to be family-owned farms; 97.6 percent of all farms in the U.S. fall under the definition of *family farm* (MacDonald, 2014).

Farmer, student, chef, and dining services relations and food education. In the process of establishing the farm-to-college program, strong relationships developed between farmers, students, chefs, and dining services, in line with the form

of sustainable development known as “localization.” The relationships continued to grow as the program developed and members of CFSWG worked closely with dining services to establish and contract with MBOFC and to educate students about eating sustainably.

CFSWG played a large role in creating opportunities for students and chefs to get together with farmers. Before the farm-to-college program was established, chefs participated in a tasting of fresh, locally grown produce at a get-together with local farmers in an event organized by CFSWG. The event was aimed at bringing chefs on board with purchasing local organic produce. Later, during the initial start-up phase of the farm-to-college program, chefs visited the ALBA farm and training center in a CFSWG-sponsored field trip. On the ride back to campus from the ALBA field trip, the chefs enthusiastically discussed how they could create menus using the seasonal vegetables they had seen growing in the fields. The opportunity to cook with freshly harvested produce delivered directly from local farms and to create new seasonal menus and recipes generated chef support for the farm-to-college program that was helpful in cementing the new dining services administration’s backing for the program.

As dining services was working through the requisites for purchasing organic produce directly from local farmers, CFSWG’s Outreach and Education Committee initiated events to bring students in contact with local farmers and to educate students about local organic food. One popular event was a local, organic-themed “Meet-the-Farmer College Night” with produce sourced from the local farms that ultimately

formed MBOFC. Dining services chefs prepared special dishes with local seasonal produce and the farmers attended the event to talk with students and answer questions about their farms and the produce being served. College Night celebrations are special events held throughout the year at the five college dining halls.

In addition, CFSWG held organic strawberry and other food tasting events on campus to expose students to the taste of fresh local produce. CFSWG also assisted other student organizations, including Students for Organic Solutions (SOS), with outreach and educational events around local and organic food. Additional student education was facilitated through associated groups such as Comercio Justo and Community Agroecology Network tabling in the dining halls and events, as well as table tents and posters placed in the dining halls by dining services.

Opportunities for students to visit a farm were provided by CASFS, which holds an annual open house at the campus farm and sponsors other special farm events, including docent and self-guided farm tours. Several Environmental Studies courses use the farm for field work. Students also take part in research projects at the farm. Education for Sustainable Living (ESLP) offered a five-unit action research course on food systems that supported CFSWG projects on campus (Kolbus et al., 2007). Additionally, dining services and CFSWG partnered with one of the 10 colleges on campus to support a freshman core course that provided hands-on opportunities for students to experience the life cycle of produce by harvesting crops on the campus farm, delivering the produce to their college dining hall, collecting post-consumer food scraps, and composting.

Why and how the UCSC farm-to-college program was established.

Program roots. While the UCSC farm-to-college program was not initiated until 2004, the roots of the program extend back to the era when the French food service company, Sodexo, one of the largest food service companies in the world, ran the food service on the UCSC campus. Not only were many students unhappy with the institutional-style food served by Sodexo, which had merged with Marriot Management Services in 1998, but some students were dissatisfied with its lack of interest in a campus sustainable food system. During the 2003 Campus Earth Summit, Students for Organic Solutions (SOS) attempted to interest Sodexo in the advantages of purchasing local organic produce, but were unsuccessful (Wallace, Galarneau, and Vail, 2004). At the same time as SOS was attempting to gain support for local organic food, UCSC's Students for Labor Solidarity and campus labor unions, unhappy with Sodexo's labor practices, organized a successful campaign to "dump Sodexo." According to a February, 2003, *Sentinel* article, students initiated the campaign to dump Sodexo because the wages paid to food service workers at UCSC by Sodexo were lower, by as much as 16%, than those paid to food service workers at University of California at Berkeley (UCB) and other UC campuses where dining services were self-operated. Furthermore, UCB food service workers received full health benefits, while Sodexo food service workers had to purchase expensive health insurance (Gumz, 2003).

More than 125 students, union members, and food service workers rallied in front of McHenry Library on February 14th and presented UCSC administrators with

petitions signed by over 2,400 students demanding that the university cancel Sodexo's contract by June. Other demands included providing food service in-house and making food service workers university employees. Initially UCSC Vice Chancellor Francisco Hernandez told students the administration planned to spend a year developing a master plan for all food service and determining whether to contract for food service or to operate food service in-house (Gumz, 2003). But, after six months of student campaigning, the administration agreed to terminate Sodexo's 30-year contract with the university by June, 2004, and to provide food service in-house. "This transition to a 'in-house' service structure opened a crucial avenue to working with the university administration in designing a more sustainable food system" (Wallace, Galarneau, and Vail, 2006).

Establishing the farm-to-college program. The turning point in establishing the UCSC farm-to-college program occurred at the 2004 Campus Earth Summit. Working groups were set up to brainstorm strategies to promote the development of UCSC's "Blueprint for a Sustainable Campus." One of the "Blueprint" areas tackled was campus food systems and social justice; another was waste reduction (UC Santa Cruz Currents online, 2004). The Food System Working Group, which was composed of students, faculty, representatives of student and community organizations, and staff, including the newly hired associate director of dining services, was facilitated by SOS, the student organization that had tried to interest Sodexo in serving local organic food. I participated in the working group as a representative of the newly formed Education for Sustainable Living program. The two top strategies identified

for bringing local, organic, and “socially just” food to campus dining halls were 1) to develop dining services guidelines for purchasing local, organic, and “socially just” food and 2) to educate and organize students to demand local, organic, and “socially just” food in the dining halls. Ultimately, both strategies were employed in bringing about the establishment of the UCSC farm-to-college program.

The working group, subsequently known as the Campus Food Systems Working Group (CFSWG), scheduled follow-up meetings after the Earth Summit to discuss implementation of the two strategies. The first meeting, held March 1, 2004, was attended by representatives from a number of campus and community organizations and UCSC students. The associate director of dining services attended many of the meetings as well. A core group of highly motivated participants formed from among representatives of the following organizations:

- **Center for Agroecology & Sustainable Food Systems (CASFS):** A research, education, and public service program located at UCSC. CASFS operates an apprenticeship program that provides training in organic farming. Its mission is to “advance sustainable food and agricultural systems that are environmentally viable, socially responsible, non-exploitive, and that serve as a foundation for future generations” (Center for Agroecology & Sustainable Food Systems, 2014).
- **Comercio Justo:** A UCSC student group that focuses on fair trade. The organization, in partnership with the Community Agroecology Network, successfully spearheaded a 2003 student campaign to bring certified fair trade

coffee to UCSC dining halls and campus-operated coffee carts, thereby initiating UCSC's involvement in sustainable food (McNulty, 2004).

- **Community Agroecology Network (CAN):** A U.S. non-profit organization that partners with community-based organizations to promote local approaches to sustainable development in Mexico and Central America, including agroecological farming practices and “fair” marketing options (Community Agroecology Network, 2014). CAN fair trade coffee has been served in UCSC dining halls since 2003 when CAN and Comercio Justo spearheaded a student campaign convincing the UCSC director of residential and dining services to begin offering the coffee in dining halls and campus-operated coffee carts (McNulty, 2004, University of California Dining, 2015).
- **Community Alliance with Family Farmers (CAFF):** A 501C3 non-profit organization “that advocates for California’s family farmers and sustainable agriculture” (Community Alliance with Family Farmers, 2015). CAFF has five regional offices, including one in Watsonville (Community Alliance with Family Farmers, 2015)
- **Students for Organic Solutions (SOS):** A group of students “committed to raising awareness of the [negative] impacts of our current food system” and promoting more sustainable food practices through on-campus activities (Students for Organic Solutions, 2014). SOS attempted to convince the previous dining services administration to serve organic food in the dining halls.

- **Program in Community & Agroecology (PICA):** A “living-learning program” that maintains a half-acre garden using agroecological principles. The garden is located on campus. The group provides seminars, internships, and workshops that provide ways for students to explore sustainable agriculture and living (Program in Community and Agroecology, 2014).
- **Education for Sustainable Living (ESL):** A student-led class and lecture program initiated by students on four University of California campuses in 2003. Presentations on various aspects of sustainable living are provided by often very well-known authors and activists. ESL credited action research classes addressing sustainable food systems and other sustainability topics are led by students.
- **Student Environmental Center (SEC):** A registered student organization, founded in 2001, that works in collaboration with the university to implement environmentally sound practices on campus. SEC sponsors “campaigns” on campus, including SOS. SEC also sponsors the Campus Earth Summit each year where the current status of sustainability on campus is discussed and the “Blueprint for a Sustainable Campus” is updated. Both CFSWG and the goal of developing Purchasing Guidelines to guide dining services toward the purchase of “sustainable food” emerged out of the 2004 Earth Summit (UCSC Student Environmental Center, 2015).

The individual missions of the organizations represented by this group were closely aligned with the goals of CFSWG, as evident in the above descriptions, and

participants were willing to contribute considerable time and effort to bringing local, organic, and “socially just” food to campus dining halls. A few of the organizations’ representatives had previously worked with the director of dining services and housing to promote organic and fair trade food and brought with them strategies for gaining dining services acceptance of CFSWG goals.

CFSWG eventually divided into two subcommittees aimed at implementing the two strategies adopted at the Earth Summit: 1) the development of Guidelines and 2) educating and organizing of students. I spearheaded the development of the Guidelines. During the first few months, the primary focus of the entire group was the development of Guidelines and goals to guide dining services in bringing “sustainable food” to campus dining halls (see Appendix G for the Guidelines). The associate director of dining services collaborated with CFSWG in developing these Guidelines.

As mentioned earlier, the group defined *sustainable food* as “locally grown food, organic food, and food purchased from socially just operations, including fair trade.” The group also identified purchasing preferences: local, seasonal, organic, humanely produced, direct, certified fair trade, and worker-supportive products. Based on the strong support for certified organic food among the organizations participating in CFSWG, including CASFS, SOS, PICA, and SEC, and its ready availability, there was never a question about including “organic” in the definition of *sustainable food*. As mentioned above, SOS had unsuccessfully tried to interest the previous food service management company in serving organic food in campus dining halls in 2003 and was still very committed to achieving this goal. The

inclusion of “social justice” in the definition of *sustainable food* was also strongly supported by all the participating organizations. Social justice was the primary goal of Comercio Justo and one of the goals of CASFS, whose mission includes advancing sustainable food that is socially responsible and non-exploitative. Furthermore, the ouster of the previous food service management company was triggered by student protests against the company’s unfair labor policies and support for social justice was still widespread among the student body.

In addition to defining *sustainable food* and identifying preferences for selection of food vendors, CFSWG considered models for bringing sustainable food to UCSC dining halls. Research indicated that nearby Stanford University had already found a way to achieve this goal in 2003 by forming a partnership with ALBA (Agriculture and Land-Based Training Association) to purchase local organic produce (Stanford Dining and Stanford Hospitality & Auxiliaries, 2010). ALBA trains farm workers and limited-resource “aspiring farmers” in organic farming and serves as a distributor (via ALBA Organics) for the organic produce they grow. CFSWG invited ALBA to a CFSWG meeting to describe their program and partnership with Stanford University.

After the meeting, the new associate director of dining services communicated that, rather than entering into a sole source contract with ALBA, he preferred to “competitively bid locally produced items” so local producers not affiliated with ALBA would not be left out (S. Berlin, personal email communication, April 18, 2004). The associate director outlined his plan to put the prime contract to bid and

then to solicit bids for “organic only” from a list of local farmers CFSWG had offered to compile. The associate director also explained that he was requesting both regular pricing and organic pricing from major bidders so he could evaluate what organic food items dining services could afford to serve, including dairy. He further explained that the major bidders sourced organic locally, so purchasing from them would support the local economy as desired by CFSWG. But, because of purchasing’s inability to include a requirement that organic food be sourced from “socially just” operations in a standard RFQ, CFSWG was concerned there could be no assurance that the products supplied would be sourced from operations with worker-supportive labor practices.

The Guidelines had not yet been finalized and the CFSWG met again over the next two weeks to develop operational definitions for their proposed purchasing preferences: *local, seasonal, organic, humanely produced, direct, certified fair trade, and worker-supportive products*. While the group initially favored a narrower definition, they finally adopted a definition of *local* based on food grown within 250 miles of campus in order to allow for the purchase of a wider variety of fruits and vegetables, including citrus, not grown in the immediate area. *Locally produced food* is “seasonal food” by definition, and in the 2005 revision of the Guidelines, “seasonal” was folded into the “local” preference. *Certified organic* did not require an operational definition because the U.S. Department of Agriculture (USDA) has standards that all organic food must meet through a third-party verification process. *Humanely produced* does not have a standard meaning or certification and was more

difficult to define. The group settled on an operational definition focused on the animal's living environment: cage-free and range-fed. Antibiotic-free was also included in the definition since antibiotics are often given to healthy animals to compensate for stressful living conditions and therefore were considered to be an indicator of stressful living conditions and inhumane treatment. *Purchasing direct* was understood to mean procuring farm products directly from farmers or through an organization directly representing the farmers who produced the farm products. Like organic, *certified fair trade products*, which are produced in developing countries, are verified to meet certain environmental, labor, and development standards by a third-party certifier. It was difficult to define *worker-supportive products*, which was the preference for "socially just employment practices," since the characteristics of *worker supportive* are not legally established. The group felt it was important to include a preference for worker-supportive products because farm workers do not receive all of the benefits and protections afforded other workers under U.S. labor law. Borrowing from ALBA and Swanton Berry Farm, *worker-supportive products* were initially defined as "products purchased from companies that either had a unionized work force like Swanton Berry Farm or incorporated one or more of ALBA's values/services, including providing training, having a stated orientation toward social justice, or providing technical assistance and marketing alternatives to new small farmers." The definition was later changed in 2005 to include one or more of the following practices: paying a living wage, providing benefits to workers, and building the capacity of workers through education and training, opportunities, or

advancement. Understanding that dining services could not bear the responsibility of verifying and enforcing safe and fair working conditions, whether or not mandated by law, it was also decided to include a requirement in the Guidelines that all vendors under the prime contract or the local organic contract pay minimum wage or higher to workers and provide a safe workplace, as required by law (Guidelines, 2004).

Before presenting the Guidelines to dining services, CFSWG wrote a cover letter to the director of residential and dining services and the associate director of dining services to accompany the Guidelines. The letter listed the organizations represented in the CFSWG and outlined what it hoped were compelling reasons why purchase of sustainable food by dining services was important. Purchase of sustainable food by dining services was identified as a priority for the following reasons: 1) to provide students with healthier, fresher food; 2) to support the local economy by purchasing food grown by local farmers; 3) to reduce the use of fossil fuels and CO₂ emissions by reducing the distance food must be transported to UCSC; 4) to reduce local use of chemical fertilizers and pesticides by supporting organic farmers; 5) to support socially just treatment of farm workers by requiring growers to provide safe working conditions and to pay minimum wage; and 6) to support producer cooperatives in the global South through purchase of fair trade goods that provide a living income to members by cutting out middlemen and reducing the distance between producer and consumer (Guidelines cover letter, 2004). The letter also pointed out that the purchase of sustainable food reflected changes in American food preferences and values, and was an emerging food trend on college and

university campuses across the United States. In addition, the letter listed some of the universities and colleges that were spearheading the trend and stated that UC Santa Cruz should be taking a leadership role in the campus sustainable food movement.

The Guidelines and cover letter were formally presented to the director and associate director of UCSC's dining services by the director of CASFS, Carol Shennan, on behalf of CFSWG. Dr. Shennan was selected to present the Guidelines because of her standing on campus as director of CASFS. The letter was signed by myself, Linda Wallace, MA, coordinator, CFSWG and Education for Sustainable Living; Carol Shennan, Ph.D., director, CASFS; Patricia Allen, Ph.D., associate director, CASFS; Serena Coltrane-Briscoe, coordinator, Farm-to-School Project, CAFF; Liv Nevin, coordinator, Buy Fresh, Buy Local Campaign, CAFF; Stephen R. Gliessman, Ph.D., professor, Environmental Studies Department, and co-director, CAN; Robbie Jaffe, co-director, CAN; Troy Henri, internship coordinator, CAN; Tony LoPresti, organizer, Comercio Justo; and Heather Clegg-Haman, coordinator, SOS. The signers represented organizations that were members of CFSWG and whose signatures affirmed their organization's support for the Guidelines.

Immediately after the Guidelines were finalized, Comercio Justo and CAN launched an education and outreach campaign, "Sustainability with Soul," they had been planning in conjunction with CFSWG to obtain student support for the Guidelines and purchasing goals. Students were asked to endorse the Guidelines by signing a postcard that summarized the Guideline preferences and goals. By signing the postcards, students endorsed the "path to sustainability" represented by the

Guidelines and purchasing goals, including a meal plan fee increase of up to 2% per year. (See the Sustainability with Soul postcard in Appendix I.) Student signatures were collected in ESL classes and throughout the campus. Comercio Justo and CAN had previously used postcards signed by students in their successful 2003 campaign to convince the director of dining services to serve CAN fair trade coffee in the dining halls (McNulty, 2005). CFSWG understood that it would be necessary to provide evidence to dining services that student meal plan holders were in support of the Guidelines, not just the organizations that were members of CFSWG. At the conclusion of the campaign, student leaders presented dining services with 2,000 signed postcards from meal plan holders.

The backing of students, faculty, and administration secured by CFSWG and its member organizations was crucial in obtaining dining services' support for the Guidelines. As a result of its collaboration with CFSWG and the support shown by faculty and students, dining services agreed to follow the Guidelines in issuing Requests for Bids (RFBs) to supply food for the dining halls in the 2004–2005 academic year, including a prime contract to supply most of the food and a secondary contract for local organic produce. Purchasing is responsible for issuing RFBs and Requests for Proposals (RFPs), and dining services is purchasing's "customer."

As indicated earlier by the associate director, both regular pricing and organic pricing would be solicited from major bidders in order to evaluate what organic food items dining services could afford to serve, including dairy. Honoring the preference for local, dining services selected Ledyard, a locally based distributor, in summer

2004, as its primary food vendor. Although Ledyard did not have experience sourcing local organic produce, the distributor agreed to supply organic salad mix, spinach, and apples in fall 2004, to supplement the organic produce that would be provided through the local organic contract(s). However, the local organic contract proved much more difficult to accomplish than anticipated, due in part to the problem of using “worker supportive” as a preference under University of California (UC) purchasing regulations. “Worker supportive” is not an attribute of food and cannot be a bid requirement for food supplied to a University of California facility. RFP/RFBs and contracts needed to map to laws and UC purchasing policies. In addition, dining services was deeply involved in the logistics of the huge transition it was making from Sodexo management to self-management, and the local organic contract was not critical to the operation of dining services, as was the prime contract. Consequently, sourcing of local organic food from socially responsible producers did not commence in fall 2004, as hoped (Wallace, Galarneau, and Vail, 2006).

Local bid and establishment of the farmers’ collaborative. In addition to the issue with using “worker supportive” as a preference in a competitive bid to select a local organic vendor, purchasing had difficulty identifying distributors who sourced organic produce from local farmers. Most sourced primarily from large growers whose farms were located all over California as well as out of state (UCSC Purchasing, 2005). Sourcing directly from small local organic farmers also presented problems. Individual small farmers might not be able to provide the quantity and variety of produce required by dining services that could result in having to purchase

small volumes of produce from many small farmers and accommodating numerous small deliveries, as well as spending added administrative time ordering and processing invoices from the various small farmers. In addition, small farmers would likely have difficulty meeting insurance requirements and waiting 30 days to be paid.

Addressing these issues favored doing business with one producer capable of meeting all purchasing requirements. Despite the associate director of dining services' initial hesitancy to enter into a sole source contract with ALBA, the purchasing buyer for dining services suggested that multiple goals could be achieved through a sole source contract with a local farmers' cooperative that was linked to CASFS. This would include 1) the Guidelines' local organic bid requirements, including the preference for products purchased from "worker-supportive" operations; 2) the associate director's desire not to leave out local organic farmers not associated with ALBA; and 3) the advantages of doing business with one entity. "Worker supportive" could be included in a sole source contract because it would tie back to the type of research carried out at CASFS, which includes social justice within food systems (Y. Macon, personal communication, January 23, 2015).

Because a sole source contract means that only one company can meet the contract requirements, a competitive bid is unnecessary. The sole source contract with a farmers' cooperative concept spurred the formation of MBOFC, the local farmers' consortium. Interested farmers were identified by CAFF, a CFSWG member and California non-profit organization that advocates for sustainable agriculture and family farmers that it assists with distribution and marketing. ALBA and one or two

of the other future MBOFC farms had already participated in two “College Nights” featuring the farmers and their local organic produce, as well as the chef tasting and get-together with the local farmers in 2004.

These are the seven original MBOFC farms. All had a strong commitment to ecological farming practices and worker-supportive labor practices.

1. **Agriculture and Land-Based Training Association (ALBA):** ALBA is a non-profit organization that trains limited-resource farm workers in organic farm production and related skills, including marketing, required to operate a small farm business. Its mission is “to advance economic viability, social equity, and ecological land management among limited-resource and aspiring farmers” (<http://www.albafarmers.org/>, accessed 10/7/14). ALBA owns and operates two training farms in Monterey County. One 110-acre farm is located near Salinas, 50 miles from UCSC, and includes a resource center with a classroom and a produce cooler and distribution facility. This is where beginning farmers learn to farm organically in a nine-month training course. The other farm, located near Elkhorn Slough 25 miles from UCSC, is a 195-acre property with a conservation easement that allows only 60 acres to be cultivated. At this location, land is leased to local Latino farmers trying out new farming strategies with technical assistance from ALBA. Farmers in this “incubator” program can grow and sell their produce as certified organic under ALBA’s certification. In addition to the training programs, ALBA

now has a new cooler and warehouse in Watsonville, where its main office is located. ALBA distributes produce through ALBA Organics, a licensed produce distributor, established by ALBA in 2002 to support the sales needs of the beginning farmers it trains. ALBA Organics sells produce directly to institutions, including universities, as well as other buyers (Agriculture and Land-Based Training Association, 2014).

2. **Coke Farm:** Coke Farm is a 200-acre family farm located in San Juan Bautista, San Benito County, California, approximately 36 miles from UCSC. Coke Farm has been organic since it was established by Dale Coke, one of the founding members of CCOF, in 1981. Coke Farm grows over 50 varieties of organic seasonal fruits and vegetables year round. It markets its produce both locally and nationally. In addition, Coke cools, stores, and ships produce for other small and mid-size organic farms in the area. Dale Coke has a long history of concern about social and environmental issues related to organic farming (Coke Farm, 2014).
3. **Happy Boy Farms (Happy Boy):** Happy Boy Farms is based near Watsonville in Santa Cruz County approximately 17.4 miles from UCSC. The farm was established over 10 years ago by Greg Beccio, who has been farming organically in the Central Coast area of California for over 20 years. Happy Boy also farms multiple plots in neighboring counties. The variation in micro-climates between fields enables Happy Boy to grow a wide variety of specialty row crops, including baby mixed salad greens,

melons, peppers, and herbs. All crops harvested are washed and packed by hand and personally delivered to restaurants, farmer's markets, and grocery locations in the Bay Area to ensure freshness. According to the Happy Boy website, "The achievements and prolonged existence of the farm are directly due to the dedication and enthusiasm of the Happy Boy employees, some of whom have been with the farm since its beginnings ..." (Drew, 2014).

4. **New Natives/Greensward Nurseries:** The New Natives greenhouse-based farm is located in Corralitos 14.8 miles from UCSC. It was founded in 1980 by Ken Kimes and Sandra Ward, who grow certified organic and sustainably farmed micro greens and wheatgrass. According to an interview with Kimes and Ward in *Cultivating a Movement: An Oral History of Organic Farming and Sustainable Agriculture on California's Central Coast*, workers at New Natives are paid well, mostly work week days only, and share in company profits (Kimes & Ward, 2007).
5. **Phil Foster Ranches:** Phil and Katherine Foster farm 250 acres of certified organic vegetables, melons, and fruit on two ranches: a 50-acre ranch near San Juan Bautista, approximately 38 miles from UCSC, and a 200-acre ranch near Hollister, California, 50.3 miles from the UCSC campus. Cool season crops, such as lettuce and cabbage, are grown in Hollister, and hot season crops, such as sweet corn, bell peppers, garlic, and onions, are grown in San Juan Bautista. The Fosters incorporate many

environmentally sensitive practices on their farms, including building the soil with cover crops and compost and minimizing the use of sprays by utilizing biological pest control, thereby attracting beneficial insects, decreasing water consumption by using drip irrigation when possible, and by using biofuel to operate vehicles and solar panels to replace electricity generated from fossil fuel. The Fosters include social justice in their practices by “paying our employees a fair wage and benefits, and treating them with respect” (Phil Foster Ranches, 2014).

6. **Swanton Berry Farms (Swanton):** Swanton operates on leased land situated in five locations along the coast in Santa Cruz and San Mateo Counties, and two of the locations are U-pick sites. The farm where most of the strawberry production takes place is Wilder Ranch, located about 3.5 miles from UCSC. According to the Center for Urban Education about Sustainable Agriculture (CUESA), Swanton farms about 80 acres in total (CUESA, 2014). Swanton Berry Farms was founded by Jim Cochran and Mark Matze in 1983. Cochran approaches farming from the “social justice” angle, as he explains in a 2007 interview with Ellen Farmer in *Cultivating a Movement: An Oral History of Organic Farming and Sustainable Agriculture on California’s Central Coast*: “That was what I was interested in: finding a way for farm workers to get a better deal in the system” (Cochran, 2007). Matze moved on and Swanton now has nine co-owners in addition to Cochran. In 1987, Swanton became the first

strawberry farm to be certified organic in California. A little more than a decade later, in 1998, Swanton became the first organic farm to sign a union contract, United Farm Workers, AFL-CIO. Cochran believed that fair treatment of farm labor “was an issue that was not being addressed in any formal way by the other farms, and [he] felt like it was really important to do that” (Cochran, 2007). Swanton now offers a health and dental plan, paid vacations and holidays, a pension plan, and a stock bonus plan to workers. The stock bonus plan enables key employees who have made valuable contributions to eventually become co-owners of the farm (Cochran, 2007). But the cost of incorporating social justice into Swanton’s farm practices has been high. Cochran thinks that the costs of union wages and the benefits Swanton provides are “probably 20% higher than other farms’ [labor] costs” (Cochran, 2007).

7. **UCSC Farm:** The 25-acre farm is located on campus and operated by the Center for Agroecology & Sustainable Food Systems (CASFS), a research, education, training, outreach, and service center within the Division of Social Sciences at UCSC. The Center also operates a three-acre garden. The CASFS Farm & Garden Apprenticeship in Ecological Horticulture provides 300 hours of classroom training and 700 hours of hands-on training in small-scale organic farming and gardening for participants in a six-month course at the UCSC Farm and Garden. In addition, CASFS supports research primarily focused on improving

organic farming practices and increasing the sustainability of the local food system (Center for Agroecology & Sustainable Food Systems, 2014).

Representatives of the farms met at the CAFF office in Watsonville and discussed the idea of a cooperative. The farms were not interested in formally establishing a cooperative, but were willing to form a collaborative to supply local organic produce to UCSC dining services. ALBA offered to act as an umbrella for the consortium, taking orders, aggregating and delivering produce from member farms to campus dining halls three or four times a week, invoicing the university, and distributing payments to the farmers. Since ALBA already had a produce cooler and distribution facility, located at its Salinas farm, and distributed produce grown by its trainees to Stanford University and other institutions, the MBOFC farmers agreed that ALBA was the best qualified among the group to act as the single point of contact for conducting business with the university. In addition to supplying fresh, locally grown, sustainably produced, organic produce to dining services through a direct connection with small local farms, CASFS wanted to establish a collaborative relationship with the farmers' cooperative in order to support field research. UCSC purchasing issued an Organic Produce RFQ on July 20, 2005 (see UCSC RFQ Organic Produce Alba Organics in Appendix J), requesting a quote for organic produce from a vendor meeting the following criteria:

- Qualify as a “farmer cooperative” whose business structure will reflect a “single entity” for the purpose of conducting business with the university.

- All farms within the “cooperative” (both present and future) agree to a collaborative relationship with the UCSC Center for Agroecology and Sustainable Food Systems for the purpose of supporting field research.
- Farmers/members of the cooperative (both present and future) meet the specifications-defined sustainability criteria: 1) local—250-mile radius of the university; 2) organic—must be CCOF certified or equal; 3) employment practices—must conform to all applicable state, federal, and local laws, as well as provide a “worker-supportive” environment. *Worker supportive* is defined as including one or more of the following: programs that provide training, education, advancement, and/or childcare; a living wage, defined as union or prevailing wage; and benefit packages that would be typical of a unionized workforce in this specific industry.
- Are able to, and agree to, comply with all requirements concerning ordering, invoicing, and reports, including product lists indicating the farm of origin to ensure sustainability criteria were met.
- Agree to delivery requirements as outlined three days per week and agree to work with UDS management when adjustments must be made.
- Agree to sales representation that will provide the services as listed, including working with the executive chef to request “specific planting cycles for desired produce.”

- Are able to limit shortages to the percentages listed—minimum of 6%—and will notify each ordering unit of any shortages or substitutions per the requirements (UCSC Central Purchasing, 2005).

ALBA responded to the RFQ and met all of the above criteria. Purchasing then prepared the justification for a sole source contract with ALBA, required by the California Public Contract Code for Purchases over \$50,000, when only one supplier can provide a product or service that meets the needs of the university (California Public Contract Code Section 10507, as reported in the UCSC Sole Source Justification Form for Purchases over \$50,000, 2005). (See Appendix K for the form.) The contract and purchase order needed to be in place by mid-to-late August, 2005, in order to begin trial runs and establish routines by September. The justification noted that four other vendors under consideration could not provide direct purchasing, support the research relationship with CASFS, or grow crops specifically for UCSC. Purchasing also priced ALBA against two of the other vendors and indicated its intent to establish fixed pricing that would be negotiated twice a year with MBOFC to cover the spring/summer growing period and the fall/winter growing period (UCSC Purchasing, 2005).

After purchasing entered into the sole source contract with ALBA on behalf of dining services, the next hurdle was finding price points both purchasing and MBOFC could accept for the farmer's produce in each of the growing periods. Members of the consortium put together a combined list of in-season crops available for sale to dining services in fall/winter and provided the list to purchasing. The

consortium members also discussed among themselves and agreed upon a price, which included ALBA's overhead cost, they would be willing to accept for each produce item. Purchasing pulled reports for the same produce (only conventional) being offered by ALBA/MBOFC from the previous year and decided what premium dining was willing to pay over conventional. Dining was willing to pay 20% over conventional. Then a meeting was held between MBOFC and purchasing's buyer for dining services to negotiate pricing and select the organic produce items dining services could afford and wanted to purchase for the fall/winter growing season. This process is followed twice a year to establish fixed pricing for the spring/summer and fall/winter growing seasons. Organic pricing was very inconsistent at the time. If the price was too high, for example, for broccoli, purchasing asked if MBOFC would lower the price if dining purchased all the broccoli dining services needed, not just the local organic portion, from ALBA. In the case of the broccoli, MBOFC grew broccoli especially for dining services and gave a price to purchasing equal to or a little lower than conventional (Y. Macon, personal communication, January 23, 2015).

Orders were placed with ALBA by each of the campus dining halls and the restaurant. ALBA sourced the orders from MBOFC and delivered the orders to each of the eight dining units three to four times a week (UCSC Central Purchasing, 2005). The CASFS Farm delivers its own produce to campus. ALBA invoices purchasing for the orders and is paid out of dining services' budget. ALBA then pays the MBOFC farmers for the produce sourced from their respective farms. Dining services' chefs

also work with MBOFC to grow crops that fit the needs of dining services (Wallace et al., 2006).

Helps and hindrances to establishing the farm-to-college program. There were numerous conditions and circumstances that supported the establishment of UCSC's farm-to-college program, both environmental and cultural. The weather in Santa Cruz and adjacent counties is mild and allows produce to be grown year round. Many farms in the area were certified organic and there was ample availability of organic produce. CASFS was located on the university campus and was a leader in promoting sustainable food systems. Santa Cruz was also prominent in the local organic food movement and was the headquarters of CCOF, an organic certification and trade agency. Student organizations on campus had a history of advocacy and organizing to promote organic food and fair trade coffee in dining halls and fair wages for food workers. Student advocates had successfully campaigned to "dump" the previous management company and gained a commitment from the chancellor to bring dining services in-house.

Timing was critical in facilitating the establishment of the farm-to-college program. The change to in-house dining services management coincided with the Campus Earth Summit and discussion of how to bring sustainable food to campus dining halls. The new associate manager of dining services attended the Campus Earth Summit, participated in the discussion, and witnessed the support among professors, student and community organizations, and students favoring local, organic, and "socially just" food. The outcome of the food discussions was the

formation of the CFSWG and the development of the Guidelines for purchase of local, organic, and "socially just" food by dining services. Dining services received the Guidelines prior to putting supplier contracts out to bid, so CFSWG and student organizers had an opportunity to shape dining services' purchasing practices.

A tenacious commitment to achieving goals, subject matter expertise, and experience in student organizing on the part of CFSWG also contributed to gaining dining services' support. The students and organization representatives that formed the core group of CFSWG were dedicated to bringing sustainable food to campus and were willing to meet and contribute their time as much as necessary. Several members brought experience and strategies for working with the director of dining services and housing and organizing students in support of fair labor practices and purchase of fair trade coffee. They were also skilled in making the demand for sustainable food something students cared about and campus media were interested in covering. One member of the core group had close connections with local organic farmers, while others were very knowledgeable about organic and sustainable food and skilled in educating students and staff.

Concrete demands and collaboration were instrumental in gaining dining services' support for sustainable food. The Guidelines clearly outlined the purchasing requirements and preferences CFSWG wanted dining services to adopt and provided concrete purchasing goals. The Guidelines were developed through a collaborative process that included dining services. The relationship between CFSWG and dining services was friendly and cooperative. Student organizing was aimed at providing

dining services with sufficient student and staff support to justify purchasing local, organic, and worker-supportive food.

Among the conditions and circumstances facilitating the establishment of UCSC's farm-to-college program were a few impediments and issues related to the implementation of the Guidelines, including purchasing worker-supportive products, buying direct, buying certified organic, and buying local.

Purchase of worker-supportive products. UCSC purchasing regulations did not allow the selection of food vendors based on treatment of workers. Because of the need to develop the Guidelines quickly before dining services selected a primary vendor and other secondary suppliers, CFSWG did not have enough time to research UC purchasing policies and understand the problems associated with requiring suppliers to source from worker-supportive operations or to identify ways around the problem. Nevertheless, it may have been beneficial for CFSWG to persistently and naively press for the inclusion of worker-supportive standards in food vendor selection criteria, rather than watering down or eliminating them, since a solution was eventually identified. However, if purchasing had been brought in earlier to resolve the problem, the solution may have emerged in less than the year it took to realize a sole source contract with a farmers' cooperative that would allow worker-supportive employment practices to be required. Another barrier to including worker-supportive employment practices in farm-to-college purchasing requirements was the inability of dining services to verify compliance of suppliers without third-party certification of

fair labor practices or the resources for dining services to, at minimum, verify the labor practices of local vendors itself.

Buying direct. According to one of the representatives from one of the farm members of MBOFC, as reported in a 2006 *Cultivar* article, ALBA's role as umbrella for MBOFC prevented some of the farmers from having as "much of a direct relationship with campus" as they would have liked (Wallace et al., 2006).

Buying certified organic. While purchase of organic produce in the amounts large enough to meet the Guidelines' purchasing goals was achieved, the purchase of organic dairy products and meat proved to be much more difficult to achieve due to the greater price differential between organic and conventional meat and dairy products. In the 2007 UCSC Campus Sustainability Assessment, dining services reported "buying only food that is local and organic; particularly dairy and meat, is prohibitively expensive" (Kolbus et al., 2007).

Buying local. The inability of dining services to accommodate purchases from small local farmers was a barrier to purchasing directly from the many small organic farmers in the area. The logistics of receiving numerous deliveries from various farmers was impossible to work out, and purchasing did not have the resources to order from numerous farmers and process their invoices. Additionally, many small local farmers would not have been able to meet UCSC's insurance, invoicing, reporting, and inside and outside sales representation requirements. While the obstacles associated with purchasing from numerous small local farmers were

addressed by the establishment of a farmers' collaborative, and the contract with ALBA to pool and deliver produce from the farmers, farmers were initially required to deliver their produce to ALBA's cooler and storage facility in Salinas, 56 miles from campus, a greater distance away from the UCSC campus than several of the farms. This problem has since been corrected with ALBA's move to a warehouse and cooler in Watsonville about 20 miles from campus.

Expansion of the program. In the 2007 UCSC Campus Sustainability Assessment, dining services noted a number of opportunities and recommendations it wished to pursue. A couple of these related to local organic purchases: 1) to undertake a targeted assessment for increasing both local and organic purchases and 2) to explore opportunities for increasing the proportion of produce that is local and organic. Many of the recommendations were directed at waste reduction, including 1) to explore on-campus composting, 2) to purchase only compostable to-go containers, 3) to explore a ban on plastic water bottles, and 4) to discontinue providing individual stir sticks and other individually wrapped items to diners. Recommendations to reduce greenhouse gas emissions and improve energy efficiency were also made: 1) to calculate carbon emissions related to food procurement and identify opportunities to reduce the emissions and 2) to install hood ranges with sensors to turn them off when the range is not in use.

Hamilton College Farm-to-College Program

The local landscape. Hamilton College is a historic small liberal arts college located in Oneida County, New York, 1.5 miles from the village of Clinton and approximately 50 miles from Syracuse, in an area with “severe winters, no dry season, warm summers, and strong seasonality” (ClimaTemps, 2014). See the Plant Hardiness Zone Map below showing average minimum temperature for Oneida County. The growing season is shorter, approximately mid-May to mid-September, with a later harvest and a longer cool-weather crop season than regions situated further south (Watson, 2014; Sunset, 2015). “While agriculture, particularly dairy farms, continues, Clinton is not the bustling farming hub of a hundred years ago” (Village of Clinton, 2015). According to the 2007 USDA Agricultural Census, 1,013 farms were located in Oneida County, 873 of which were owned by a family or individual. There were 36,352 farms in the state, 30,621 of which were owned by a family or individual, and 225 farms in Oneida County hired farm labor, approximately one-quarter of all farms in the county. The majority of farms in the county were engaged in crop production (other than vegetables or grain), raising dairy cattle for milk production. Dairy cattle are very sensitive to heat and thrive better in cooler climates (United States Department of Agriculture, National Agricultural Statistics Service, 2007; Key & Sneeringer, 2014). There were 827 certified and exempt organic farms in New York State in 2008 with 168, 428 acres under organic cultivation, making New York the state with the fourth largest number of organic farms in the United States (United States Department of Agriculture, National Agricultural Statistics Service, 2008).

The Northeast Organic Farming Association of New York (NOFA-NY), which lists more than 700 organic farms and producers in its organic and local food farm guide, promotes sustainable, local, organic food and farming in the state (Northeast Organic Farming Association of New York, 2015). The Center for Agricultural Development and Entrepreneurship, a non-profit that provides technical assistance and services to New York farms, works to build the local food system and increase the production of sustainably produced food.



Figure 4. New York USDA Plant Hardiness Zone Map showing average annual extreme minimum temperature for Oneida County, where Hamilton College is located. Source: <http://planthardiness.ars.usda.gov/PHZMWeb/Maps.aspx>

Overview of the 2008–2009 farm-to-college program. Ninety-eight percent of the students attending the college live in residence halls on campus. Meals are provided at two “all you care to eat” dining halls, two cafes, a pub, and a diner operated by Bon Appetit, a mid-size food service management company owned by Compass Group that prepares food from scratch. Bon Appetit requires its chefs to purchase a minimum of 20% of their ingredients “from small farmers, ranchers, fishermen, and food producers within 150 miles of their kitchens” (Bon Appetit Management Company, 2016). Bon Appetit defines *small* as “under \$5 million in sales.” The farms must be owner-operated. The 2007 USDA definition of a *small farm* was one with “\$250,000 or less in sales of agricultural commodities” (United States Department of Agriculture, 2007). No sustainability certifications are required from the local producers, but Bon Appetit has criteria that must be met for all seafood, poultry, and ground beef purchases. Seafood must be rated “best choice” or “good alternative” by the Monterey Bay Aquarium Seafood Watch guidelines for commercial buyers, and chicken and turkey must be raised without “non-therapeutic” antibiotics added to their feed or water. Suppliers of ground beef must verify the meat was produced without antibiotics or growth hormones and the animal’s feed did not contain animal byproducts. In addition, Bon Appetit does not purchase milk treated with bovine growth hormone and purchases only certified cage-free eggs (Bon Appetit Management Company, 2015).

In 2008, when I interviewed the Hamilton College Bon Appetit executive chef, approximately 25% of the dining services budget was spent on the purchase of

local food sourced within 150 miles of campus. The local purchasing program included sourcing from small family farms (about 50% or more of local purchases), purchasing a very small amount of certified organic farm products (almost none), purchasing sustainably produced farm products (90%), opportunities for chefs to meet farmers, some student involvement in the program, waste reduction and recycling, and use of tomatoes from a small campus garden. Hamilton had a student recycling task force that spearheaded recycling on campus (Hamilton College Recycling Task Force, 2015). A big chunk of local purchases were dairy, which was sourced from a local dairy that buys from small family farms. Bon Appetit does not track working conditions of farm workers and does not have standards for farm worker wages or working conditions.

According to the executive chef, the infrastructure in the area is not very robust, so he works directly with farmers. He knows the farm owners and “everything about the farms” (Hamilton College interview, 2008). The executive chef also works with the Center for Agricultural Development & Entrepreneurship (CADE), a non-profit organization whose “vision” is to “build a vibrant local food system in which locally owned agricultural businesses thrive and consumers are nourished by healthy, sustainably produced food” (Center for Agricultural Development & Entrepreneurship [CADE], 2015). CADE helps small family farms in New York increase their “triple bottom line” (economic, environmental, and social) by providing technical assistance to enhance business practices, connecting producers with markets, promoting “green” production practices, saving farms, improving

community health, and fostering farmer-consumer interactions. Dining also purchases from a New York distributor who sources from New York farms and distributors (Lopez, Yingling, Stokes & Weiss, 2010).

The executive chef knows from personal contact with the farms that the local farm products he purchases are sustainably produced. Most of the farms use Integrated Pest Management, and often organic methods, but not certified. Pork is sourced from Heritage hogs that have not been given antibiotics or hormones. The chef has all the information on each animal, and he does not purchase animals that have been culled for illness. He follows Bon Appetit guidelines and does not purchase poultry or ground beef sourced from animals that have been given antibiotics or hormones or purchase milk or dairy products sourced from cows given bovine growth hormone. He also follows Bon Appetit seafood standards when sourcing seafood (Hagg, 2008).

In 2008, students had not asked for organically produced food. A few had asked for food grown by small family farmers. Students had not asked for food produced sustainably or whether food was produced under safe and fair labor conditions. Students were interested in sustainable seafood (information is provided to them). But students did have very strong interest in recycling, energy conservation, and waste reduction.

Students had the opportunity to broaden their involvement with food through the Food for Thought: The Science, Culture, and Politics of Food course offered by the college. One course project involved research on early 19th-century New York

State vegetable gardens, including preserving and “putting up” vegetables and preparing the garden for “winter slumber.” Students grew vegetables grown in 1812 when the college was founded. Students also participate in the annual “Eat Local Challenge” hosted by Bon Appetit and local farmers in September, when the campus closes down and all the food served at a lunchtime picnic is sourced locally from within a 150-mile radius of the campus. The local upstate New York dairies, cheese makers, produce farmers, and poultry farmers that dining services regularly sources from regularly participate in the “Eat Local” picnic (Hamilton Interview, 2008). In 2007, Bon Appetit sponsored an “Eat Local Challenge” at 70 campuses across the United States. Hamilton’s annual picnic was the largest of Bon Appetit’s “Eat Local” events, according to the general manager of Bon Appetit at Hamilton (Hamilton College Media Relations, 2007). Chefs had also visited local farms in 2008 and the sous-chef was a farmer. Students had visited the Campus Community Farm, a 3/4-acre sustainably farmed garden that produces in August. Dining obtains herbs and tomatoes from the garden. Waste reduction and recycling are also a part of the Hamilton farm-to-college program (Hamilton College interview, 2008). Hamilton has had a Recycling Task Force composed of “enthusiastic” student recyclers since 2004 (Hamilton College Recycling Task Force, 2015).

Why and how the Hamilton College farm-to-college program was established. Bon Appetit had been the food service provider at the college for 10 years when I interviewed the executive chef in 2008. Bon Appetit launched its Farm-to-Fork Program (local purchasing) in 1999 (Bon Appetit Management Company,

2015). With the establishment of Farm-to-Fork, Bon Appetit brought sustainability to Hamilton College. However, the primary reason Bon Appetit established Farm-to-Fork was the desire to serve fresher, higher-quality food (Hamilton College interview, 2008). According to Bon Appetit's director of communications and strategic initiatives, Bon Appetit's decision to establish the Farm-to-Fork Program was "first and foremost about flavor, then supporting the local economy and environment" (Greenawalt, 2008). In establishing its Farm-to-Fork Program, Bon Appetit gave no consideration to purchasing food produced under safe and fair labor conditions. Chefs "develop close relationships with farmers and see working conditions on the farm" (Greenawalt, 2008).

Helps and hindrances to establishing the program. One of the greatest barriers to procuring local food at Hamilton is the short growing season in upstate New York that prevents year-round access to fresh local produce grown within 150 miles of campus. Although there are farms in the area, the academic school year and the growing season overlap for only a few months, thus limiting the purchase of local produce. The executive chef hopes to incorporate micro-processing (canning and freezing fresh produce) to address this problem. Local dairy and meat can be procured year round.

Bon Appetit's launch of its Farm-to-Fork Program in 1999 meant that a farm-to-college program at Hamilton was inevitable. This included local sourcing and strict sustainability requirements for meat, poultry, and dairy (Hamilton College interview, 2008). Bon Appetit implements the Farm-to-Fork Program at all college and

university dining programs it manages, whether or not there is interest (Greenawalt, 2008). According to the executive chef, there were no barriers or resistance to establishing the local purchasing program at Hamilton. The school embraced the Bon Appetit approach. He was not aware that any policies had to be changed (Hamilton College interview, 2008). However, according to Bon Appetit's director of communications and strategic initiatives, when Bon Appetit became a subsidiary of Compass Group, one of the world's largest food service companies, in 2002, supplier insurance, payment terms, and quality assurance requirements had to be changed. Farmers had to carry one million in liability insurance. Bon Appetit worked with Compass to scale quality assurance to the size of the business. Bon Appetit also works with Farmer Advocacy, Food Alliance, and CAFF in setting policies so they won't detrimentally impact small farmers (Greenawalt, 2008).

Expansion of the program. In 2008, when I interviewed the executive chef, he was planning for expansion of the vegetarian food he serves, using local and healthier food. He was also in the process of "tying everything together" to be more efficient in waste reduction, including electricity, by buying newer energy-efficient equipment. He planned to remodel some facilities for more energy efficiency. In addition, he planned to look into micro-processing, including canning and freezing. According to the executive chef, small farms "can't do micro-processing." He was "just at the very beginning of this endeavor" and explained that laws regulate micro-processing and the infrastructure used for it is very important. The executive chef wants to extend access to local produce through micro-processing (Haag, 2008).

Emory University Farm-to-College Program

The local landscape. Emory is a mid-size private research university located near Atlanta, Georgia, in a suburban unincorporated area of DeKalb County. Georgia has mild winters and a seven-to-eight-month growing season with regional variations (Watson, 2016). See the Plant Hardiness Zone Map below for average annual extreme minimum temperature for Atlanta. The last spring freeze is typically toward the end of March and the first fall freeze in November (Southeast Regional Climate Center, 2014). In 2007, there were 47,846 farms in Georgia and 10,150,539 acres of farmland (United States Department of Agriculture, 2007). Very few farms were located in DeKalb County, only 38, with an average size of 25 acres, compared to a state average of 212 acres. One farm devoted land to growing vegetables and one reported harvesting one acre of organic crops (United States Department of Agriculture, 2007, accessed 1/20/2015).

According to the University of Georgia Extension (UGA), there were only 67 certified organic farming operations in Georgia in 2008, with a total of 4,341 acres in organic production (University of Georgia Extension, 2008). Ten of the 35 farms in DeKalb County hired farm workers (United States Department of Agriculture, 2007). Agriculture is a very important part of the economy in Georgia, where one in seven citizens works in agriculture, forestry, or related fields. Top farm food products are broilers, peanuts, eggs, beef, corn, dairy, pecans, and blueberries (Georgia Farm Bureau, 2014). Vegetables are also a valuable agricultural crop in Georgia and are produced in some form all year (Kelley, 2013). A few organizations in Georgia and

the Southeast are involved in the promotion of sustainable farming and food systems, including the Southern Sustainable Agriculture Working Group (Southern Sustainable Agriculture Working Group [Southern SAWG], 2015).

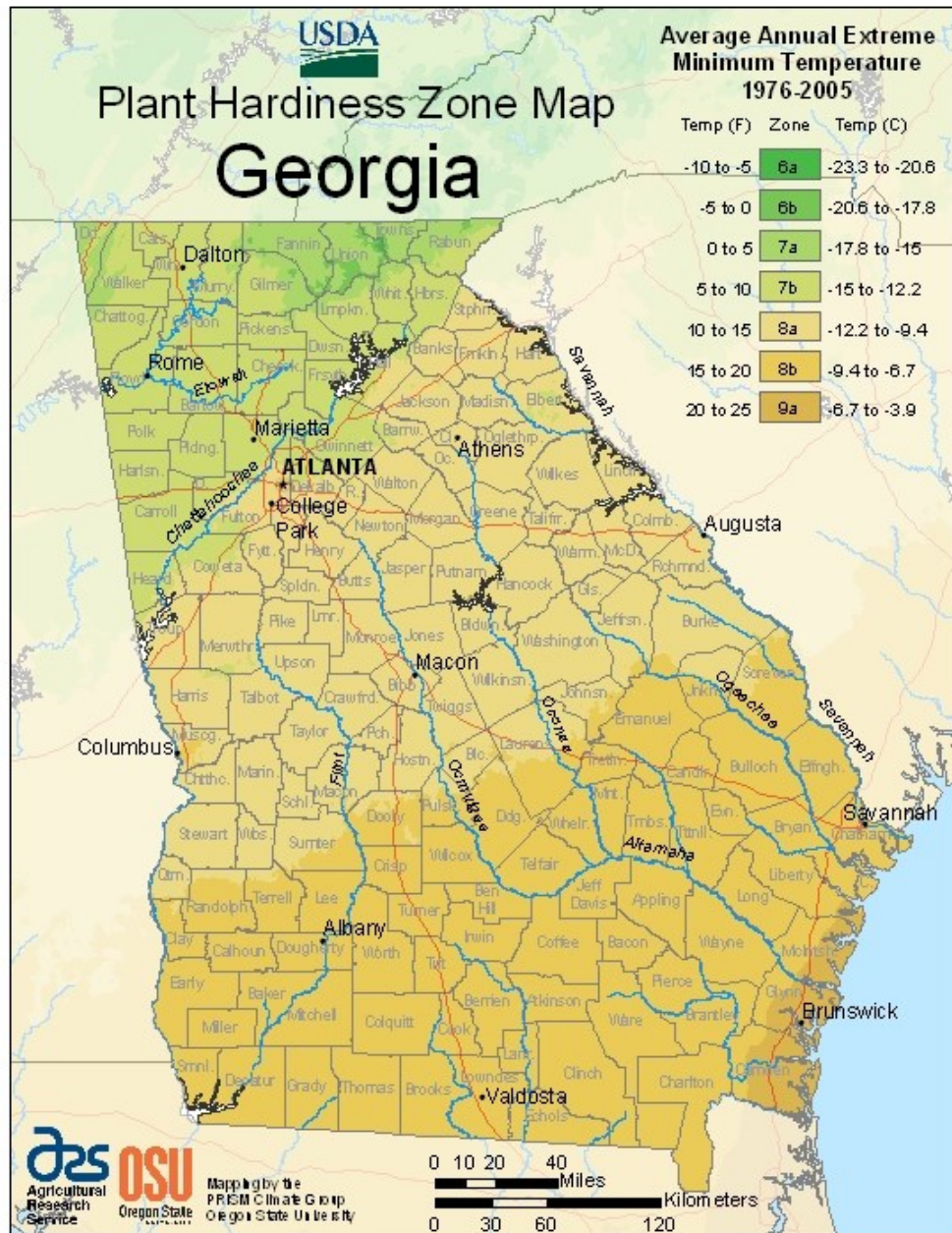


Figure 5. Georgia USDA Plant Hardiness Zone Map showing average annual extreme minimum temperature for the city of Atlanta, where Emory University is located. Source: <http://planthardiness.ars.usda.gov/phzmweb/maps.aspx>

Overview of the 2008–2009 farm-to-college program. Sodexo was Emory University’s food service provider in 2008–2009. However, in 2015, the university replaced Sodexo with Bon Appetit Management Company after issuing a request for proposals that specified standards for sustainability (Basu, 2015). Students must live on campus during their freshman and sophomore years and all residential students must participate in a dining meal plan. Over a million meals were served at Emory in 2009. Emory’s Sustainable Food Committee approved food purchasing guidelines (the “Guidelines”) in February 2008, which were revised in 2011 and 2013 (see Appendix L for Emory Guidelines). The Guidelines prioritized purchase of food produced in Georgia (Tier 1) and secondly (Tier 2) in the eight-state Southern region (Florida, South Carolina, North Carolina, Tennessee, Kentucky, Alabama, and Mississippi) that had been produced on small and medium-size, independently owned farms and cooperatives using sustainable practices. Fair trade food products were also identified as a priority.

In addition, the Guidelines specified “ultimate goals” and priorities for 10 food categories: 1) milk and dairy—ultimate goal: certified sustainable and produced in Georgia; 2) eggs—ultimate goal: produced in Georgia, humane and sustainable certifications; 3) vegetables and fruits—ultimate goal: certified sustainable and produced in Georgia; 4) chicken—ultimate goal: produced in Georgia, humane and sustainable certifications; 5) beef, pork, and other meats—ultimate goal: produced in Georgia, humane and sustainable certifications; 6) seafood—ultimate goal: Seafood Watch Southeast “best” and “good” list and Marine Stewardship Council certification;

7) grocery, grains and legumes—ultimate goal: regionally grown with sustainable and fair trade certifications; 8) grocery, pantry items/canned/frozen—ultimate goal: minimally processed and certified sustainable; 9) grocery, prepared foods—ultimate goal: minimally processed, regionally produced, and certified organic; 10) grocery, imported foods—ultimate goal: fair trade/improved labor conditions, minimally processed, and certified sustainable.

The Guidelines identified Food Alliance as the sustainability certifier (Emory Guidelines, 2008). A companion document, “Producer Guidelines for Food Suppliers,” noted that the supply of local, sustainable, and organic food was “currently low” (see Appendix M for Emory Producer Guidelines). The food supplier document also acknowledged purchasing at the university was the responsibility of the campus dining contractor, Sodexo, and all food purchases had to meet Sodexo’s corporate guidelines. Additionally, the document explained that Sodexo would initially work with a limited number of approved vendors: mainly FreshPoint and Destiny Produce, distributors for fruits and vegetables. The document expressed hope that producer cooperatives would be formed in the future.

In September, 2008, when I interviewed Sodexo’s sustainability coordinator/campus procurement manager, the program was sourcing food “locally.” Approximately 30% of purchases were local (state or region), but had to rely on regional producers from outside the area (the eight-state region) to meet the needs of the program. Very little was sourced from small farmers, approximately 5–10% of local purchases, which is characteristic of Sodexo’s purchasing practices at other

universities I have interviewed. According to the sustainability coordinator, purchasing from small family farms was not a focus, although dining services had forced its distributor to make changes to include sourcing from a few small farms (Cook, 2008). Research conducted by students at Colgate University in New York State, where Sodexo was the food service contractor, discovered that Sodexo's corporate policies do not allow purchase of farm products directly from producers. Local farm products must first be sold to a third-party distributor who in turn sells the product to the university (Lopez et al., 2010). This is corroborated by a 2014 Luther College document that explains local purchases by Sodexo-managed programs must be made from Sodexo-contracted produce distributors, who assume oversight for the food safety of products they source (Luther College, 2014). Approximately 4% of food purchased was organic. While it was Emory's goal to purchase sustainably produced products, preferably certified, including certified organic, fair trade, and humanely produced, there were no Food Alliance sustainably certified farms in the Southeast in 2008. Food Alliance certification requires reduced pesticide use, humane treatment of animals, no use of hormones or antibiotic supplements, and safe and fair working conditions for farm workers. In 2008, less than 1% of produce purchased was sustainably produced and no sustainably produced meat or dairy products were purchased. However, 75% of the milk was sourced from Georgia dairies and was bovine growth hormone free. The Sodexo sustainability coordinator believed that all products purchased had been produced using safe and fair labor practices, including payment of fair wages (Cook, 2008). According to Sodexo's 2003 Sustainable

Development Contract posted on its website in 2011, “Sodexo is dedicated to strongly encouraging its suppliers to respect its sustainable development values” and will ask suppliers to “embrace the principles defined by the International Labor Organization” (Sodexo, 2003). The document is not posted on the current Sodexo website or listed on its Sustainable Development page.

The International Labour Organization (ILO) is a United Nations agency that addresses labor issues and standards in the workplace, including collective bargaining, forced labor, child labor, wages (setting a minimum wage), and discrimination. The labor standards are either conventions, if ratified by member states, or recommendations, if not ratified (International Labour Office, 2014). As of 2007, the United States had only ratified two of the eight core labor conventions: forced labor and the “worst forms” of child labor. Another convention on discrimination had been submitted to the Senate for consent. Therefore, the United States is not obligated to comply with the requirements of the remaining five conventions (United States Council for International Business, 2007). More research is required to determine how and if Sodexo implements and monitors farm labor wages and working conditions on farms from which food is sourced by Sodexo’s suppliers. The website of FreshPoint Atlanta, the distribution company Emory uses, does not mention farm labor requirements (FreshPoint, 2016).

As of my interview with the Sodexo sustainability coordinator in 2008, students had not requested dining services to provide food grown by small family farmers or sustainably produced food. Students had requested organically grown food

and food produced under safe and fair labor conditions. Students had also requested that dining services practice waste reduction, recycling, and composting. Chefs had visited local farms where food was sourced in a farm tour during the summer of 2008. A tour for all dining employees was planned in September. Dining services had not organized farm visits for students, but planned to offer the opportunity in the future. Dining services was planning a peanut boil that would be attended by local farmers, as boiled peanuts are traditional in Georgia. Dining services was also working on creating a “green team” that would be composed of students and employees who would work together on sustainability. The campus offered additional student opportunities for learning about food and food systems. A Sustainability Summit on Food was held in 2008 to expand understanding of sustainable food issues among all sectors of Emory, and students who signed up for a 1-unit Anthropology course could work with the Office of Sustainability and Dining Services to put on the annual Sustainable Food Fair. Dining services includes recycling and waste reduction in its program, but not composting. It focuses on less packaging. Dining services was also testing a bioreactor that reduces waste to water that can be used as fertilizer to water plants. Between March, 2008, and September, 2008, when I conducted the interview, dining services had diverted eight tons of waste from the landfill (Cook, 2008). Waste minimization is one of the key sustainability initiatives at Emory (Emory University, 2008 b).

Why and how the Emory University farm-to-college program was established. The farm-to-college program at Emory is the result of a long and

thorough process of pursuing sustainability on campus. Led by a professor of Anthropology, the Ad Hoc Committee on Environmental Stewardship, which included faculty, staff, administrators, alumni, and students, was formed in 1999 to “foster a deeper engagement with sustainability issues across campus” (Emory University, 2008). Meeting monthly for three years, the group educated itself about sustainability and took several actions, one of which was to create an environmental mission statement for the university. In 2001, the university Senate adopted the mission statement committing the university “to protect and enhance the environment through...teaching, research, service, and administrative operations” (Emory University, 2008 b). In 2004, the new president of the university initiated a two-year strategic planning process that identified sustainability as a core commitment. In 2005, the president asked the Anthropology professor who had initiated the Ad Hoc Committee on Environmental Stewardship along with the executive vice president of finance and administration to co-chair a Campus Sustainability Committee to develop a clearer vision of sustainability on campus and how to measure progress in achieving it. The committee produced “Sustainability Vision for Emory,” which was adopted by the president’s Cabinet (Emory University, 2008 c). The vision includes the goal of sourcing “75% local or sustainably grown food in its hospitals and cafeterias by 2015” (Emory University, 2008 d). An Office of Sustainability Initiatives was established in 2006, and in 2007, the university president named a Sustainable Food Committee with 12 members composed of faculty, staff, and students. The committee developed food purchasing guidelines in 2007, described in the overview of Emory’s

farm-to-college program above, which guide Sodexo in sourcing food for campus dining halls. The Guidelines were adopted in February, 2008, and revised in 2011 and 2013. The university, in partnership with Georgia Organics, a local non-profit, hired a part-time farmer liaison from 2007 to 2009 to provide information about Emory's sustainable food initiative program to farmers around the state and to identify farmer partners for the farm-to-college program and assist interested farmers in becoming certified as sustainable producers by the Food Alliance. Producer Guidelines were developed in the winter of 2008 to provide information to prospective food suppliers (Emory University, 2008 d).

As explained above, the farm-to-college program (local purchasing) is part of Emory's overall sustainability vision and strategic plan. Emory is working to "restore our global ecosystem, foster healthy living, and reduce the university's impact on the local environment" through various sustainability initiatives, including purchasing local and sustainable food (Emory University, 2008 a). There are a number of reasons local purchasing was targeted as a way to promote Emory's sustainability goals. Local purchasing supports the Georgia economy and strengthens the local food system by providing a secure market for local and regional farm products. More viable farms preserve open space and agricultural landscapes. In addition to supporting the local and regional economy, local sourcing reduces petroleum consumption and greenhouse gas emissions by reducing the number of miles food travels from farms to the university. Sustainably produced food benefits the environment and farm workers. Organic and sustainably produced food ensures that

the harm to the environment caused by the use of pesticides, GMO seeds and crops, and chemical fertilizers is minimized. Sustainably produced food at Emory promotes worker safety and fair wages for farm workers. Serving sustainably produced, fresher, and tastier food on campus promotes health and wellness.

Helps and hindrances to establishing the program. The Emory Purchasing Guidelines (see Appendix L) identified several barriers to implementing Emory's goals of purchasing 75% local or sustainably produced products. Availability of local, sustainably produced food was a major barrier. Another was the local growing season, which is approximately eight months long, rather than year round. The limits of the Georgia growing season are addressed by expanding purchases to the eight-state region. The Sodexo sustainability coordinator explained that availability was not just a significant problem because of the reduced growing season. Most local farmers sell their produce through farmer's markets and CSAs and do not have surplus to sell to the university. Local farmers like selling directly to consumers rather than selling to a distributor. Emory does not generally purchase directly from small farmers because it is not efficient. Deliveries are a problem: "not enough space on the dock" (Cook, 2008).

According to the sustainability coordinator, cost is also major issue in being able to implement local, sustainable purchases. Prices for sustainable produce are higher and the university is not willing to pay more. Local and sustainable purchases must be cost-neutral. Quality issues were addressed by a farmer liaison educating farmers about Sodexo quality standards. Quality was a problem for some small

farmers. Quality is an education issue. The coordinator noted that none of Sodexo's policies were changed to accommodate the local purchasing program, including insurance and delivery policies, which may make local purchasing more difficult. Since Sodexo is not working directly with farmers, the distributor handles insurance, delivery, and quality requirements (Cook, 2008). In addition to any "quality" issues, the ability to verify whether or not produce had been sustainably produced was a problem. The original Guidelines had envisioned using Food Alliance certification as a guarantee that sustainable farming practices had been used, including safe and fair working conditions for farm workers, but there were no farms in the Southeast with Food Alliance certification.

Expansion of the program. In my interview with her, the Sodexo sustainability coordinator said she wanted to expand everything because goals had not been met. She also said, "It's the right thing to do, the right way to run a business."

Iowa State University Farm-to-College Program

The local landscape. Iowa State University, known for agriculture, engineering, and science, is located in Story County in the city of Ames. Iowa is in the upper Midwest and has a later harvest and shorter growing season, approximately mid-to-late May to early October, with more reliance on cool weather crops and storage crops than areas further to the south (Watson, 2015, and Sunset, 2015). See the Plant Hardiness Zone Map for Iowa showing average annual extreme minimum temperature for Ames. The climate is characterized by large seasonal temperature

differences, warm-to-hot summers, and cold to severely cold winters, with year-round rainfall, ideal for growing corn. There were 92,856 farms in the state in 2007, and the average farm size was 331 acres (USDA, National Agricultural Statistics Service, 2007). As many as 513 farms were certified organic or exempt in 2008, with 94,568 acres under organic cultivation (USDA, National Agricultural Statistics Service, 2008), and 23,287 farms, approximately one quarter of all farms in the state, hired farm labor (USDA, National Agricultural Statistics Service, 2007). Of the 92,856 farms in the state in 2007, 1,075 were located in Story County. Corn was harvested on 629 farms and vegetables were harvested on 24. The average farm size was 327 acres, close to the state average. Nine farms were engaged in organic production, and 279 farms hired farm workers (USDA, National Agricultural Service, 2007). The state of Iowa ranks number one in U.S. production of corn and soybeans, leads the nation in hog and egg production, and is second in red meat production (Ag Classroom, 2010). While almost all farming in Iowa is conventional, there are a few agricultural organizations in the state with a sustainable focus: Leopold Center for Sustainable Agriculture, a research and education center with programs focused on developing sustainable agricultural practices; Iowa Farmers Union; Iowa Network for Community Agriculture; and Practical Farmers of Iowa, a non-profit sustainable agriculture group.

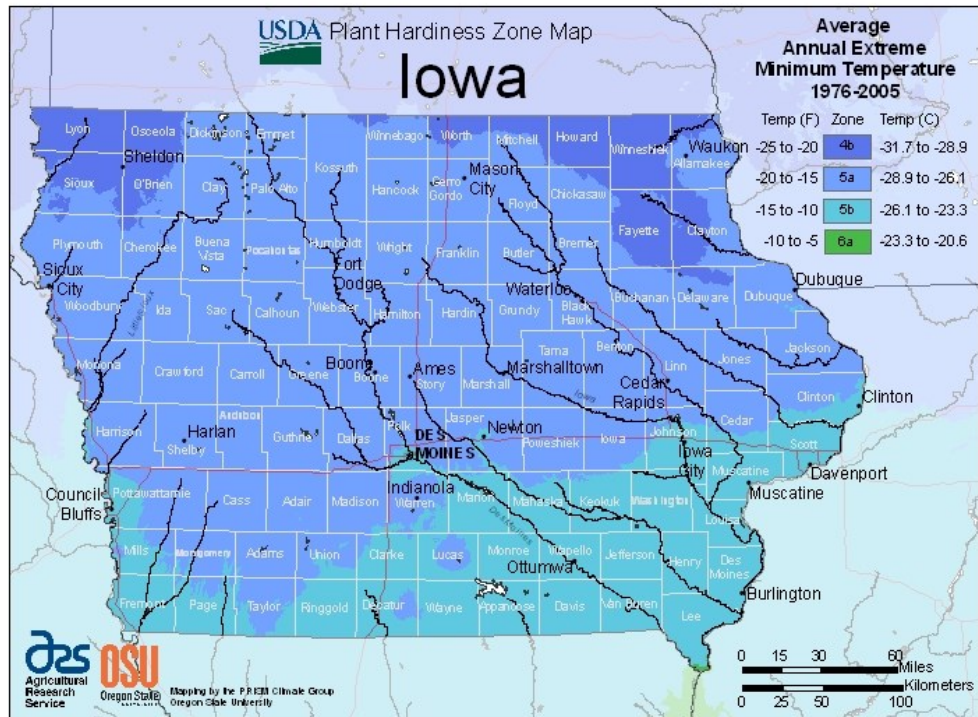


Figure 6. Iowa USDA Plant Hardiness Zone Map showing Average annual extreme minimum temperature for the city of Ames, where Iowa State University is located. Source: <http://planthardiness.ars.usda.gov/phzmweb/maps.aspx>

Overview of the 2008–2009 farm-to-college program. Dining services and the farm-to-college program at Iowa State University (ISU), known as “Farm-to-ISU,” are managed in-house. I interviewed the farm-to-ISU coordinator in January, 2009. The Leopold Center funded the first farm-to-ISU coordinator in the first 2007–2008 academic year to support the development of the program. Dining services operates three dining centers, nine cafes, seven convenience stores, restaurants, and a food court. While many ISU students, staff, and faculty come from farm backgrounds, most of the food served at the university was sourced from out of state,

resulting in loss of revenue in the state (Leopold Center for Sustainable Agriculture, 2008). The Farm-to-ISU Program works with local farmers to increase the amount of local food dining services purchases, “which boosts the local economy and reduces our carbon footprint” (Levandowski, 2010). In addition to purchasing locally produced food, the program purchases farm products from small family farms and sustainably produced farm products, as well certified organic products. The focus of the program is on local, sustainable, and organic. Local, sustainable, and organic are considered independently of each other, as local food is not necessarily sustainably produced and sustainable and organic food are not necessarily local (DeBlieck, 2009). Dining services’ original goal was to increase purchase of certified organic and sustainably produced food grown within 200 miles of ISU to 35% of all dining services’ food purchases by 2012 (Leopold Center for Sustainable Agriculture, 2008).

A five-year plan was developed laying out purchasing objectives for each year. The objective for 2008–2009, the second program year, was to increase purchase of local, organic, and “alternatively” produced food to 15% of all food purchased by dining services. The definition of *local* was expanded to include the entire state (Farm-to-ISU, 2015a). The “Revision Five-Year Plan” posted on the Farm-to-ISU website, also identified sustainability objectives for the purchase of specific products in 2008–2009. These were 5% of milk to be hormone free, 4% of produce to be local, 2% of produce to be alternative or organic, and 7% of meat to be locally produced and processed. Another objective was to organize the first field trip for dining staff and students to visit farms (Farm-to-ISU, 2015b).

The total value of local products purchased in 2009–2010 was \$605,320, the equivalent of 10% of ISU dining’s annual food and supply budget, as purchases were made from 23 local farms (Levandowski, 2010). In the first year of the program, 2007–2008, 76% of all dairy, 3% of all the meat, and 1.5% of all produce were purchased locally (Farm-to-ISU, 2015b).

The coordinator of the program estimated that approximately 20% of local purchases in 2009 were from family farms. Most meats and 100% of fruits and vegetables were sourced from small farms. Meat came from a farmers’ co-op. She knew the produce farms were small family farms because she had visited them. They were only one to three acres. She also noted that it is “hard to find local fruits and veggies,” as small vegetable farmers tended to have their own customers and were not interested in selling to the university. Dairy products were not sourced from small farms. Less than 5% of local purchases were organic. According to the coordinator, “Organic is a bad word in Iowa.” Corn and soybeans are grown on a large scale in Iowa with the use of chemicals. The coordinator said she knew the produce purchased was “close to organic” and that the meat was raised on small farms and hormone and antibiotic free. However, dairy products were not sustainably produced and contained bovine growth hormone. “It is very hard to get milk without BGH,” she explained. The farm-to-college program does not require production methods to meet specific criteria to qualify as “sustainably produced.” Food Alliance certified products are sustainably produced, but these made up less than 1% of purchases and were not local and came from the Northeast. According to the coordinator, sustainably produced

products do not use synthetic chemicals, are produced with crop rotation, and are produced on a small scale. The coordinator believed that 80% of local produce and meat purchased were sustainably produced, but none of the dairy. She also believed that overall 20% of local purchases were sustainably produced. Although ISU Guidelines for potential producers do not mention treatment of farm labor, the coordinator stated that the program purchased products that were produced using safe and fair labor practices (see Appendix M for Guidelines for potential produce growers/producers).

The coordinator said she knew sustainable labor practices were used because the veggies and fruits were produced on small family farms with no hired labor. She also knew through personal observation that the meat was produced using safe and fair labor practices. The treatment of farm labor at dairies was unknown. Overall, the coordinator explained that “poor treatment of farm labor is an invisible issue” and a “harder sell” to include in purchasing requirements than sustainably grown food (DeBlieck, 2009). The program does not require farms to meet specific criteria to qualify as a socially responsible employer. Although produce and meat purchases represented less than 5% of local purchases in 2007–2008, the coordinator estimated that 15–20% of the program’s purchases came from local farms that employ safe and fair labor practices (DeBlieck, 2009).

Students had not requested food grown by small family farmers, organically grown food, sustainably produced food, or food produced under safe and fair labor conditions in January, 2009, when I interviewed the coordinator, but they had

requested recycling. During the 2008–2009 school year, there was no recycling service in the city or on campus, according to the coordinator. Waste reduction and recycling were incorporated into the program and included pallet and cardboard recycling. Dining services decided to implement a compost program after an ISU compost facility opened in 2008. The composting program was being developed at the time of my interview with the coordinator, and going tray-less, which is known to reduce student food waste, was under discussion. Composting of pre- and post-consumer waste did begin at two residential commissaries and catering kitchens in 2009 after my interview. Chefs did go on a farm tour in July, 2008, as planned. The tour was “a big hit!” Students did not go on the tour, but, according to the coordinator, would be invited on the next chef farm tour. Dining staff was educated on the importance of sustainability, and chefs with more culinary experience were being hired (DeBlieck, 2009).

Why and how the Iowa State University farm-to-college program was established. When the new dining services director arrived at ISU in 2007, she obtained a grant from the Leopold Center to fund a student coordinator to work with her to start a local purchasing program. The student coordinator was funded for the 2007–2008 school year with the objectives of 1) building infrastructure to support dining’s goal of increasing the purchase of local, sustainable, and organic food and 2) developing an understanding of the issues local farmers face when attempting to sell products to ISU dining (Leopold Center, 2008). The program coordinator continued

to work during the 2008–2009 school year through a grant from the USDA Sustainable Research and Education Program.

As reported in *FoodService Director*, the dining service director's upbringing in California contributed to her desire to bring local purchasing to Iowa (Ramsey, 2011). The dining service director made the decision to establish the program first and then told the university. She included the program in her own budget. According to the coordinator, the dining director's decision to initiate the program was based on a desire to support the local economy and farms, and to serve fresher, higher-quality food (DeBlieck, 2009).

According to a report written by the dining director and the ISU sustainability coordinator posted on the ASSHE website, the initial focus of the ISU program was on local small growers, farmers, and ranchers who use sustainable and organic practices. The local focus would support Iowa businesses, provide local jobs, and foster economic development. The dining director also hoped to “educate the ISU community about organics, sustainability, and the importance of regional food systems, where and how their food is grown” (Levandowski, 2010). The dining director, like others the coordinator had conversed with, said she “knows it is the right thing to do for the earth, ecologically the right thing.” Student demand for locally grown food was not a factor in the decision to establish a farm-to-college program. Sustainably produced farm products were included in the program because the production of organic and sustainably grown produce is better for the environment than conventionally grown produce. Organic and sustainably grown produce is also

higher quality. Safe and fair labor practices were not included in the Farm-to-ISU Five-Year Plan. According to the coordinator, social justice for farm workers is “a harder sell; staff has no interest in how other workers are treated...poor treatment of farm labor is an invisible issue” (DeBlicek, 2009).

Helps and hindrances to establishing the program. One hindrance to sourcing locally was the reduced availability of local produce due to the shorter growing season in Iowa. In addition, organic and sustainably grown produce were not readily available in Story County or in the state. Producers were not certified organic. In addition, small family farms resisted participating in the program. They were suspicious of selling to a big institution (ISU interview, 2009). At a meeting with local farmers to introduce the concept of local purchasing at ISU, the farmers explained to the dining services director that they wanted a commitment from ISU before they would be willing to participate. According to the article in *FoodService Director*, the director responded by writing a contract for cucumbers, cabbage, and bell pepper (Ramsey, 2011). The first farmer entered into a contract with the Farm-to-ISU Program in 2009 (Levandowski, 2010).

Dining staff also initially put up resistance to the Farm-to-ISU Program. According to the coordinator, they thought the new program was a criticism of the way they had done things in the past (DeBlicek, 2009). In addition to winning over dining staff, the bidding process had to be changed in order to implement the program. The dining director met with the purchasing director to modify the bid requirements to include “locally sourced” as a specific requirement. Dining also

needed to explain their purchasing requirements to farmers interested in selling farm products to ISU. As a result, dining produced guidelines for produce and for meat, dairy, and eggs, including definitions of *local*, *regional*, *organic*, *sustainable*, *insurance requirements*, *food safety requirements*, and *delivery and invoicing requirements* (see Appendix M for Guidelines for potential produce growers/producers).

A major asset to implementing the Farm-to-ISU Program was the dining director. The program was her “vision” and she possessed both the skill and authority to initiate the program herself, with the assistance of the farm-to-ISU coordinator, without having to obtain prior permission from the administration or garnering student support. She also had the ability to promote her vision and motivate staff, students, and the administration to support local purchasing. Although student demand for locally produced food was not a factor in starting the farm-to-college program, student appreciation for fresher, tastier food developed as the program expanded (Buzalka, 2012).

Expansion of the program. In 2009, when I interviewed her, the coordinator reported that dining services wanted to increase the percentage of local purchases to meet its goal of 35% local, organic, or sustainable food purchases by 2012. She said more Food Alliance certified products would be included. Food Alliance certified products were the only food products considered to be sustainable by dining services. The coordinator also wanted to increase student involvement in the farm-to-ISU program (DeBlieck, 2009).

Comparison and Analysis

The four farm-to-college programs included in the case studies differ in many ways. Each college or university is located in a different region of the United States and each has a different climate and growing season based on its geographical location. The climate and location of the colleges and universities impact the seasonal availability of farm products and what can be sourced locally by the programs, as does the agricultural and food culture of the locality. Management of dining services is also a factor in the characteristics of the farm-to-college programs. Each food service management company has its own purchasing policies and food preparation practices that interact with student preferences and school policies and the regulations to shape the farm-to-college programs. Self-managed dining services are subject to school purchasing policies and budget constraints. In addition, the way in which farm-to-college programs were established affects the character and makeup of the resultant program.

Table 37

Comparison of Colleges/Universities in Case Studies

College/University	UCSC (2006)	Hamilton (2008)	Emory (2008)	Iowa State (2009)
Region	West	Northeast	South	Midwest
Climate and growing season	Mild, year round	Severe winters, 4 months	Mild winters, 8 months	Severe winters, 4.5 months
Type and size	Public, mid-size	Private, small	Private, mid-size	Public, large
Dining services	Self-managed	Contract (Bon Appetit)	Contract (Sodexo)	Self-managed
Year program started	2004/2005	1999	2008	2007/2008
Definition of local	250-mile radius	150-mile radius	8-state region	State (originally 200-mile radius)
Percentage of food spent on local purchasing	13% of produce from local organic farms	25% (combination produce, meat, dairy)	30%	10%
Small farms	Not tracked	Yes	Yes	Yes
Definition	N/A		None provided	
Percentage of local purchases	Not tracked	More than 50%	5–10% (not a focus)	20%
Organic	Yes (produce)	Yes (produce)	Yes	Yes
Percentage of local purchases	100% of local (24% of all)	Less than 5%	4%	Less than 5%
Sustainable food	Yes	Yes	Yes	Yes
Standards	Produce—certified organic; seafood—Monterey Bay Seafood Watch; milk—no bovine growth hormone;	Standards for hamburger, poultry, seafood, and milk; produce firsthand observation	Will use Food Alliance standards, but no farms certified; milk—no bovine growth hormone	Would use Food Alliance, but no farms certified. Informal standards: produce—close to organic; meat—

	meat—no standards		See standards	Emory hormone and antibiotic-free
Percentage of local purchases	Produce—100%	90%	Less than 5%	20%
	Seafood/milk — not tracked			
Safe and fair working conditions Standards	Yes	Not tracked	See Emory standards	Yes
	Worker-supportive includes one or more: training, education, and/or childcare; living wage; benefit packages	N/A		Informal standards: produce is grown on family farms with no hired labor; meat labor practices known through personal observation
Percentage of local purchases	100%	Not tracked		15–20%
Waste reduction, recycling	Yes	Yes	Yes	Yes
Chefs visit farms	Yes	Yes	Yes	Yes
Students meet farmers	Yes	Yes	No	No, planned in future
Who was responsible for initiating program	Students	Food Management Co.	Faculty and administration	Dining services director

The local landscape. There is a direct link between climate and crop production, including the length of the growing season and what crops grow well. Meat and dairy production are not as closely linked to climate, although dairy cows are particularly sensitive to heat and thrive better in cooler climates. The ability of a

farm-to-college program to source local farm products depends on what local farm products are available during the year, which in turn is related to climate. UCSC is located in Northern California. The climate is mild with a year-round growing season, making it possible to source local produce all year long. Produce typically served in college dining halls, including vegetables, lettuce, berries, apples, and Brussels sprouts, is grown within a 50-mile radius of campus. UCSC did not source local meat and dairy in 2008, although dairy was available within 150 miles of campus. In contrast, Hamilton College, located in upstate New York, an area with severe winters and a very short growing season, was unable to source local produce much of the year, but did source local dairy and meat, which were agricultural specialties of the area. The majority of farms did not grow vegetables served in college dining halls. Emory University is located in Georgia, with mild winters and a seven-to-eight-month growing season. Although some of the top farm products grown in Georgia are also ones typically served in university dining halls, broilers, eggs, beef, dairy, and vegetables, Sodexo, Emory's food service management company, sourced most local farm products from the eight-state Southern region. Iowa State University is located in the upper Midwest with winters almost as severe as those in upstate New York. The short growing season, four and a half months, limited the university's ability to source local produce year round. Iowa's top crops, corn and soybeans, are not products served in dining halls, but hogs and eggs, also important farm products, are served in dining halls. ISU sourced local farm products within the state. UCSC's location and climate provided more opportunity for dining services to source local produce year

round than the other three farm-to-college programs. However, based on its location and climate, Emory should also have had a good opportunity to source produce and other farm products more locally than the eight-state region from which it sourced. Location and climate severely limited the ability of the Hamilton and ISU farm-to-college programs to source locally produced vegetables year round, but both programs could source local dairy and meat products all year.

The areas in which the four farm-to-college programs are located also differ in the prevalence and acceptance of organic and sustainable agriculture. UCSC is located in California, the state with the largest number of organic farms in the United States, 2,714 farms with 470,903 acres under organic cultivation in 2008, as well as in a local area with numerous organic farms and a community that is at the forefront of the sustainable food movement. On the other hand, ISU is located in Iowa, a state whose top agricultural products, soybeans and corn, are farmed with heavy use of chemicals and where *organic* is a bad word, according to the farm-to-ISU coordinator. Nevertheless, there were 513 organic farms in Iowa in 2008 and 94,568 acres under organic cultivation in 2008. Georgia, home to Emory University, had the fewest organic farms in 2008 of the four states considered: 67 certified organic farming operations with only 4,341 acres in organic production. More organic farms in a state or locality increase the availability of organic farm products for purchase by farm-to-college programs located in the state. Certified organic and sustainably produced farm products were difficult to source in Iowa and in Georgia, where very few organic farms were located, but relatively easy to source in Northern California,

within a 50-mile radius of UCSC, where numerous organic farms are located. While the Hamilton College farm-to-college program operated by Bon Appetit in New York State, where a larger number of organic farms are located than in Georgia or Iowa, did not focus on sourcing locally grown organic and sustainable produce, the chef responsible for local procurement believed 90% of the local farm products sourced by the program were sustainably produced.

College or university type, size, and dining services. UCSC and ISU are both public universities with self-operated dining services, while Hamilton College and Emory University are private schools with contracted dining services. Public colleges and universities are subject to state procurement regulations and private schools are not. The food service management companies under contract with Hamilton College and Emory University, Bon Appetit and Sodexo, have very different approaches to the provision of dining services and local sourcing. Bon Appetit focuses on local sourcing directly from small farms, while Sodexo focuses on regional sourcing from distributors. Emory and UCSC are mid-size schools. Hamilton is a small college and ISU is a large university. Small schools may have more flexibility to source directly from small local farmers and producers because the quantity of produce required by dining services corresponds less than what is required at larger schools. The number of deliveries required from individual farmers would also be fewer at small colleges than those required by larger schools and more easily accommodated. Purchasing directly from small local farmers may also be easier at private schools not subject to state procurement regulations. Bon Appetit, the food

management company that operates the farm-to-college program at Hamilton College, a small private school, was not prohibited by state procurement regulations, food management company policies, or logistics from purchasing directly from small local farmers. On the other hand, UCSC dining services was prevented from sourcing directly from individual small farmers by both logistics and procurement regulations.

Purchasing locally grown farm products directly from small family

farms. The definition of *locally grown* varied from program to program. The farm-to-college program at Hamilton College defined *locally grown* as “food produced within a 150-mile radius of the school,” as required by Bon Appetit Farm-to-Fork purchasing criteria. The UCSC farm-to-college program defined *local* as “food grown within a 250-mile radius of the university,” although in 2006–’07, UCSC sourced most of its local produce from farms located within 50 miles of the university. In contrast, Emory University considered farm products sourced from the eight-state Southern region to be local. Emory defined *local* in two tiers: “food produced within the state of Georgia” (Tier 1), and “food produced within the eight-state Southern region of Georgia, Florida, South Carolina, North Carolina, Tennessee, Kentucky, Alabama, and Mississippi” (Tier 2). In 2008–2009, most of the food sourced locally by Emory came from the eight-state region. ISU began by defining *locally grown* as “food produced within a 200-mile radius of the university” and later expanded its definition to include “food grown anywhere in the state of Iowa.” The definition of *locally grown food* was determined either by food service management company procurement policies (Hamilton), the distance from the school at which farm products

were available (UCSC, Emory, and ISU), and/or the definition of *local* chosen by the program initiators who developed the Purchasing Guidelines (UCSC, Emory, and ISU).

Bon Appetit sourced approximately 50% of the local farm products it procured for Hamilton in 2008 from small family farms. Most of these products were purchased directly from the farmer. Bon Appetit requires all locally sourced food to be purchased from small farmers and encourages as much direct purchasing as possible. Although Bon Appetit's defines *small farms* as ones "with annual sales of five million dollars or less," which is considerably more revenue than allowed under the USDA, the farms may be much smaller. UCSC's farm-to-college programs did not specifically target small family farms or track the annual sales of the farms from which it sourced in 2006–2007. However, the seven farms that comprised the farmers' collaborative from which UCSC sourced locally grown produce were smaller (in acreage) than the California average. Although UCSC did not purchase directly from individual farmers, it did source directly from the farmers' collaborative, rather than a distributor. Sodexo reported sourcing less than 10% of its local purchases in 2008–2009 from small farms. Sourcing from small farms was not a focus of Emory's farm-to-college program, although the food service company reported that it had required its distributor to include products sourced from a few small farms. Sodexo does not source directly from producers; instead, it purchases farm products from Sodexo-approved distributors. ISU sourced approximately 20% of its local farm products from small family farms. Produce was sourced directly from family farms that were

only one-to-three acres in size. It was an ISU program goal to purchase from small local growers to support the local economy. Whether or not a program focused on local purchasing from family farms was either a policy decision by the food service management company (Hamilton and Emory) or determined by program goals (UCSC and ISU).

Purchasing sustainably produced and "socially just" food. Like the definitions of *locally produced food*, the definitions of *sustainably produced* and *socially just* varied among farm-to-college programs as did the extent of the purchase of these foods by the four programs. The Hamilton College program operated by Bon Appetit did not require sustainability certifications, including organic, for produce per Bon Appetit policy, but adhered to Bon Appetit's overall sustainability requirements for seafood, dairy, poultry, and ground beef purchases. These requirements included no antibiotics and growth hormones in dairy, poultry, and ground beef purchases and observance of Monterey Bay Aquarium Seafood Watch guidelines for seafood purchases. Despite lack of environmental certifications for local produce, the Bon Appetit chef responsible for local purchasing at Hamilton reported that 90% of his local purchases were sustainably produced because farms generally practiced integrated pest management and non-certified organic farming. He verified this through direct observation. One hundred percent of UCSC's local produce purchases (13% of total produce purchases) were certified organic. UCSC did not source local organic dairy, although two dairies that produce organic milk and dairy products were located within 150 miles of campus. However, all milk purchased by the program was

bovine growth hormone free. Overall, 23.08% of all produce served on campus was certified organic. On the other hand, just 4% of Sodexo's local food purchases for the Emory farm-to-college program were organic, which is not surprising since there were very few organic farms in Georgia. Less than 1% of the produce was purchased locally and none of the meat or dairy was sustainably produced. Emory requires food to meet Food Alliance and Emory criteria to qualify as sustainably produced; however, there were no certified sustainable farms in the local area in 2008–2009. Less than 5% of ISU's local purchases were certified organic. Iowa had fewer organic farms in 2008 than either California or New York, but considerably more than Georgia. Approximately 20% of ISU's local purchases were sustainably produced (no use of synthetic chemicals, crop rotation, small scale), but not certified. The program purchased Food Alliance products (about 1% of all purchases), but these products were not local. The ISU farm-to-college coordinator estimated that 80% of local produce purchases were "close to organic" and about 80% of the meat purchased was grown on small farms and hormone and antibiotic free; none of the dairy purchased locally was sustainably produced and all dairy contained bovine growth hormones (DeBlieck, 2009). As in Georgia, there were no Food Alliance certified sustainable farms in Iowa in 2009. Despite the difficulties in sourcing local, organic, and sustainably produced food products, all four farm-to-college programs did purchase some sustainably produced or certified organic local food products verified through third-party or firsthand observation.

Purchasing products from farms that provide safe and fair working conditions for farm workers (that were “socially just”) was more elusive than purchasing organic or sustainably produced farm products. The Hamilton College farm-to-college program operated by Bon Appetit did not track purchase of products from farms that provided safe and fair working conditions for farm workers and reported that working conditions could not be documented. Approximately one-quarter of the farms in Oneida County where Hamilton is located hired farm labor. Bon Appetit did not have farm labor standards in 2008. In contrast, 100% of UCSC’s local produce purchases were from farms that were worker supportive (over half of the farms in Santa Cruz County hired farm labor). UCSC’s local Purchasing Guidelines defined *worker-supportive employment practices* as ones that include one or more of the following: 1) pay a living wage to farm workers, defined as union or prevailing wage; 2) provide benefits to their workers, such as medical insurance, on-site housing, year-round employment, and childcare; and 3) actively seek to build the capacity of their workers through provision of education and training and opportunities for advancement. Adherence to these Guidelines was informally verified, but not by a third party. Like UCSC, Emory’s local Purchasing Guidelines encompassed purchase of sustainably grown food, including worker welfare and wages. Approximately one-third of the farms in DeKalb County, where Emory is located, hired farm labor. However, the Guidelines anticipated availability of food certification systems, which did not materialize to verify whether or not farmers used sustainable production methods. Nevertheless, the Sodexo sustainability coordinator thought 100% of Emory’s local

purchases were from distributors who sourced from farms providing safe and fair working conditions. ISU did not have guidelines or criteria for purchasing products from farms that provide safe and fair working conditions. However, the farm-to-college coordinator thought 15–20% of local purchases were produced using safe and fair labor practices because the local vegetables and fruits purchased were grown on small family farms with no hired labor and she had observed the conditions under which locally sourced meat was raised. She also noted that poor treatment of farm workers is an invisible issue and a “harder sell” to include in purchasing requirements than sustainably grown food (DeBlieck, 2009). Approximately a quarter of the farms in Story County where ISU is located hired farm labor. Whether or not the farm-to-college programs required the farms from which they sourced to provide safe and fair working conditions for farm workers depended upon the program’s food purchasing guidelines and the values of the program initiators who developed the guidelines (UCSC and Emory), the food management company’s policies (Hamilton), the ability, or not, to source food certified to have been produced under safe and fair working conditions (Emory and ISU), and the program’s focus on the welfare of small family farms rather than farm labor (Hamilton and ISU).

Waste reduction, recycling, and composting. All of the programs included some level of waste reduction and recycling. The farm-to-college program at Hamilton College, where recycling is spearheaded by a student task force, includes waste reduction and recycling. Waste prevention and recycling were a major component of the UCSC farm-to-college program, including the use of fryer oils for

biodiesel fuel. UCSC dining went “tray-less” in 2008, which saved 1,000,000 gallons of water and reduced food waste by nearly 38% in dining facilities. Although waste reduction was not addressed in the Purchasing Guidelines prepared by CFSWG, waste reduction was one of the focuses at the Earth Summit held on campus each year and included in the blueprint for a sustainable campus. Waste reduction and recycling were incorporated into Sodexo’s dining services at Emory. The focus was on using less packaging. Sodexo was also testing a bioreactor that would reduce waste to water that could be used as fertilizer and to water plants. Dining services reported that it had diverted eight tons of waste from the landfill within a six-month period. Emory, like UCSC, included waste reduction as one of its key sustainability initiatives. In contrast, waste reduction and recycling was fairly new at ISU. During the 2008–2009 school year, there was no recycling service in Ames, where the university is located, or on campus, but dining services did incorporate waste reduction and recycling into the program by recycling pallets and cardboard. With the exception of ISU, the recycling and waste reduction programs at the three other schools were related to overall university sustainability goals or recycling programs (Hamilton, UCSC, and Emory). Recycling and waste reduction measures taken by dining services were initiated by dining services and not a part of local purchasing programs (UCSC, Emory, and ISU).

Relationships with farmers and information about farms. One of the characteristics of the form of sustainable development known as relocalization (the “home” conception) is producer-consumer relationships and alliances enabled by a

reduction in the distance between producers and consumers. As theorized, sourcing from local producers did facilitate interaction between the chefs and buyers at the four farm-to-college programs and the farmers from whom they source local farm products. The frequency and degree to which the chefs and buyers interacted with local farmers varied from program to program. The chefs at all four schools had visited local farms. However, only the executive chef for the Bon Appetit–operated farm-to-college program at Hamilton reported having an ongoing relationship with the farmers from whom he directly sourced farm products, as encouraged by Bon Appetit. The UCSC buyer assigned to dining services met with the members of the farmers’ collaborative to select produce items dining wished to purchase and to negotiate pricing twice a year. The sales representative (ALBA) for the collaborative also worked with the executive chef to plan production of specific crops desired by dining services. In addition to the farm tour taken by the Sodexo chefs at Emory, a tour of farms where Sodexo sourced local farm products was planned for all dining employees. ISU farm-to-college chefs also went on a farm tour and the farm-to-ISU coordinator had visited all the small local family farms from which the program sourced fruits, vegetables, and meat. Relationships between farmers and chefs, buyers, and other dining personnel were facilitated by sourcing directly from local farmers (Hamilton, ISU, and UCSC). Farm tours for dining services staff provided chefs with firsthand knowledge of local farms from which the programs sourced farm products (UCSC, Emory, and ISU).

Students from two of the schools, UCSC and Hamilton, had visited local farms, but not through the farm-to-college program. Students at UCSC visited the CASFS farm located on campus and students at Hamilton visited a one-acre co-op garden located on campus. Both Emory and ISU reported that they planned to offer students an opportunity to visit local farms in the future. Students at Hamilton also met local farmers at the “Eat Local” picnic held on campus each year, as required by Bon Appetit, where all food served was sourced locally. Students at UCSC had the opportunity to meet farmers at “College Night” dinners sponsored by dining services and CFSWG. In addition, students at UCSC were afforded numerous opportunities to learn about farming and local food systems through CASFS and classes offered by the university, as well as through various campus organizations focused on bringing organic and sustainably produced food to campus, such as CFSWG and SOS. Students at Hamilton could broaden their involvement with food through a course about science, culture, and the politics of food. Students at Emory were involved in a 2008 Campus Sustainability Summit about food and in putting on the annual Sustainable Food Fair. Two students at ISU were members of the Farm-to-ISU Steering Committee. Student opportunities to meet and learn about local farmers at the four schools were an outgrowth of food service management company policies and programs (Hamilton), university programs and courses (UCSC and Emory), events and programs sponsored by student organizations (UCSC), and the result of the proximity of farms and gardens to campus (UCSC and Hamilton).

What students requested.

Table 38

Comparison of What Students Requested at the Four Schools

What Was Requested	Hamilton	UCSC	Emory	ISU
Food produced by small farmers	Yes	No	No	No
Organic food	No	Yes	Yes	No
Sustainably produced food	No	Yes	No	No
Food produced under safe and fair working conditions	No	Yes	Yes	No
Recycling and waste reduction	Yes	Not known	Yes	Yes

Students at Hamilton had not requested organically produced food at the time I interviewed the executive chef in 2008. A few had asked for food grown by small family farmers. Students had never asked for food produced sustainably or whether food was produced under safe and fair labor conditions. Students were somewhat interested in sustainable seafood. But students at Hamilton did have very strong interest in recycling, energy conservation, and waste reduction. At UCSC in 2004 when the Purchasing Guidelines were being developed, and earlier, students demanded locally grown food, organic food, humanely produced animal products, food purchased directly from local farmers, fair trade, and worker-supportive food products grown under safe and fair working conditions. As of my interview with the Sodexo sustainability coordinator in 2008, students had not requested that dining

services provide food grown by small family farmers or sustainably produced food. Students had requested organically grown food and food produced under safe and fair labor conditions. Students had also requested that dining services practice waste reduction, recycling, and composting. Students at ISU had not requested food grown by small family farmers, organically grown food, sustainably produced food, or food produced under safe and fair labor conditions in January, 2009, when I interviewed the coordinator. They had requested recycling.

Overall, food produced by small family farmers and sustainably produced food were the least requested at the four schools. Students at only one out of four colleges requested these things. However, 54% of the 52 programs I interviewed reported that students had asked for food grown by small family farmers and 63% said they had received requests for sustainably produced food. Organic food and food grown under safe and fair working conditions were requested by students at two of the four colleges included in the case studies (50%). In contrast, organic food was the most requested and safe and fair working conditions the least requested overall at the programs I interviewed. Sixty-nine percent of the interviewees at the other programs reported students had requested organic food, while only 38% of the interviewees said that students had requested food produced under safe and fair working conditions.

The Perez and Allen study had mixed findings regarding student support for safe and fair working conditions for farm workers. Perez and Allen reported 80.1% of the students surveyed at UCSC considered improving the job conditions of hired workers on farms very important. However, interest in the union label, which certifies

union wages were paid and workers were represented by a union, was indicated by only 37.7% of the respondents, almost exactly the same percentage of farm-to-college programs in my study that reported student interest in safe and fair working conditions for farm workers.

Waste reduction and recycling were the most popular items requested at the programs included in the case studies. This is similar to requests at the other university programs I interviewed where 67% of the interviewees reported that students had requested recycling or waste reduction. The popularity of recycling may be connected to the fact that it was often a component of overall school initiatives and programs (Hamilton, UCSC, and Emory).

Initiating and establishing the farm-to-college programs and achieving program goals. The farm-to-college programs at the four schools were initiated by different parties. The Hamilton program was initiated by Bon Appetit, the food service management company that operates the program. Bon Appetit's original purpose in initiating the Farm-to-Fork local purchasing program, which guides local purchasing at all Bon Appetit-managed dining services, was the desire to serve fresher, higher-quality food. The UCSC program was initiated by students who wanted to bring local, sustainably produced (defined as "certified organic"), and "socially just" food to campus, including produce, dairy, and other animal products. Emory's program was started by faculty and the administration after lengthy research and discussion of sustainability on campus. The initiators of the program wanted dining services to purchase local, sustainably produced food in order to reduce the

negative impacts of food served at Emory on both the environment and farm workers and to support the local economy and Georgia farmers. Serving fresh food was also a goal to promote health and wellness. The ISU farm-to-college program was initiated by the new dining services manager from California. Her goal was to serve fresher, higher-quality food and to support the local economy and farmers, as well as the environment.

The initiators' original goals for their respective farm-to-college programs were not always easy to achieve. UCSC had not added dairy or other animal products to its local purchasing program in 2006/2007 as originally envisioned, although, unlike the other programs, it had been successful in sourcing local organic produce from farms that provided safe and fair working conditions. At the time of my interview with Emory, the farm-to-college program operated by Sodexo was sourcing mostly from the eight-state Southern region rather than within the state of Georgia, as the initiators had hoped. In addition, Emory was unable to verify whether local purchases were sustainably produced and worker supportive because no farms in the area were certified as sustainable farms and Sodexo policies did not allow direct purchasing from producers, which might have enabled firsthand verification of a farm's production practices. ISU had to change its original goal of sourcing local farm products within a 200-mile radius of the university to a goal of sourcing farm products within Iowa. Lack of availability of farm products within a 200-mile radius of ISU was due in part to the resistance of small family farms to selling produce to ISU, as well as the short growing season. ISU was also unable to certify local

products were sustainably produced, including worker supportive, because there were no certified organic or sustainable farms in the area. However, because ISU sourced local produce and meat directly from small local farms, the program was reasonably able to verify sustainable production methods through personal observation. Despite a short growing season in upstate New York where Hamilton is located, the Bon Appetit–operated program exceeded the company’s goal of sourcing 20% of overall purchases from local farmers located within 150 miles of the school. Hamilton sourced 25% of its overall purchases from local farmers. Despite difficulties in achieving all the goals set by the program founders, the program initiators and their goals for the programs shaped the farm-to-college programs at each school.

There was a correlation between how successful the four programs were in achieving their goals and how long the programs had been in operation. The Bon Appetit program at Hamilton College, which had been in operation nine years when I interviewed the executive chef, achieved all the Farm-to-Fork requirements established by Bon Appetit, as well as Bon Appetit’s requirements for purchase of sustainable dairy, meat, poultry, and seafood. The UCSC farm-to-college program, which did not achieve its goals for purchase of organic dairy and other animal products, was established in 2004, two years prior to the 2006/2007 overview of the program presented in this chapter. Emory’s Purchasing Guidelines were adopted just seven months before I interviewed the sustainability coordinator in 2008. Although 30% of its purchases were “local” according to program definition, Emory had not been able to achieve its goal of primarily purchasing Tier 1 local farm products from

Georgia; it was also unsuccessful in purchasing sustainably produced farm products. ISU was in its second year of operation when I interviewed the farm-to-ISU coordinator in January, 2009. Like Emory, ISU had difficulty in sourcing farm products locally as originally hoped and also was unable to purchase certified sustainably produced farm products, including products produced under safe and fair working conditions.

In addition to the apparent correlation between the number of years a program had been in operation and attainment of program goals, there appeared to have been some correlation between a program's success in achieving its goals and having the same program initiator and implementer. The Hamilton program met all the purchasing requirements established by Bon Appetit, which also managed dining services at the college and had many years' experience sourcing local produce and sustainably produced meat, poultry, and seafood. On the other hand, students at UCSC developed Purchasing Guidelines for the UCSC farm-to-college program operated by an in-house dining services administrator who was both new at managing dining services at UCSC and inexperienced in direct local purchasing. Likewise, the faculty and administration at Emory developed Purchasing Guidelines that were to be implemented by Sodexo, the university's contracted food service company. Although very experienced in dining services management, Sodexo was not as experienced with local purchasing as Bon Appetit, and its purchasing policies may have made it difficult to implement program goals. While the dining services manager at ISU both initiated the farm-to-college program and implemented its goals, the manager had just

taken over management of dining services at ISU and was new to Iowa, with its severe winters, short growing season, lack of organic and sustainable farms, and small farmers resistant to selling to the university.

CHAPTER 6

MINI CASE STUDIES: FOOD SERVICE MANAGEMENT COMPANY, REGIONAL PRODUCE DISTRIBUTOR, AND FOOD CERTIFICATION PROGRAM

This chapter presents three mini case studies: Bon Appetit Management Company (Bon Appetit), a food service management company; Duck Delivery Produce, Inc. (Duck Delivery), a regional produce distributor; and Food Alliance, a third-party sustainable farm and handler certification program. Each company plays a role in more than one of the farm-to-college programs I interviewed. All are part of a values-based supply chain (VBSC) consisting of food producers, processors, third-party certifiers, distributors, and food retailers, including food service management companies, that “preserve the identity of the farmers and ranchers who raised or grew the product being sold, as well as any environmental, social, or community values incorporated into its production” (Lerman, 2012). In addition, VBSCs are theoretically characterized by trust, transparency, fairness, and collaboration between participants (Lerman, 2012; National Good Food Network, 2015).

Bon Appetit–operated farm-to-college programs in the Northwest purchase produce from Duck Delivery based on information provided by the distributor regarding where the produce is grown, as well as Food Alliance and organic certifications. Bon Appetit also provides information to students about the farmers

and ranchers who grew and raised the food they eat in Bon Appetit cafes and dining halls. Duck Delivery provides its end buyers with information on the environmental and social values imbedded in the Food Alliance certified produce it distributes, as well as information about where the produce is grown. Food Alliance certification provides verified information about how food is produced when the end buyer cannot obtain firsthand information. I interviewed all three companies in 2008 and 2009.

Food Service Management Company: Bon Appetit

According to Bon Appetit, food for a sustainable future is flavorful food that's healthy and economically viable for all, produced through practices that respect farmers, workers, and animals, nourish the community, and replenish our shared natural resources for future generations (Bon Appetit Management Company, 2015c,).

Food service management companies: Background. Food service management companies are commercial enterprises that are contracted to manage all aspects of food service, including selecting, sourcing, and preparing food for customers such as restaurants, school cafeterias, corporate cafeterias, hospitals, and other establishments that serve food. In 2014, Food Management, an online industry magazine, issued its annual list of the 50 leading food service management companies in the United States, ranked according to their 2013 revenue. The top three on the list were 1) Compass Group North America, 2) Aramark Corp., and 3) Sodexo, Inc. (Food Management, 2014). Bon Appetit Management Company (Bon Appetit) is owned by the Compass Group and bills itself as an “on-site restaurant company offering

full food-service management to corporations, universities, and museums in 32 states” (Bon Appetit Management Company, 2015a). Bon Appetit operates more than 500 cafes, including numerous cafes at colleges and universities across the United States. I interviewed chefs and food service managers at 16 of these schools in 2008 and 2009. All of the schools were private and all but one were small schools.

Farm-to-Fork and other Bon Appetit purchasing policies in 2008. When I interviewed Bon Appetit’s director of communications and strategic initiatives in 2008 at its Palo Alto, California, headquarters, I was given an overview of its purchasing policies and programs. Bon Appetit operated a major purchasing program focused on local sourcing, had several purchasing policies aimed at increasing human and environmental health, and ran an educational and purchasing program addressing climate change. Bon Appetit’s Farm-to-Fork Program charged chefs with the task of purchasing at least 20% of their ingredients from “small owner-operated farms and artisan producers” located within 150 miles of their kitchens (Bon Appetit, 2016). Beyond local purchasing, chefs were mandated to serve only seafood that met Monterey Bay Aquarium’s Seafood Watch sustainability guidelines, if possible. In addition, chefs were required to source only bovine growth hormone-free milk and yogurt, as well as eggs laid by cage-free hens. Ground beef had to have come from animals that had been fed a vegetarian diet and had not been given artificial hormones or antibiotics. Similarly, it was obligatory for chicken and turkey to be sourced from poultry raised without “routine antibiotics” added to their water or feed (Bon Appetit, 2015c). The producers and distributors of these sustainable products are participants

in a values-based food supply chain. In addition, Bon Appetit had introduced a Low Carbon Diet Program, along with a Low Carbon Diet Calculator, in 2007 “aimed at reducing our carbon footprint.” The program featured a “Low Carbon Diet Day,” an educational event focused on food and climate change that was held annually at all Bon Appetit–operated school dining facilities. And, throughout the year, Bon Appetit provided menu choices and portions that minimized “reliance on red meat and cheese,” which have a larger carbon footprint than other proteins (Bon Appetit Management Company, 2015c). In order to reduce food miles, chefs and food service managers were additionally required to source 100% of the meats, vegetables, and “non-tropical” fruit from North American farms. Air-freighted seafood was to be avoided and chefs were required to reduce the purchase of tropical fruit and other flown-in foods.

Bon Appetit programs and policies were supported by the Bon Appetit Management Company Foundation, whose mission was to “educate consumers, institutional purchasers, and chefs” about the impact of their food choices. The Foundation researches the current and future impacts of food choices on the global environment, local economies, and food quality, and communicates their findings to target groups with an eye to inspiring a change in food choices. Foundation research also underlies new Bon Appetit programs and policies (Bon Appetit Management Company, 2015c).

Another aspect of Bon Appetit’s approach to sourcing and cooking food is Bon Appetit’s policy of preparing pizzas, salsas, sauces, stocks, soups, and salad

dressings from scratch using fresh ingredients rather than highly processed, canned, pre-cut, pre-cooked, or packaged ingredients. Food is prepared on-site rather than at another central location and transported to Bon Appetit kitchens. Menus change every day based on seasonality and the availability of fresh, locally sourced food products, and as a consequence, menus vary between campuses. And according to the Bon Appetit website, every person at the company “has a sincere passion for great food” (Bon Appetit Management Company, 2015b).

Farm-to-Fork (farm-to-college) Program. As part of Bon Appetit’s Farm-to-Fork Program, farm-to-college programs managed by Bon Appetit purchased locally produced farm products from “small family farms” in 2008. Bon Appetit encouraged chefs and food service managers to purchase directly from local family farms as much possible. Bon Appetit managed farm-to-college programs and purchased certified organic farm products and sustainably produced farm products (minimal or no pesticide usage, soil and water conservation) in 2008. The working conditions of farm workers who produced food purchased by Bon Appetit farm-to-college programs were not tracked. Face-to-face meetings between chefs and local participating farmers were an essential component of all Bon Appetit farm-to-college programs. Student education was also included in farm-to-college programs, as was waste reduction, composting, and recycling (Greenawalt, 2008).

Purchasing from small farms. The director said she knew the farms from which Bon Appetit chefs and food service managers sourced local farm products were small family farms because Bon Appetit limits the size of farms that must be either

family owned or cooperatives to an annual gross revenue of five million dollars or less. The Bon Appetit definition of *small family farm* differs from the USDA definition. The USDA defines *small farms* as ones with “less than \$350,000 in gross cash farm income” (United States Department of Agriculture, National Agricultural Statistics Service, 2015). The USDA Economic Research Service (ERS) defines *family farms* as ones “whose primary operator owns the majority of the farm business along with his or her relatives” (MacDonald, 2014). ERS considers family farms with annual sales of one to five million dollars to be large family farms. According to the director, the reason Bon Appetit uses the “five million dollars in gross revenue” definition of *small farm* is that dairies need to be relatively large, larger than a produce farm, to be viable. One hundred percent of local purchases are from small family farms, as defined by Bon Appetit (Greenawalt, 2008).

Purchasing organic and sustainably produced food. Bon Appetit does not track organic purchases, but the director knew that some farm-to-college programs purchased organic farm products. She also knew that Bon Appetit chefs and food service managers purchased farm products that were sustainably produced. The director explained that food service managers and chefs should be able to make an educated guess as to whether or not farms use sustainable production methods because they visit the local farms. Bon Appetit did not track sustainably produced purchases overall, but Bon Appetit did have purchasing guidelines for some farm products:

- 1) **Produce:** There were no corporate guidelines for produce. Chefs had relationships with farmers and learned what farming methods they used. Bon Appetit encouraged Food Alliance and self-certification.
- 2) **Meat:** Bon Appetit had guidelines for certain meats: Chicken and turkey breasts could not contain antibiotics. Only natural hamburger (containing no antibiotics) could be used. Bon Appetit also preferred no antibiotics or hormones in other meats.
- 3) **Dairy:** No bovine growth hormone was allowed in liquid milk.
- 4) **Seafood:** Bon Appetit used Monterey Aquarium sustainability guidelines for all seafood purchases, and fish is not usually locally purchased.

Because purchase of sustainably produced farm products was not tracked, the director did not know what percentage of locally purchased products was sustainably produced (Greenawalt, 2008).

Safe and fair working conditions. Bon Appetit also did not track treatment of farm workers on farms from which it purchases farm products. Bon Appetit does not have criteria for safe and fair labor practices. Dining services managers could observe the practices of farmers they worked with. Further, many small farms do not have employees. According to ERS, farms that primarily rely on family labor account for nearly half of all U.S. farm output (MacDonald, 2014). Chefs were educated about selection of quality produce, but the director pointed out, “It is up to them to decide who to purchase from” (Greenawalt, 2008). Since Bon Appetit does not track treatment of farm workers, the director did not know what percentage of local purchases was from farms that employed safe and fair labor practices. However, she commented that with Food Alliance certification, an applicant gets points in different

areas and that it is possible to get certified with low points for fair labor practices if the applicant has high points in other areas. On the other hand, she said that Full Belly Farm probably has safe and fair labor practices but no certification (Greenawalt, 2008). Colleges and universities that have contracted with Bon Appetit to manage dining services have requested organically grown food, sustainably grown food, recycling, and fair trade products, but none have requested Bon Appetit to provide food produced under safe and fair labor conditions.

Producer-consumer relations and student education. Chefs who prepared food and menus in 2008 visited the local farms where the food purchased for the program is produced. At some schools, but not all, students also visited the farms where food is sourced for the Farm-to-Fork Program. Student education and involvement were incorporated into Bon Appetit's programs through the use of table tents; the website; the "Eat Local Challenge," an annual event held at each campus where all food served is sourced locally; and the Low Carbon Diet. The content of the information provided to students included the following:

- Advantages of eating local
- Carbon footprint
- Health: personal and environmental impacts of food choices (Greenawalt, 2008)

Why and how Bon Appetit and its programs were established. Bon Appetit initiated the Farm-to-Fork Program in 1999 and started marketing the program in 2004. Dining services chefs at the various colleges under contract with Bon Appetit

were the ones most responsible for initiating the Farm-to-Fork Program at their schools. In the 1990s, Bon Appetit chefs started to realize that mass-produced market produce that had been bred to look good and travel well did not necessarily taste good. Consequently, chefs began connecting with and purchasing produce from local farmers. Bon Appetit made the final decision to formally establish the local purchasing program in 1999, as reported above. The program is driven completely by Bon Appetit behind the scenes. According to the director, even if a school that has contracted with Bon Appetit is not interested in the Farm-to-Fork Program, Bon Appetit implements it anyway.

The factors that impacted the decision to establish the Farm-to-Fork Program were the desire to serve fresher, higher-quality food and the desire to support local farmers and the local economy. But the decision was “first and foremost about flavor, then supporting the local economy, environment” (Greenawalt, 2008). Bon Appetit adopted the Low Carbon Diet in 2007 in an effort to decrease its contribution to climate change by adopting overall policies to reduce its carbon footprint, including purchasing seasonal and regional food, moving away from beef and cheese, stopping purchase of air-freighted, processed, and packaged food, and reducing food waste (Bon Appetit Management Company, 2012).

Helps and hindrances to establishing the program. The biggest barrier to establishing the local purchasing program was finding the farmers and developing trusting relationships. There were a couple of reasons Bon Appetit did not include organic and sustainably grown produce in the Farm-to-Fork Program: It was hard to

find farmers overall, and organic farmers and ones using sustainable production methods were even more difficult to locate. Bon Appetit never did have criteria for “organic.” “Certified organic” can mean large farms and produce that has been grown overseas, though Bon Appetit’s focus is on local. “Farm-to-Fork does not include sustainability”; no antibiotics is not a part of Farm-to-Fork—it is an overall Bon Appetit policy (Greenawalt, 2008). No consideration was given to purchasing food produced under safe and fair labor conditions. Chefs develop relationships with farmers and see working conditions. However, the director did say that Bon Appetit might come up with farm worker labor conditions standards for overall purchases in the future.

Policies for producers were not changed under Bon Appetit in order to implement the Farm-to-Fork local purchasing program. However, some policies changed when Bon Appetit became a subsidiary of Compass in 2002, including insurance requirements, payment terms, and quality assurance. Delivery requirements, quantity requirements, and price policies did not change. Farms must be located within 150 miles of campus; gross farm revenue must be five million or under; and farmers must have one million in liability insurance. The Compass standard is five million in liability insurance. Compass also had different quality assurance standards, but Bon Appetit worked with Compass to scale quality assurance to the size of the business. Chefs were given the autonomy and the responsibility for finding farms. The goal for local purchases is an annual average of 20% of all purchases.

Bon Appetit's broadline distributors were required to meet restrictions on chicken, turkey, hamburger, and seafood. This changed what distributors sourced. There was a problem with Bon Appetit being the only account that wanted a product, not with availability. For example, in order to get natural beef burgers, one account in Florida had to commit to purchasing a minimum quantity of burgers or the distributor would not source the burgers. According to the director, Bon Appetit works with Farmer Advocacy, Food Alliance, and CAFF in setting policies so its policies won't detrimentally impact small farmers. The director also noted that their accounts in the South were lagging in adopting progressive food policies. "Christians teach that climate change is not manmade, so they don't support carbon footprint education" (Greenawalt, 2008).

Expansion of programs. The director related that she would like to have a measurement tool for labor practices on farms. Subsequently, in 2009, Bon Appetit signed an agreement with the Coalition of Immokalee Workers (a coalition of Florida tomato farm workers) that includes acceptable working conditions and wages that are enforced through a strict code of conduct for Florida growers. Bon Appetit will not purchase from growers who do not comply with the code. In 2011, Bon Appetit, in partnership with the United Farm Workers of America, prepared a report disclosing the many unfair labor practices and lack of laws and protections facing U.S. farm workers today. Bon Appetit later became an early member of the Equitable Food Initiative (EFI), a project that emerged in 2012 to create a farm worker health and safety certification (Bon Appetit Management Company, 2015d). The director also

said she would like to move to a higher percentage of local purchases than the 20% currently established for the Farm-to-Fork Program (Greenawalt, 2008).

Regional Produce Distributor: Duck Delivery Produce, Inc.

Duck Delivery Produce, Inc.'s president, Ernie Spada, Jr., believes that consumers want to know where their food comes from: "It's clear to me that consumers are increasingly concerned with where their food comes from and how it is produced. Food Alliance certification offers answers to a lot of the questions people are asking (Duck Delivery, 2015).

Food distributors: Background. Food distributors act as middlemen between suppliers, such as farmers and producers, and end buyers (consumers), such as retail grocery stores, restaurants, food service management companies, and institutions, including university dining services. Because distributors typically work directly with both producers and end buyers, they have extensive knowledge about both their suppliers' product availability as well as their customers' needs. Communication about the location of a distributor's suppliers, including distance a product has traveled from the supplier to the end buyer, and the farming practices of each supplier is essential to the success of farm-to-college programs that cannot source directly from local farms, but want to purchase local, sustainably produced farm products. Communication of this information from producer to distributor to consumer is a key function of values-based food supply chains. Distributors can be broadline, offering a wide range of food products, or specialize in specific products,

such as ethnic foods, frozen food, and fresh foods, like produce, meat, or seafood. My primary purpose in obtaining information from a distributor was to determine whether distributors are able to verify supply chain traceability back to producers who utilize uncertified sustainable production methods.

Duck Delivery Produce, Inc. (Duck Delivery), is a vertically integrated, regional Northwest, full-service, institutional and retail produce distributor located in Portland, Oregon. It is a medium-size company with 300-plus employees. Its warehouses, loading and receiving docks, and all of its trucks are refrigerated in an effort to “never break the cold chain” (Duck Delivery, 2016). The Portland location serves a small region that includes Spokane, Washington, 350 miles to the north; Medford, Oregon, 273 miles to the south; The Dalles, Oregon, 83 miles to the east; and Astoria, Oregon, 95 miles to the west. In addition, Duck Delivery operates a warehouse in Bend, Oregon, that serves central and southern Oregon. A sister company located in Washington serves the Seattle/Tacoma area. Duck Delivery is also linked to Pride in Packing Co., a company started by the president of Duck Delivery, which grows, packs, and ships stone fruit and apples and pears, including supplying fruit to Duck Delivery. Pride in Packing is Food Alliance certified (Duck Delivery, 2016a). Duck Delivery offers two types of produce: fresh unprocessed produce and processed produce that has been cleaned, peeled, cut by hand to specification, and packaged in Duck Delivery’s processing rooms. Produce is delivered to customers within 24 hours (Duck Delivery, 2016a). According to its website (accessed in 2015), in 2008, Duck Delivery became the first distributor in the

United States to be Food Alliance certified (Duck Deliver, 2015). This information does not appear on the website in 2016. Duck Delivery sources produce from farmers and growers all over the world, including Northwest growers.

Duck Delivery services in 2009. I interviewed the Duck Delivery university sales representative in 2009. She described the produce that Northwest farm-to-college programs purchased from Duck Delivery, including locally produced produce, certified organic produce, and sustainably produced produce. Duck Delivery sourced its produce from small family farms, as well as larger farms and growers, and included products from farms that had been certified by the Food Alliance as providing safe and fair working conditions for farm labor. Duck Delivery is a participant in a values-based food supply chain that embeds the producers' values (sustainable farming methods, safe local food) into the supply chain and communicates these values to farm-to-college programs and other customers.

Locally sourced produce. Some of Duck Delivery's university customers defined *local* as "produce grown within a 150-mile radius of their location"; other universities defined *local* as "produced in Oregon, or Oregon and Washington" (Whalen, 2009). Duck Delivery's website defines *local* as "produce grown in the Northwest (Oregon and Washington)." Duck Delivery tracks available Northwest products separately on a list that is prepared weekly and posted on the Duck Delivery website. The list identifies the state (Washington or Oregon) and city where the produce was grown, along with the number of miles the produce traveled from the grower to the Duck Delivery distribution center in Portland and the distribution center

in Washington state (see Appendix P for the local products list). Using the mileage and source location provided on the sheet, the various university farm-to-college programs can purchase local produce based on their own individual definition of *local* and their purchasing requirements. The representative was not certain whether Duck Delivery visited the local farms from which it sourced, but she thought it was likely due to food safety chain requirements.

Produce sourced from small family farms. The representative said she knew that Duck Delivery sourced from small family farms. She explained that the company works with as many small farmers as they can. However, it will only source from small farms that are willing to meet Duck Delivery's insurance and indemnification requirements, including a hold harmless agreement, which are necessary for food safety reasons. Duck Delivery knows the farms are small family farms from the way the farms advertise themselves. Duck Delivery sourced less than 5% of its local produce from small family farms in 2009 when I interviewed the representative (Whalen, 2009).

Organic and sustainably grown produce. Duck Delivery sourced and sold certified organic farm products to farm-to-college programs in 2009. Duck Delivery has a dedicated organic buyer and a large (good-sized) room dedicated to organic. The representative did not know what percentage of the produce Duck Delivery sourced and sold was certified organic. The representative said that Duck Delivery also sourced and sold sustainably produced farm products. Duck Delivery can verify that produce was sustainably produced because the produce is Food Alliance certified.

Duck Delivery's standard for sustainably grown produce is Food Alliance certified. The representative explained that there is "no other way to track whether produce is sustainably produced" than Food Alliance certification. The percentage of sustainably produced produce sourced and sold varies throughout the year according to the growing season. Duck Delivery's orchards (Pride in Packing) are Food Alliance certified and Duck Delivery supplies a lot of its own apples and pears. During the growing season (summer and early fall), a large volume of the produce is Food Alliance certified. In March, at the time of the interview, only three produce items were Food Alliance certified (Whalen, 2009).

Safe and fair labor practices. The Food Alliance certified products that Duck Delivery purchases and sells have been produced using safe and fair labor practices, and the Duck Delivery's standard for safe and fair labor practices is Food Alliance certified. The representative did not know what percentage of the produce it sourced in 2009 had been produced using safe and fair labor practices. Again, the percentage varied by season. Duck Delivery's warehouse and processing plant meet Food Alliance standards for safe and fair labor practices (Whalen, 2009).

What universities request. According to the representative, the majority of Duck Delivery's university accounts request regional or local produce. The representative noted that Bon Appetit "wants all the produce it purchases to be North American"; Lewis and Clark, a Bon Appetit account, "will only use produce grown in the United States" (Whalen, 2009). Bon Appetit programs also purchases locally produced produce from Duck Delivery. Some university accounts have requested

organically grown food, but the percentage is not high. They have also requested sustainably produced, Food Alliance certified products. In addition, they have requested recycling, composting, waste reduction measures, and other environmental measures. According the representative, Bon Appetit educates its customers about local seasonal produce. She added that Duck Delivery also educates its customers by letting them know what is grown in the United States, what is local, and what is in season (Whalen, 2009).

According to the representative, universities put out RFPs that specify their standards for purchasing produce. At the time of my interview, Duck Delivery met the standards for Bon Appetit. According to the representative, Bon Appetit–managed dining services have the strictest purchasing requirements of all Duck Delivery’s university accounts. Bon Appetit would only purchase produce grown in the United States due to concern about its carbon footprint. According to the representative, Aramark has no criteria for purchasing local or sustainable produce. Dining services managed by Aramark use university requirements (Whalen, 2009).

Why and how Duck Delivery and its programs were established. Duck Delivery Produce, Inc., was founded by a graduate of the University of Oregon and was named after the Oregon Ducks. In 1985, United Salad Company, headed by Ernie Spada Jr., the current president of Duck Delivery, purchased Duck Delivery to meet the needs of the growing company. According to the university sales representative, the current owner of Duck Delivery was responsible for the decision to source local, organic, and Food Alliance certified sustainable produce grown under safe and fair

labor conditions, as well as for the decision to become a Food Alliance certified handler (includes distributors). She explained that “the owner is very progressive and believes that you have to care for the environment because food comes from the earth. He believes production of organic and sustainably grown produce is better for the environment than conventionally grown produce” (Whalen, 2009). Safe and fair labor practices are part of the Food Alliance certification.

Helps and hindrances to establishing the programs. According to the representative, none of Duck Delivery’s policies were changed in order to source local sustainable produce (Whalen, 2009). However, the Food Alliance has stringent requirements for farm and handler certification, which includes third-party verification of employment practices, as well as reduction of toxic and hazardous materials and energy conservation, and requires continuous improvement in social and environmental management practices (Food Alliance, 2016b)

Expansion of programs. The representative did not address expansion of Duck Delivery’s programs.

Food Certification Program: Food Alliance

The Food Alliance operates a third-party certification program and, according to its website, “works at the juncture of science, business, and values to define and promote sustainability in agriculture and the food industry, and to ensure safe and fair working conditions, humane treatment of animals, and careful stewardship of ecosystems” (Food Alliance, 2016a). Third-party food certifiers ensure that food

produced in the food system conforms to particular standards. Third-party Eco Food Certifications range from USDA Organic, Fair Trade, and Humane (treatment of farm animals) to Rainforest Alliance and Food Alliance. Evidence of certification is indicated by eco-labels. First-party claims or labels, such as “no chemicals used,” are issued by the producer without any independent review. Second-party labels are issued by industry or trade organizations, again without independent review. In contrast, third-party certification includes an audit by an independent auditing firm that rates the product or practices against a sustainability standard.

Food Alliance certification is voluntary. A third-party site inspection verifies that farms and ranches meet Food Alliance–defined sustainability standards, including both social and environmental sustainable agricultural practices. According to the Food Alliance, standards are based on the most current scientific research and are modified as new scientific data emerges, industry practices change, government regulations expand, and consumer concerns evolve (Food Alliance, 2016a). The Food Alliance also certifies food handlers (packers, processors, and distributors). The Food Alliance has eight “guiding principles” that encompass its definition of *food and agricultural sustainability*:

- 1) Protect, enhance, and conserve soil resources, water resources, and biodiversity.
- 2) Conserve energy, reduce and recycle waste.
- 3) Reduce use of pesticides and other toxic and hazardous materials.

- 4) Support safe and fair working conditions.
- 5) Ensure healthy, humane animal treatment with no growth hormones or non-therapeutic antibiotics.
- 6) Guarantee product integrity, no genetically engineered or artificial ingredients
- 7) Maintain transparent and sustainable “chain of custody.”
- 8) Continually improve practices (Food Alliance, 2016c).

Food Alliance certification programs in 2009. When I interviewed the Food Alliance certification director in 2009, the Food Alliance had three certification programs in operation: 1) the Whole Farm Certification Program, 2) the Crop/Animal Specific Certification Program, and 3) the Handler (Packers, Processors, and Distributors) Certification Program. Both the Whole Farm Certification Program and the Crop/Animal Specific Program had producer standards that correlate with the Food Alliance’s “guiding principles” and were as follows:

- 1) Provide safe and fair working conditions.**
- 2) Ensure the health and humane treatment of animals.
- 3) Do not use hormones or non-therapeutic antibiotics.
- 4) Do not raise genetically modified crops or livestock (GMOs).
- 5) Reduce pesticide use and toxicity.**
- 6) Protect and enhance soil resources.**
- 7) Provide wildlife habitat.**

8) Continually improve practices (Food Alliance, 2016d).

Only four of the standards, in bold above, were addressed in the whole farm evaluation criteria: soil and water conservation, reduction in the use of pesticides, wildlife habitat conservation, and safe and fair working conditions. The criteria were scored based on performance indicators for each criterion. In order to be certified, the applicant had to receive an average score of 75% for each criterion. The applicant was also required to commit to continual improvement of his or her management and production practices in the four areas addressed in the criteria.

All of the standards representing the Food Alliance's "guiding principles" were addressed in the crop/livestock specific evaluation criteria and included both mandatory (fixed) criteria and scored criteria. The following criteria were mandatory: "no use of genetically modified seed varieties or livestock breeds, no use of growth hormones or non-therapeutic antibiotics, and no use of chemicals identified on the Food Alliance Prohibited Pesticides List" (Food Alliance Certification for Producers, 2008). The criteria corresponding to the remaining five standards, "soil and water conservation, reduction of pesticide use, wildlife habitat conservation, safe and fair working conditions, and healthy and humane care for livestock," were scored based on detailed performance indicators (Food Alliance, 2016d).

An applicant had to receive an average score of 75% in each category of scored criteria to receive certification for the specific crop(s) and/or livestock. An example of a scored criterion was safe and fair working conditions. Fourteen indicators of safe and fair working conditions were rated: 1) minors, children and

family members in the workplace; 2) grievance procedures and policies; 3) recognizing and supporting employee input for workplace improvement; 4) farm worker support services; 5) discipline process; 6) nondiscrimination policy; 7) hiring practices; 8) communicating expectations and policies; 9) workforce development and new skills training; 10) compensation practices, employee benefits; 11) worker housing and family support services; 12) pesticide handler/application safety; 13) hazardous materials emergency management and sanitation; and 14) general safety. Each indicator had four levels, and each level corresponded to the number of points given for meeting the requirements of that particular level. Using the Employee Benefits indicator as an example, the levels were as follows:

- **Level 1:** Employer provides Unemployment and/or Workers' Compensation Insurance.
- **Level 2:** Employer provides one of the following:
 - Health insurance
 - Disability insurance
 - Life insurance
 - Subsidizes cost of or provides transportation to employees
 - Arranges for community groups to provide assistance to workers
 - Sick pay
 - Reduced-cost housing for full-time employees

- Housing allowance, special compensation to cover housing costs
- Migrant worker/temporary worker housing at reduced rates
- Employer gives bonus wages to reward excellent work
- **Level 3:** As per Level 2, and employer provides two benefits from the list.
- **Level 4:** As per Level 3, and employer provides at least three benefits from the list (Food Alliance Whole Farm/Ranch Inspection Tool, 2008).

With four points possible per indicator, the maximum number of points available for safe and fair working conditions was 56 total points (14 x 4). To arrive at an overall percentage score for each criterion, the earned points for each indicator were added together and divided by the maximum points available. If the applicant had achieved three points for each indicator of safe and fair working conditions, his or her total points for the category would have been 42. Forty-two divided by 56 would have resulted in an overall average score of 75% for safe and fair working conditions, the minimum allowed in each category to be eligible for certification. Food Alliance certification was also available for handlers in 2009. The standards for handlers were as follows: “Use all Food Alliance certified ingredients; provide safe and fair working conditions; conserve energy and water; reduce use of toxic and hazardous materials; reduce and recycle waste; ensure quality control and food handling safety; no artificial flavors, colors, or preservatives; and continuously improve practices” (Food Alliance, 2008).

Why and how Food Alliance and its programs were established. Oregon Tilth was the first organic certifier in the mid-1980s. When national certification came about, a number of interested parties from Washington State and Oregon State Universities started talking about the future of organic. They believed there was “more [to sustainable agriculture] than organic,” which is input driven, and decided the best approach to promoting sustainable agriculture was a certification program that rewarded producers whose practices included safe and fair labor conditions, wildlife habitat protection, and protection of the environment (reduced use of pesticides) (Food Alliance interview, 2009). The Food Alliance, which was an outgrowth of the above discussions, began as a project of Oregon State University, Washington State University, and the Washington State Department of Agriculture in 1993. It was incorporated as a 501C3 organization in 1997 (Lewotsky, 2009). According to the certification director, the Food Alliance was established because its founders wanted to promote sustainability at a time when there was no certification available for sustainability based on the interconnections that underlie it (Lewotsky, 2009). In the opinion of the certification director, certification is necessary in order to be certain that food is produced sustainably because farmers “lie about their farming practices,” even in a “one-on-one” conversation when the buyer is looking “the farmer in the eye” (Lewotsky, 2009). She lamented that entire procurement programs are based on “trusting the vibe” of the farmer without verification that his or her farming practices are sustainable (Lewotsky, 2009). In 2005, the Food Alliance decided to target its services to mid-sized farms and ranches (Food Alliance, 2016a).

Helps and hindrances to establishing the certification programs.

Increasing consumer demand for sustainably produced food was a help in establishing the certification program. According to the certification director, people were becoming better educated about the food system. Emerging scientific information helped them understand the consequences of conventional agriculture and ask themselves what type of farming they wanted to support. There were also hindrances to establishing the certification program. Producers' lack of understanding of the dollars and the time it takes to shift production methodologies to meet market demand was a problem. According to the certification director, "It is hard for people to change and make repairs and decisions about management practices" (Lewotsky, 2009). Putting new standards in place takes six months to a year. Fees were a barrier to small farms becoming certified. In 2009, the application fee and inspection was \$800 to \$1,000 for producers and \$1,000 to \$1,500 for handlers. Farms and ranches were inspected every three years. Handlers were inspected every year. In addition to inspection fees, farms, ranches, and handlers paid an annual licensing fee based on gross sales. Another hindrance to the success of the program was consumer demand for cheap food. Certified sustainable food can cost more than conventional food (Lewotsky, 2009).

Expansion of programs. The certification director said she would like to expand the certification program to feedlots and slaughter facilities. She also wanted to make improvements to existing certification criteria.

Comparison and Analysis

While food service companies, distributors, and third-party food certifiers occupy different positions in a values-based supply chain, it is instructive to compare Bon Appetit Management Company, Duck Delivery Produce, Inc., and the Food Alliance in regard to local sourcing, farmer identity, sustainable production practices, and fair and safe working conditions, and how each company differentiates these values within the values-based food chain.

Table 39

Comparison of Bon Appetit, Duck Delivery, and Food Alliance

Company	Type	Local	Farmer Identity/Relation-ships	Value: Sustainable Production Practices	Value: Safe and Fair Working Conditions
Bon Appetit	Food management	Yes	Yes	No-Produce Yes-Seafood Yes-Ground beef and poultry Yes-Milk	No (except for tomatoes grown in Florida)
Duck Delivery	Distribution	Yes (regional)	No	Yes (Food Alliance certified food products)	Yes (Food Alliance certified food products)
Food Alliance	Certification	No	Yes (farmer identity)	Yes	Yes

Sources: Bon Appetit, 2008 interview; Duck Delivery, 2009 interview; Food Alliance, 2009 interview.

Table 40

Comparison of How Bon Appetit, Duck Delivery, and Food Alliance Differentiate the Values They Promote

Company	Type	How Values Differentiated
Bon Appetit	Food management	Local: uses table tents; website; and special events to introduce to local farmers and inform them about benefits of local food Personal and environmental health: uses table tents; website; and special events to educated students about the personal and environmental impacts of food choices
Duck Delivery	Distribution	Local: tracks available regional products on weekly website list that identifies place of origin and distance traveled to distribution center Sustainable: uses Food Alliance and organic certification
Food Alliance	Certification	Farmer identify: uses website map to identify certified producers, processors, and distributors, and provide a link to their websites Sustainable certification: uses website to educate consumers about certification and its benefits

Local. Bon Appetit’s Farm-to-Fork Program is centered on local purchasing. Chefs are encouraged to develop direct relationships with local farmers and to purchase at least 20% of their ingredients from small owner-operated farms and artisan producers located within 150 miles of their kitchens. Bon Appetit’s Farm-to-Fork Program represents the “home” conception of sustainable development (discussed in Chapter 2), known as “relocalization,” because it focuses on local purchasing for local consumption and fosters producer-consumer relationships. However, farm-to-college programs operated by Bon Appetit typically purchase only

20 to 25% of the food served in their cafes and dining halls from local sources. Bon Appetit differentiates locally grown produce to its student customers (the end-consumers) through food tents, the annual “Eat Local” event, and providing opportunities for students to meet farmers.

Duck Delivery sources local produce grown in Washington and Oregon and supplies it to institutional and retail buyers in Washington and Oregon. It informs its buyers of the state and city where the product was grown and how far it traveled to Duck Delivery’s distribution center using a weekly list of Local Northwest Products posted to its website. Like Bon Appetit, local sourcing makes up only part of Duck Delivery’s business. It also sources from growers across the United States and the globe. The Duck representative I spoke with was unable to tell me what percentage of the produce sourced by Duck Delivery is local. Duck Delivery’s local sourcing program is a hybrid of the “home” conception of sustainable development and the “conservative market-driven” conception of sustainable development.

The nature of the Food Alliance certification program, in contrast to Bon Appetit and Duck Delivery, precludes any focus on local. In fact, Food Alliance certification facilitates greater distances between producer and consumer by verifying that farm goods were produced using sustainable methods and eliminating the need for the consumer’s firsthand knowledge of production methods. Because of its scientific and standards-driven approach to sustainable development, the Food Alliance leans toward an “environmental management” conception of sustainable

development. However, the Food Alliance does differentiate the farmers that produce the certified products by telling their stories on its website.

Farmer identity. One characteristic of VBSCs is the preservation of the identity of the farmers and ranchers who raised or grew the product being sold as the product moves through the supply chain. Because Bon Appetit's chefs develop direct relationships with local farmers and purchase from farms they have visited, they know the identity of the farmers whose produce and farm products they serve. They share this information with students who eat in their cafes and dining halls using table tents, posters, and special events that include local growers. Duck Delivery provides the name of the packer and the city and state in which local produce items were grown on its weekly Local Northwest Product list, but not the identity of the farmer who grew the product. The Food Alliance publishes a map on its website that identifies the name and location of producers, processors, and manufacturers who are Food Alliance certified. It also publishes a list of certified distributors, farms, and manufacturers, including their address, website, and certified products.

Sustainable production practices. Bon Appetit does not include sustainable production practices in its Farm-to-Fork local purchasing program. Bon Appetit believes that chefs will visit local farms and likely choose to source from farms that use sustainable production methods. However, Bon Appetit does have sustainability standards for the seafood, ground beef, poultry, and milk purchased by its chefs and program managers, whether sourced locally or from another state. Duck Delivery is a Food Alliance certified distributor that differentiates certified products by providing

customers with information on which products are certified. Duck Delivery also distributes certified organic produce. Produce certified by the Food Alliance is grown using sustainable methods, including soil and water conservation, integrated pest management, and wildlife habitat conservation. However, less than 6% of the approximately 300 products listed on its weekly Local Northwest Product list were Food Alliance certified on February 25, 2015. Duck Delivery does not have sustainability standards for produce that is not Food Alliance certified. The Food Alliance requires all the food products it certifies to be produced using sustainable methods.

Safe and fair working conditions. Bon Appetit did not include safe and fair working conditions for farm workers in its Farm-to-Fork local purchasing program in 2008 when I interviewed the director of Communications and Strategic Initiatives. However, in 2009, the management company entered into an agreement with the Coalition of Immokalee Workers (a coalition of Florida farm workers) that includes acceptable working conditions and wages that are enforced through a strict code of conduct for growers. Growers are monitored by a third party that includes worker participation. Bon Appetit will not purchase tomatoes from Florida growers who do not abide by the code of conduct. In addition, Bon Appetit became involved with the Equitable Food Initiative (EFI) after my interview. EFI is developing a certification system that will provide assurance of ethical treatment of farm workers. Like the agreement with the Coalition of Immokalee Workers, the certification system will include worker involvement.

Duck Delivery distributes produce that has been certified by the Food Alliance to have been produced under safe and fair working conditions, which include Unemployment and/or Workers' Compensation Insurance and one or more additional benefits. The Food Alliance requires all producers to provide the above third-party-certified benefits to farm workers. This certification differs from the certification EFI is developing in that the EFI certification will include worker participation and the Food Alliance certification does not.

CHAPTER 7

FINDINGS AND CONCLUSIONS

Overview

Redclift and Woodgate argue that new institutions, processes of production, and measures of human welfare promoting ecological sustainability and social equity need to be identified by sociologists in order to support a shift to sustainable development (Redclift & Woodgate, 1997). A shift to sustainable development is critically important now in this time of alarming climate change, air, water, and soil pollution, excessive waste, loss of biodiversity, extreme poverty, and income inequality.

Because the global industrial agricultural system is a significant source of these problems, a local food movement has emerged, at least in part, as a response. Farm-to-college programs are part of this movement and are thought to promote sustainable development and agriculture. However, the degree to which they support development and agriculture that are environmentally sound and socially just is currently unknown.

My research addresses this problem by examining the extent to which farm-to-college programs in the United States fit the characteristics of sustainable development and agriculture, particularly through support of practices promoting environmental health and social and economic equity. I also examine the degree to

which farm-to-college programs fit the characteristics of relocalization, including support of small farmers, local economies, and producer-consumer relationships. In addition, I explore the nature of farm-to-college programs and the reasons why they are established, including the initial importance of social justice and ecological sustainability, as well as how they are established and whether they are expanding in scope. I describe my findings below, followed by conclusions highlighting ways farm-to-college programs can expand support for ecological sustainability and social justice, culminating with a model for establishing farm-to-college programs based on the UCSC case study. I conclude with recommendations for future research.

Findings

The nature of farm-to-college programs in the United States. My research found that a majority of the farm-to-college programs included in my survey incorporated all of the measures I used as indicators of sustainable development and relocalization. These measures and the percentage of programs incorporating them were 1) purchase of locally produced food (100% of the programs); 2) purchase of farm products from small family farms (87%); 3) purchase of certified organic farm products (73%); 4) purchase of sustainably produced farm products (92%); 5) purchase of products from farms providing safe and fair working conditions for farm workers (58%); 6) inclusion of opportunities for chefs to meet participating farmers (85%); 7) inclusion of student education or involvement (85%); and 8) inclusion of waste reduction such as composting, recycling, or other (96%). However, the extent to which these measures were incorporated into the programs varied significantly and

resulted in my finding that the programs in my survey fit the characteristics of relocalization to a much greater extent than they fit the characteristics of sustainable development.

Purchase of locally produced food. A local food movement has arisen around the world in response to globalized industrial agriculture and its externalities, including: 1) concentration and centralization of agriculture; 2) displacement of small farmers and marginalization of farm workers; 3) water, air, and food pollution through the use of pesticides, synthetic fertilizers, GMOs, and animal drugs; 4) greenhouse gas emissions due to dependence on gasoline and diesel for transportation and petrochemical-based pesticides and fertilizers; and 5) food that has lost freshness and flavor due to long food supply chains and farm products engineered to survive shipment over long distances at the expense of flavor (see “Political economy of agriculture and food systems” in Chapter 2).

These dual movements, globalization and industrialization of agriculture and the local food movement, resemble Polanyi’s double movement, one promoting expansion of the free market (with the assistance of government policies) at the expense of habitation (homes and livelihoods) and nature, and the other (the local food movement) responding with efforts to protect habitation and nature through alternative agriculture and opposing government policies. The local food movement includes farmer’s markets, community-supported agriculture, direct to retail (grocery stores), food service (restaurants), and programs such as farm-to-college. Local food purchases benefit small local farmers, support the local economy, and meet consumer

demand for freshness. However, purchase of local food does not guarantee that the food was produced under safe and fair working conditions. In fact, the local food movement has come under criticism from academics as a white middle-class movement that excludes low-income communities and communities of color (Alkon & Agyeman, 2011; Guthman, 2011). Nevertheless, buying local food is a recognized and growing trend.

There is no consensus on a geographically based definition of *local food*. While all the farm-to-college programs included in my survey purchased local food, their definitions of *local* varied from “food produced within the same county” to “food produced within a multi-state region.” However it is defined, there is general agreement that *local food* is characterized by a reduction in the distance between producer and consumer, a short food supply chain, which allows the producer to retain a greater share of the food dollar and the consumer to connect with the “place of production and, perhaps, the people involved and methods used to produce the product” through package labeling or personal communication (Marsden et al., 2000, as cited in Martinez et al., 2010). It is also generally agreed that purchasing local food has a positive impact on local economies (Low et al., 2015). In addition, local purchasing is believed to reduce fossil fuel use, thereby reducing GHG emissions, although more recent studies show distance is not an adequate measure of impact (Saunders & Hayes, 2007).

Because of its benefits, the government has added policies and programs to support local purchasing in recent years (National Sustainable Agriculture Coalition,

2016). Research indicates that most shoppers purchase local food first because it is fresher and secondly to support the local economy (Low et al., 2015). My research found that the farm-to-college programs included in my survey purchased local food for the same reasons. The desire to serve fresher, higher-quality food was the most frequently cited factor impacting the decision to establish a farm-to-college program, and the desire to support the local economy and/or farmers was the next highest factor.

Purchase of food from small farms. The viability of small farms is a social justice issue as are safe and fair working conditions for farm labor (social and economic equity). Labor practices are addressed by sustainable development, and the viability of small farmers is addressed by relocalization. While production has increased, the number of small farms has declined over the past several decades as food systems in both advanced capitalist and developing countries have become increasingly global, large, and industrial. Unable to compete in the global food system, the number of farms (mostly family farms) in the United States, many of which were located in the Midwest, declined from a peak of 6.8 million farms in 1935 to 2.1 million in 2002 (Hoppe & Banker, 2006). Local production for local consumption has become a growing strategy for increasing the farmers' share of the food dollar and the financial viability of small farms in the United States and around the world. Small farms benefit from direct sales to local consumers as well as local sales through intermediated marketing channels, including institutions such as colleges and universities.

Direct marketing accounts for a higher percentage of sales for smaller farms than it does for larger farms (Martinez, et al., 2010). In addition to providing income for small farmers, local food sales have positive impacts for local economies. A recent USDA report to Congress cited empirical evidence, obtained by Martinez, et al. (2010), in support of the concept that “local economic benefits may accrue from greater local retention of dollars spent on food, from spillover to local business and increased entrepreneurship” (Low, et al., 2015). According to Low, import substitution, consumers purchasing local food rather than food imported from other countries or states, is the most direct way local food systems can positively impact local economies (Low, et al., 2015, p 17).

While 87% of the programs included in my survey reported that purchasing from small family farms was a major component of their farm-to-college program, only 31% of the programs (16) reported that 50% or more of their purchases were sourced from small farms. Fifty-four percent of the programs (28) made 20% of their purchases from small farmers. A majority of respondents (63% of the programs) said the desire to support the local economy and/or farmers was a factor in establishing their farm-to-college program.

However, many aspects of purchasing directly from small farmers can present obstacles that reduce a program’s ability to purchase directly from small farms and may account for a large number of programs purchasing only 25% or less of their local farm products from small farmers. The barriers include the following: 1) small farmers are often unable to meet insurance requirements; 2) small farmers may not

produce a large enough volume of produce to supply a program; 3) deliveries from multiple small farms can be logistically unmanageable; 4) small farmers may not be set up to issue invoices and may want to be paid immediately; 5) produce from small farms may not meet standards; and 6) small farms may not meet the vendor qualifications of large food service companies.

One farm-to-college manager summed up his experience this way: “Learning how to purchase from small farms was a challenge, but it is exciting to work with farmers and know who is producing the food.” Another way programs are purchasing products from small farmers is through farmer co-ops or hubs that source from small farmers. Four respondents, representing 8% percent of the programs, reported purchasing from farmer co-ops or hubs. Another respondent reported that some small farmers had formed a co-op to meet insurance requirements. The farm-to-college program at UCSC, featured in my major case study, purchases directly from a farmers’ collaborative that includes a member who serves the function of a food hub in order to avoid the problems associated with direct purchases from individual farmers (see “UCSC Farm-to-College Program” in Chapter 5).

All 16 Bon Appetit–managed programs included in the survey were required to purchase a minimum of 20% of their ingredients from “small, owner-operated farms and artisan producers” located within 150 miles of their kitchens (see “Food Service Management Company: Bon Appetit” in Chapter 6). Most of the programs managed by Bon Appetit included in my survey were at small colleges (14), which may facilitate purchasing directly from small farmers.

Fourteen of the 16 programs reporting that 50% or more of their purchases were from small farms were located at small colleges, and the other two were located at mid-size colleges. In addition, distributors, public colleges and universities, and large food service companies typically only source from small farms that are willing and able to meet their insurance indemnification and other requirements, which small farmers are frequently unable to meet. The regional mid-size produce distributor I interviewed (see “Regional Produce Distributor: Duck Delivery Produce, Inc.” in Chapter 6) sourced less than 5% of its local produce from small family farms in 2009 because small farmers were unable to meet its requirements (Whalen, 2009).

Purchase of certified organic farm products. Certified organic produce is grown without petroleum-based fertilizers, synthetic pesticides, or genetically modified organisms (GMO). Organic livestock is raised on organic feed and cannot be given antibiotics or growth hormones. Purchase of organic products promotes the health of the environment by keeping chemicals out of the air, water, and soil, as well as the bodies of farm workers and consumers. It also promotes biodiversity because beneficial insects are not poisoned by pesticides used to kill harmful insects.

However, organic certification does not guarantee that workers receive fair wages, “that animals are raised humanely, or that wildlife habitat is protected and enhanced” (Food Alliance, 2012). Consumer demand for organically produced products has grown by double digits most years since 1990. Organic food sales now account for 4% of total U.S. food sales (United States Department of Agriculture

Economic Research Service, 2015). (See also “Definitions of Key Terms and Concepts” in Chapter 1.)

Although 73% of the respondents in my survey reported that purchase of organic farm products was a major component of their farm-to-college programs, a majority (56%) also reported that purchase of certified organic products made up 10% or less of their local farm purchases. The Murray and CFSC surveys had similar findings regarding the percentage of farm-to-college programs in their respective surveys that included purchase of organic farm products (see “Farm-to-College Related Research” in Chapter 2). Neither the Murray nor the CFSC survey measured the percentage of local purchases certified organic represented. While 69% of the respondents in my survey said that students at their university had requested organic food, 44% of the respondents reported that the higher cost of organic food was a reason for not including it in their program or limiting the amount that could be purchased. “Organic is too expensive” was a comment made by several respondents.

Purchase of sustainably produced farm products. Like organic farming, sustainable agriculture avoids the ecological problems such as soil depletion and water and air pollution caused by the use of pesticides and synthetic fertilizers and the intensive production methods associated with industrial agriculture. But, unlike organic farming, sustainable agriculture addresses social and economic justice in addition to ecological farming practices and is regarded as a form of sustainable development. However, sustainably produced food, particularly produce, is typically

not certified or labeled and therefore is very difficult to identify, although a small percentage of sustainably produced food is certified by organizations like the Food Alliance (see “Definitions of Key Terms and Concepts” in Chapter 1). A very large majority of respondents (92%) reported purchase of sustainably produced food was a major component of their program, but only 38% said sustainably produced food made up 50% or more of their program’s local purchases. Fifty-two percent of the programs, over half, reported 20% or more of their purchases were sustainably produced.

Like the definition of *local*, definitions of *sustainable* varied among the respondents. While many respondents identified sustainably grown produce as produced without chemicals or limited pesticides, a few thought locally produced food equaled sustainably produced food, which is not necessarily true. Of the respondents, 25% reported they knew the produce they purchased from local farms was sustainably produced because they had visited local farms and observed their practices. One respondent from a mid-size college in the Midwest explained that he knows what *sustainable* means and communicates with farmers whom he trusts and believes and visits their farms often to “make sure they use sustainable practices.” The largest group, 33%, reported that they knew the produce was sustainably produced because minimal or no pesticides were used. Two programs located at small colleges, one in the Northeast and the other in the Midwest, reported verifying that minimal or no pesticides were used. One required the producer to fill out a form stating that chemicals were not used in growing produce, and the other arranged for

students to visit each farm and prepare a farm profile indicating how produce is grown. A quarter of the respondents either reported not knowing how they knew produce was sustainably grown or reported the question was not applicable to their program or did not respond.

Respondents were more certain about identifying sustainably produced dairy products. Sixty-five percent (34) reported they knew the dairy products (primarily milk) they purchased were sustainably produced because the products did not contain bovine growth hormone. Dairy products without bovine growth hormone are easier to identify than sustainably grown produce because they are more likely to carry an eco-label. Milk without bovine growth hormone may be labeled “From cows not treated with rBST/rBGH,” which means that the producer claims not to have administered these hormones to his or her cows (Grace, 2016). Nevertheless, 23% of the interviewees said the question was either not applicable to their program (six) or did not respond (six). All Bon Appetit programs (16 were included in my survey) are required to source only bovine growth hormone-free milk and yogurt (see “Food Service Management Company: Bon Appetit” in Chapter 6).

Half of the respondents reported knowing that the meat (beef, pork, or poultry) they purchased was raised sustainably because it was raised without growth hormones or antibiotics. One of the interviewees who responded that the meat purchased by her program had not been given growth hormones or antibiotics clarified that this was true only in one campus dining location. Three others explained

that only some of the meat purchased did not contain antibiotics and growth hormones.

None of the 16 Bon Appetit–managed programs purchased hamburger or chicken or turkey breasts containing antibiotics or hormones. The U.S. Department of Agriculture (USDA) does not allow hormones to be used in chickens, turkeys, or hogs, but hormones are allowed in meat and dairy. The USDA does not have a label for meat raised without hormones, although organic and grass-fed labels do not allow hormone use (Environmental Working Group, 2011). While the USDA does not publish a uniform standard or definition for antibiotic-free meat, the USDA does approve producer-provided labels indicating that meat is from animals raised without antibiotics. Each producer can develop its own antibiotic standard, which is then approved by the USDA before it can be used (see also “Definitions of Key Terms and Concepts” in Chapter 1).

Purchase of products from farms that provide safe and fair working conditions. While social sustainability (social justice within and between generations) is the most overlooked component of sustainable development and often subordinated to environmental and economic indicators, it is integral to sustainable development, as presented in *Our Common Future* (UN World Commission on Environment and Development, 1987). The UN’s new sustainable development goals related to ending poverty address the needs of farm workers as well as small farmers in the United States along with the poor in developing countries. UN employment targets include labor rights, safe and secure working environments for all workers, including migrant

workers, elimination of child labor, and full employment and decent pay (United Nations Department of Economic and Social Affairs, 2014). (See “Sustainable development, relocalization, and social sustainability” in Chapter 2.)

Although “hidden from public attention” in the United States, where much of the farm labor supply is composed of new or recent, often undocumented, immigrants, and agricultural labor is excluded from the protections of the National Labor Relations Act, the agricultural industry does not provide the employment compensation, benefits, or working conditions to farm workers enjoyed by employees in most other sectors, including restrictions on child labor, overtime limits, Workers’ Compensation, and collective bargaining rights (Bon Appetit Management Company Foundation; United Farm Workers, 2011; Majka & Majka, 2000). Further, agricultural jobs are some of the most dangerous jobs in the United States and the least fairly compensated. Most farm workers, about three quarters, do not work more than nine months out of the year and earn very little.

Farm labor movements have arisen from time to time in response to these injustices. The Fair Food Program, launched by the Coalition of Immokalee Workers in 2011, is one of the most recent. The program focuses on protection of human rights and increased wages for workers in the tomato fields of Florida and a few other mostly Southern states, through a worker, grower, and retailer partnership (see “Student social movements” in Chapter 2). Despite the media attention generated by the Immokalee Workers, lack of awareness of poor working conditions and pay is evident in many of the responses to my survey. Only 56% of the respondents reported

that their programs included purchase of products from farms that provide safe and fair working conditions (socially responsible farms), much lower than the 92% reporting that their programs included purchase of sustainably produced food. Interestingly, later in the interview, only 44% of the interviewees (23) reported knowing their programs purchased products from socially responsible farms, which may indicate confusion about what safe and fair working conditions are and an inability to identify them when they are provided. Thirty-one percent reported that food produced under safe and fair working conditions made up 50% or more of their purchases. Yet respondents reporting any purchases of products from socially responsible farms were only 35%, less than the 44% who said they knew that their program purchased products from socially responsible farms and much less than the 56% who reported that purchase of products from socially responsible farms was a major component of their program.

One explanation for respondents not knowing whether their programs purchased farm products grown under safe and fair working conditions is that unless certified, self-certified, grown with union labor, or without hired farm labor, it is extremely difficult to know whether a farm provides safe and fair working conditions. The Duck Delivery college sales representative whom I interviewed explained there is “no other way to track whether produce is sustainably produced [using sustainable production methods and safe and fair working conditions]” than Food Alliance certification (Whalen, 2009). Of the respondents, only three (6%) reported that their program purchased Food Alliance certified products. At the time of my interview, the

Food Alliance was the only certifier that provided certification for safe and fair working conditions.

One of the members of the MBOFC, the farmers' collaborative from which UCSC sources local organic produce, has union labor, but none of the survey respondents mentioned farms from which they source having union labor (most farm workers do not have collective bargaining rights). Eight percent (four) reported they knew the farm products they purchased were produced using safe and fair labor practices because the farms were owner-operated and little or no farm labor was used. The number of farms that employ little or no farm labor is likely higher than reported by the respondents. According to the USDA Economic Research Service, two-thirds of those working on farms in the United States are self-employed farm operators and members of their families (United States Department of Agriculture Economic Research Service, 2015). A majority of hired farm workers are employed on large farms with sales over \$500,000 per year.

Another reason respondents may not know whether their programs purchased farm products grown under safe and fair labor conditions is, according to the Bon Appetit and United Farm Workers' 2011 study, there is little public awareness of the conditions and problems within the farm worker community (Bon Appetit Management Company Foundation; United Farm Workers, 2011). Of the respondents, 12% said that they either assumed or hoped the farms from which they purchased farm products used safe and fair labor practices. Many may incorrectly assume that

most farms provide wages, benefits, and worker protections for farm workers in line with those required to be provided to employees in other sectors of the economy (Bon Appetit Management Company Foundation; United Farm Workers, 2011). Even organic farmers, at least those surveyed by Shreck, Getz, and Feenstra, who most would expect to provide adequate wages and benefits to farm workers, do not provide benefits such as living wage, health insurance, and paid vacations to their workers (Shreck, Getz & Feenstra, 2005, 2006). Also, several respondents thought that purchasing fair trade coffee addressed farm worker justice.

When I asked the interviewees to explain how they knew the products they purchased were produced on farms that utilized safe and fair labor practices, 10% (five) of the interviewees responded that there was no objective way to know whether the farms utilized safe and fair labor practices. Another 10% (five) said the labor practices of farms from which they purchased met adopted criteria. Three of these explained that some of the farm products they purchase were Food Alliance certified. Another said he uses a questionnaire to determine whether safe and fair working conditions are provided. Nineteen percent of the interviewees (10) explained that criteria were not needed to determine whether safe and fair labor conditions were provided on the farms from which they purchased because the farms were owner-operated and little or no labor was hired, a larger percentage than the 8% (four) who earlier reported they knew the farm products they purchased were produced using safe and fair labor practices because the farms were owner-operated and little or no farm labor was used. Seventeen percent (nine) of the interviewees said the question

was not applicable to their program. Thirty-three percent (17) explained that they knew the farms from which they purchased utilized safe and fair labor practices because they knew the farmer and his practices. Fourteen of the interviewees either did not respond (seven), believed that the provision of safe and fair working conditions was legally mandated (one), didn't know or assumed safe and fair working conditions were provided (two), relied on vendors to handle this issue (three), or explained that organic farming methods decrease farm worker exposure to unsafe working conditions (one).

Inclusion of opportunities for chefs to meet participating farmers.

Relocalization advocates a participatory strategy of development focused on meeting local needs locally, thereby reducing distance between producers and consumers, and fostering producer-consumer alliances and relationships (Woodhouse, 2000; Agarwal & Narian, 1996). Consumer-producer relationships enable consumers to contact producers directly to provide feedback and discuss problems about products purchased, which is not generally possible within a long and complex supply chain like the global food supply chain. Community links are also enhanced through a shortened supply chain and the establishment of relationships between consumers and local farmers and other businesses (Levidow & Psarikidou, 2011).

I found local purchasing generally did foster, at least to some degree, relationships between farm-to-college chefs, the customers who prepare meals and frequently select and buy the ingredients, and the farms from which they source farm products. I asked the interviewees if their program included opportunities for chefs to

meet participating farmers. I also asked whether chefs had visited the farms from which they source. Eighty-five percent (44) of the interviewees reported that opportunities were provided for chefs to meet participating farmers. Seventy-three percent of the programs (38) reported that chefs who prepare food for the farm-to-college program had visited the local farms from which products are purchased. At UCSC, purchasing meets twice a year with MBOFC to establish fixed pricing for local organic produce the farm-to-college program will purchase for the spring/summer and fall/winter growing seasons. MBOFC also grows crops specifically for the UCSC farm-to-college program. (See “UCSC Farm-to-College Program” in Chapter 5).

Inclusion of student education or involvement. As discussed above, reducing the distance between producers and consumers is thought to foster producer-consumer alliances and relationships. Since students are the end consumers and consume the meals prepared with local farm products, I asked the interviewees if their program included student education or involvement and whether students had visited local farms where farm products purchased were grown or raised. A large majority, 85% of the respondents (44), reported inclusion of student education or involvement, including working in or visiting the campus garden or farm and participating in workshops, seminars, and talks led by local farmers, dining services, and professors on topics such as the local food system, local farms, what is in season, waste reduction, and how to live sustainably. In addition, dining services often uses table tents and posters to inform students about local food. One respondent reported

including information about farm worker issues like pesticide poisoning in student education. A few respondents reported inclusion of the local food system in the college curriculum. Students also take part in dining services–sponsored special events featuring local food and farmers, as well as food tasting and cooking classes. A little over half (52%) of the respondents said that students at their school had visited the local farms where the food purchased for the farm-to-college program is produced. However, a couple of respondents complained about lack of student interest in the farm-to-college program.

Inclusion of waste reduction, composting, recycling, or other environmental measures. Waste reduction is good for the environment because it decreases the amount of waste going to landfills, conserves natural resources, and reduces greenhouse gases by reducing fossil fuels used in manufacturing new products (see “Analysis of Survey Data” in Chapter 4). Waste reduction was reported to be a major component of all but one of the farm-to-college programs included in my survey. Of the respondents, 96% (50) reported the inclusion of composting, recycling, and/or other environmental measures to reduce waste generated by their programs, including use of compostable disposables (plates and utensils), going tray-less, recycling oil for biodiesel, and using a pulper to extract liquid from waste. One respondent reported his programs had reduced waste going to the landfill by 40%. However, inclusion of waste reduction measures is not unique to farm-to-college programs. A 2010 survey of 138 college and university dining services administrators conducted by Chen, Arendt, and Gregoire found that waste reduction was the sustainability practice most

frequently used by all university dining services administrators. The study also found that colleges and universities located in the Northeast had the highest sustainable practices scores and those in the South had the lowest scores (Chen et al., 2010). In contrast, I found the programs in my survey that earned the highest scores for sustainable development were located in the Midwest, although I also found that all of the programs located in the South, except one, scored poorly on sustainable development.

Extent to which farm-to-college programs fit the characteristics of sustainable development and relocalization. Based on the grading instrument I developed, the mean scores for sustainable development and relocalization indicated that the extent to which the programs in my survey met the characteristics of relocalization was good and the extent to which the programs met the characteristics of sustainable development was poor. However, the mean score for sustainable development and relocation combined was satisfactory. These outcomes are close to what I expected. I found no other research that examined the extent to which farm-to-college programs met the characteristics of sustainable development and relocalization.

I had assumed farm-to-college programs could be characterized as a form of relocalization that promotes greater protection of nature, social relations, and the livelihoods of small farmers than does the global industrial food system. By definition, purchase of food from local farms by farm-to-college programs provides a new source of income for participating farmers and decreases the distance food must

travel to college dining halls, thereby reducing fossil fuel use and carbon emissions in the transportation of food from producer to the program (although some research disputes this). In addition, farm-to-college programs foster relationships between food service personnel, farmers, and students (more deeply embedding economic activity in social relations) because sourcing locally reduces the distance between producers and consumers and often requires coordination between university dining services, local farmers, and farmers' co-ops and food hubs (Levidow & Psarikidou, 2011). I found the programs included in the interview survey largely fit the characteristics of relocalization I used as indicators, including purchase of locally produced farm products, purchase of farm products from small farmers (although a majority made only 20% of their purchases from small farms), and direct relationships with the local farmers from whom they purchase.

On the other hand, in general, I found the programs poorly fit many of the characteristics of sustainable development I used as indicators, which included the following: 1) purchase of sustainably produced food; 2) purchase of food produced under safe and fair working conditions (“socially just” food); 3) inclusion of criteria for purchase of sustainably produced food; 4) inclusion of criteria for purchase of “socially just” food; 5) significant purchases of sustainably produced food; 6) significant purchases of “socially just” food; and 7) inclusion of waste reduction measures.

Although every program, except two, included waste reduction measures, and a very large majority included purchase of sustainably produced food as a component

of their programs, as well as many making moderate purchases of sustainably produced food, these measures did not balance the low scores in other areas, including “socially just” food. I had assumed many farm-to-college programs would support the environment through purchase of sustainably produced farm products and incorporation of waste reduction in their programs. According to The Princeton Review’s Guide to 322 Green Colleges, there is a “rising interest among students in attending colleges that practice, teach, and support environmentally responsible choices” (Seltzer, 2012). Based on student interest, one of the 10 criteria The Princeton Review used for rating a college’s commitment to sustainability was “the percentage of food expenditures that goes toward local, organic, or otherwise environmentally preferable food” (Seltzer, 2012).

But, as borne out in my study, I did not expect many programs to incorporate worker-supportive labor practices and therefore I did not expect the programs to encompass the broad conception of sustainable agriculture as both ecologically sustainable and socially just. My expectation was based on the findings of a 2005 UC Davis study that showed, as mentioned above, that most organic farms were unable to incorporate worker-supportive labor practices, thereby indicating that conventional farms would be even less likely to incorporate worker-supportive labor practices (Shreck et al., 2005). Nevertheless, a couple of programs in the Midwest located at small private colleges did receive high scores for sustainable development. Each program reported more than 50% of their purchases were both sustainably produced and produced under safe and fair working conditions. Both programs had criteria for

purchase of sustainably produced food. The college with the highest sustainable development score also had criteria for safe and fair labor conditions.

Incorporation of ecological farming practices and/or socially equitable labor practices in the purchasing criteria of farm-to-college programs.

Inclusion of purchasing criteria for sustainably produced farm products.

Without certification and labels, it is often difficult to tell if food has been produced using sustainable methods. In order to have a clear understanding of whether or not the programs included in my survey had purchasing criteria in place to differentiate sustainably produced farm products and seafood so sustainable production methods could be assured, I analyzed the criteria used for purchase of produce, meat, poultry, dairy, and seafood. I found only 4% of the programs had formal purchasing criteria for produce, although 38% of the programs had informal purchasing criteria for produce. In contrast, a substantial majority of the programs, 71%, reported having either informal (40%) or formal (31%) criteria for purchase of meat, dairy, and/or seafood. One likely reason for this difference, as reported above, is bovine growth hormone-free dairy can be labeled and sustainable seafood can be selected from the Monterey Bay Aquarium's Seafood Watch best choice recommendations, thus making them easier to objectively identify without firsthand knowledge than sustainably grown produce that is seldom certified by a third party and labeled (Food Alliance certification is not widespread). Organic produce, which a majority of programs purchase in small amounts, is certified and labeled. No other

research examines this question. Overall, the incorporation of purchasing criteria for sustainably produced food by the farm-to-college programs in my survey was satisfactory according to my grading scale.

Inclusion of purchasing criteria for food produced under safe and fair working conditions. As with food production methods, it is difficult to know if food has been produced under safe and fair working conditions without certification or labels. Only 10% of the respondents (five) reported their programs had criteria for food produced under safe and fair working conditions. The remaining respondents reported their program either did not have criteria (34) or they were not sure if their program had criteria (11). Two did not respond to the question. Of those respondents who said their programs had criteria for purchasing from farms providing safe and fair working conditions, four reported that workers were paid the minimum wage required by law on the farms from which their programs sourced products. Three of these respondents also reported an additional criterion, the provision of Unemployment benefits, Workers' Comp, and/or additional benefits such as sick pay. One respondent explained that one of the farms from which he sources provides sick pay and health insurance to workers. I found no other research that examined the use of farm worker-supportive purchasing criteria by farm-to-college programs.

As mentioned earlier, without third-party certification to verify that farms supplying farm-to-college programs provide safe and fair working conditions, criteria to evaluate whether the farms provide such conditions, or certainty that participating farms do not hire farm labor, it is unlikely a farm-to-college program can know the

food it purchases from local farms has either been produced by farm workers who have safe and fair working conditions or by farmers without the help of hired labor. Respondents from two programs located in the West, one at a large public university and the other at a small private college, emphasized that there is “no way to know [if food is produced using safe and fair working conditions] except Food Alliance certification.” The respondent from the small college lamented, “People can say one thing and do another; certification would help know if fair practices were really used, like fair trade.” One program in my survey got around this problem by requiring farmers to self-certify that their farm provided safe and fair working conditions for farm workers.

However, as mentioned above, it is not difficult to understand why so few programs have criteria for safe and fair working conditions, including third-party certification. First of all, there are very few third-party certifiers with relatively few certified farms. This was a problem for Emory and Iowa State University that had hoped to use Food Alliance certification as a standard for safe and fair working conditions but discovered there were no certified farms in the local area. At the time of my survey, the Food Alliance was the only certifier that distinguished farmers and ranchers who provide safe and fair working conditions (along with utilizing sustainable farming methods). Now Food Justice Certification is also available along with the Coalition of Immokalee Workers Fair Food Program (FFP). Also, as highlighted in the Bon Appetit and United Farm Worker study and mentioned above, farm workers are invisible in the United States because there is little public awareness

of conditions and problems within the farm worker community, due, in part, to lack of public data (Bon Appetit Management Company Foundation; United Farm Workers, 2011). This was evident in the comments made by many of the respondents to my survey. In explanation of why his program did not have criteria, one respondent said he hadn't heard of problems. Another said she hoped farm worker conditions were good. And a third respondent said there was no need for criteria.

In addition to the fact that only one-third of farms in the United States employ hired labor, hired farm labor is much more prevalent in some states, particularly California (where a third of all farm workers live), Florida, Washington, Texas, Oregon, and North Carolina, than in other states with colleges and universities included in my survey. One respondent from a university in North Carolina, one of the six states where farm labor is prevalent, reported that "North Carolina does not have migrants," indicating that, without firsthand knowledge that local farms do not hire labor, a farm-to-college program may be making an incorrect assumption that they do not. Also, programs might incorrectly assume that farm workers fall under the same federal labor laws as other employment sectors and no additional scrutiny of farm worker wages and working conditions is necessary. Furthermore, over three quarters of contract workers and 45% of hired workers are unauthorized, which means they have virtually no legal protections.

Conflation between fair trade certified products and safe and fair treatment of farm workers also appeared to be an issue. When asked how they knew the products they purchased were grown under safe and fair working conditions, the respondents

from two large public universities reported they purchased fair trade products such as coffee. One respondent explained, “We don’t hear about local unfair labor practices. Students are more concerned about fair trade than local labor practices. Students picketed against dining services using Chiquita brand bananas because of Chiquita labor practices. Dining services switched brands as a result.” The Real Food Challenge currently requires domestically sourced food either to be self-certified by the grower or certified/monitored by one of two approved programs to count as “fair food.” However, internationally produced, fair trade certified food is also counted as “fair food,” which may account in part for respondents in my survey conflating safe and fair labor conditions with fair trade.

The means by which and the reasons why farm-to-college programs are established in the United States.

Who was involved in deciding to establish the programs? The three most frequently cited participants in making the decision to establish a farm-to-college program at the colleges and universities included in my interview survey were dining services managers, students, and university administration, with dining services managers cited most often. Both Murray (2005) and CFSC (2011) found that most programs in their surveys were initiated by food services personnel. Sixty-seven out of the 89 programs responding to the CFSC survey were initiated by food services personnel and 22 were initiated by students. All of the programs responding to the Murray survey, 30 out of 30 programs, reported that their programs were initiated by food service personnel, 17 of these jointly by students and food service personnel. A

smaller percentage of respondents in my survey reported dining services involvement in establishing the farm-to-college programs. Forty percent (21) of the programs reported that dining services had been involved in establishing the farm-to college program and 37 % (19) of the programs reported that students had been involved in establishing the farm-to-college program. Eight of these respondents (15% of the programs) reported both dining services personnel and students were involved in making the decision to establish the program. Thirty-seven percent of the programs (19) reported that the school administration was involved in establishing the farm-to-college program and 25% of the programs (13) reported that the food service management company was involved in making the decision to establish the program. A majority of respondents (seven) reporting that the food service company was involved in establishing the program were from Bon Appetit–managed programs. Bon Appetit requires all the dining services programs it manages to follow its local purchasing program (Farm-to-Fork). My review of farm-to-college-related literature and research revealed a number of reasons why both dining services and students would be involved with the establishment of the farm-to-college programs I surveyed.

The organizational change literature and farm-to-college research suggest reasons why employees, such as university dining services managers, who do not benefit economically from the adoption and implementation of innovations such as farm-to-college might be motivated to become involved in the establishment of farm-to-college programs. Hage argues that the idea of “making the world a better place” through the implementation and adoption of “radical innovation” may have

considerable motivational impact (Hage & Aiken, 1970; Hage & Dewar, 1973; Hage, 1999). This hypothesis is consistent with the findings of research sponsored by the Center for Agroecology, which found that institutional purchasing of local sustainably produced food was often influenced by professional organizations promoting the value of sustainability (Feenstra et al., 2011). Sustainability-oriented organizations like the Association for the Advancement of Sustainability in Higher Education (AASHE) and the Sierra Club rate colleges and universities on their overall sustainability performance, including dining services.

DiMaggio and Powell offer a theory of organizational change related to the influence of professional organizations that also provides insight into why farm-to-college programs are being established at many colleges and universities across the United States. They explain that organizations within an established field (such dining services) become increasingly similar during the process of structural change instituted by managers and other actors (DiMaggio & Powell, 1983). They identify three, often overlapping, mechanisms that move organizations toward isomorphic change: 1) coercive, 2) mimetic, and 3) normative. Mimetic processes are often encouraged by uncertainty and may be an attempt to increase legitimacy or success through adoption of successful models. Models can be diffused through industry trade associations, such as the National Association of College & University Food Services (NACUFS), to which approximately 550 institutions of higher education from across the United States and Canada belong. Customers, students purchasing meals in the case of college dining services, may also encourage mimetic isomorphism. Thirty-

seven percent of the respondents said student demand for locally grown food was a factor in establishing the farm-to-college program at their school. Normative processes provide legitimacy and are often associated with professionalism. Universities determine the curriculum required to obtain professional degrees (credentials) and, as a result, ensure that professionals in particular fields have similar training and ideas. The similarity of ideas and training tend to result in professionals within a particular field promoting similar organizational changes. Normative isomorphism can also result from the exchange of information within professional organizations, such as NACUFS, which is likely the case with many dining services managers included in my survey. According to DiMaggio and Powell, “The greater the participation of organizational managers in trade and professional associations, the more likely the organization will be, or will become, like other organizations in its field.”

Another view of why dining services managers are motivated to implement sustainable practices is put forth by Chen, Gregoire, Arendt, and Shelly. Their research on the factors affecting the intention of university dining services administrators to adopt sustainability practices found that pressure from others had the most influence on dining services managers’ intention to implement sustainable practices, followed by the administrators’ personal views about sustainability. The study defined *sustainable practices* as “activities or practices of college and university dining services staff to conserve resources” and did not focus on farm-to-college programs (Chen, Gregoire, Arendt & Shelly, 2011).

Student involvement in deciding to establish a farm-to-college program may be a result of student desire for fresher, tastier food, student participation in a campus sustainability movement, or the politics of food consumption and reflexive consumption. In their 2011 study on fostering farm-to-institution programs, Feenstra et al., found that more than 60% of the students surveyed rated freshness and taste as two of the qualities they found most important for food served on campus (Feenstra et al., 2011). (See “Farm-to-College Related Research” in Chapter 2.) The desire to serve fresher, higher-quality food was the most frequent response given by 69% of the interviewees in my survey for establishing a farm-to-college program, but whether student demand influenced the decision was not assessed.

Students’ demand for locally grown food was a factor in the decision to establish a farm-to-college program among the farm-to-college programs in my survey, as reported above. On college and university campuses in the United States, sustainability has become a movement that includes dining services (Keniry, 1995). Under student pressure, both the University of California (UC) Regents and the Californian State University Board of Trustees have approved policies that require each UC university and state university to purchase 20% of its food from sustainable sources, including local. (See “Student social movements” in Chapter 2.) Other students may be making food choices (local, organic, socially just) as an expression of their ethics and view of themselves as ethical consumers and thus influence the purchasing choices of dining services to purchase local, sustainably produced food. (See “Politics of food consumption and reflexive consumption” in Chapter 2.)

Who made the final decision to establish the programs? Neither the Murray nor the CFSC survey requested data regarding the final decision-makers in establishing farm-to-college programs, although it is important to understand who the final decision-makers are in order to recruit them to the side of establishing a program. Twenty-two of the respondents (42%), the highest number, reported that the university administration made the final decision to establish their farm-to-college program. Dining services at seven of the 22 schools were self-operated and contract-operated at 15 of the schools. In two instances, the administration's decision was to hire Bon Appetit. Thirty-seven percent of the respondents (19) reported that dining services made the final decision to establish a program or jointly made the decision. Dining services at 15 of the 19 schools were self-managed. In 15 of the 19 cases where dining services was involved in the decision-making, dining services made the decision to establish a farm-to-college program unilaterally. The ability of dining services to unilaterally make the decision to establish a farm-to-college program is likely linked to budget. Two of the programs reporting that dining services made the final decision to establish a farm-to-college program also reported that dining services funded the program out of its own budget. Dining services at both universities were self-operated. A third program with self-operated dining services reported that the administration became involved in the decision to establish a farm-to-college program because of the extra cost. Twenty-nine percent (15) of the programs reported that the food service management company made the final decision. Slightly more than one quarter (14) of the respondents reported that more than one party was involved in

making the final decision to establish a farm-to-college program, and most often this was the university administration and the food service management company. Two respondents did not answer the question and two programs reported that no formal decision was ever made to establish a farm-to-college program. According to one respondent, “More than making a decision, the program evolved.”

Factors impacting the decision to establish a program. Research indicates that most shoppers purchase local food first because it is fresher and secondly to support the local economy, as reported earlier (Low et al., 2015). My findings are the same for the farm-to-college programs included in my survey and are linked to relocalization. Most respondents identified more than one factor. The desire to serve fresher, higher-quality food was the most frequently cited factor (69% of programs) impacting the decision to establish a farm-to-college program. One respondent explained that students want better-tasting food. “This is what would drive the wagon for us,” she said. The desire to support the local economy and/or farmers was the second most frequently cited factor (63% of programs). Another respondent reported that it was part of the college mission to support the local economy, and someone else said his program was committed to rural economic health. A third added the decision to establish a program was about more than supporting the local economy; it was about supporting “the rural character of the community and way of life.” An additional respondent explained that supporting neighbors and the local economy was “part of the culture in Vermont” and the “right thing to do.” Almost half of the respondents (46%) cited the desire to reduce food miles as a factor affecting the

decision to establish a farm-to-college program. Student demand for locally grown food was the fourth most frequently mentioned factor influencing the establishment of a program (37% of the programs). Other reasons given by respondents (50%) often referred to their university's environmental focus or sustainability goals.

The growing demand for fresh local food is linked to taste, flavor, and pleasure, and in part underlies the growing local food movement (see "Taste" in Chapter 2). Beginning in the 1940s with the industrialization and globalization of food, flavor has slowly been leached from food grown in the United States, as fruits and vegetables as well as poultry were increasingly bred for appearance (for example, supermarket tomatoes), yield, pesticide resistance, size, and transportability (Schatzker, 2015). This triggered a backlash from people wanting to enjoy eating fresher, more flavorful food. The Bon Appetit Management Company, for example, turned to local purchasing because the best-tasting ingredients were produced locally and colleges and universities contracted with the company because it served high-quality, tasty food demanded by students. Merrigan and Bailey as well as Harris, et al. identified improving the freshness and flavor of food served at the university as one reason for implementing a farm-to-college program (Merrigan & Bailey, 2008; Harris, et al., 2012).

Supporting the local economy is a tenet of relocalization and an alternative to the dominant global agro-industrial food system. As described above, keeping purchases at the local level has been shown to have a multiplier effect, as dollars are recycled through a community (Magdoff et al., 2000). In addition, community links

are enhanced through a shortened supply chain and the establishment of relationships between consumers and local farmers and other businesses (Levidow & Psarikidou, 2011). From an environmental standpoint, local products are believed to be more energy- and emissions-efficient because less fossil fuel is used to process, package, transport, and store them, thus reducing GHG emissions that cause global warming (Blanke & Burdick, 2005; Hendrickson, Hart, Gale-Sinex & Stevenson, 1995; Jones, 2002; Pirog et al., 2001).

Barriers or resistance to establishing a program. It is important to understand potential barriers and identify ways to work around them before attempting to establish a farm-to-college program. Researchers have identified a number of barriers to local sourcing (farm-to-college), including cost, lack of availability of local farm products, food safety, liability considerations, and lack of skilled labor to prep food (Harris et al., 2012). Distribution methods and lack of administrative support have also been identified as barriers (Ng et al., 2010). In addition, limited storage and processing facilities, the lower cost of commodity food, and grower availability have been named as obstacles (Vogt & Kaiser, 2006). Merrigan and Bailey found the typical difficulties of establishing a farm-to-college program were exacerbated in New England by the short growing season and small agricultural base that made it difficult to find local growers and to purchase local produce when seasonal availability did not match the academic calendar. Merrigan and Bailey also identified difficulties presented by purchasing directly from small farmers, including coordination of deliveries, farmer difficulty in meeting insurance

requirements, inability of farmers to meet volume requirements, and substitution of other items that in turn result in menu and food prep changes. However, the most critical barrier to implementing a farm-to-college program they identified was lack of student demand (Merrigan & Bailey, 2008). (See “Farm-to-College Related Research” in Chapter 2.)

Fifty-eight percent of the respondents in my survey (30) reported barriers or resistance to establishing their farm-to-college program. The barriers or resistance to farm-to-college programs reported in my survey and major case study overlap the barriers identified by other researchers, except for the lower cost of commodity food and substitution of other items than ordered, which none of the programs mentioned. The most frequently mentioned barrier was financial. Twenty-five percent (13) of the respondents cited cost as a problem. Many comments centered on the preparation of fresh food revealing increased labor costs, staff resistance, and student taste preferences. One interviewee reported that the kitchen infrastructure was not set up for fresh produce, including not enough prep space or refrigeration. Another said staff had to be taught how to prepare “irregular” produce, but this did not present a barrier. Two respondents mentioned that use of local food increases labor costs because it doesn’t arrive cleaned and prepared for cooking and takes more prep. Staff resistance in relationship to preparation of fresh produce was also mentioned as a problem. One respondent explained, “Main line distributors have clean standardized produce...staff wants food to come in a big truck, not a pickup.” A second clarified, “Dining used the industrial model: pre-prepared food. The staff thought that purchasing fresh food

locally would mean more work.” Another respondent said, “Staff was resistant to organic; thought the produce was dirty and more work.” A different challenge identified by one respondent was figuring out what students would eat that was seasonal and local. Another added, “Students still want their chicken strips, but you can’t buy these locally. Have to buy whole chicken. Student education is a necessary companion to local purchasing.”

However, I identified one interesting barrier to establishing a farm-to-college program not mentioned in other research, but cited by 12% (six) of the respondents included in my survey: working with food service management companies. One respondent said that the policies of Sodexo, the food service company under contract to provide dining services at his college, limited the ability to purchase locally. Another reported that the dining services manager must now use Chartwells’ approved vendors 90% of the time in order to comply with Chartwells’ purchasing requirements; it used to be 60%. A different respondent added that Sodexo has food safety requirements that small farmers may not be able to meet: “Sodexo policies/system is a barrier; the local manager is willing to try, but runs up against the Sodexo system and who you can purchase from.” According to a different respondent from another program, “The structure and regulations of the food service company presented barriers to implementing local purchasing.” The respondent was unable to get support for a farm-to-college program from Aramark, the food service management company contracted to provide dining services. The respondent explained that Aramark is very bureaucratic and highly structured and “the dining

services manager had his hands tied in trying to carry out the farm-to-college program.” The college eventually hired a new food service management company, AVI Food Services. Another respondent reported having to reach Aramark percentages for purchasing products from Aramark “franchises” (suppliers). The respondent explained that he is rated on his supplier compliance each month. He said he tries to get the local vendors he likes to become compliant in order to do better in reaching Aramark compliance goals. He also noted that using a middleman gets around insurance issues that he might have if he purchased directly from small farmers, explaining that “the middlemen deal with the insurance.”

Changing or developing new policies in order to purchase locally. Contrary to my expectation that it would be necessary to change existing policies or to develop new ones in order to purchase locally, a majority of the programs reported that policies were not changed. Fifty-four percent of the respondents (28) reported that policies did not have to be changed or developed to implement local purchasing, while 31% of the respondents (16) said that policies were changed in order to purchase locally. The most frequently mentioned policy change was in the level of insurance coverage required. One likely reason more policies were not changed, as discussed above in “Barriers or resistance to establishing a program,” is the inflexibility of food service management companies in adjusting policies that restrict purchase of local food and/or purchase from small farms. For example, one large university in the West and a mid-size university in the South, both of which had sustainable food policies and purchasing criteria, were prevented, for the most part,

from implementing these policies by the overriding corporate policies of their food service management companies. Although only 12% of the respondents reported working with food service management companies was a barrier in purchasing local farm products, 60% of the farm-to-college programs in my survey were operated by a food service company. Approximately half of these were managed by Bon Appetit, whose insurance requirements and other policies have already been scaled to facilitate local purchases from small farms and consequently don't require changes.

Another reason program policies did not require change was captured by the respondent quoted above who noted that using a middleman (distributor) gets around insurance issues that he might have had if he purchased directly from small farmers. Many farm-to-college programs source locally through distributors whose policies are also inflexible. Even the small-to-mid-size regional produce distributor, Duck Delivery, reported that the company could only source from small farms that were willing to meet its insurance and indemnification requirements, such as a hold harmless agreement, which are necessary for food safety reasons. Because small farmers cannot meet these requirements and Duck cannot change its policies, only 5% of Duck's total local purchases are from small farms (Whalen, 2009).

In addition to inflexible food service management companies and distributors, public colleges and universities, which are subject to state regulations, have inflexible policies, including the level of insurance coverage and bidding requirements, which cannot be changed and can make local purchasing from small farms difficult. UCSC's purchasing representative addressed the insurance problems and other difficulties in

sourcing directly from small farmers in an innovative way that did not require changes in state and university requirements and did not result in limiting purchases from local, small, and mid-size farms. UCSC used sole source contracting provisions to source from a farmers' collaborative with a member that could act as a food hub by facilitating the aggregation and delivery of produce from member farms and providing the required insurance coverage. Another way of addressing inflexible policies was shared by a respondent who reported that the following year dining services would include purchasing local in the new prime vendor contract because the current prime vendor was not willing to accommodate local purchases.

Factors contributing to including or not including environmental purchasing criteria. A very large majority of the programs in my survey (92%) reported that the purchase of sustainably produced farm products was a major component of their program, and 73% also reported that the purchase of organically produced farm products was a component of their program. The inclusion of sustainably grown farm products is an important indicator of sustainable development. Consequently, I asked each interviewee what factors contributed to either including or not including purchase of sustainably grown produce.

Many identified more than one factor affecting their decisions. A few, 8% of the interviewees (four), reported there had been no consideration given to including the purchase of sustainably produced produce in their programs. The representative of a small private college in the Midwest explained that his program did not require purchase of sustainably produced produce because the program did not want to

exclude local conventional farmers. Forty-four percent of the interviewees (23) reported one reason their programs did not include, or included only limited amounts of, organic or sustainably produced produce was that it was too expensive. One of the interviewees from a large public university in the Midwest reported that while the expense of purchasing organic and sustainably grown produce was a factor, the university “initially did some subsidizing” to be able to include sustainably and organically grown produce. The representative from a small private college in the Midwest also reported that price was a factor, “but students were willing to absorb the cost.” Nineteen interviewees (37%) said that organic and sustainably produced produce was not readily available locally. Eleven others (21%) explained that purchase of organically and/or sustainably produced produce had not been an initial priority for their programs because their focus was purchasing from small local farms. Nevertheless, all of these programs reported purchasing sustainably grown food. Forty percent of the interviewees (21) reported that purchase of organic or sustainably grown produce was included in their program because the production methods were better for the environment. Thirty-eight percent of the interviewees (20) reported including the purchase of organic or sustainably grown produce in their program because the quality of this produce was higher. Twenty-nine percent (15) said that student demand for organic or sustainably grown produce was a reason organic and sustainably grown produce was included in their program. The respondent from a program located at a mid-size private university in the Northeast said, “Biggest reason to include organic was student demand.”

Factors contributing to including or not including social justice criteria.

Like the inclusion of sustainably produced products, the inclusion of social justice criteria is an important indicator of sustainable development. Sixty-nine percent of the respondents (36) in my survey reported that no consideration was given to purchasing food produced under safe and fair working conditions, a measure of social justice used in my study. Three respondents (6%) explained that the question was not applicable because the farmers from whom they purchase do not hire much labor. Another said, "It is not an issue in Maine." Three respondents (6%) reported that social justice criteria were included in their program as a result of student demand for food produced by workers provided safe working conditions and paid a fair wage with benefits. Two of the respondents (4%) did not answer the question. Twelve percent gave other reasons for including social justice criteria in their farm-to-college program such as "Just the right thing to do."

Many of the reasons why safe and fair working conditions would not be included in the purchasing criteria of farm-to-college programs were discussed above in "Inclusion of purchasing criteria for food produced under safe and fair labor conditions," including limited availability of certification and limited use of farm workers on many small farms. One of the major reasons programs do not include worker-supportive practices is likely the invisibility of farm workers identified by the Bon Appetit and United Farm Workers 2011 study of farm workers in the United States and reinforced by many of the comments made by respondents in my survey (Bon Appetit Management Company Foundation and United Farm Workers, 2011).

One respondent from a large college in the Midwest explained the lack of interest in farm workers this way: “Social justice is a harder sell; staff has no interest in how other workers are treated; poor treatment of farm labor is an invisible issue.” Another respondent from a small college in the Midwest said, “Safe and fair working conditions are not an issue; most small farms do not hire migrant labor.” A third respondent from a small college in the Northeast explained, “Students don’t ask much for food produced under safe and fair labor conditions; students are too removed; don’t know about labor issues in the U.S.” One other respondent from a small college in the Midwest observed, “Students want their clothing to be manufactured using fair labor practices, but not food.” Three respondents from large colleges, one in the West, one in the Midwest, and one in the Northeast, pointed out that students are more interested in fair trade. According to one, “Students don’t ask for food produced under safe and fair working conditions so much, but ask for fair trade.” The second reported, “Safe and fair farm worker conditions was not an issue; fair trade coffee was an issue.” The other reported, “No student requests for food produced under safe and fair working conditions; requests for fair trade coffee; students can see farms in the nearby countryside and don’t see falling down farm worker shacks.” Another respondent from a large university concluded, “This issue [safe and fair working conditions for farm workers] is not in the face and hearts of students.” A respondent from another large Midwest university put things into perspective, saying, “Students are more concerned about animal rights than safe and fair farm worker conditions.”

Expansion of existing farm-to-college programs.

Desire to expand existing programs. My research did not examine growth in the number of farm-to-college programs in the United States, but it did look at plans for expansion among the existing farm-to-college programs included in my survey. Eighty-eight percent of the interviewees reported that they wanted to expand their program. Only one respondent (.02%) reported not wanting to expand his program. He explained that he was “hitting all the areas now. Kids get what they want and they don’t want any changes.” Four of the interviewees (8%) did not respond to this question. All of those responding to the questions were very enthusiastic about their plans for expanding their program. If farm-to-college programs follow the lead of farm-to-school programs, which increased from 400 in 2004 to more than 2,300 in 2011, the number of farm-to-college programs will likely continue to increase (see “Sustainable development, relocalization, and social sustainability” in Chapter 2).

Areas of farm-to-college programs that managers and chefs want to expand.

The majority of respondents were very enthusiastic about expanding the scope of their programs. Forty percent reported they would like to increase purchases from local farmers. Eight percent of the respondents want to expand waste reduction measures. Many of these wanted to introduce or expand composting. Other expansion ideas varied from program to program and a number of programs wanted to expand in more than one area. Ten percent of the respondents (five) wanted to expand gardens to supply their farm-to-college program or to purchase more from campus farms or gardens. Another 10% (five) wanted to increase their connection with local farmers

by bringing to campus or arranging for students and chefs to visit farms. Thirteen percent (seven) wanted to increase organic purchases and offerings to students.

Conclusions

Based on my findings, farm-to-college programs, which were in operation at 5–10% of the colleges offering full dining services in the United States at the time of my survey, promote ecological sustainability and social equity to some extent and fit the characteristics of relocalization to a high degree, with the exception of only moderate purchasing from small farmers, and sustainable development poorly. Purchases of farm products produced using ecological methods and worker-supportive practices were low to moderate, and very few programs had formal criteria to identify what constituted sustainably grown produce or worker-supportive practices, although a large majority had either formal or informal criteria for the purchase of meat and dairy.

Like most shoppers who purchase local food, the majority of programs included in my survey established farm-to-college programs to purchase local food first because it is fresher and secondly to support the local economy. These reasons are linked to relocalization rather than sustainable development and purchase of ecologically sustainable and worker-supportive farm products, which are secondary, and explain in part why the farm-to-college programs fit the characteristics of relocalization to a much higher degree than sustainable development. Nevertheless, overall, farm-to-college programs fit the characteristics of relocalization and

sustainable development combined to a satisfactory extent and therefore may be considered one of the ways a shift to sustainable development can be furthered.

However, my research identified a number of barriers that constrain the extent to which farm-to-college programs can and do incorporate ecological and social sustainability, both for small farmers and for farm workers, as well as local purchasing in general. Some of these barriers can be mitigated at the university level, while others require a broader approach, or originate from natural geographic and climatic conditions beyond a program's control.

Barriers to sourcing sustainability produced products. With the exception of certified organic produce, sustainably produced produce is typically not certified or labeled and therefore very difficult to identify. Certification and labeling are not widely available for produce and relatively few farms in the United States are certified. Without certification, a farm-to-college program must rely on firsthand knowledge of the production methods used to determine if produce has been sustainably grown, which is likely not feasible for most large colleges and universities. Although sustainable production methods based on producer claims may be tracked by some distributors in values-based food chains, distributors typically have no way to identify production methods used to grow unlabeled produce. On the other hand, organic certification is widely available and organic products are often requested by students. However, the cost of organic farm products is generally higher than conventional farm products and unaffordable for many farm-to-college programs. The USDA does not have a label for meat raised without hormones,

although organic and grass-fed labels do not allow hormone use, but meat produced with these labels is more expensive. In contrast, sustainably produced dairy products, defined and labeled as sourced from cows not treated with rBST/rBGH, are widely available at prices comparable to conventional and frequently sourced by farm-to-college programs. In addition to the constraints of limited certification and labeling of sustainably produced farm products and the expense of certified organic products, sustainably produced farm products are not readily available in many areas of the United States.

More widespread certification and labeling of sustainably produced farm products would likely increase the purchase of sustainably produced farm products by farm-to-college programs, particularly programs at large schools supplied by distributors, if prices do not rise to the level of certified organic farm products. While most programs want to purchase sustainably produced food, cost is a major consideration for many farm-to-college programs (see “Factors contributing to including or not including environmental purchasing criteria” above). Food service management companies could also use their huge buying power to require their distributors to source verified sustainably produced and certified farm products, perhaps at a volume discount. For example, Bon Appetit requires suppliers to source chicken, turkey, and hamburger from animals that have been raised without antibiotics or hormones, along with supplying rBGH-free milk.

Barriers to sourcing from small farmers. Many aspects of purchasing directly from small farmers present obstacles that reduce a program’s ability to

purchase directly from small farms. These barriers include 1) inability of small farmers to meet insurance and liability requirements of both universities and distributors; 2) inability of small farmers to produce a large enough volume of produce to supply a program; 3) logistic unmanageability of deliveries to a program from multiple small farms; 4) lack of administrative capacity of small farmers to issue invoices and need to be paid immediately; 5) failure of produce from some small farms to meet standards; and 6) inability of small farms to meet the vendor qualifications of large food service companies.

Food hubs, centrally located facilities with business management services that aggregate and distribute locally produced food, or similar structures, such as the farmers' collaborative from which UCSC's farm-to-college program purchases local food, can facilitate the purchase of local food produced by small farmers who can't meet the logistical, administrative, and liability requirements of farm-to-college programs on their own. Food service management companies can also facilitate local purchases by requiring local sourcing. Bon Appetit Management Company requires all programs it manages, typically at small colleges, to purchase a minimum of 20% of their ingredients from "small, owner-operated farms and artisan producers" located within 150 miles of their kitchens (see "Food Service Management Company: Bon Appetit" in Chapter 6).

Barriers to sourcing worker-supportive farm products. The barriers to sourcing worker-supportive farm products are higher than those to sourcing sustainably grown farm products. As with sustainably produced food, certification

and labeling are not widely available for food produced under safe and fair labor conditions and few farms in the United States are certified. Without certification, farm-to-college programs and distributors have no way of knowing how workers are treated unless they have verified worker treatment and conditions themselves or have firsthand knowledge that farm products were produced without hired farm labor. The certification and monitoring programs currently available and those approved by the Real Food Movement, which promotes the purchase of local food by colleges and universities, are very small in scope. The Agricultural Justice Project lists only six certified U.S. farms and businesses on its website (Agricultural Justice Project, 2016). And the Fair Food Program primarily focuses on Florida tomato growers (Fair Foods Standards Council, 2015). Although the Food Alliance has certified substantially more farms and ranches, its certification is not accepted by the Real Food Challenge to meet “fair food” requirements and is often either not available or not used by local farmers to certify foods purchased by farm-to-college programs. (See “Food Certification Program: Food Alliance” in Chapter 6.)

In addition, unlike the potential health and environmental issues associated with conventional industrial food, the general public knows remarkably little about the unsafe and unfair working conditions linked with industrial agriculture in the United States. The plight of farm labor—which is largely excluded from the protections of the National Labor Relations Act, and is not provided with the employment compensation, benefits, or working conditions enjoyed by employees in most other sectors, including restrictions on child labor, overtime limits, Workers’

Compensation, and collective bargaining rights—is hidden from public awareness, including the attention of students, in the United States. (See “Political economy of agriculture and food systems” in Chapter 2.) If national attention were brought to farm worker conditions in the United States, public and student awareness of unjust worker treatment would likely increase and might in turn stimulate public support for the expansion and enforcement of labor laws to protect farm workers. Publicity about the protests and activities of farm worker movements like those of the Coalition of Immokalee Workers is one way national attention can be focused on farm worker injustice. Expansion of certification and monitoring programs will likely also increase publicity as well as provide the means for farm-to-college programs to purchase verified worker-supportive food, particularly those programs located at large schools supplied by distributors who source from large farms employing farm labor.

Barriers to sourcing local farm products. Other researchers have identified barriers and challenges to local sourcing that overlap my findings. A short growing season and small agricultural base make it difficult for programs in many areas to find local growers and to purchase local produce when seasonal availability does not match the academic calendar. Another challenge is finding seasonal and local food that students will eat. As one respondent pointed out, “Students still want their chicken strips, but you can’t buy these locally. You have to buy whole chicken.” Purchasing and preparing fresh, locally sourced food is often not as convenient as sourcing prepped food from main line distributors and may cost more as well, which are major barriers for many programs. Lack of student demand for local food is a

problem for some programs. Another barrier not identified by other researchers is working with food service management companies whose policies are often inflexible and limit local purchasing by requiring farm-to-college programs to use company-approved vendors who do not source locally and whose insurance and liability requirements are difficult for smaller farmers to meet.

Programs at small private schools with self-managed dining services have greater flexibility than large schools to purchase locally from small farmers and to include criteria for purchasing ecologically produced farm products and products produced under safe and fair working conditions. This is because they are not hampered by inflexible food service company policies or state requirements that mandate high levels of liability insurance coverage and competitive bidding processes that don't allow a preference for worker-supportive food products and can adjust their policies and logistics to accommodate small local farmers. Programs at small colleges also have the ability to verify firsthand, through farm visits and conversations with participating farmers, claims that products purchased directly are produced sustainably under safe and fair labor conditions or without hired farm labor.

Ways ecological sustainability and social justice can be expanded in farm-to-college programs. While many barriers to sourcing ecological and socially sustainable farm products cannot be overcome unilaterally by farm-to-college programs, they are a market for farmers who meet higher levels of social and environmental responsibility, as posited by Strohlic & Hamerschlag (2006), and a viable instrument for supporting relocalization and sustainable development. Several

ways of increasing the extent to which ecological sustainability and social justice are incorporated in farm-to-college programs emerged from my research.

Ecological sustainability (promotion of environmental health). Student education about the problems associated with global industrial agriculture and solutions offered by sustainable agriculture can be expanded at colleges and universities in order to familiarize students with the benefits of local sustainable food. Greater student demand for organic and sustainably produced food would likely result, although more than one Bon Appetit chef included in my survey complained of lack of student interest in the occasional sustainability-focused events sponsored by the food service company.

On the other hand, students at UCSC, a school that offers numerous sustainable agriculture and food systems courses, along with hands-on gardening and farm apprentice opportunities, and many organic and sustainable food-oriented organizations and events, demanded local, sustainably produced, and "socially just" food and initiated the university's farm-to-college program. One of the tools used by the UCSC students, as well as the Real Food Challenge and other farm-to-college programs, to change previous purchasing patterns and promote the purchase of certified or verified sustainably produced food was the creation of guidelines establishing percentages of sustainable farm products to be purchased by dining services. Purchase of certified organic and sustainably produced farm products not only verifies the use of ecological production methods, but may also encourage more farmers to become certified. Moreover, students can agree to pay more for organic

and sustainable food to overcome financial barriers to sourcing these products. For example, the representative from a small private college in the Midwest reported that price was a barrier, “but students were willing to absorb the cost.” In addition, programs can buy directly from producers and evaluate the production methods used firsthand without having to rely on sustainable certification and labels. Adopting criteria defining the characteristics of sustainably produced food facilitates its purchase when certification is not available.

Both of the programs in my survey receiving the highest scores for sustainable development had criteria for purchase of sustainably produced food. One program required farmers to fill out and sign a form stating no chemicals were used in growing produce and to provide information about other sustainable practices, such as water and energy conservation and practices to increase soil fertility and minimize soil erosion. Another program arranged for students to visit farms and create a profile of farm practices. Programs can also specify sourcing of organic and sustainable food in bid specifications and distributor contracts. Bon Appetit suppliers must commit to no antibiotics, no added growth hormones, and no animal byproducts in the feed given to chickens, turkey, or cows used for hamburger, in addition to providing bovine growth hormone-free milk and yogurt (see “Food Service Management Company: Bon Appetit” in Chapter 6).

Social and economic equity (social justice). Even though social justice is not generally a significant component of farm-to-college programs because students have a history of participating in social justice movements there is potential to increase its

importance if students become more aware of the injustice and inhumanity farm workers face in the United States.

For example, Kalamazoo College, the school in my survey whose program had the second-highest sustainable development scores, educates students, faculty, and staff about local food, including farm worker issues, and as a result social justice for farm workers is an important component of its farm-to-college program and students have become active in working to end some forms of farm worker abuse. The college holds an event called “Health of the Harvester” on campus. In addition, students work on pesticide awareness with legal services, including reporting pesticide abuse. According to the program representative, the program is “very concerned about farm worker treatment because students are educated about farm workers.” Informed students can demand that their program purchase worker-supportive food certified or monitored by the Food Alliance, Food Justice, or the Fair Food Program, and require uncertified or monitored producers to certify they either provide safe working conditions and fair wages or do not hire farm workers.

Criteria for safe and fair labor conditions is used in conjunction with self-certification by Luther College, the school with the highest sustainable development score in my survey, to verify working conditions on the farms from which it sources. The program requires farmers to fill out and sign a form stating safe and fair working conditions are provided for farm labor, including meeting all legal requirements for worker handling of hazardous materials, plus an additional safety practice. The program is located at a small private school, which likely increases the effectiveness

of its self-certification program because participating farms can be visited, as well as fill out self-certification forms.

Ways local purchasing can be facilitated at farm-to-college programs. A short growing season and small agricultural base make it difficult for programs in many areas to find local growers and to purchase local produce when seasonal availability does not match the academic calendar. Preserving (freezing or micro-processing) locally sourced fruits and vegetables harvested in the summer and storing root vegetables are ways farmers and programs can increase availability of local produce out of season. Luther College stores local food to ensure availability out of season, and Case Western Reserve is exploring preserving local fruits and vegetables harvested in the summer. Programs can also expand the range of their “local” purchasing during the winter months to include the entire state or region, rather than sourcing from distant regions or countries. Another challenge is finding seasonal and local food that students will eat. Programs can hold food tastings and cooking contests, offer samples, and sponsor local food events to encourage students to eat unfamiliar fruits and vegetables and increase student demand for local food. Programs can either switch from food management companies that hinder purchase of local food to more amenable companies or bring dining services in-house. UC Santa Cruz brought dining in-house and was able to implement sourcing a substantial percentage of its produce from local organic farmers; Emory recently changed from Sodexo to Bon Appetit after issuing a request for proposals that specified standards for sustainability. Programs can specify locally grown food and other standards, in

distributor bidding specifications and contracts, to ensure local food is supplied. They can also source from members of values-based food chains that preserve the identity and location of producers, along with environmental and social values incorporated into the production of their farm products.

A model for establishing farm-to-college programs. UCSC is a useful model for establishing a farm-to-college program that is embedded in the community and promotes ecological sustainability and social equity. Establishing the UCSC farm-to-college program was facilitated by the existing regional agricultural base and social landscape, timing, evolution of clear objectives, a support base, and use of innovative strategies, including the organizing strategy, to overcome barriers.

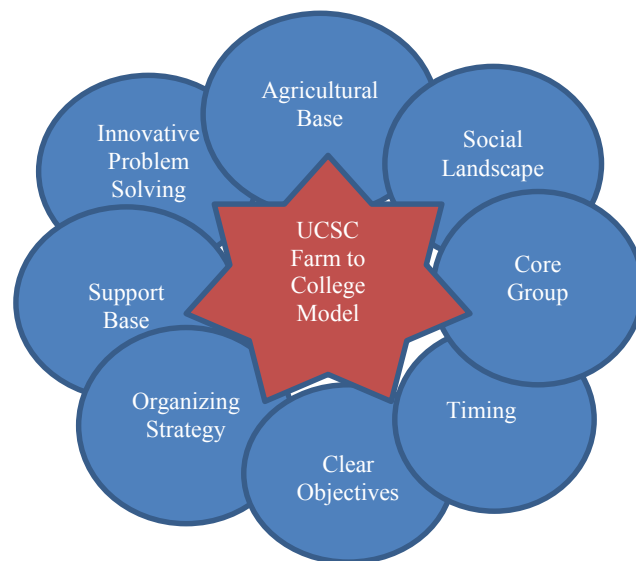


Figure 7. Model for establishing a farm-to-college program.

Agricultural base. Climate affects the growing season and what plants are likely to thrive in an area. A moderate climate, accessible water, high-quality soils, and proximity to markets are factors that determine the agricultural potential of an area and the scale of agricultural production in the area. College and university campuses located in 1) climatic zones that provide a long growing season favorable to the production of farm products typically sourced by dining services (produce, dairy, and meat); and 2) areas near small and mid-size farms have an advantage in establishing farm-to-college programs able to source locally produced farm products. UCSC is located in an area with a mild climate that enables farmers to grow vegetables year round and is home to numerous small and mid-size farms, including a large number of organic farms. Consequently, the UCSC farm-to-college program was a strong candidate for sourcing local organic produce year round.

Social landscape. A university with a history of student activism and a culture supportive of the environment and social justice will likely provide fertile ground for establishing a farm-to-college program. The culture and values of the surrounding community can be supportive as well. The students who initiated the UCSC farm-to-college program were able to build on the university's long history of student social and environmental activism, as well as numerous campus and community resources. UCSC is home to the nationally recognized Center for Agroecology & Sustainable Food Systems (a student environmental center), organic and sustainable food organizations, an organic farm, sustainable food-related research and projects, and academic and hands-on classes about sustainable food and agricultural systems. In

addition, the university is located in a very progressive community that is at the forefront of the sustainable food movement. The initiative to establish a farm-to-college program at UCSC benefited from the favorable social landscape and deep support on campus and in the local sustainable food movement.

Core group/organization. While social movements have been led by individual charismatic leaders like Martin Luther King and Cesar Chavez, in establishing a farm-to-college program it is helpful to have the capability of a core group of leaders with complementary skills, resources, and ties to key stakeholders. A core group of highly motivated participants emerged from the representatives of the various organizations that made up the UCSC Campus Food System Working Group (CFSWG). These representatives had attended the 2004 UCSC Earth Summit and participated in the working group set up to brainstorm strategies to promote the development of a campus food system and social justice.

The groups represented in the UCSC Campus Food System Working Group (CFSWG) were the Center for Agroecology & Sustainable Food Systems, a research, education, and public service center at UCSC; Comerica Justo, a UCSC student group focusing on fair trade; Community Agroecology Network (CAN), a U.S. non-profit that partners with community-based organizations to promote local approaches to sustainable development in Mexico and Central America, including fair trade; Community Alliance with Family Farmers (CAFF), a non-profit that advocates for California family farmers and sustainable agriculture; Students for Organic Solutions, a student group focusing on raising awareness about the negative impacts of the

global industrial food system and promoting sustainable practices through on-campus activities; Program in Community & Agroecology (PICA), a “living-learning” program that operates a garden on campus based on the principles of agro-ecology; the UCSC chapter of Education for Sustainable Living (ESL), a student-led class and lecture program initiated by students on four University of California campuses; and the Student Environmental Center (SEC), a student organization working in collaboration with UCSC to implement environmentally sound practices on campus.

The new assistant director of dining services was an ad hoc member of the group. This group simultaneously led the farm-to-college initiative and maintained ties, communication, and reciprocal feedback with their respective organizations and eventually with the general student body as well. A few of the organization’s representatives had previously worked with the director of dining services and housing to promote organic and fair trade food and brought with them strategies for gaining dining services acceptance of CFSWG goals. The group met regularly to strategize and guide the effort to establish the farm-to-college program. Eventually the group divided into two subcommittees aimed at implementing two primary strategies: developing purchasing guidelines and educating and organizing students. The core group and ongoing communication with the groups representing CFSWG’s member organizations, including dining services, and with the entire student body, were key to successfully establishing the UCSC farm-to-college program (for a discussion of building deep and wide organizations, see *Revolutionary Theory*, Friedland, 1982).

Timing. As the famous organizer, Saul Alinsky, said, “Timing is to tactics what it is to everything else in life—the difference between success and failure” (Alinsky, 1971, p. 158). Timing was critical in establishing the UCSC farm-to-college program. The year before students began their efforts to establish the program, previous student groups had successfully campaigned to “dump” the dining service management company and gained a commitment from the chancellor to bring dining services in-house when the company’s contract ended in 2004. The change to in-house dining services management coincided with the Campus Earth Summit and discussion of how to bring sustainable food to campus dining halls. The new associate manager of dining services attended the Campus Earth Summit, participated in the discussion, and witnessed the support among professors, student and community organizations, and students for local, organic, and “socially just” food. The outcome of the food discussions was the formation of the Campus Food System Working Group (CFSWG) and subsequent development of the Guidelines for the purchase of local, organic, and “socially just” food by dining services. Dining services received the Guidelines prior to putting supplier contracts out to bid, so CFSWG and student organizers had an opportunity to shape dining services’ purchasing practices.

Clear objectives. Straightforward objectives that can be clearly and easily explained, and are achievable within a reasonable timeframe, are crucial in establishing a farm-to-college program. If the aims of the group that wants to establish a farm-to-college program on campus cannot be clearly and easily explained to dining services, faculty, and students, as well as the university administration, it is

unlikely that support for the program will emerge. Further, if the objectives cannot be achieved within a reasonable timeframe, students may lose interest or graduate, requiring education and organizing of new students. The Purchasing Guidelines developed by the UCSC Campus Food Systems Working Group (CFSWG) clearly state that students want dining services to purchase local, organic, and “socially just” food (initially produce) and why. The Guidelines also provide definitions of *local*, *organic*, and “*socially just*” food, along with feasible percentages of these foods (relative to the total value of produce purchased) to purchase the first year and a plan to scale up purchasing during successive years. These objectives were clearly and concisely communicated to dining services, faculty, and students.

Organizing strategy. Initiators of farm-to-college programs must develop a strategy for how to achieve their desired outcome. Strategies vary from school to school. Some initiators (faculty) have focused on gaining support for sustainability, including local purchasing, by forming study groups that included administrators, faculty, and students, others (chefs and dining service managers) have taken an incremental approach by slowly introducing local food to students at special college events, while others (dining service directors) have unilaterally established a program. At UCSC, CFSWG devised a two-pronged strategy for initiating a farm-to-college program: 1) developing Purchasing Guidelines for the new in-house dining services organization (the decision-makers) and 2) educating and organizing students (dining service’s customers).

From the outset, CFSWG decided the tactics would be collaboration-tempered with a show of power (mass student support). The development of the Guidelines was a collaborative process that included the organizations with representative members of CFSWG and the new dining services associate director. The Guidelines clearly outline the purchasing requirements and preferences CFSWG wanted dining services to adopt and provide concrete purchasing goals. The relationship between CFSWG and dining services was friendly and cooperative. Student organizing was aimed at providing dining services with sufficient student demand, as well as support, to justify purchasing potentially more expensive local, organic, and worker-supportive food.

All avenues were used. The organizing consisted of various tactics, including “College Night” dinners, featuring local organic food, farmers, and tabling; presentations by CFSWG to students attending Education for Sustainable Living lectures and classes; posters endorsing the Guidelines; and dissemination of information supporting the farm-to-college program and Guidelines. The student organizing culminated in the presentation of 2,000 postcards to dining services endorsing adoption of the Purchasing Guidelines, percentages of local food to be purchased by dining services, and the timeline for purchasing local, organic, and worker-supportive food, “even if they [required] meal plan fee increases of up to 2% a year” (see Appendix I for the Sustainability with Soul postcard). Presenting postcards to dining services was a tactic similar to presenting a petition signed by constituents of a local official up for reelection. They demonstrated a large base of support for adoption of the Guidelines by dining services’ customers (students). Now

the new in-house dining service team had to prepare and issue requests for bids to supply food for the dining halls.

While developing breadth of support (horizontal) for the farm-to-college program among students was an important part of CFSWG's organizing, developing vertical support among faculty, staff (dining), and administration was not neglected. Multilayered ties to faculty and staff from CASFS were cultivated through CASFS membership in CFSWG and meetings with local farmers. Food tastings and farm tours were arranged for dining services chefs and administrators, and meetings with the new dining services assistant director were arranged to discuss proposed guidelines before adoption by CFSWG.

Support base. In order to successfully establish and maintain a thriving farm-to-college program, it is necessary to have the support of dining services, the administration, and students. Other researches, along with several interviewees in my study, identified lack of student support, support from administration and dining services, and buy-in as barriers to establishing a program. The backing of students, faculty, and administration secured by CFSWG and its member organizations was crucial in obtaining dining services' support for the Guidelines. In discussing financial barriers to operating a farm-to-college program, an interviewee at a private mid-size university in the South included in my survey noted that "this is where not having much student support is a problem; students could agree to pay more." Another interviewee at small college in the Northeast with self-operated dining services explained, "Dining services must have the support of the administration."

Several interviewees also complained that the structure and regulations of the food service company presented barriers to implementing local purchasing. Due to its collaborative organizing strategy, discussed above, the initiators of UCSC's farm-to-college program gained support from dining services, the administration, many faculty members, campus environmental, gardening, organic food, and fair trade organizations, Community Alliance with Family Farmers, local organic farmers, the Center of Agroecology & Sustainable Food Systems (CASFS), and a broad base of students.

Innovative problem solving. My research, along with the research of various scholars, identified numerous barriers to establishing and operating a farm-to-college program, including insurance requirements, financial barriers, difficulty sourcing local produce during the school year, logistics, the structure, regulations, and policies of food service management companies, bidding requirements at public universities, and lack of student support. Sourcing directly from small local farmers also presented problems. Individual small farmers were often unable to provide the quantity and variety of produce required by dining services, resulting in having to purchase small volumes of produce from many small farmers and accommodating numerous small deliveries, as well as spending added administrative time ordering and processing invoices from the various small farmers. In addition, small farmers have difficulty meeting insurance requirements and waiting 30 days to be paid. Each farm-to-college program must find ways to overcome the barriers standing in the way of its success.

The UCSC farm-to-college program developed innovative solutions to the problems of working directly with small farmers, state bidding requirements that did not allow selecting a supplier on the basis of his or her treatment of workers and sourcing local organic produce from farms with worker-supportive practices. The Purchasing Department's buyer for dining services, working closely with CFSWG, dining services, and local organic farmers, suggested that multiple goals could be achieved through a sole source contract with a local farmers' cooperative that was linked to CASFS. These goals could include the following: 1) the Purchasing Guidelines' local organic bid requirements, including the preference for organic products purchased from "worker-supportive" operations; 2) sourcing from several local farms; and 3) the advantages of doing business with one entity. "Worker supportive" could be included in a sole source contract because it would tie back to the type of research carried out at CASFS, which includes "social justice" within food systems (Y. Macon, personal communication, January 23, 2015). Because a sole source contract means that only one company can meet the contract requirements, a competitive bid was unnecessary.

The sole source contract with a farmers' cooperative concept spurred the formation of the Monterey Bay Organic Farmers Consortium (MBOFC), the local farmers' consortium that serves as a food hub supplying local produce to UCSC. ALBA, a non-profit organization that trains limited-resource farm workers in organic farm production and related skills, agreed to act as an umbrella for the consortium, providing insurance, taking orders, aggregating and delivering produce from member

farms to campus dining halls, invoicing the university, and distributing payments to the farmers. Interested farmers were identified by CAFF, a CFSWG member and California non-profit organization that advocates for sustainable agriculture and family farmers and assists with distribution and marketing. ALBA and one or two of the other future MBOFC farms had already participated in two “College Nights” featuring the farmers and their local organic produce, as well as the chef tasting and get-together with the local farmers in 2004. The seven original MBOFC farms were all ones with a strong commitment to ecological farming practices and worker-supportive labor practices.

Recommendations for Future Research

Aspects of farm-to-college-programs not covered by my research that I would recommend future researchers study to better understand how purchase of sustainably produced and worker-supportive food can be expanded include 1) examining the number of small farmers participating in farm-to-college programs that do not employ farm workers and how they can be differentiated by programs not wanting to source from growers who may not treat farm workers fairly; 2) evaluating the feasibility and effectiveness of self-certification for food produced using ecologically sustainable methods and food produced under safe and fair working conditions; 3) evaluating whether or not colleges have increased the percentage of sustainably produced and worker-supportive food purchased after signing on to the Real Food Movement and why percentages did or did not increase; 4) examining what barriers to implementing farm-to-college programs, including local, sustainable, and “socially just” purchasing,

are erected by food service management company corporate policies and possible ways to motivate these companies to change their policies; 5) investigating how and if Sodexo implements and monitors farm labor wages and working conditions on farms from which food is sourced by Sodexo's suppliers; and 6) examining the extent to which non-farm-to-college dining programs source organic, sustainable, and worker-supportive farm products.

Afterward

After completing my research and writing my conclusions, I realized that the Campus Food System Working Group's organizing strategy described in the UCSC model for establishing a farm-to-college program has similarities to Mao Zedong's strategy for mobilizing peasants in support of the Chinese Communist Revolution, as described by Bill Friedland in his book, *Revolutionary Theory* (Friedland, 1982). Mao's theories of organization and mobilization were built upon Marxist theories of organization (mass party organization) also described by Friedland. Both CFSWG's and Mao's strategies involved creating and utilizing ties with organizations associated with their own organization in order to build and mobilize support for their cause, overthrowing the government in the case of Mao Zedong and establishing a farm-to-college program in the case of CFSWG. Mao created peasant associations in the countryside that participated in two-way communication with Mao's Communist Party, which enabled the party to understand the needs of the peasants and to mobilize their support for the revolution. CFSWG created ties to existing campus and community organizations through its membership structure. Members of CFSWG represented organizations that supported the establishment of a farm-to-college program at UCSC and acted as conduits for communication between CFSWG and the organization they represented. This structure enabled CFSWG to communicate its agenda to members of associated organizations and to mobilize the support of these organizations and their members in pressing UCSC dining services to establish a

farm-to-college program that would purchase local organic produce from farms with worker-supportive practices. Based on the success of the UCSC model, I believe it is warranted to conduct further investigation into multilayered organizing strategies that promote linkages and communication between the group seeking to establish a farm-to-college program and associated organizations in order to develop a deep and broad base of support for establishing a program.

Appendix A

Interview Schedule

Food Service Management Company

Food Management Company:

Contact name:

Contact title:

Percent of food dollars spent on farm-to-college:

Telephone:

Email:

Purchasing radius:

Number of colleges and universities under contract:

Number of meals served per day:

Date of interview:

Typology of farm-to-college programs in the United States

1. What are the major components of the farm-to-college program? (Select as many as apply.)
 - a) Purchase of locally produced food
 - b) Purchase of farm products from small family farms
 - c) Purchase of certified organic farm products
 - d) Purchase of sustainably grown/produced farm products (minimal or no pesticide usage; soil and water conservation)
 - e) Purchase of farm products from those farms that provide safe/fair working conditions for workers
 - f) Inclusion of opportunities for food preparation workers/chefs to meet participating farmers
 - g) Inclusion of student education or involvement
 - h) Inclusion of waste reduction, composting, recycling, and/or other environmental measures (Specify.)
 - i) Other (Describe.)
2. If you purchase from small family farms, how do you know the farms are small family farms?
3. Do you have a definition for *small family farms*? If yes, define.
4. If you purchase products from small family farms, what percentage of your total local purchases are from small farms? Percentages for each account?
Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%,
30–40%, 40–50%, more than 50%

5. If you purchase organic farm products, what percentage of your total local purchases are organic? Percentages for each account? Doesn't track organic purchases?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

6. If you purchase sustainably produced farm products, how do you know the products are sustainably grown? Does the program require that production methods meet specific criteria to qualify as “sustainably produced”?

- a) Produce:
- b) Meat:
- c) Dairy:
- d) Seafood:

7. If you purchase sustainably grown farm products, what percentage of your total local purchases (produce, meat, dairy) are sustainably produced? Percentages for each account?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

8. Do you know if you purchase products that have been produced using safe and fair labor practices? No Yes
9. If you purchase products that have been purchased using safe and fair labor practices, how do you know that the products you purchase have been produced using safe and fair labor practices? Does the program require farms

to meet certain criteria to qualify as a socially responsible employer? (Select as many as apply.)

- a) Meet minimum wage laws
- b) Offer profit sharing/bonuses
- c) Provide Unemployment and Workers' Compensation
- d) Provide additional benefits, such as health insurance, sick pay, vacation pay, or reduced housing costs
- e) Meet all legal requirements for worker handling of hazardous materials, including protective clothing, plus an additional safety practice/training, washing facilities, signage
- f) Other (describe)

10. If you purchase from local farms that employ safe and fair labor practices, what percentage of your total local purchases are from these farms?

Percentages per account? Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

11. If not already offered, have colleges/universities requested that dining services provide

- a) Food grown by small family farmers?
- b) Organically grown food?
- c) Sustainably produced food?
- d) Food produced under safe and fair labor conditions?
- e) Recycling, composting, waste reduction, and/or other environmental measures?
- f) Other?

12. Do chefs who prepare food/menus visit the local farms where the food purchased for the program is produced? No Yes (Describe.)
13. Do students visit the local farms where the food purchased for the program is produced? No Yes (Describe.)
14. Describe how student education and/or involvement are incorporated into your program.
15. Describe the content of the information provided to students.

Why are farm-to-college programs established?

16. Who was most responsible for establishing the farm-to-college program?
 - a) Dining/food services personnel (at the various colleges under contract)
 - b) Faculty/staff (at the various colleges under contract)
 - c) Student (at the various colleges under contract)
 - d) Food service management company
 - e) Farmer(s)/farmer organization(s)
 - f) University administrator(s)
 - g) Other (Please specify.)
17. Who made the final decision to establish the program?
 - a) Dining/food services personnel
 - b) Faculty/staff
 - c) Student(s)
 - d) Food service management company
 - e) University administrator(s)
 - f) If other, please specify.

18. What factors impacted the decision to establish a program? (Select all that apply.)

- a) Student demand for locally grown food?
- b) Request from local farmers to purchase their produce?
- c) Desire to support local economy and/or farmers?
- d) Desire to serve fresher, higher-quality food?
- e) Desire to reduce food miles?
- f) Other? Describe:

19. Were there barriers or resistance to establishing a farm-to-college program?

No Yes If yes, describe:

20. What factors contributed to including or not including environmental criteria (purchase of organic or sustainably grown produce or food products)?

- a) Not including:
 - i. No consideration given to including purchase of organic or sustainably grown produce or food products in the program
 - ii. Organic and sustainably grown produce or food products too expensive
 - iii. Organic and sustainably grown produce or food products not available locally; hard to find farmers overall
 - iv. Other? Describe:
- b) Including:
 - i. Production of organic and sustainably grown produce better for the environment than conventionally grown produce
 - ii. Organic and sustainably grown produce higher quality
 - iii. Student demand for organic or sustainably grown food

iv. Other? Describe:

21. What factors contributed to including or not including social justice criteria (safe and fair labor practices)? Chefs develop relationships with farmers and see working conditions.

a) Not including:

- i. No consideration given to purchasing food produced under safe and fair labor conditions.
- ii. Providing higher wages and benefits to farm workers increases price of food.
- iii. Bidding requirements/regulations do not allow social justice to be considered.

iv. Other? Describe:

b) Including:

- i. Student demand for food produced by workers provided safe working conditions and paid a fair wage and benefits.
- ii. Other? Describe:

22. Were policies and/or regulations changed or developed to enable dining services managers to purchase food from local farms, organic/sustainably produced food, or food produced by operations with worker-supportive labor practices?

No Yes If yes, describe the policies and/or regulations that were changed.

- a) Bidding requirements/regulations?
- b) Insurance requirements?
- c) Delivery requirements?

- d) Quantity requirements?
- e) Price policies?
- f) Other?

23. Please describe your purchasing structures/supply chains.

- a) Local purchases by your chefs and managers
 - i. What are the criteria local farmers/distributors must meet?
 - ii. What percentage of overall purchases is local?
- b) Purchases from company-approved broadline distributors
 - i. How selected/what criteria must they meet? Where are they located?
 - ii. What percentage of overall purchases is from broadline distributors?
- c) Other specialty distributors?
 - i. How selected/what criteria must they meet?
 - ii. Where are they located?
 - iii. What percentage of overall purchases is from specialty distributors?

24. Are there any areas of your program you would like to expand?

Describe:

25. If yes, why do you want to expand these particular areas? Explain:

26. I hope to identify and interview farmers and distributors who are economically viable, use sustainable farming practices, and provide safe

and fair working conditions and fair wages for their workers. Can you recommend a farmer for me to contact who meets this criteria?

Appendix B

Interview Schedule

Distributor

Company Name:

Contact name:

Contact title:

Telephone:

Email:

Location:

Type of business:

Size of company:

Date of interview:

Website:

Sourcing for farm-to-college programs:

1. What do you source for the farm-to-college programs?
 - a) Locally produced food
 - b) Products from small family farms
 - c) Certified organic farm products
 - d) Sustainably grown/produced farm products (minimal or no pesticide usage; soil and water conservation)

 - e) Farm products from that farms that provide safe/fair working conditions for workers

 - f) Food Alliance certified products
 - g) Other (describe)

2. How do you define *local*?

3. What food characteristics do you track?
 - a) Locally produced
 - b) State in which produced
 - c) Food Alliance certified
 - d) Organic certified

 - e) Sustainably produced

 - f) Produced on a small family farm

g) Other

4. How do you track

- a) Locally produced
- b) State in which produced
- c) Food Alliance certified
- d) Organic certified
- e) Sustainably produced
- f) Produced on a small family farm
- g) Other

5. Do you know if you source from small family farms? No Yes

6. If yes, how do you know the farms are small family farms?

6. If you source products from small family farms, what percentage of your total local purchases is from small farms?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

8. If you source organic farm products, what percentage of your total local purchases is certified organic?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

9. Do you know if you purchase sustainably grown farm products? No Yes

10. If yes, how do you identify products that are sustainably grown?

a) Produce:

b) Meat:

c) Dairy:

11. Do you verify that production methods meet specific criteria to qualify as “sustainably produced”? If yes, describe:

12. If you source sustainably grown farm products, what percentage of your total local purchases (produce, meat, dairy) are sustainably produced?

a) Produce

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

b) Meat

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

c) Dairy

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

13. Do you know if you source products that have been produced using safe and fair labor practices? No Yes

14. If yes, how do you know that the products you source have been produced using safe and fair labor practices?

15. If you source local farm products that have been produced using safe and fair labor practices, do you require farms to meet certain criteria to qualify as a socially responsible employer? If yes, describe:

16. If you source from local farms that employ safe and fair labor practices, what percentage of your total local purchases are from these farms?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

17. Have your university accounts requested that you provide

- a) Regional/locally produced farm products?
- b) Products grown by small family farmers?
- c) Certified organic farm products?
- d) Sustainably produced food?
- e) Food produced under safe and fair labor conditions?
- f) Recycling, composting, waste reduction, and/or other environmental measures?
- g) Other?

18. Do your contracts with university dining services specify that a minimum percentage of the food your company provides be

- a) Sourced locally?
- b) Sourced regionally?
- c) Sourced from small family farmers?
- d) Certified organic?
- e) Sustainably produced?
- f) Food Alliance certified?

19. If yes, what percentage of your university contracts specify above sourcing?

20. Do you visit the local farms you source from? No Yes Don't know
(Describe.)

Why company decided to source local and/or sustainable farm products

21. What factors impacted the company's decision to source local/sustainable farm products? (Select all that apply.)

- a) Customer demand for locally grown food?
- b) Customer demand for sustainably produced food?
- c) Request from local farmers to purchase their produce?
- d) Desire to support local economy and/or farmers?
- e) Desire to offer fresher, higher-quality farm products?
- f) Organic and sustainably grown produce better for the environment
- g) Desire to reduce food miles?
- h) Other? Describe:

22. Were there barriers to local/sustainable sourcing? No Yes If yes, describe:

23. What factors contributed to not sourcing organic or sustainably grown farm products)?

- a) No consideration given to sourcing organic or sustainably grown produce or food products.
- b) Organic and sustainably grown farm produce too expensive.
- c) Organic and sustainably grown farm products not available locally.
- d) Other? Describe:

24. What factors contributed to including or not including safe and fair labor practices in sourcing criteria?

a) Not including:

- (i) No consideration given to purchasing food produced under safe and fair labor conditions.
- (ii) Providing higher wages and benefits to farm workers increases price of farm products.
Other? Describe.

b) Including:

- (i) Customer demand for food produced by workers provided safe working conditions and paid a fair wage and benefits.
- (ii) Other? Describe:

25. Were policies and/or regulations changed or developed in order to source food from local farms, organic/sustainably produced food, or food produced by operations with worker-supportive labor practices?

No Yes If yes, describe the policies and/or regulations that were changed for each category.

26. Are there any areas of your local/sustainable sourcing program you would like to expand? Describe:

27. If yes, why do you want to expand these particular areas? Explain:

28. I hope to identify and interview farmers who are economically viable, use sustainable farming practices, and provide safe working conditions and fair wages for their workers. Can you recommend a farmer for me to contact who meets this criteria?

Appendix C

Interview Schedule

Sustainable Farm Certifier

Sustainable Farm Certifier

Contact name:

Contact title:

Telephone:

Email:

Purchasing radius:

Date of interview:

1. Who established the Food Alliance? Describe.
2. What was the purpose/motivation to start the Food Alliance?

3. What factors contributed to including or not including social justice criteria (safe and fair labor practices)?
4. Talk about demand for sustainably produced food. How and why is demand increasing?
5. Is demand for food produced using safe and fair labor practices as strong as the demand for sustainably produced food (ecological methods)?
6. Explain why the levels of demand are different.
7. Are farmers, ranchers, and food handlers receptive to certification of safe and fair labor methods?
8. Explain the certification process.
 - a. Farm and ranch standards:
 - b. Food handler standards:
9. Describe how the Food Alliance works with distributors. What has been the motivation for distributors to source Food Alliance certified products?
10. Is it necessary for distributors to change policies or standards in order to carry products certified by the Food Alliance?
11. How many farmers, ranchers, processors, and other food handlers have been certified?

12. Where are these farms, ranches, and processors located?
13. What is the average size of the businesses you certify?
14. What are the barriers to small farms and ranches becoming certified?
15. How does Food Alliance certification fit into local purchasing by colleges and universities?
16. How does Food Alliance certification fit into college and university food purchasing that is not local farm-to-college?
17. In your view, what factors impact demand for sustainably produced food on college campuses?
18. Has the Food Alliance worked with student groups?
19. Are there any areas of your program you would like to expand? Describe:
 - a. If yes, why do you want to expand these particular areas?
 - b. Explain:
 - c. No
20. Would you recommend two or three of your certified farmers, ranches, or distributors who I could interview about their labor practices?

Appendix D

Interview Schedule

Farm-to-College Programs

Name of University (City, State, Zip)

Contact name:

Contact title:

Food service company:

Percent of food dollars spent on farm-to-college:

Telephone:

Email:

Type of school:

Number of students:

Size of community:

Date of interview:

Types of farm-to-college programs in the United States

1. What are the major components of the farm-to-college program? (Select as many as apply.)
 - a) Purchase of locally produced food
 - b) Purchase of farm products from small family farms
 - c) Purchase of certified organic farm products
 - d) Purchase of sustainably grown/produced farm products (minimal or no pesticide usage; soil and water conservation)
 - e) Purchase of farm products from those farms that provide safe/fair working conditions for workers
 - f) Inclusion of opportunities for food preparation workers/chefs to meet participating farmers
 - g) Inclusion of student education or involvement
 - h) Inclusion of waste reduction, composting, recycling, and/or other environmental measures (Specify.)
 - i) Other (Describe.)

2. Do you know if you purchase from small family farms? No Yes

3. If yes, how do you know the farms are small family farms?

4. If you purchase products from small family farms, what percentage of your total local purchases are from small farms?
Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

5. If you purchase organic farm products, what percentage of your total local purchases are organic?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

6. Do you know if you purchase sustainably grown farm products? No Yes

7. If yes, how do you know the products are sustainably grown?

a) Produce:

b) Meat:

c) Dairy:

8. If you purchase sustainably produced farm products, does the program require that production methods meet specific criteria to qualify as “sustainably produced”?

a) Minimal or no pesticide usage

b) Soil and water conservation

c) Other (Describe.)

9. If you purchase sustainably grown farm products, what percentage of your total local purchases (produce, meat, dairy) are sustainably produced?

Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%

10. Do you know if you purchase products that have been produced using safe and fair labor practices? No Yes
11. If yes, how do you know that the products you purchase have been produced using safe and fair labor practices?
12. If you purchase local farm products that have been produced using safe and fair labor practices, does the program require farms to meet certain criteria to qualify as a socially responsible employer? (Select as many as apply.)
- a) Meet minimum wage laws
 - b) Offer profit sharing/bonuses
 - c) Provide Unemployment and Workers' Compensation
 - d) Meet all legal requirements for worker handling of hazardous materials, including protective clothing, plus an additional safety practice/training, washing facilities, signage
 - e) Other (Describe.)
13. If you purchase from local farms that employ safe and fair labor practices, what percentage of your total local purchases are from these farms?
- Less than 5%, 5–10%, 10–15%, 15–20%, 20–25%, 25–30%, 30–40%, 40–50%, more than 50%
14. If not already offered, have students requested that dining services provide
- a) Food grown by small family farmers? Organically grown food?
 - b) Sustainably produced food?
 - c) Food produced under safe and fair labor conditions?

d) Recycling, composting, waste reduction, and/or other environmental measures?

15. Have chefs who prepare food/menus visited the local farms where the food purchased for the program is produced? No Yes (Describe.)

16. Have students visited the local farms where the food purchased for the program is produced? No Yes (Describe.)

Why and how are farm-to-college programs established?

17. Who was most responsible for establishing the farm-to-college program?
(Source CFSC's farm-to-college survey.) (Please specify.)

- a) Dining/food services personnel
- b) Faculty/staff
- c) Student(s)
- d) Food service management company
- e) Farmer(s)/farmer organization(s)
- f) University administrator(s)
- g) Cooperative extension agent(s)

18. Who was involved in making the decision to establish the program?

- a) Dining/food services personnel
- b) Faculty/staff
- c) Student(s)
- d) Food service management company
- e) University administrator(s)
- f) If other, please specify

19. Who made the final decision to establish the program?
- a) Dining/food services personnel
 - b) Faculty/staff
 - c) Student(s)
 - d) Food service management company
 - e) University administrator(s)
 - f) If other, please specify
20. What factors impacted the decision to establish a program? (Select all that apply.)
- a) Student demand for locally grown food?
 - b) Request from local farmers to purchase their produce?
 - c) Desire to support local economy and/or farmers?
 - d) Desire to serve fresher, higher-quality food?
 - e) Desire to reduce food miles?
 - f) Other? Describe:
21. Were there barriers or resistance to establishing a farm-to-college program?
No Yes If yes, describe.
22. What factors contributed to including or not including environmental criteria (purchase of organic or sustainably grown produce or food products)?
- a) Not including:
 - i. No consideration given to including purchase of organic or sustainably grown produce or food products in the program

- ii. Organic and sustainably grown produce or food products too expensive
- iii. Organic and sustainably grown produce or food products not available locally
- iv. Other? Describe:

b) Including:

- i. Production of organic and sustainably grown produce better for the environment than conventionally grown produce
- ii. Organic and sustainably grown produce higher quality
- iii. Student demand for organic or sustainably grown food
- iv. Other? Describe:

23. What factors contributed to including or not including social justice criteria (safe and fair labor practices)?

a) Not including:

- i. No consideration given to purchasing food produced under safe and fair labor conditions.
- ii. Providing higher wages and benefits for farm workers increases price of food.
- iii. Bidding requirements/regulations do not allow social justice to be considered.
- iv. Other? Describe

b)

- i. Student demand for food produced by workers provided safe working conditions and paid a fair wage and benefits
- ii. Other? Describe:

24. Were policies and/or regulations changed or developed to enable food service providers to purchase food from local farms, organic/sustainably produced food, or food produced by operations with worker-supportive labor practices?

No Yes If yes, describe the policies and/or regulations that were changed.

- a) Bidding requirements/regulations?
- b) Insurance requirements?
- c) Delivery requirements?
- d) Quantity requirements?
- e) Price policies?
- f) Other?

25. Are there any areas of your program you would like to expand?

Describe:

26. If yes, why do you want to expand these particular areas?

Explain:

27. I hope to identify and interview farmers who are economically viable, use sustainable farming practices, and provide safe working conditions and fair wages for their workers, and distributors who source locally. Can you recommend a farmer or a distributor for me to contact who meets this criteria?

Appendix E

Advance Email Letter to Interviewees

Name:

A few days from now, you will receive a phone call from me to set up a 15-minute telephone interview about the _____ farm-to-college program.

I am following up on the Community Food Security (CFS) farm-to-college survey, which you previously completed, in order to obtain more information about 1) why farm-to-college programs are established and 2) the extent to which they promote sustainable agriculture.

The information will be used in part to identify ways in which existing farm-to-college programs can support sustainable agriculture. Ultimately, it will help other colleges implement their own farm-to-college programs. The findings will be made available in a report linked to the CFS farm-to-college website.

Thank you for your time and consideration. It is only through the cooperation of key participants in farm-to-college programs like you that this research can be successful.

Sincerely,

Linda Wallace

Ph. D. candidate

Department of Sociology

University of California, Santa Cruz

Appendix F

Sustainable Development and Relocalization Evaluation Tool

Category	Question	Points
Sustainable Development		
General	Question 1 What are the major components of the farm-to-college program? (c, d, e, h)	
	Purchase of certified organic farm products	2
	Purchase of sustainably grown/produced farm products	2
	Purchase of farm products from farms that provide safe and fair working conditions	2
	Inclusion of waste reduction, composting, recycling, and/or other environmental measures (Specify.)	2
Maximum Points		8
Environmenta l	Question 5 If you purchase organic farm products, what percentage of your total local purchases are organic?	
	Less than 5%	0

	5–15%	1
	15–25%	2
	25–40%	4
	40–50%	6
	More than 50%	8
Maximum Points		8
	Question 6 Do you know if you purchase sustainably grown farm products?	
	Yes	2
	No	0
Maximum Points		2
	Question 8 b If you purchase sustainably produced farm products, does the program require that production methods meet specific criteria to qualify as “sustainably produced”? (Source 8b)	
	Formal criteria for sustainably produced produce	4
	Informal criteria for produce	3

	Formal criteria for sustainable dairy, beef, poultry, and seafood	4
	Informal criteria for dairy, beef, poultry, or seafood	3
Maximum Points		8
	Question 9 If you purchase sustainably grown farm products, what percentage of your total local purchases (produce, meat, dairy) are sustainably produced?	
	Less than 5%	0
	5–15%	1
	15–25%	2
	25–40%	4
	40–50%	6
	More than 50%	8
Maximum Points		8
	Question 22 What factors contributed to including or not including environmental criteria	

	(purchase of organic or sustainably grown produce or food products)?	
	a) Not including:	
	No consideration given to including purchase of organic or sustainably grown produce or food products in the program	-2
	b) Including:	
	Production of organic and sustainably grown produce better for the environment than conventionally grown produce	2
	Organic and sustainably grown produce higher quality	2
	Student demand for organic or sustainably grown food	2
	Other?	2
Maximum Points		8
Social Justice	Question 10 Do you know if you purchase products that have been produced using safe and fair labor practices?	
	Yes	2

	No	0
Maximum Points		2
	Question 12 If you purchase local farm products that have been produced using safe and fair labor practices, does the program require farms to meet certain criteria to qualify as a socially responsible employer?	
	Meet minimum wage laws	1
	Offer profit sharing/bonuses	2
	Provide Unemployment and Workers' Compensation	2
	Meet all legal requirements for worker handling of hazardous materials, including protective clothing, plus an additional safety practice, such as training, washing facilities, and signage	2
	Other	1
Maximum Points		8
	Question 13 If you purchase from local farms that employ safe and fair labor practices, what	

	percentage of your total local purchases are from these farms?	
	Less than 5%	0
	5–15%	1
	15–25%	2
	25–40%	4
	40–50%	6
	More than 50%	8
Maximum Points		8
	Question 23 What factors contributed to including or not including social justice criteria (safe and fair labor practices)?	
	a) Not including:	
	No consideration given to purchasing food produced under safe and fair labor conditions.	-2
	b) Including:	
	Student demand for food produced by workers provided safe working conditions and paid a fair wage and benefits.	4
	Other?	4

Maximum Points		8
Subtotal		8
Relocalization		
General	Question 1 What are the major components of the farm- to-college program? (a, b, f, g)	
	Purchase of locally produced food	4
	Purchase of farm products from small family farms	2
	Inclusion of opportunities for food preparation workers/chefs to meet participating farmers	2
	Inclusion of student education or involvement	2
Maximum Points		10
Local Economy	Question 2 Do you know if you purchase from small family farms?	
	Yes	2
	No	0

Maximum Points		2
	Question 4 If you purchase products from small family farms, what percentage of your total local purchases are from small farms?	
	Less than 5%	0
	5–15%	1
	15–25%	2
	25–40%	4
	40–50%	6
	More than 50%	8
Maximum Points		8
	Question 20 What factors impacted the decision to establish a program?	
	Student demand for locally grown food?	2
	Request from local farmers to purchase their produce?	2
	Desire to support local economy and/or farmers?	3
	Desire to serve fresher, higher-quality food?	1

	Other?	1
Maximum Points		9
Producer-Consumer Relationships	Question 15 Have chefs who prepare food/menus visited the local farms where the food purchased for the program is produced?	
	Yes	4
	No	0
Maximum Points		4
	Question 16 Have students visited the local farms where the food purchased for the program is produced?	
	Yes	4
	No	0
Maximum Points		4
Subtotal		37
Total Maximum Points		105

Appendix G

Cover Letter and Original UCSC 2004 Guidelines

May 3, 2004

Alma Sifuentes, Director

Residential & Dining Services

Scott Berlin, Associate Director

Dining Services

College and University Housing Services

1156 High Street, Santa Cruz, CA 95064

Dear Alma and Scott:

Enclosed are the Preference Guidelines and goals the UC Santa Cruz Campus Food System Group developed to assist dining services in bringing “sustainable food” (locally grown food, organic food, and food purchased from socially just operations, including fair trade) to campus dining halls. The Campus Food System Working

Group was formed at the 2004 Campus Earth Summit to work with the university in its efforts to move toward a more sustainable campus food system. The group is composed of representatives from the Center for Agroecology & Sustainable Food Systems, the Community Alliance with Family Farmers, Comercio Justo, Students for Organic Solutions, Community Agroecology Network, Education for Sustainable Living, and dining services.

Purchase of sustainable food by dining services was identified as a priority at the Earth Summit for a number of reasons: 1) to provide students with healthier, fresher food; 2) to support the local economy by purchasing food grown by local farmers; 3) to reduce the use of fossil fuels and CO₂ emissions by reducing the distance food must be transported to UCSC; 4) to reduce local use of chemical fertilizers and pesticides by supporting organic farmers; 5) to support socially just treatment of farm workers by requiring growers to provide safe working conditions and to pay minimum wage; and 6) to support producer cooperatives in the global South through purchase of fair trade goods that provide a living income to members by cutting out middlemen and reducing the distance between producer and consumer.

The purchase of sustainable food reflects changes in American food preferences and values, and is an emerging trend on college and university campuses across the United States. The University of Wisconsin, Yale, Princeton, Oberlin,

Colgate, Penn College of Technology, Middlebury, and Stanford University are among the schools spearheading this trend. The fact that UC Santa Cruz is a world-renowned academic leader in sustainable food systems makes it especially important and relevant that the campus take leadership in the provision of sustainable food on campus. In addition, the proximity of UC Santa Cruz to organic farms that grow a variety of produce year round positions it to become a leader in the campus sustainable food movement.

Development of criteria to guide dining services in purchasing sustainable food for the dining halls has been a collaborative process between the Campus Food System Working Group and dining services. Our recommendation is that the attached Guidelines be incorporated into the Request for Proposals (RFP) for both the prime contract and the local organic contract and be used to evaluate the bids received in response to each RFP. The goals developed by the group are both quantitative and process goals. Our recommendation is that dining services adopt the attached goals, aiming for 2% of all produce purchased for 2004/05 to be locally grown, organic, and from socially just operations. We also recommend that the collaboration between the Working Group and dining services continue in future years to build on the initial steps taken in 2004, to expand the opportunities for purchase of sustainable food, to educate students about the benefits of sustainable food, and to refine the processes we are developing to move toward a sustainable campus food system. In addition, we recommend the creation of an Advisory Committee composed of members of the

Working Group representing local farmers, organic food, and food produced by socially just operations to assist dining services in the evaluation of bids received for the local organic contract.

We look forward to continuing a productive partnership between dining services and the Campus Food System Group in promoting a sustainable campus food system.

Sincerely,

Linda Wallace MA, Coordinator
Campus Food Systems Group
Education for Sustainable
Living

Stephen R. Gliessman, PhD,
Professor Environmental Studies
Department.
Co-Director, Community
Agroecology Network (CAN)

Carol Shennan, PhD, Director

Robbie Jaffe, Co-Director

The Center for Agroecology
& Sustainable Food Systems

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Patricia Allen, PhD, Associate
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Network (CAN)

Serena Coltrane-Briscoe,
Coordinator

Tony LoPresti, Organizer
Comercio Justo

Farm to School Project

Community Alliance with
Family Farmers

Liv Nevin, Coordinator

Buy Fresh, Buy Local

Campaign

Community Alliance with

Family Farmers

Heather Clegg-Haman,

Coordinator Students for Organic

Solutions

Enc.

CC: Student Environmental Center and Campus Sustainability Council

Guidelines for Purchase of Dining Hall Food

Prepared by the UC Santa Cruz Campus Food System Working Group

In Collaboration with Dining Services

May 2004

All food providers **for both the prime and local food contracts** are required to pay minimum wage, or higher, to workers, as required by law, and to provide safe workplaces, including protection from chemical exposure, and provision of adequate sanitary facilities and drinking water for workers.

Guidelines

- **Buy local:** Local food is grown within a 250-mile radius of Santa Cruz. Priority is given to growers closest to Santa Cruz. Purchase of local produce decreases the distance food travels and therefore the amount of energy used and pollution produced. Use of seasonal and local produce supports local farmers and the local economy, and encourages diversified farmscapes.
- **Buy seasonal:** Seasonal produce is produced locally during a given time of the year. Menu items are chosen according to what is locally available during the current season. This ensures that the products are fresher, of higher quality, and more nutritious.
- **Buy certified organic:** Chemical residues on non-organic food may be harmful to human health. Organic cultivation also improves environmental health.
- **Buy humanely produced animal products:** Humanely produced animal products are cage-free, range-fed, and antibiotic-free. Meat producers often give antibiotics to healthy animals to promote rapid growth and to compensate for stressful, unhealthy living conditions.

- **Buy direct:** Cultivating closer relationships between producer and consumer helps to eliminate middlemen, deliver more income at the farm level, and empower producers. Direct purchasing also helps to create an educational network between students, researchers, administration, and producers that facilitates exchange and fosters awareness of the production chain.
- **Buy certified fair trade:** Certified fair trade products are produced according to an established set of social criteria. Farmers generally use environmentally friendly cultivation methods and are paid per-pound commodity prices above open-market rates to ensure adequate family income. Certified fair trade products are purchased through democratically operated producer cooperatives.
- **Buy worker-supportive food products:** Worker-supportive products are purchased from companies and organizations that incorporate one or more of the following: 1) have a unionized work force; 2) have a clear, stated, and demonstrated orientation toward social justice and support for labor; 3) actively seek to build the capacity of their workers through provision of education, training, and opportunities for advancement; and/or 4) provide technical assistance and superior marketing alternatives to small-scale farmers.

Major Bid for Prime Contract

- Preference will be given to price competitive bids that meet the greatest number of criteria listed in the above guidelines.

Local Bid for Local Organic Contract

- All food included in this bid must be grown within 250 miles of Santa Cruz and be certified organic.
- Preference will be given to price competitive bids that are “worker supportive,” as defined in the above Guidelines.

Goals for Purchase of Local, Organic, Socially Just Dining Hall Food

Prepared by the UC Santa Cruz Campus Food System Working Group

May 2004

The Campus Food System Working Group will continue to work with dining services in the future to review and modify the Guidelines and purchase goals to take into account increases in student demand for sustainable food and the capacity of local farmers to supply the university. The Working Group will include representatives from the local and organic farm sector, student social justice and organic food organizations, staff from the Center for Agroecology & Sustainable Food Systems, faculty, and students. The goals will be reviewed annually and are subject to change.

2004/05 Academic Year

- A local organic bid will be solicited to provide locally grown, organic food from socially just operations for the UCSC dining halls beginning fall quarter 2004.
- The value of “sustainable food” purchased by dining services in 2004/05 will equal a minimum of 2% of the total value of produce purchased.

2005/06 Academic Year

- A local organic bid will be solicited to provide sustainable food for the UCSC dining halls.

- The goals and Guidelines will be reviewed by the Working Group in collaboration with dining services and necessary adjustments made based on student demand and local supply capacity.
- The value of “sustainable food” purchased by dining services in 2005/06 will equal a minimum of 5% of the total value of produce purchased.

2006/07 Academic Year

- A local organic bid will be solicited to provide sustainable food for the UCSC dining halls.
- The goals and Guidelines will be reviewed by the Working Group in collaboration with dining services and necessary adjustments made based on student demand and local supply capacity.
- The value of sustainable food purchased by dining services in 2005/06 will equal a minimum of 10% of the total value of produce purchased.

Appendix H

Amended UCSC 2005 Guidelines

Guidelines for Purchase of Dining Hall Food

Prepared by the UC Santa Cruz Campus Food System Working Group

In Collaboration with Dining Services

May 2004 (Revised May 2005)

Introduction

The proximity of the University of California at Santa Cruz (UCSC) to organic farms that grow a variety of produce year round positions it to become a leader in the campus sustainable food movement. The following Guidelines were developed by a group of students, staff, faculty, and community members comprising the Food Systems Working Group (FSWG) to assist College and University Housing Services (CUHS) in bringing “sustainable” food to campus dining facilities. The Guidelines are designed to serve as a tool in the selection of vendors for the primary food contract, the local organic produce contract, and other sustainable food contracts. The Guidelines define *sustainable food* as “food that is locally grown and organically produced by operations that use socially just employment practices.” In the case of imported products that cannot be produced locally, criteria for sustainability include fair trade.

Purchase of sustainable food was identified as a priority during the 2004

Campus Earth Summit in order to:

1. Provide students with healthier, fresher food
2. Support the local economy by purchasing food grown by local farmers
3. Reduce the CO₂ emissions by reducing the distance that food must be transported to get to UCSC

4. Reduce the local use of chemical fertilizers and pesticides by supporting organic farmers
5. Support socially just treatment of farm workers by requiring growers to conform with labor laws and encouraging them to provide a living wage, worker benefits, and opportunities for advancement
6. Support producer cooperatives in the global South through purchase of fair trade goods that provide a living income to members by cutting out middle folk and reducing the distance between producer and consumer

I Vendor Selection

A. Primary Vendor Selection

1. **Requirements**: All vendors utilized to provide products must meet the requirements listed in Section II A.
2. **Preference**: Preference will be given to price competitive bids that meet the greatest number of criteria listed in Section II B 1-6.

B. Local Organic Produce Vendor Selection

1. **Requirements**: All vendors utilized to provide products must meet the requirements listed in Section II A and must provide certified organic produce grown within 250 miles of Santa Cruz.
2. **Preference**: Preference will be given to price competitive bids that meet the greatest number of criteria listed in Section II 4 and 6.

C. Organic Dairy Products Vendor Selection

1. **Requirements**: All vendors utilized to provide products must meet the requirements listed in Section II A and must provide certified organic dairy products obtained from dairy animals humanely raised within 350 miles of Santa Cruz.
2. **Preference**: Preference will be given to price competitive bids that meet the greatest number of criteria listed in Section II.

II Sustainable Food Guidelines

A. Requirements (mandatory)

All vendors supplying produce to UCSC CUHS will source from producers who pay minimum wage or higher to workers, as required by law (see Appendix A) and who provide safe workplaces, including protection from chemical exposure, and provision of adequate sanitary facilities and drinking water for workers, as required by law (see Appendix B).

B. Preferences (graded criteria)

1. **Buy local:** Local food is grown within a 250-mile radius of Santa Cruz. Priority is given to growers closest to Santa Cruz. Purchase of local produce decreases the distance food travels and therefore the amount of energy used and pollution produced. Use of seasonal and local produce supports local farmers and the local economy, and encourages diversified farmscapes. Local produce is also seasonal, which ensures that the products are fresher, of higher quality, and more nutritious.
2. **Buy certified organic:** The United States Department of Agriculture (USDA) has established a uniform set of standards to which all organic produce must conform. Organic food grown in the United States must be certified by a third-party agency accredited by the USDA. Chemical residues on non-organic food may be harmful to human health. Organic cultivation also improves environmental health.
3. **Buy humanely produced animal products:** Humanely produced animal products are cage-free, range-fed, and antibiotic-free. Meat producers often give antibiotics to healthy animals to promote rapid growth and to compensate for stressful, unhealthy living conditions. Antibiotics and hormones in animal products can have detrimental health effects on the humans who consume them.
4. **Buy direct:** Cultivating closer relationships between producer and consumer helps to eliminate middle folk, deliver more income at the farm level, and empower producers. Direct purchasing also helps to create an educational network between students, researchers, administrators, and producers that facilitates dialogue and fosters awareness of the production chain.
5. **Buy certified fair trade:** Certified fair trade products are produced according to an established set of social criteria. Farmers generally use environmentally friendly cultivation methods and are paid per-pound commodity prices above open-market rates to ensure adequate family income. Certified fair trade products are purchased through democratically operated producer cooperatives.
6. **Buy worker-supportive food products:** Worker-supportive products are purchased from socially just operations that incorporate one or more of the following into their employment practices: a) pay a living wage to farm workers, defined as union or prevailing wage (see Appendix C); b) provide benefits to their workers, such as medical insurance, on-site housing, year-round employment, childcare; and c) actively seek to build the capacity

of their workers through provision of education, training, and opportunities for advancement.

Goals for Purchase of Local, Organic, Socially Just Dining Hall Food

Prepared by the UC Santa Cruz Campus Food System Working Group

May 2004 (Revised May 2005)

Introduction

The Campus Food System Working Group (CFSWG) will continue to work with UCSC CUHS in the future to review and modify the Guidelines and purchase goals to take into account increases in student demand for sustainable food and the capacity of local farmers to supply the university. The FSWG will include representatives from the local and organic farm sector, student social justice and organic food organizations, staff from the Center for Agroecology & Sustainable Food Systems (CASFS), faculty, and students. The goals will be reviewed annually by FSWG and CUHS and are subject to change. An annual report will be prepared by the CFSWG in collaboration with CUHS that evaluates progress made toward meeting the goals for the academic year.

I. Past Year Goals and Evaluation

A. Goals 2004/05 Academic Year

1. A local organic bid will be solicited to provide locally grown, organic food from socially just operations for the UCSC dining halls beginning fall quarter 2004
2. The value of “sustainable food” purchased by dining services in 2004/05 will equal a minimum of 2% of the total value of produce purchased.

B. Evaluation 2001/05 Academic Year

The bid was not solicited. Three College Nights did provide a means of getting local, organic food into the dining halls. Progress was made on an agreement between CUHS and a group of local organic farmers.

II. Future Goals

A. Goals 2005/06 Academic Year

1. A local organic contract will be executed summer 2005 to provide sustainable food for the UCSC dining halls.
2. An organic dairy vendor will be solicited to provide organic dairy products to UCSC dining halls.
3. A report detailing the achievement of 2005/06 goals will be submitted to the FSWG by CUHS. The report will be attached to the goals in an appendix.
4. The goals and Guidelines will be reviewed by the FSWG in collaboration with CUHS and necessary adjustments made based on student demand and local supply capacity. The FSWG will report on the collaborative process. The report will be attached to the goals in an appendix.
5. The value of “sustainable” produce purchased by CUHS in 2005/06 will equal a minimum of 10% of the total value of produce purchased.
6. The value of the organic dairy purchased by CUHS in 2005/06 will equal a minimum of 5% of the total value of dairy purchased.

B. Goals 2006/07 Academic Year

1. The local organic produce contract for 2005/06 will be reviewed and either renewed or an alternate solicitation process will be initiated to provide sustainable food to the UCSC dining halls.
2. The organic dairy contract for 2005/06 will be reviewed and either renewed or an alternate solicitation process will be initiated to provide organic dairy to the UCSC dining halls.
3. A solicitation process will be initiated to provide sustainable animal products (other than dairy) to UCSC dining halls.
4. A report detailing the achievement of 2005/06 goals will be submitted to
FSWG by CUHS.
5. The goals and Guidelines will be reviewed by the FSWG in collaboration with CUHS and necessary adjustments made based on student demand and local supply capacity. The FSWG will evaluate progress and report on the collaborative process.
6. The value of sustainable produce and dairy purchased by CUHS in 2006/07 will increase by an additional 5% of total produce and dairy cost.

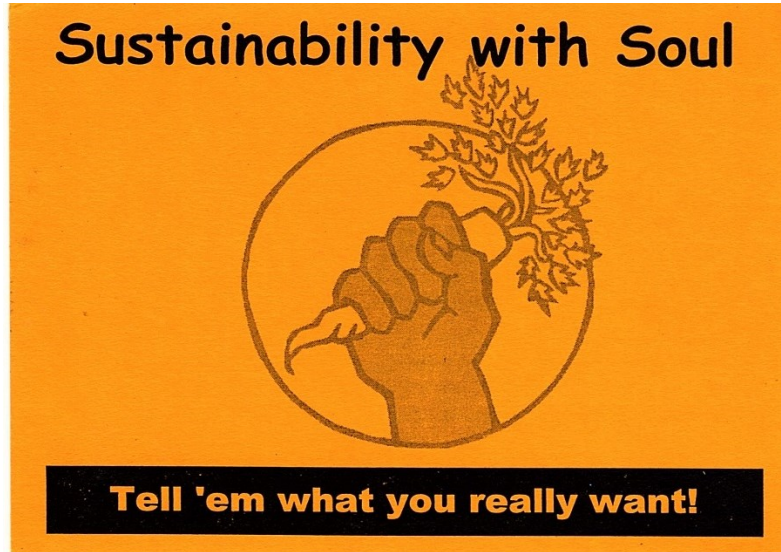
7. The value of “sustainable” animal products purchased by CUHS in 2006/07 will equal a minimum of 2% of total animal product purchases.

C. 2007/08 Academic Year

1. The local organic produce contract for 2006/07 will be reviewed and either renewed or an alternate solicitation process will be initiated to provide sustainable food to the UCSC dining halls.
2. The organic dairy contract for 2006/07 will be reviewed and either renewed or an alternate solicitation process will be initiated to provide organic dairy to the UCSC dining halls.
3. The sustainable animal products (other than dairy) contract for 2006/07 will be reviewed and either renewed or an alternate solicitation process will be initiated to provide sustainable animal products to UCSC dining halls.
4. A report detailing the achievement of 2006/07 goals will be submitted to the FSWG by CUHS.
5. The goals and guidelines will be reviewed by the FSWG in collaboration with CUHS and necessary adjustments made based on student demand and local supply capacity. The FSWG will evaluate progress and report on the collaborative process.
6. The value of “sustainable” produce and dairy purchased by CUHS in 2007/08 will increase by an additional 5% of total produce and dairy costs.
7. The value of “sustainable” animal products purchased by CUHS in 2007/08 will equal a minimum of 5% of total animal product purchases.

Appendix I

2004 Sustainability with Soul Postcard



Sustainable Food Purchasing Guidelines

Environmental and social justice student-advocates, working together with **UC administration**, have designed a set of guidelines and a timetable for UC Santa Cruz' **path to sustainability** in its food purchasing. Here's a bullet point summary of what you're endorsing when you sign this postcard.

- **Certified Organic: No pesticides or chemical inputs**
- **Worker Supportive: Unionized or social justice-oriented farms**
- **Local and Seasonal: Produce in season from within 250 miles of UCSC**
- **Fair Trade: Provides living wage for producers in the Global South**
- **Humanely Produced Animal Products**

I endorse UC Santa Cruz' path to sustainability, and ask that at least 2% of food purchased in 2004/05, 5% in 2005/06, and 10% in 2006/07 school year comply with these guidelines. I agree to these target goals, even if they require meal plan fee increases of up to 2% per year.

Name _____ Signature _____

I eat in the dining halls:

- Never Sometimes Frequently

Appendix J

UCSC RFQ Organic Produce Alba Organics

UNIVERSITY OF CALIFORNIA SANTA CRUZ

REQUEST FOR QUOTES
ORGANIC PRODUCE
JULY 20, 2005

SECTION I: GENERAL INSTRUCTIONS

The University of California Santa Cruz requests your quote for local, sustainably grown, organic produce.

Organization of this Request for Quote:

SECTION I:	GENERAL INSTRUCTIONS
SECTION II:	VENDOR INSTRUCTIONS
SECTION III:	TERMS AND CONDITIONS
SECTION IV:	REQUIREMENTS & SPECIFICATIONS
SECTION V:	VENDOR RESPONSE FORM (TO BE RETURNED)
APPENDIX A:	UNIVERSITY STANDARD TERMS AND CONDITIONS
ATTACHMENT 1:	PRICE QUOTE FORM

University Contacts

RFQ Process Questions:

If you have any questions concerning this Request for Quote, please contact Yvonne Macon, Buyer, in Central Purchasing at (831) 460-3092, or email at yjmacon@ucsc.edu.

Submission of Quote

Sealed quote must be received by Wednesday July 27, 2005 on the authorized "Vendor Quote Response Form." Send or deliver bids to:

UNIVERSITY OF CALIFORNIA
Central Purchasing
1156 High Street
Santa Cruz, CA 95064
Attn: Yvonne Macon

Scope

UCSC Dining Services, in collaboration with the The Center for Agroecology and Sustainable Food Systems (CASFS), wishes to establish a 'research supportive' long term contractual relationship with a farmer cooperative to provide fresh, locally grown, sustainably produced, organic produce to the University Dining Services Department, consisting of five residential dining commons, two cafes, four coffee kiosks, and two Catering locations.

It is the intent of UCSC Dining Services to continue purchasing its conventional produce and needed 'back-up' organic produce from our primary produce supplier. A percentage has been targeted for the purchase of organic produce which meets the specifications listed in this RFQ. Based on prior year's usage and the projected produce needs of a new facility, University Dining Services estimates the annual expenditures, for organics, to be approximately \$85,000. This figure is an estimate to assist in preparing your quotation, and should not be construed as a guaranteed volume.

UNIVERSITY OF CALIFORNIA SANTA CRUZ

**REQUEST FOR QUOTES
ORGANIC PRODUCE
JULY 20, 2005**

Contract Period

Any contracts resulting from this request will be established for an initial period of one (1) year commencing with service on or before August 20, 2005. Upon successful completion of the initial service period, the University reserves the right to renew the contract at the same terms and conditions or to re-negotiate mutually agreeable terms and conditions for each additional one (1) year period.

Pricing

It is the normal practice of University Dining Services to request a 'cost plus' pricing program for its produce purchases, based on a vendor's 'landed costs'. However, it is noted that the local organic market does not practice the utilization of standardized, weekly, market base prices. For this reason, it is the desire of the University to establish fixed pricing on a biannual basis, to cover the two main growing seasons (spring-summer, fall-winter). Prices and planting requests are to be negotiated twice yearly, allowing adequate time for the agreement process and research, prior to the season's planting.

Note: for the purpose of comparison only, this RFQ will request market pricing for the week of the RFQ's release, as well as, the fixed pricing for the fall/winter season.

Evaluation of Quotes

1. *Selection of a final vendor will be based on the quote, which best meets the business needs of the University, the ability to fulfill departmental goals, and total cost. Award shall be to the responsive and responsible respondent whose solution meets the maximum number of University needs and requirements as detailed in the following sections, and in a cost efficient manner.*
2. The written RFQ solution narrative responses offered by the vendor will be evaluated by a selection committee using predetermined criteria summarized below in the "Evaluation Criteria Worksheet Summary" and the more detailed descriptions listed below it, Section IV items 1 through 7.
3. Bidders shall present adequate information to address each criterion- either by presenting published feature and specification literature or by specific criteria by criteria written response. It is the responsibility of the vendor to provide clear, accurate and non-contradictory information for our analysis. If the Vendor Response meets the elements of compliance, we will continue by evaluating the quoted pricing (Attachment A).

UNIVERSITY OF CALIFORNIA SANTA CRUZ

SECTION II: INSTRUCTIONS TO RESPONDENTS

1. RFQ Responses shall be enclosed in a sealed envelope marked, "QUOTE FOR ORGANIC PRODUCE, JULY 2005 and must be RECEIVED by the Purchasing Office, UCSC, 1156 High Street, Santa Cruz, CA. 95064, Attn: YVONNE MACON, no later than 5:00 PM, JULY 27, 2005.

Note: An electronic copy may be sent in substitution, by the date and time due, but the original and copy must follow within one week of the due date. Send to yjmacon@ucsc.edu.

2. An electronic Microsoft Word file of this RFQ is being provided for use by all solicited vendors. The electronic file is for vendor formatting convenience only. RFQ Responses **must be submitted in hard copy form with original signature. We cannot accept only an electronic return at this time.**
3. The original and (1) copy of the quote and attachments must be submitted.

The quotes must be signed, complete and submitted in the format and order of the RFQ as outlined and numbered in "Section IV: Requirements and Specifications." Respondents should order and reference their bid discussion to be consistent with the specific subsections of Section IV.

4. All information required in "Section V, Vendor Response Form," must be submitted on that form, complete and signed by the appropriate company official.
5. Rejection of Quotes:

The University reserves the right to reject any or all quotes received and to waive any informality or minor defects in quotes received.

The University may, at its sole option, reject the quote and re-solicit, in the event that no RFQ is judged to be acceptable to the University.

The University reserves the right to reject, as unresponsive, any offer not containing all requested information.

6. Prior to any quote being accepted, the respondent must demonstrate compliance with all quotation specifications for such products and services. The burden of proof of compliance with this specification is the responsibility of the respondent.
7. The University reserves the right to negotiate with the apparent successful vendor prior to issuance of the award any contract in whole or in part, which may result from this Request for Quote.
8. Under Government Code Section 6252 *et seq.* (the Public Records Act), the University must disclose your response because it meets the definition of a "public record." The only exception to this required disclosure is information, which fits the definition of a trade secret [Government Code Section 6254(k)]. A trade secret is generally defined as a formula, pattern, device, or compilation of information which is used in one's business and which gives one an opportunity to obtain an advantage over competitors who did not know or use it. A trade secret may be withheld from disclosure under the Public Records Act only if it is, indeed, a secret.

In your response, the top of each sheet of such information defined as a trade secret must be marked:

"TRADE SECRET-DO NOT DISCLOSE."

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In no event may the entire response be considered a trade secret.

The University will make available, as required by the Public Records Act, your quotation response, with the exception of items, which fit the definition of trade secrets.

If there is any challenge to the University withholding of information on the basis of trade secret, respondent shall bear any legal costs associated with the defense of the withholding of that information.

SECTION III: TERMS AND CONDITIONS

**Standard University of California Terms and Conditions of Purchase Apply
See contents of University of California Appendix A, attached.**

The terms and conditions applicable to any resulting contract are those contained herein and those contained in Appendix A only. Any different or additional terms contained in Seller's purchase order acknowledgment or other document, are unacceptable to the University and are hereby rejected.

Exception: System software licensing requirements must be submitted with the RFB response. The software license shall be subject to review, possible modification, and acceptance by the University.

Exceptions to the terms and conditions required by statute or regulation must be submitted with the RFB response. Indicate the Article of Appendix A and the term and/or condition of which exception has been taken, cite and list the applicable governing status or regulation, and provide the replacement term and/or condition. Such submittal shall be subject to review and concurrence by the University.

Payment

The University generally issues payment to vendor approximately thirty (30) days after receipt of an accurate invoice. A Payment Schedule is provided in the Vendor's Response form for specific payment terms including prompt or progress payment discounts.

Insurance

Vendor shall provide a certificate of insurance to the limits of attached "Appendix A" prior to the commencement of any on campus installation or work.

Right to Cancel

Termination for Cause – If either party breaches a material provision of this Agreement ("Cause," the non-breaching party shall give the other party written notice of such Cause). If the Cause is remedied within thirty (30) days, the notice shall be null and void. If such Cause is not remedied within the specified period, the party giving notice shall have the right to terminate this Agreement upon expiration of such remedy period. The rights of termination referred to in this Agreement are not intended to be exclusive and are in addition to any other rights available to either party at law or in equity.

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University Termination for Convenience – The University may, by giving one hundred-twenty (120) days written notice stating the extent and effective date, cancel and/or terminate this Agreement for convenience in whole or in part, at any time.

University Termination for Non-Compliance to Health or Safety Regulations – The University has the right to terminate the Agreement, without further obligation to the Vendor, upon three (3) days written notice in the event the Vendor fails to comply with any recommendation from Environmental Health and Safety, or any applicable state or local governmental health and sanitation regulations relating to food or beverage handling, transport, or storage under the Vendor's control and authority.

In the event of any bodily injury or death or claim for liability for bodily injury or death rising out of the Vendor's failure to comply with any applicable health or safety regulation in the performance of this Agreement, the University shall have the absolute right, without any further obligations to the Vendor, to terminate this Agreement upon three (3) days written notice and/or to suspend the Vendor's food and beverage service operations under this Agreement, until the University, in its sole opinion, is satisfied that the Vendor has instituted all appropriate safeguards to prevent the recurrence of the violation of the health or safety regulation. Contractor hereby agrees that the University shall have no liability to the Vendor for exercising the University's rights under this paragraph.

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SECTION IV: REQUIREMENTS & SPECIFICATIONS

This section provides detailed information pertaining to the requirements and specifications of this RFQ. Attention to the itemized requirements is important, as they provide the specific terms, to which you are agreeing, when you complete the “Evaluation Criteria Worksheet Summary” below. They also, in combination with your Narrative, Attachment 1, and Section V, will be part of your completed return.

Quote shall be evaluated based on its compliance to the following requirements and specifications

- A. REQUIREMENTS: *ALL quotes* submitted must meet the following requirements. Placement of a “yes” in the column marked “compliance” certifies that your submittal will meet the individual specification/requirement indicated in the section below (items 1-7). If you have placed a “no” answer in the column, you must provide an elaboration that will sufficiently mitigate the negative response, in order to be considered as ‘in compliance’ with the requirement.

<i>EVALUATION CRITERIA WORKSHEET SUMMARY</i>	
Submitted quote is in compliance Yes/No	Criteria
QUOTE FOR ORGANIC PRODUCE	
Yes	Complete return, as outlined in Section V, Subsection 1
Yes	Qualify as a Farmer Cooperative whose business structure will reflect a ‘Single Entity’ for the purpose of conducting business with the University. Item 1
Yes	All farms within the ‘Cooperative’ (both present and future) agree to a collaborative relationship with UCSC Center for Agroecology and Sustainable Food Systems for the purpose of supporting field research. Item 2
Yes	Farmer/Members of the ‘Cooperative’ (both present and future) meet the specifications, as defined below in Item 3, a b & c.
Yes	Are able to, and agree to comply with all requirements concerning ordering, invoicing, and reports, as outlined in Item 4.
Yes	Are able to and agree to, delivery requirements as outlined in Item 5, and agree to work with UDS management when adjustments must be made.
Yes	Agree to Sales Representation that will provide the services as listed in Item 6.
Yes	Are able to limit shortages to the percentages listed in Item 7 and will notify each ordering unit, of any shortages or substitutions per the requirements.

1. Farmer Cooperative/Single Entity – To achieve the UDS goal of direct purchases from local sustainable sources, the select vendor must be a Farmer Cooperative whose business structure allows it to function as a ‘single entity’. The University will view the vendor as such for all transactions and deliveries. All insurance, order forms, and business processes (as they relate to doing business with the University) will reflect this structure.

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2. Research Supportive – All farmer/members of the Selected Cooperative, must agree to collaborate with the UCSC Center for Agroecology and Sustainable Food Systems and to help facilitate field research on their farms. A single point of contact must be provided to assist in these arrangements, when needed.
3. Sustainability Criteria – All farms, utilized to provide product, must meet the following criteria:
- a. **Local** – Must be within a 250 mile radius of the University.
 - b. **Organic** – Must be CCOF certified or equal. The vendor will be expected to provide its updated certification(s) on an annual basis.
 - c. **Employment Practices** – vendor must conform to all applicable state, federal, and local laws, as well as, provide a ‘Worker Supportive’ environment. Worker Supportive is defined as including one or more of the following:
 - *Programs* - that provide training, education, advancement, and/or childcare
 - *Living Wage* - defined as union or prevailing wage
 - *Benefit Packages* - that would be typical of a unionized workforce in this specific industry.
4. Ordering/Invoicing/Reports
- a. **Orders** - will be placed by phone or via the web (if available) by Noon, the day before delivery, e.g. Tue by noon for Wed, etc Product lists with pricing should be emailed 3 times, weekly, to Unit managers and our Food Pro Coordinator. These lists should not be from the individual farms, but represent the offerings of the Cooperative as a whole.
 - b. **Invoices** - As of July 1, 2005, UCSC will require that separate accounts be established for each dining unit. This may or may not, match the number of physical stops being made, however, you will be notified as to the Blanket Purchase order number that should be used for each unit or stop (e.g. you may receive eight (8) orders from eight locations, but only be billing to seven Blanket Order numbers. This would be due to the fact that two of the café ‘stops’ were both part of the retail division and would be billed to the retail Blanket Purchase Order number). All invoice delivery slips must be signed by an authorized person at time of delivery and reflect item delivered, amount, and price. Monthly (or bimonthly) summary statements, with matching invoice copies attached, should be submitted to accounting for payment. If we are not in possession of all invoices, accounting will request a faxed copy (from you) of those (signed) missing invoices, so as to expedite payment.

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c. Reports - Usage reports, in a mutually agreeable format, must be supplied on an as needed basis, weekly, monthly, quarterly, or yearly. Product lists or invoices must show the farm of origin to insure it meets our sustainability criteria of Organic, Local (250 mile radius), and sustainable.

5. Deliveries – UCSC requires delivery three (3) days per week, Monday, Wednesday, Friday.

Deliveries shall be between the hours of 5:00am and 7:00am (times and locations are subject to change). Product would be delivered to six locations and may increase with the addition of new venues. *Note: The Cooperative is viewed as a single entity for the purpose of delivery.*

UCSC cannot accept multiple deliveries, from various farmers.

6. Sales

a. Inside Sales Representation - An inside sales person must be assigned to handle the University account. This person must be readily accessible by telephone and available during normal business hours.

b. Outside Sales Representation - the vendor must provide a sales representative, on an "as needed" basis, who will be responsible for the following services:

- b.1 Providing product information regarding new items for the end user.
- b.2 Assisting the Purchasing, Accounts Payable, and Dining Services Department in resolving customer service problems or billing problems.
- b.3 Providing educational instruction during special events or meetings, when requested by Dining Services.
- b.4 Answering questions regarding the various products and/or services provided.
- b.5 Detailing new products to end users and integrating those items into the order sheets.
- b.6 Provide on-site assistance for special theme dinners to help display and promote local, organic farming.
- b.7 Serve as the primary point of contact for the establishment or renegotiating of any pricing or pricing structures and to provide the University with the following information:
 - Product Availability List, emailed to Unit managers 3 xs weekly, with pricing.

UNIVERSITY OF CALIFORNIA SANTA CRUZ

- Provide Seasonal Lists with price quotes, 1 month in advance. (Price quotes will depend on price structure. We may request base pricing of previous month).
- Work with Executive Chef and Catering Manager to plan menus around crop availability, a minimum of one month in advance. Where possible, work with Executive Chef and Catering Manager to request specific planting cycles for desired product.

7. Shortages – Must be held to a minimum of 6%. All substitutions must be approved prior to delivery and communicated one full day in advance.

SECTION V: VENDOR QUOTE RESPONSE FORM

*The original and one (1) copy, with all required attachments and signatures, shall be enclosed in an envelope clearly marked **Organic Produce RFQ, July 2005** and delivered by 5:00 pm, July 27, 2005 to:*

UCSC Purchasing Office
1156 High Street
Santa Cruz, CA 95064
Attn: Yvonne Macon

Note: An electronic copy may be sent in substitution, by the date and time due, but the original and copy must follow within one week of the due date. Send electronic version to yjmacon@ucsc.edu.

QUOTES SHALL BE VALID FOR NINETY (90) DAYS FROM RECEIPT OF THIS RFQ.

BUSINESS NAME:	ALBA Organics
BUSINESS ADDRESS:	P.O. Box 6264
	Salinas, CA 93912
TELEPHONE/FAX:	(831) 758-5958 / (831) 758-5315

I. COMPLETE RETURN

The following documents constitute a complete and valid return:

- A. A completed "Vendor Quote Response Form" (Section V), including, insurance coverage acceptance, and payment terms.
- B. A completed "Price Quote Form" (**Attachment 1**) **Note: All prices shall be included only on the provided "Price Quote Form".**
- C. Any narrative covering the requirement categories appearing in **Section IV**. Requirements & Specifications should be clearly marked to reference the sub-sections in this section.
- D. The original copy of Section IV with CRITERIA WORKSHEET SUMMARY acknowledged and complete.

UNIVERSITY OF CALIFORNIA SANTA CRUZ

2. INSURANCE REQUIREMENT

If awarded this contract, Contractor agrees to provide the insurance indicated in attached "Appendix A" prior to commencement of any work on university premises.

3. PAYMENT TERMS

State exact payment schedule, including any prompt or progress payment discounts:

_____ % _____ Days, Net 30

4. SIGNATURE REQUIRED BY A DULY AUTHORIZED COMPANY/COOPERATIVE REPRESENTATIVE

The undersigned, upon acceptance, agrees to furnish the following in accordance with the specifications, terms and conditions of this University of California Santa Cruz, "Organic Produce RFQ, July 2005" at the prices indicated herein:

I hereby declare under penalty of perjury that no information requested has been omitted and that all the information provided is true and correct.

Signature of Authorized Representative

Executive Director _____ /Date **July 27, 2005**
Title

Agriculture & Land Based Training Association / ALBA Organics _____
Company

Appendix K

UCSC Sole Source Justification for Purchases over \$ 50,000 ALB Organics/MBOFC Sole Source Justification

UCSC SOLE SOURCE JUSTIFICATION FORM FOR PURCHASES >\$50,000

FOR PURCHASES BASED ON SOLE SOURCE,
UNIQUE OR PROPRIETARY PRODUCT OR SERVICE BASIS

General Policy

It is the policy of the University to meet its need for goods and services at the lowest overall cost, while affording the maximum opportunity practicable to those who wish to become suppliers to the University. (University of California *Business and Finance Bulletin 43*, dated March 15, 1994.)

Purchasing Requirements

Orders *under \$50,000* shall be awarded consistent with the UCSC General Purchasing Policy.

Purchases *over \$50,000* are mandated by California Public Contract Code Section 10507, et seq. to be awarded to the lowest responsive, responsible bidder based on formal quotation, unless it is determined by the Materiel Manager that:

1. only one supplier sells a product or service that will properly meet the needs of the University within the time available (usually applicable to emergency and other situations which preclude conventional planning and processing),
2. only one supplier sells a product or service that will properly meet the needs of the University because the item or service is unique,
3. only one supplier sells a product or service that will properly meet the needs of the University because it is necessary for the item or service to match others used in a particular location, or
4. only one supplier has the exclusive right to manufacture and sell a product or service and that product or service is the only one that will properly meet the needs of the University.

Purchase contracts shall be entered into only after it has been determined by the Purchasing Office that the prices to be paid are reasonable.

Procedure -

All requisitions requesting purchase on a "sole source" basis must be accompanied by a completed "Sole Source Justification" with sufficient time for the Purchasing Office to review the materials, evaluate the technical information, and determine that the product or service is unique or proprietary. All sections of the justification questionnaire must be completed before an adequate review can be made.

The requestor is expected to provide 1) sufficient information on what else is available in the market place to permit reasonable consideration of alternatives and 2) documentation which will withstand the scrutiny of internal and external audits and the inquiry of suppliers of similar products or services judged to be unacceptable for the current purchase.

Authorization

All sole source justifications must be authorized in writing by the unit's Principal Officer (Assistant Vice Chancellor, Associate Vice Chancellor, Dean, Director).

Rev. 5/23/00

UCSC SOLE SOURCE JUSTIFICATION FORM FOR PURCHASES >\$50,000

Please attach additional sheets if more than one product or service
or if required for adequate explanation

1. *Product or service to be purchased:*
Organic, local, produce from sustainably operated businesses.
2. *Briefly explain what this product or service does:*
The produce purchased through this agreement will provide for the needs of University Dining Services in two areas: a special salad/side section (titled Local, Organic and Sustainable) of each of the five dining halls and for the needs of a newly acquired UDS venue (the UCEN,) whose new menu and theme will be 'Local Organic'.
3. *Briefly explain your research or operation:*
CUHS/University Dining Services program includes five residential dining facilities accomodating over 6,000 meal plan residents, a Retail Division operating two cafes and four coffee kiosks, and a Catering Division which includes the newly acquired University Center.
4. *Briefly explain how the product or service will be used in accomplishing your research or operational goals:*
University Dining Service's goals (as they pertain to these purchases) are:
* to meet or exceed the targeted percentages of locally grown, organic produce as agreed upon between UDS Management and the Food Systems Working Group (FSWG-a sub-committee of the Chancellor's Sustainability Action Council), and (when possible) to align with the FSWG guidelines of local, seasonal, direct purchasing from sustainably operated businesses/farms. (sustainability criteria and definitions, provided on RFQ for Organic Produce, July 20, 2005 and is attached).
* to support the programs and field research of the UCSC Center for Agroecology and Sustainable Food Systems (CASFS). University Dining Services works in collaboration w/ the FSWG and the CASFS, to develop and achieve purchasing goals that support the buying of healthier, more sustainably grown food products and (when possible) to support field research through these targeted purchases. The formation and utilization of this cooperative provides commitment by all members of MBOFC to work with the Center for Agroecology and provide a single point of contact for their research projects. This will enhance the already existing research relationships and simplify the processes that are now in place, while providing University Dining Services with direct access to produce that meets all of the goals/guidelines as proposed by the FSWG. In addition, MBOFC is willing to grow crops, specifically for UCSC.
* to improve the quality, safety, and nutritional value of the produce served in our facilities, by offering produce grown in soil that is not chemically treated and products that are free of pesticides. Freshness, as related to nutritional value and taste, is achieved by reducing the 'field to table' time through direct purchasing and the distance the product travels.
* supports purchasing goals relating to small, local businesses
5. *Manufacturer or vendor of proposed purchase.* Include company name and name of specific sales contact, including approximate date of contact. Attach any written quotation provided:
Alba Organics/ MBOFC
P.O. Box 6264
Salinas, Ca. 93912 Sales Contact: Dina Izzo (831) 758-5958
6. *Indicate if the product or service has been purchased for this campus in the past and indicate:* department purchased for, approximate date of purchase, and purchase order number of purchase if known:
Fresh produce (from these farmers) was brought in for a tasting and presentation by Community Alliance of Family Farmers(CAFF), at no charge. Produce was used from these vendors for two College Nights in the month of April whose themes were local, organic, sustainable. These purchases were made from the individual farmers who are now part of the collaborative. The bills were small and were paid on a P.A. Insurance is on file for the farmers who participated.

Rev. 5/23/00

UCSC SOLE SOURCE JUSTIFICATION FORM FOR PURCHASES >\$50,000

7. *Indicate if you know if the product or service was purchased on any other University of California campus that we might contact for shared information. Please indicate as much detailed information that you can provide, including specific contacts, if possible:*
This collaborative business entity is newly formed and, to our knowledge, has not served any other UC campus. Alba Organics currently serves Stanford University, Sutter Maternity, Dominican Hospital and various retail businesses. Each can provide references.
8. *List the specific salient features or specific performance specifications or parameters that make this product or service unique or proprietary, AND indicate specifically why these unique features are indispensable to your research or operation:*
As referenced in the responses to question #4, MBOFC offers University Dining Services an opportunity to meet all of their targeted goals for this type of purchase; specifically, organic, locally sourced and sustainably produced, research supportive, and a direct purchasing connection. (Sustainability criteria is found on page seven of RFQ for Organic Produce)
9. *List other suppliers generally believed to offer the same or very similar product or service. Indicate if they were contacted for a description and/or price of their product or service. If they were not contacted, indicate why they were omitted. Indicate specifically why their product or service is judged to be unacceptable:*
- a) NOTE: The vendors, listed below, are not direct purchases, cannot support the research relationship, and cannot grow crops specifically for UCSC.
**America Fresh -Dining Services has been in contact with Amercia Fresh over the last six months and is in possession of their literature. Of all vendors, they are the closest to meeting the requirements for these purchases, however, they are lacking in the areas listed above.
 - b) **Ledyard Company - They are our Prime Vendor and are currently supplying us with conventional produce and 3-4 organic items. The lead time, availability, and quality, of organics, has been a real concern of UDS. It is not their intent to continue purchasing organics from this vendor. Additionally, Earthbound Farms is their organic supplier. (Earthbound is a large vendor that pulls from all over the state and has plants in Yuma, as well as San Juan Baptista),they do not meet the above requirements.
 - c) **Green Leaf - They are produce brokers out of San Francisco, with a good selection of organics, but do not source solely from local farms and cannot meet the above requirements.
**Watsonville Coast Produce - They carry a lot of Earthbound product, but pull from many locals as well.They do not meet the above requirements.
10. *Pricing:* Even if the determination is made that the proposed purchase qualifies as unique or proprietary, and the vendor has supplied you with a written proposal or price quotation, it is preferable for the vendor to respond to a written request for quotation on University forms containing standard University terms and conditions. Such a RFQ will be prepared unless extreme time constraints preclude it.
11. *Reasonableness of price:* Indicate specifically how you have determined the prices quoted to you for these products or services are reasonable - e.g. comparison to previous order, comparison to purchase of similar equipment at UCSC or at other educational institution, GSA or other contract pricing, etc:
We have priced Alba/MBOFC against Greenleaf and Watsonville Coast Produce. A specific week is used, since base produce market prices are established each week and brokers can have daily fluctuations. For these purchases, it is our intent to establish fixed pricing which will be negotiated biannually, to cover both growing periods (spring-summer and fall-winter). Each of the comparative vendors is lacking two or more of the desired capabilities or features as referenced in question #4.
12. *Funding of order:* Indicate how this order is to be funded. Include any constraints or conditions imposed by the source of funds:
University Dining Services is part of CUHS and receives its funding from 'Room and Board' payments.

UCSC SOLE SOURCE JUSTIFICATION FORM FOR PURCHASES >\$50,000

13. Please indicate any additional background or other information that you feel may be of assistance in the completion of this transaction:

UCOP has incorporated a California Student Sustainability Coalition (CSSC) and, after the passing of the Green Building Policy, appointed a Sustainability Specialist (Matt St. Claire) to enforce policy and oversee the development of The Chancellor's Sustainability Action Council at each campus. The FSWG was formed at the 2004 Campus Earth Summit to work with the University in its efforts to move toward a more sustainable campus food system. This is just one working group that functions within CSAC and reports to UCOP through Matt St. Claire. Their preference guidelines are provided as an attachment.

14. Indicate time or other constraints of this order:

Agreements and Purchase order must be in place by mid to late August to begin trial runs and establish a routine by September. The UCEN, in particular, needs completion to provide for their 'themed' opening.

Justification prepared by: xxxxxxxxxxxxxxxxxxxx

Department and position: xxxxxxxxxxxxxxxxxxxxxxxx

Date: xxxxxxx PO _____

I hereby verify the accuracy of the above justification and authorize the transaction.

Principal Officer (Asst./Assoc. Vice Chancellors, Deans, Director)

Date

Appendix L

Emory Sustainability Guidelines for Purchasing

**SUSTAINABILITY GUIDELINES FOR FOOD SERVICE PURCHASING
EMORY UNIVERSITY SUSTAINABLE FOOD COMMITTEE**

APPROVED 2/27/08 REVISED 3/29/11 REVISED 5/1/13

Emory University’s strategic planning efforts include commitment to a more sustainable food system for our campuses and hospitals. The goals adopted in our university strategic plan are “to provide and encourage healthy food choices at all times of day” and to “procure 75% of ingredients from local or sustainably grown sources by 2015” (Report of the Sustainability Committee, 2006). In April 2007, the Sustainable Food Committee was appointed by the President, and with this document we have begun to clarify what we mean by “sustainable” and “local” food. We seek to specify how sustainability’s “triple bottom line” of environmental, social, and economic criteria applies to food purchasing decisions, given our particular situation in the Southeastern United States. The criteria listed below will have to be balanced against cost and supply constraints, and we expect these guidelines to be modified with experience as our work progresses. Our efforts focus on both campus dining and Emory healthcare locations.

This document outlines specific buying priorities for eight* food categories, and explanations for the recommended criteria follow the listed priorities. The box below summarizes the full range of desirable criteria that the committee recognizes at present. Since availability is currently low for most of these desired criteria, we have decided to focus on the source goals and the farming practice goals in our recommended priorities for each food category specified below. The remaining issues of farm scale and the form of ownership are important, but not given priorities at present. We hope our buying efforts will soon be able to focus on small- and medium-scale farms as well as independent/family farms and cooperatives, because evidence is strong that such groups support important aspects of sustainability. Specifying scale and ownership goals at this time, however, would restrict availability too severely.

<u>DESIRABILITY</u>	<u>SOURCE</u>	<u>PRACTICES</u>	<u>SCALE</u>	<u>OWNERSHIP</u>
HIGH	GEORGIA REGION	SUSTAINABLE FAIR TRADE	SMALL & MEDIUM	INDEPENDENT FARM & COOPERATIVE
LOW	U.S. INTERNATIONAL	CONVENTIONAL	LARGE	CORPORATE



We have specified below what we mean by “sustainable” and “local.” With regard to production practices, we are able to take advantage of a number of certification systems that are emerging in the United States and around the world, to help us verify food production methods that embody the triple bottom line of sustainability. These two dimensions of our commitment to sustainability allow us to contribute a number of related goals, including rural economic health, civic vitality, open space preservation, reduced use of fossil fuels, environmental protection from harmful agricultural inputs and practices, preservation of biodiversity, safe and just working conditions in the agricultural sector, improved human health, optimal nutrition, and new systems of accountability. We set our priorities by asking ourselves, “If we can only do one thing, what would we want to do first?”

* Revisions to these guidelines were carried out in 2011 when our original ten categories were combined into seven by combining four grocery categories into one. The committee agreed that processed foods with multiple ingredients could not be sufficiently verified to count toward local purchases, and non-dairy beverages were also excluded from tracking to meet local purchasing goals, regardless of where they were manufactured. In 2013, with changes in national certification processes and with the development of Emory’s new tracking system, priorities were also revised.

PRIORITIES BY FOOD CATEGORY

1. Milk and dairy

First priority: produced free from routine use of antibiotics and hormones
Second priority: sourced from certified grass-fed animals (American Grassfed Association)
Third priority: from eight-state Southern region
Fourth priority: from Georgia
Fifth priority: certified organic (USDA)
Sixth priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified sustainable and from Georgia

2. Eggs

First priority: produced free from routine antibiotic use
Second priority: certified humanely raised (Humane Farm Animal Care)
Third priority: from eight-state Southern region
Fourth priority: from Georgia
Fifth priority: certified organic (USDA)
Ultimate goal: certified humane and sustainable and from Georgia

3. Vegetables and fruits

First priority: from Georgia
Second priority: from eight-state Southern region
Third priority: certified organic (USDA)

Fourth priority: certified fair trade
Fifth priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified sustainable and from Georgia

4. Chicken

First priority: produced free from routine antibiotic use
Second priority: certified humanely raised (Humane Farm Animal Care)
Third priority: from Georgia
Fourth priority: from eight-state Southern region
Fifth priority: certified organic (USDA)
Sixth priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified humane and sustainable and from Georgia

5. Beef

First priority: certified humanely raised (Humane Farm Animal Care)
Second priority: certified grass-fed (American Grassfed Association)
Third priority: from eight-state Southern region
Fourth priority: from Georgia
Fifth priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified grass-fed, humane, and sustainable and from Georgia

6. Pork and other meats

First priority: certified humanely raised (Humane Farm Animal Care)
Second priority: from Georgia
Third priority: from eight-state Southern region
Fourth priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified humane and sustainable and from Georgia

7. Seafood

First priority: Seafood Watch Southeast “best” or “good” list
Second priority: Marine Stewardship Council certification
Third priority: Sustainable Seafood Forum recognition
Ultimate goal: Seafood Watch Southeast “best” or “good” list and Marine Stewardship Council certification and Sustainable Seafood Forum recognition

8. Grocery

First priority: certified organic
Second priority: certified fair trade
Third priority: certified sustainable (Food Alliance or alternative certification)
Ultimate goal: certified sustainable

RATIONALE FOR THESE PRIORITIES

Hormone and antibiotic free: By choosing milk, dairy, eggs, chicken, and other meats produced without routine administration of antibiotics or artificial hormones, we eliminate a major risk of generating antibiotic resistance within the food supply and protect human health against potential endocrine disruption. In addition to promoting food safety, the elimination of routine antibiotic treatment within the dairy, poultry, and

livestock industries can lead to more humane treatment of these animals. For example, without routine antibiotic treatment, animals require more living space and must be housed in cleaner facilities. This raises the bar for industrial practices, favors smaller production units, and sets a consumer-based standard for expectations of quality and safety. Guidelines from the Food and Drug Administration make this priority automatically fulfilled for some foods; for example, hormones are not approved for use in eggs and poultry.

Grass-fed (pasture-raised) meats: Medical studies have determined that increased consumption of saturated fats increases the risk of heart disease and cancer. Recent research has found the conventional grain-based animal diets produce meat with higher levels of these fats. Pasture-raised meats and dairy show significantly lower levels of total and saturated fats and higher levels of the omega-3 fatty acids found to lower risk of heart disease, diabetes, Alzheimer's, and hypertension. While a meat-free diet may remain attractive for various reasons (and reduces greenhouse gas emissions), it is increasingly clear that a diet of moderate amounts of pasture-raised meat is consistent with health recommendations. Production of grass-fed meats can also contribute to reduced environmental harms from energy-intensive grain production, farmland erosion, and groundwater contamination. We recognize American Grassfed Association's certification of grass-fed and may add other certifications in the future.

Georgia grown and regionally grown: Locally grown food offers fresher, tastier food and often reduces the use of fossil fuel for transport, thereby lowering Emory's contribution to greenhouse gas emissions and to the depletion of non-renewable resources. Our goals for local and regional food support a vibrant Southern economy, preserve open space and agricultural landscapes, provide easier access for direct relationships with farmers, and help preserve the regional farming culture. A survey of 110 farm-to-college programs by the Community Food Security Coalition (2007) shows that nearly half chose 50–200 miles as their target radius for “local” food. Another 20% chose “state-wide” and 10% chose their region. In making our decision to prioritize “Georgia grown,” we considered a common standard for “local food” of “a day's drive,” which is often translated as 200 miles (400 miles round trip). For Atlanta, a 200-mile radius covers almost all of South Georgia, and reaches to Columbia (South Carolina), Asheville (North Carolina), Knoxville (Tennessee), and to Birmingham and Montgomery (Alabama). We found it unreasonable to try to prioritize food from one half of North or South Carolina or sections of other adjacent states. We therefore decided to give highest priority to Georgia farmers, where we hope to develop relationships with known producers. As products become available, we hope to buy more of our food from areas close to Emory.

However, recognizing the limits of the Georgia growing season, we agreed a second priority is our eight-state region of Georgia, Florida, South Carolina, North Carolina, Tennessee, Kentucky, Alabama, and Mississippi. Our decision to prefer foods in this region, as opposed to organic produce from California or Mexico, speaks to our concern for environmental issues, but also to our desire to support the rural economy of Georgia and the preservation of farming traditions. By prioritizing the eight-state area, we can

also focus on partnerships with underserved areas of the region, and look for opportunities to buy from cooperatives of minority farmers. Our hope is, of course, that sustainably certified food will soon be widely available from our region.

Certified organic (USDA standards) Milk, dairy, eggs, fruits, vegetables, and chickens offer the assurance that environmental harms have been minimized through prohibitions on many pesticides, on genetically-modified food varieties, and chemical fertilizers. Though these foods often travel long distances, the health benefits to farmers, farm workers, and farm ecosystems makes this option an important step toward a more sustainable food system (<http://www.ams.usda.gov/NOP/indexIE.htm>).

Certified sustainable While at present no “sustainable” certification is available in Georgia, the kinds of standards articulated by Food Alliance certification go beyond the USDA checklist approach to organic certification and offer assurance of sustainable management practices at the whole-farm level. Certified sustainable farms will demonstrate attention to management practices that improve soil quality, reduce chemical use, improve crop rotations, maintain biodiversity in soil, seeds, and natural habitats on the whole farm, protect water quality, conserve energy, manage waste, provide safe and fair working conditions and worker pay, and assure the humane treatment of animals. Farmer goals for continuous improvement are usually part of sustainable certification. We have kept “certified sustainable” as part of our goals, in hopes that appropriate certifications will soon become available.

Humanely raised and handled Humane Animal Farm Care (begun in 2003) certifies farms that raise animals without antibiotics or added hormones and allows them to engage in natural behaviors with sufficient space, shelter, and appropriate handling to limit stress. Animal production methods keep the welfare of the farm animal in mind and are inspected for precise objective standards for farm animal treatment (<http://www.certifiedhumane.org/>).

Seafood: Fish and seafood concerns include health risks from the bioaccumulation of mercury, environmental impacts of aquaculture, bycatch that harms unintended species, and overfishing of populations at risk. Three groups have stepped forward in recent years to help ascertain sustainable fisheries. The Monterey Bay Aquarium researches regional species whose fisheries generally fall in line with sustainable practices under its Seafood Watch program. Within the Seafood Watch “best choices” and “good alternatives” for the Southeast are a suitable range of wild and farmed species that will allow Emory to support responsible fishing and safe consumption (<http://www.mbayaq.org/cr/seafoodwatch.asp>).

A second group, the Marine Stewardship Council, certifies particular fisheries that are being harvested on a sustainable basis and includes health criteria in their ratings, but do not include farmed seafood. Only a small number of species are now certified, and limiting Emory’s purchases to only those species would be difficult. Therefore, we recommend that a preference for MSC certification is desirable when we choose those species (<http://www.msc.org>). The newest sustainable fisheries group, Sustainable

Seafood Forum, highlights path-breaking seafood producers concerned with the health and well-being of their employees as well as their impact upon the environment. These fisheries at present are too few in number and their products too expensive to adopt as an Emory goal, but that may change in the future
(<http://fn.cfs.purdue.edu/fish4health/Walletcard/walletcard.htm>).

Fair trade certification seeks to guarantee improved environmental practices and higher returns to producers in developing countries. For products where plantation agriculture can be certified, fair trade offers improved labor conditions, higher pay, and rights to organize. Fair trade certification supports local economic development efforts, democratic processes, and direct relations between buyers and sellers.
(<http://www.fairtrade.net/>).

Appendix M

Emory Producer Guidelines for Food Suppliers

**Office of
Sustainability
Initiatives**

February, 2008

Producer Guidelines for Food Suppliers

Introduction

As part of Emory University’s commitment to sustainability, it has established a goal that 75% of food served on campus be locally or sustainably grown by 2015. The Emory Sustainable Food Committee has clarified purchasing guidelines for local and sustainable definitions and goals. Here is a summary of the desired criteria:

<u>DESIRABILITY</u>	<u>SOURCE</u>	<u>PRACTICES</u>	<u>SCALE</u>	<u>OWNERSHIP</u>
HIGH	GEORGIA REGION	SUSTAINABLE FAIR TRADE	SMALL & MEDIUM	INDEPENDENT FARM & COOPERATIVE
LOW	U.S. INTERNATIONAL	CONVENTIONAL	LARGE	CORPORATE



Since the supply of local, sustainable, and organic foods is currently low, Emory is focusing on the source and farming practices as primary goals at this time. The remaining issues of farm scale and form of ownership will become more important as supply increases in the future.

Production

Emory defines *local* in two tiers: Georgia and the eight-state region (GA, FL, NC, SC, AL, MS, KY, and TN). Emory prefers products grown under sustainable practices but is

open to working with local, conventional growers and will look for those who will be transitioning in the future. As the program evolves, producers who have certification in organic, biodynamic, fair trade, labor rights, and/or animal welfare will have advantages in becoming key vendors. Food Alliance certification most closely aligns with Emory's desired criteria. Food Alliance certification requires practices to enhance and protect soil and water quality, reduced pesticide use and toxicity, safe and fair working conditions, humane treatment of animals, no hormone or antibiotic supplements, no GMOs, protected wildlife habitat, and continually improving farm practices. Though not yet readily available in the South and not a requirement at this time, Food Alliance certification will be an attractive, comprehensive certification in the future (www.foodalliance.org).

Purchasing

Food purchasing and sourcing for Emory University is currently handled by the campus dining contractor, Sodexo USA Food Service. All food purchases must meet Sodexo's corporate guidelines. In the early stages of implementing the Sustainable Food Initiative, Sodexo will work with a limited number of approved vendors (for fruits and vegetables, mainly FreshPoint and Destiny Produce). As the program grows, Emory will seek to develop personal relationships with farmers who will provide a market for participating producers. As funding permits, Emory expects to pay a fair market price that reflects the true cost of sustainably produced foods.

The following are current and future recommendations for producers as defined by Sodexo and Emory's Sustainable Food Initiative guidelines:

Current Recommendations:

- Provide consistent quality and quantity for specific produce and/or products.
- Establish a relationship with FreshPoint, Destiny Produce, or any other approved Sodexo vendor.
- Establish compliance with approved vendors' requirements (see below).
- Begin process of moving current agricultural practices to more sustainable production methods and systems.

Future Recommendations:

- Establish a Grower Group or Grower Cooperative to allow bulk purchasing and price benefits for small farmers. Emory's Sustainable Food Initiative hopes to support the growth of such groups and co-ops to provide long-term direct markets and economies of scale for small family farms in the South.
- Work with Emory dining to become an independent approved vendor.

Distribution

Destiny Produce and FreshPoint handle almost all produce deliveries for Emory dining, and these two entities maintain direct contacts with producers, including quantity and price.

Destiny Produce: Destiny is Georgia's primary organic produce distributor and up to this point has required organic certification from growers in order to distribute for them. Exceptions are now being made for customers like Emory who want regional produce and produce with particular certifications. Destiny requires no special packaging or minimum quantities and will send its trucks to growers to pick up less than pallet quantities.

FreshPoint: FreshPoint (a subsidiary of Sysco, Inc.) establishes order sizes and drop points on an individual basis. FreshPoint requires farmers or co-ops to have a Hold Harmless Agreement, a signed Warranty of Product form (as a safe production guarantee), and a Certificate of Insurance. Insurance must include these points: 1) general liability limits of \$1M per occurrence; \$2M in aggregate for products-completed operations; 2) the certificate holder should be listed as follows: Sysco Corporation, its subsidiaries, affiliates, and divisions; and 3) Sysco must be named as additional insured entity.

Cooperative or Grower Group: Cooperatives or grower groups formed by a collection of smaller producers will allow for efficiency, consistency, and profit in working directly with Emory. Proper liability insurance and health and safety requirements can be obtained for the group. Sodexo currently requires HACCP certification, \$5M in liability insurance, and specific modes of delivery.

Contacts and Resources

For questions concerning participation in the Emory Sustainable Food Initiative, contact

Chaz Holt, Emory Farmer Liaison, 770-386-8305, chaz@georgiaorganics.org.

Emory's Sustainability Initiative and Buying Guidelines: www.emory.edu/sustainability

To learn more about sustainable and organic growing methods, contact, **Georgia Organics, Inc.**,

P.O. Box 8924, Atlanta, GA 31106, Phone: 678.702.0400, www.georgiaorganics.org.

Julia Gaskin, Sustainable Agriculture Coordinator, University of Georgia, College of Agriculture & Environmental Sciences, 706-542-1401, jgaskin@engr.uga.edu.

Appendix N

Iowa State University Guidelines for Potential Produce Growers/Producers

Guidelines for Potential Produce Growers/Producers

Presented April 11, 2007, by ISU Dining, Updated 4/19/2012

Definitions

- Important for marketing products
 - o **USDA Organic**, certified USDA Organic, <http://www.ams.usda.gov/AMSV1.0/nop>. Organic is a labeling term that indicates that the food or other agricultural product has been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used.
 - o **USDA Sustainable Agriculture**, http://www.nifa.usda.gov/nea/ag_systems/in_focus/sustain_ag_if_legal.html,
an integrated system of plant and animal production practices having a site-specific supplication that will over the long term achieve the following goals: 1) Satisfy human food and fiber needs; 2) Enhance environmental quality and the natural resource base upon which the agriculture economy depends; 3) Make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; 4) Sustain the economic viability of farm operations; and 5) Enhance the quality of life for farmers and society as a whole.
 - o **Local**, within Iowa
 - o **Farm-to-ISU**, local products that can be traced to farm
 - o **Regional**, 500-mile radius around Ames
- All producers will be asked to fill out the Farmer Information Form and Farm and Production Practices Food Safety Questionnaire. *This is a process—we may ask more questions about your production practices in the future.

Purchasing

- When making purchasing decisions, the managers will consider product quality, the distance it has traveled, production practices, and price.

Quality	<ul style="list-style-type: none">• Quality standards will be documented for future decisions
Distance	<ul style="list-style-type: none">• Local, within Iowa• Regional, within ~500 miles
Production Practices	<ul style="list-style-type: none">• Alternative: USDA-defined practices• USDA Organic• Sustainable Agriculture• Transitioning/Green practices (production questionnaire)• Conventional
Price	<ul style="list-style-type: none">• In relation to other suppliers/producers

- Consideration will also be made for those producers who are defined as *Targeted Small Business* (self-employed minorities and/or women).

Supply

- ISU dining understands that local farmers may not be able to supply all of their produce needs and they will try to include local foods as part of the order (i.e., an order for 100lbs of peppers can be divided into 70lbs from a local grower and 30lbs from a distributor) .
- To understand the quantity demands of various produce items, please contact the Produce Manager at 515-294-0612 or kschmit@iastate.edu.

Certification

- Fill out “Approved Vendor” application
www.public.iastate.edu/~purchasing/vendor_app_process.htm
- For assistance with vendor app., contact a Purchasing Representative at 515-294-8201 or quotedesk@iastate.edu.
- Organic: Send copies of USDA Organic certification to Farm-to-ISU Coordinator, 1215 Friley Hall, Ames, Iowa, 50011.
- GAP Training: Attend a GAP training workshop (workshops will be held through Farm-to-ISU), and complete quiz on Farm-to-ISU website
<http://www.dining.iastate.edu/farm/>.

Insurance

- Specific liability insurance may be required depending on type of production. This will be verified through communication with purchasing upon vendor application approval.

Food Safety

- Annually complete a water quality test.
- Recommended reading and training: Good Agricultural Practices (see ISU Extension PM1947a, b, and c), or contact the Farm-to-ISU Coordinator regarding the next available GAP training session (cost covered by ISU dining if approved ISU vendor).
- All must fill out the Farm and Production Practices Food Safety Questionnaire.
- Attendance of GAP workshop (through Farm-to-ISU or other organization) as well as completion of quiz at the Farm-to-ISU website <http://www.dining.iastate.edu/farm/>. This is a valuable process to show the importance of food safety practices and ISU dining's requirements for safe production without having to become certified in GAP.

Delivery

- All deliveries must be made in clean covered trucks (no tarp covers).
- The produce must be clean and in clean, food-safe boxes, packed by package units (for industry standards, contact Karen Rodekamp, 515-294-0612, kschmit@mail.adp.iastate.edu).
- Invoice must be provided upon delivery.
- Deliveries will be received between 6:30AM and 2:00PM on weekdays (unless you agree upon some other time with the produce manager).
 - o You will need to contact the produce manager to discuss with them how often you will be delivering and in what quantity.
 - o When you show up for a delivery, remember to be early and be patient. You will have to wait your turn as all trucks are unloaded one at a time.
- The right to refuse: ISU dining has the right to refuse to accept products that do not meet quality standards (spoiled produce, produce that is showing signs of age, torn packaging, etc.).

Payment

- Your invoice will be processed within 10 days; you will receive a check (in the mail) after the invoice is processed.
- Please let staff know if you are equipped for credit card payment. This is a preferred payment method.

Marketing

- When feasible, ISU dining markets to our guests local products that are featured in the residential and retail locations on ISU's campus.
 - o In order to assist the marketing and educational aspects of Farm-to-ISU, please submit a copy of your farm logo or photos of your operation/growers/family.

Contacts

- Karen Rodekamp, Produce Manager, for questions about purchasing and to set up a time to deliver samples (provide your contact information, bring marketing materials, and be ready to share the story about your farm), 515-294-0612, kschmit@mail.adp.iastate.edu
- ISU Dining Sustainability Coordinator, if you have further questions, 515-294-2892, farm2isu@iastate.edu

More information

- On Farm Food Safety: Guide to Food Handling, Guide to Good Agricultural Practices, and Guide to Cleaning and Sanitizing available at www.iastatelocalfoods.org

Appendix O

Iowa State University Guidelines for Potential Meat Producers/Suppliers

Guidelines for Potential Meat Producers/Suppliers

Presented April 11, 2007, by ISU Dining, Updated 11/05/12

Definitions

- Important for marketing products
- **Alternative Agricultural Practices (Examples Below)**
 - Grass-Fed
 - USDA Never Ever 3:
 - No Growth Promoters: [http:// processverified.usda.gov](http://processverified.usda.gov)
 - No Antibiotics: <http://processverified.usda.gov/>
 - No Animal By-Products: <http://processverified.usda.gov>
 - USDA Organic, certified USDA Organic, <http://www.ams.usda.gov/AMSV1.0/nop>.

Organic is a labeling term that indicates that the food or other agricultural product has been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used.
 - USDA Sustainable Agriculture, http://www.nifa.usda.gov/nea/ag_systems/in_focus/sustain_ag_if_1_egal.html,

an integrated system of plant and animal production practices having a site-specific supplication that will over the long term achieve the following goals: 1) Satisfy human food and fiber needs; 2) Enhance environmental quality and the natural resource base upon which the agriculture economy depends; 3) Make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; 4) Sustain the economic viability of farm operations; and 5) Enhance the quality of life for farmers and society as a whole

- Local, within Iowa
- Farm-to-ISU, local products traced to farms
- Regional, 500-mile radius around Ames
- All producers will be asked to fill out the Farmer Information Form and Farm and Production Practices Food Safety Questionnaire. *This is a process—we may ask more questions about your production practices in the future.

Purchasing

- When making purchasing decisions, the managers will consider product quality, the distance it has traveled, production practices, and price.

Quality	<ul style="list-style-type: none"> ● Quality standards will be documented for future decisions
Distance	<ul style="list-style-type: none"> ● Local, within Iowa ● Regional, within ~500 miles
Production Practices	<ul style="list-style-type: none"> ● Alternative: USDA defined practices ● Grass-fed ● USDA Never Ever 3 ● USDA Organic ● Sustainable Agriculture ● Transitioning/Green practices (production questionnaire) ● Conventional
Price	<ul style="list-style-type: none"> ● In relation to other suppliers/producers

- Consideration will also be made for those producers that are defined as *Targeted Small Business* (self-employed minorities and/or women).

Supply

- ISU dining understands that local producers may not be able to supply all of their meat needs and they will try to include local foods as part of the order (i.e., an order for 100 lbs. of ground beef can be divided into 70lbs from a local producer and 30lbs from a distributor).
- To understand the quantity demands of various produce items, please contact the Meat Manager: 515-294-5329, mmost@iastate.edu.

Certification

- Fill out “Approved Vendor” application

www.public.iastate.edu/~purchasing/vendor_app_process.htm

For assistance with vendor app., call Purchasing Representative at 515-294-8201 or quotedesk@iastate.edu.

- Organic: Send copies of USDA Organic Certification to Farm-to-ISU Coordinator, 1215 Friley Hall, Ames, Iowa, 50011.
- Alternative: Send copies of USDA Certification to Farm-to-ISU Coordinator, 1215 Friley Hall, Ames, Iowa, 50011.

Insurance

- Food safety must have \$1 million in liability insurance.

Food Safety

- Annually complete a water quality test.
- Recommended reading and training: *Good Agricultural Practices* (see ISU Extension PM1947a, b, and c).
 - Contact the Farm-to-ISU Coordinator regarding the next available GAP training session (cost covered by ISU dining).

All must fill out the Farm and Production Practices Food Safety Questionnaire.

Delivery

- All deliveries must be made in clean, refrigerated, covered trucks (no tarp covers); if the meat is completely frozen upon arrival, it will be accepted if it is not delivered in a refrigerated truck (i.e., it is in coolers with dry ice).
- The meat must be packaged in clean, food-safe boxes, packed by package units (as specified by USDA or Iowa standards).
- Carbon copy invoices must be provided upon delivery.
- Deliveries will be received between 6:30AM and 4:00PM on weekdays.
- The meat manager will specify delivery dates and product quantities in the Request for Quotation.
- When you show up for a delivery, remember to be early and be patient. You will have to wait your turn as all trucks are unloaded one at a time.
- The right to refuse: ISU dining has the right to refuse to accept products that do not meet quality standards (high temperature, broken packaging, etc.).

Pricing/Bid Process

- When the meat manager makes a purchasing decision, these are the questions they consider: Are there any other farmers who can deliver the same product under the same conditions at the same price or lower? Are there any minority/women farmers who can deliver the same product? (See ISU Dining Vendor Application's definition of *Targeted Small Business*.)
- Meat bids need to be sent to producers on the Monday or Tuesday two to three weeks before the required delivery date.
- Responses from the producers are due by noon the following Friday by fax, e-mail, or personal delivery to 0145 Friley Hall with the product type, quantity, and price supply.
- Responses from the meat manager will be received by producers that Friday afternoon.

Payment

- Your invoice will be processed within 10 days; you will receive a check (in the mail) after the invoice is processed.
- Please let staff know if you are equipped for credit card payment. This is a preferred payment method.

Marketing

- When feasible, ISU dining markets to our guests local products that are featured in the residential and retail locations on ISU's campus.
 - In order to assist the marketing and educational aspects of Farm-to-ISU, please submit a copy of your farm logo or photos of your operation/growers/family.

Contacts

- Mike Nostwich, Meat Manager, for questions about purchasing and to set up a time to deliver samples (provide your contact information, bring marketing materials, and be ready to share the story about your farm), 515-294-5329, mmost@iastate.edu.
- ISU Dining Sustainability Coordinator, if you have further questions, 515-294-2892, farm2isu@iastate.edu.

More information

- On Farm Food Safety: Guide to Food Handling, Guide to Good Agricultural Practices, and Guide to Cleaning and Sanitizing available at: www.iastatelocalfoods.org.
- ISU Dining Meat Bid/Pricing sheet from the previous week, contact Mike Nostwich, 515-294-5329, mmost@iastate.edu.

Farm and Production Practices Food Safety Questionnaire

For Meat, Dairy, and Eggs

1. Has the water tested been tested in the last year?
O yes O no
2. Are test records on file?
O yes O no
3. Are wells protected from contamination?
O yes O no

4. Are baskets, totes, or other containers used to collect or transport food products cleaned and sanitized before each use?
O yes O no
5. Are packing materials that are used for food products kept clean?
O yes O no
6. Are packing containers appropriate for food contact?
O yes O no
7. Are food products kept at appropriate temperatures?
O yes O no
8. Is the source of wash water used storage-protected from cross contamination (e.g., manure, livestock, pets)?
O yes O no
9. Are food product contact surfaces washed, rinsed, and sanitized at the end of the day?
O yes O no
10. Is there a pest control program in place (for rodents, mice, etc.)?
O yes O no
11. If there is a food product packing facility, is it enclosed?
O yes O no
12. Is there an approved manure management plan in place?
O yes O no
13. Is there certification in place?
O Organic O Alternative O other

*This is a process—we may ask more questions about your production

Appendix P

Sample Duck Delivery Local Products Week of 4/4/2016

Available	Duck Item #	Item	Variety	Packer	Food Alliance	City	State	Duck Ptd-Mileage	Duck WA-Mileage	
YES	MISC		Braeburn, Fuji, Gold Delicious, Granny Smith, Lady Alice, Pink Lady, Red Delicious, Royal Gala, OG Gala, OG Granny Smith, OG Honey Crisp, OG Pink Lady	Pride Packing	F.A. Distributor	Wapato	WA	170	55	1
YES	MISC	Apples	Envy, Jazz, Pacific Rose	Oppenheimer		Seattle	WA	170	0	3
YES	MISC	Apples	Fuji, Royal Gala	Sage Fruit Company		Yakima	WA	185	50	1
YES	MISC	Apples	Braeburn, Fuji, Gold Delicious, Honey Crisp, Jonagold, Red Delicious	Evans Fruit		Yakima	WA	185	50	1
YES	MISC	Apples	Braeburn, Cameo, Fuji, Gold Delicious, Rome	Borton & Sons		Yakima	WA	185	50	1
YES	MISC	Apples	Gold Delicious, Granny Smith	Yakima Fresh		Yakima	WA	185	50	1
YES	MISC	Apples	Fuji, Gold Delicious, Red Delicious, Royal Gala, OG Fuji	Domex		Yakima	WA	185	50	1
YES	24417	Apples	Fuji	Honey Bear		Wenatchee	WA	295	55	1
YES	MISC	Apples	Fuji, Granny Smith	Stemilt Growers		Wenatchee	WA	295	55	1

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