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UNDERSTANDING AGRICULTURAL TRANSFORMATION: THE URBANIZATION AND  
FEMINIZATION OF AGRICULTURE IN THE UNITED STATES

by

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## ABSTRACT OF THE DISSERTATION

### Understanding Agricultural Transformation: The Urbanization and Feminization of Agriculture in the United States

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While the U.S. has experienced losses of farmland to urban development, agriculture persists in a transformed way in urbanized areas. While the total number of acres of farmland has decreased, there has been an increase in the total numbers of farms by 4% between 2002 and 2007. The increase may be due in part to a more recent trend toward the “urbanization of agriculture” by location and farm type. Paralleling this there has been a trend toward the ‘feminization of agriculture’, as women’s roles within agriculture have become more prominent over the last few decades. From 2002 to 2007 there has been a 30% increase in the number of women owning and operating their own farms. As the growing consumer preference for healthier food parallels the urbanization of agriculture and emergence of alternative farming methods, I argue that the increased percentage of women participating is a function of these factors and these trends may be interrelated. Using statistical analysis of national level agricultural census data and in-depth interviews of male and female farmers in eleven counties in the New Jersey/New York metropolitan areas, this study examines the relationship between urbanization and numbers of women farming as principal operators. My findings indicate that higher numbers of female farm operators exist in regions of increased urbanization where numbers of alternative agriculture farms are also high. These trends suggest that a shift has occurred from rural, traditional farming in some states, to alternative farming in peri-urban areas along with increasing numbers of female heads of farms.

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## Dedication

To my lovely daughter Cait Callahan who is always there for me, unconditionally.  
Her presence in my life, her light, and her love made all the difference.

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## **Chapter 1: Introduction**

### **1.1 Project Introduction**

While the U.S. has experienced losses of farmland to urban development, agriculture persists in a transformed way in urbanized areas. While the total number of acres of “land in farms” decreased by 16,183,216 acres between 2002 and 2007, during the same period, there has been a net increase in “all farms” of 75,810 or 4% (U.S.D.A., 2007). The increase may be due in part to a more recent trend toward the “urbanization of agriculture” by location and farm type. According to the 1980 U.S. Agricultural Census, the amount of farmland in metropolitan areas increased by almost 50 percent between 1974 and 1982 due to the redefinition of “metro” areas in that census that expanded metro areas significantly. According to Heimlich (1991) metro areas contained 16% of the total land area in the U.S., 20% of all cropland and 30% of all farms in 1990. Under the revised census definition, 40% of the rural population resides in metro areas. Studies show that farmers have adapted and responded to pressures and opportunities presented by urbanization in positive, innovative ways, and therefore it should not necessarily be viewed as entirely negative for farming (Vandermeulen et al., 2006). While losses of farmland to urban development have occurred, agriculture has lessened in area, but it has also been transformed. Farmers have responded and adapted in these areas in order to remain competitive and economically viable through innovative practices, such as maximizing the use of prime farmland by intensifying production, changing crops and exploiting new markets (Heimlich, 1991; Harrison, 2007). While urbanization continues to increase in many countries around the world, this trend in agriculture is occurring on a global basis; however, this study will focus exclusively on the United States.

Paralleling this there has been a trend toward the ‘feminization of agriculture’, as women’s roles within agriculture have been changing over the last few decades. From

2002 to 2007 there has been a 30% increase in the number of women owning and operating their own farms (U.S.D.A., 2007). The Agricultural Census is taken every five years, and reports that the numbers of women operators have been increasing since 1987. The census did not provide numbers of women as principal operators at that time, but did report them, starting in 1997. The breakdown of percentages of women as principal operators of all farms in the U.S. for the census years 1997 through 2012 are as follows: in 1997, 10.9%, in 2002, 11%, in 2007, 13.8% and in 2012, 13.6%. Women in agriculture though largely invisible, have always been a vital part of the U.S food production system, but it is only recently that a significant increase in the proportion of women as principal farm owner/operators has occurred. This dissertation will focus on the question, "Have women assumed a more prominent role in the emerging, more urbanized agriculture?" The apparent intersection between the urbanization of agriculture and the feminization of agriculture warrants further study.

As farms continually enter and exit agriculture, the increase in the number of U.S. farms may be due in part to the "urbanization of agriculture" trend that suggests that a shift has occurred by location and farm type, from rural, traditional farming in some states, to alternative farming in more urbanized areas. Examples of this are alternative agriculture practices that have emerged in these locations such as direct market sales enterprises, which include community-supported agriculture (CSA), value-added products, and organic agriculture (U.S.D.A., 2007). Value-added products that include flowers, honey and jams, are often marketed to consumers at farm markets or directly from the farms. Other forms of alternative agriculture are niche/specialty farms that sometimes raise small animals or livestock, or ethnic vegetables. Studies have shown that urban fringe areas can support and sustain this type of alternative agriculture, keeping it economically viable, and on the increase (Vandermeulen et al., 2004; Beauchesne and Bryant, 1999). There is evidence that points to the bifurcation of the

American agricultural sector overall in terms of farm size. Census figures show a trend toward towards more small-scale and very large-scale farms, with fewer mid-size farms, in regards to acreage and sales. Between 2002 and 2007, the number of smaller farms with 1-49 acres increased by 110,014 and larger farms with 2000 or more acres increased in number by 2,423 nationwide. Mid-size farms with acreages from 50 – 1,999 decreased in number by 37,627. This is sometimes referred to as “hollowing out of the middle.” Between 2002 and 2007, the number of farms with sales of less than \$2500/year increased by 73,769 and farms with sales of over \$500,000 increased in number by 45,644 nationwide (U.S.D.A., 2007). The number of large-scale farms may be increasing because they are capable of achieving economies of scale. Smaller-scale farms have increased in number due to their proximity to urban centers and marketability to consumers. Mid-size farms that don't experience economies of scale or proximity to urban centers, cannot compete, and have decreased in number. Research and census data show that women tend to run smaller-scale farms, in terms of sales and acreage, than do men (Schnell, 2007; U.S.D.A., 2007). Studies have shown that alternative farming practices, such as community-supported agriculture (CSA), have high numbers of female participants, suggesting that it may attract women because of the smaller, more manageable size, reduced capital and labor investment. As farms urbanize and feminize they become smaller in size and are increasing in numbers, while at the same time, the number of large-scale farms with their corresponding economies of scale and efficiencies, are also increasing. This has contributed to the bifurcation of agriculture in the U.S. with increasing numbers of large-scale and small-scale farming operations and a loss in numbers of mid-size farms.

Schnell (2007) discusses the issue of increasing urbanization and suburbanization in the U.S. and the disconnection that exists between people and the way in which their food is produced and delivered to them. He also has found that this is

changing and people are beginning to redefine their relationship with the land and food they eat. This trend also reflects the emergence of local or community-based agriculture in the U.S. with social ties to consumers through urban farm markets. One example of locally-based agriculture is community-supported agriculture (CSA). Emerging in the U.S. in the 1980's, CSA provides an alternative for farmers and consumers to large-scale industrial farming while providing health and environmental benefits (Corboy, 2002; Schnell, 2007; Anderson-Wilk, 2007). It is based on a mutually beneficial cooperative arrangement between the community and a local farmer whereby the residents buy shares or memberships in return for a weekly basket of produce. The community members benefit from receiving fresh, healthy produce and can have a voice in what and how the food is produced. The farmer is financially supported by the membership fees in times of good or bad harvests and also establishes social bonds with his community that Lyson (2004) calls "civic agriculture". Direct-sales operations, such as CSAs and farm markets are located in close proximity to urban centers that serve as outlets for their produce and can be directly marketed to consumers. Most of these farms are located near urban centers in New England, the Mid-Atlantic states, and the Great Lakes region, with growing numbers in other areas, including the West Coast (U.S.D.A., 2007; [www.localharvest.org](http://www.localharvest.org)). Agricultural census data from 2007 reports the highest percentage of women principal operators in the West and New England, with the lowest percentages in the Midwest (U.S.D.A., 2007). This pattern appears to follow the geographical distribution of direct-sales farms. Analyses later in the dissertation will address this question. I will be looking at these trends at lower levels of aggregation, with county data and also through interviews with farmers in an eleven county area of the New York and New Jersey metropolitan areas.

In his research, Schnell (2007) found that CSA participants were made up of 40% women. Another study by Laura DeLind and Anne Ferguson (1999) concluded it

was women who tended to join CSAs and take active roles as members. In one community-supported farm in Michigan, they concluded that women outnumbered men two to one and in some cases three to one as board members, working-share members and daily on-farm workers. Some of their reasons for joining were to grow good, healthy foods for better nutrition, supporting the local farmers, their concern for the environment and an opportunity for community building.

Along with direct-sales operations like CSAs and farm markets, related forms of alternative agriculture include urban farms, school and community gardens, rooftop gardens, and niche farms that include specialty animal farms, such as rabbits, alpacas and bison, and ethnic vegetable farms (Myers, et al, 2007; Parmely, 1998). In an attempt to develop a sustainable urban agriculture operation, Greensgrow Farm, part of the Greensgrow Philadelphia Project, in Pennsylvania, utilized vacant land from an abandoned steel plant, covering an entire city block. It is now a permanent location in the neighborhood and consists of a greenhouse, nursery, farm-market and retail nursery area. The farm grows and brings fresh, nutritious foods to the poorer residents, as well as supplying the Philadelphia restaurant community. The project is hoping to create a successful model for the way small agricultural enterprises can become established in urbanized areas, providing nutritious, locally produced foods to low-income areas. The Philadelphia Greensgrow Project also provides information to the public on agricultural issues and supports urban agriculture as a tool for neighborhood redevelopment (Corboy, 2002).

Urban farms, such as the Greensgrow Project, brings culturally-appropriate food to ethnic communities that are underserved and also play a role in educating people in food production and agricultural literacy. Yet another benefit of community-based farms is the role they play in “culinary agriculture”, bringing farmers and chefs in local restaurants together in a mutually beneficial relationship, providing them with fresh, high



quality fruits, vegetables, meat and dairy products (Lyson, 2004). Another fairly recent form of urban agriculture that is gaining popularity is the rooftop garden, also called green roof farming that utilizes container beds for growing food. Rooftops represent a large portion of a city's unused surface area, making them ideal for gardening, due to full exposure to sun and rain. Green roof farming also gives the residents of a building the opportunity and enjoyment of growing their own vegetables, herbs, and flowering plants, while also providing an additional food source (Burros, 2009). School gardens are becoming increasingly prominent in many urban and peri-urban areas. By incorporating agricultural education into the school's curriculum via school gardens, the broad aim is to teach the students, from an early age, the importance of eating healthy food, and to make these habits an integral part of their lives, both within and outside the classroom (Bleyer, 2010). Ethnic farms, also called niche farms, such as those that grow vegetables and fruits for Asian and Latino populations and restaurants, remain economically viable in peri-urban areas, due to the marketability of their produce to diverse and growing ethnic populations (Parmely, 1998). Ethnic farmers, such as Chinese farmers that supply the community residents and also restaurants with vegetables such as Chinese cabbage and bok choy, have found not only a niche, but a livelihood in farming (Myers et al., 2007).

This dissertation will examine the current body of literature regarding the process of urbanization of farming and the way it influences forms of agricultural practices and demographics, with a particular emphasis on alternative forms of sustainable agriculture and women. For my study, I will collect national, state and county level aggregate data and examine the relationship between the feminization and the urbanization of agriculture. The increased proportion of women in agriculture may encourage and facilitate the process and progress of the urbanization of agriculture, the outcome of which may result in broader, beneficial impacts to communities.

The rationale for this research stems in part from the contention that certain types of alternative agriculture practices benefit communities in tangible ways. In terms of beneficial impacts to humans and environmental health, CSAs provide food safety, food security and sustainability for communities. Decreased usage of chemical pesticides and fertilizers contributes to improved water and soil quality, and healthier food. This mutually beneficial type of arrangement with the farmer allows the members to decide what is grown and how it is grown, giving them control over their food supply (Anderson-Wilk, 2007; Vandermeulen, et al, 2006; Henderson and Van En, 2007). Locally-based agriculture also allows producers to minimize “food miles,” the distance food travels from farm to plate, thereby reducing greenhouse gas emissions from the burning of fossil fuels for food transportation (Harrop, 2005). By bringing farming and nutritious foods into underserved city neighborhoods, urban farms and farm markets also are making local food systems more socially just by minimizing the “food desert” phenomenon (Corboy, 2002; Henderson and Van En, 2007). In addition there is a reduction in the use of fossil fuels when food is grown organically and sustainably. Peak oil predictions estimate a nearing decline in oil reserves domestically and internationally and alternative forms of locally-based agriculture are partial solutions to dependence on this limited resource (Pfeiffer, 2007). Through alternative agriculture practices, support for local farmers is achieved and acts as a mechanism to help with the preservation of valuable farmland and open space. These hypothesized effects suggest that it would be useful to understand better the configuration of social, economic, and geographical forces that have contributed to more urban and feminized forms of agricultural production.

## 1.2 Research Objectives

At a time when agriculture is becoming increasingly urbanized, consumers are taking a serious interest in the quality and kinds of foods they eat and are embracing locally produced, community-based agriculture as a way to achieve this. As the growing consumer preference for healthier food parallels the urbanization of agriculture and emergence of alternative farming methods, it appears that the increased percentage of women participating is a function of these factors and these trends may be self-reinforcing. Is there a cause and effect relationship between urbanization and numbers of women in farming? As agriculture shifts to alternative practices in peri-urban locations, a redistribution of roles in the farming households has also occurred and has caused women's' roles to change. Are the feminization of agriculture and the urbanization of agriculture intersecting? Does the intersection result in broader sociological, economic, and environmental and health benefits to communities?

It is the intent of this research to study these issues by using existing literature on the feminization and urbanization of agriculture as a foundation, and then constructing a methodology that attempts to address these questions, and then collecting data that bears on this question. The research design is multi-tiered and I will use both quantitative and qualitative means by performing statistical manipulation of information obtained through national-level agricultural census data and a local-county level ethnographic case study, conducting interviews with the men and women in farming. The data I collect and examine will allow me to compare the male and female farm operators and note any similarities, differences or interesting observations about their occupational histories in agriculture. I will then compare the local county level case studies of individuals to patterns in the county level data across the nation. The individual level case studies will focus on a sample of twenty-nine farmers in eleven counties in New Jersey and New York. As case study sites these places represent

agricultural trends occurring across the United States. Questions about the representativeness of the sample will be discussed in greater detail in Chapter 3: Research Design and Study Site.

### **1.3 Chapter Outline**

The following brief chapter descriptions will serve to outline the main argument of my thesis, which is that I would expect to find women farm operators increasing in number where alternative agriculture exists.

Chapter 2: Women in an Urbanizing Agriculture, begins with a background of how women in farming came to be situated where they are today by examining historically constructed gender inequalities and patriarchal family farm structures. Discussions of the history of the feminist movement in a geographical context and feminist theory as it applies to women in agriculture will provide a foundation and serve as an introduction that will allow readers to understand better the realities of women in agriculture today, their obstacles, challenges, the positions they occupy and the ways in which they are pushing back against historical inequalities.

In Chapter 3: Research Design and Study Site, will be a discussion of the methodology I constructed in order to address the questions posed in this thesis that deals with the feminization and urbanization of agriculture. My approach is to utilize a multi-tiered quantitative and qualitative research design. The quantitative portion of my study will examine the national and regional level picture using county-level agricultural census data. This will enable me to identify and examine correlations between the presence of female farm operators and urban influence more precisely. For the qualitative portion I will use local level ethnographic interviews of male and female farm operators to gather data that includes pathways into farming, farm types, and

management strategies. The results of both methodologies will be assessed separately and then compared in order to answer my thesis questions.

In Chapter 4: Men in Farming: A Qualitative Portrait, I will discuss the prototypical pattern of pathways into farming for men, past and present, the influence of a patriarchal society and gendered roles among husbands and wives on the farm. Historically, for men, the pathway into farm ownership came via family farm inheritance and having the advantage of the “agricultural ladder” which refers to the steps or rungs on the ladder that a man had to climb on his way from being the unpaid help on his family’s farm, to farm ownership (Bates and Rudel, 2004). The ethnographic surveys of male farmers I conducted confirmed that these ladders still exist today, facilitating their paths into farm ownership. These pathways for men into farm ownership were then compared to those for women.

In Chapter 5: Women in Farming: A Qualitative Portrait, I will discuss the pathways into farming for women today, who they are, and their reasons for becoming farmers, by conducting ethnographic surveys. With the restructuring of the American family farm, changing gendered identities and vacancies created through the passing or retirement of an older, male-dominated labor force of farmers, a “newer breed” of female farmer has emerged: beginning principal farm owner/operators and spouses of aging farm operators. Their paths into farm ownership are due to increased opportunities created by alternative agriculture farm types and also through family farm inheritance. A comparison of the case studies among the male and female farmers with regard to entries into farming, farm types and level of farming background/experience, will be discussed.

In Chapter 6: Introduction to the National Picture, I discuss the agricultural trends showing the “urbanization of agriculture” by location and farm type and the “feminization

of agriculture” by percentages of female farm operators, and any correlations that may exist at a national and regional level. My research attempts to identify if the feminization of agriculture is dependent on the level of urbanization occurring in the nine census regions of the United States. Regional variations will be highlighted and analyses made of the relationships among the presence of female farm operators and minority populations of Hispanic, Amerindian, and Black/African American farm operators.

In Chapter 7: Conclusion, I will discuss the comparisons between male and female farm owner/operators based on the results of my ethnographic case studies. The typologies I constructed to do this were 1) pathways into farm ownership 2) farm types and 3) agricultural background/experience and/or use of the “agricultural ladder.” I will then compare this county-level data to the national picture in order to determine whether similarities or differences exist. I will end the chapter by suggesting future directions that my research might take by asking whether countries outside the U.S. might follow the same trends in agriculture as the U.S. I will also present some of the highlights of the 2012 Agricultural Census that pose questions for future study.

## **Chapter 2: Women in an Urbanizing Agriculture — Literature Review**

### **2.1 Women in Agriculture**

In order to better understand how women in agriculture came to be situated where they are presently, it is necessary to look to research that discusses historically constructed gender inequalities and the patriarchal arrangement in the traditional family farm structure. The information will be used as background for this study in order to better understand and examine the realities of women in agriculture today; their challenges, opportunities, positions and goals in farming, and how these historical inequities are being challenged today. The study presented here will add to the current body of knowledge by collecting data and information on women farmers, in order to discover their place in agriculture today, the apparent feminization of agriculture, and what the implications are for them and the communities they work in. This study will also attempt to define the 'feminization of agriculture' as it exists today apart from the inherent notion of female participation.

### **2.2 Historical Perspective**

During the 17<sup>th</sup> and 18<sup>th</sup> centuries when the majority of the population lived in rural areas, the farming that occurred was primarily subsistence farming. The intent was to provide food and products to families and neighbors, rather than marketing it and selling it for profit. Small-scale subsistence farms were predominant in U.S agriculture and produced diversified goods. Women did much of the work on the farms. The structure of the traditional family farm was patriarchal or male-dominated, and the tasks within the family were gendered. It was responsibility of the women to tend to small livestock, garden crops and domestic chores. The men worked the fields, raised livestock and cleared land. By the 19<sup>th</sup> century a shift occurred from subsistence farming to farming with a market orientation. As farming increasingly moved to the production of

cash crops for profit, men's work in the fields took on greater economic importance. Although a women's work was essential to the economic survival of the farm, her contribution was considered less valuable than her husband's. She continued to produce goods for the home in addition to her domestic duties, and therefore her contributions remained invisible and secondary, hidden within the traditional family structure. And while she did work in the fields to help produce the more valuable cash crops, they remained the property of her husband. She received no credit for this work. As farming became more commercialized, taking on greater economic importance, men's control over the land, cash crops and women's labor became greater, further excluding women from this type of agricultural productivity (Geisler, Waters and Eadie, 1985; Sachs, 1983; 1996).

The shift in agriculture from subsistence to commercial farming varies from region to region and subsequently its impact on women in farming. Regional human geography plays an important role and must be considered, as it creates differences. For example, differences in climate and availability of water for irrigation will determine what types of crops are produced in particular regions. Proximity to urban areas can affect market orientation and therefore, farming practices. Land ownership patterns will likely differ by region and therefore affect types of labor used on the farms. Regional variation therefore can better explain the degree of agricultural transformation and so the changing role of women taking place in 19<sup>th</sup> century agriculture (Sachs, 1983; 1996).

### **2.3 Women Stepping Out of Traditional Roles**

More recently, in the 20<sup>th</sup> century, due to the restructuring of American agriculture and the farm family, women are stepping out of their "traditional" roles or identities, as homemakers and caretakers of children (Haney, 1987; Haugen and Brandth, 1994). Carolyn Sachs (1983) discusses the changing nature of the family farm and the way in



which it once symbolized American democracy. As an institution, the traditional family farm encouraged religion, morality and democracy, and was also based on patriarchal authority, therefore, its demise may signify an ideological threat to the American system of social beliefs and values. According to a Penn State Cooperative Extension study, this newer breed of women fall into two groups: principal farm operators/entrepreneurs and the largest group: the spouses of aging farm operators. Many of these farmwomen represent a new type of women in farming who want to demonstrate that they are as professionally capable as men are to farm and want to be taken seriously (Haugen and Brandth, 1994). As previously discussed, research shows that women's role as farmer is beginning to take on new identity as she increasingly crosses into the formerly male-dominated public sphere of farming. In a study conducted by Trauger (2004) she found that alternative agriculture operations, such as CSAs and farm markets, provide women with places of acceptance and recognition as farmers equal to that of male farmers.

Although women may constitute a majority of the membership of CSAs, men are participating in this form of agriculture as well. Their reasons for joining CSAs are somewhat different than that of women, and some of the reasons they expressed were based on their desire to make new friends, for personal change, such as gaining greater personal awareness, and to learn farming skills. Women, on the other hand, expressed interest in CSA farms as tranquil places that attracted them, to build community, and as newly created spaces of empowerment (DeLind and Ferguson, 1999; Wilson, 2005).

Women's desire to participate in CSAs as an alternative to industrial agriculture may relate to the suggestion that CSAs can be an example of a new social movement. They offer potential for reform and for transforming the current food production system (Ostrom, 1997). For this reason, CSAs might be considered a new social movement that empowers women and creates new positive identities that may dispel the socially constructed identities of the past that acted to subordinate women in agriculture

(Trauger, 2004). Therefore, if CSAs can be considered a new social movement, as suggested by Ostrom (1997), perhaps this is the reason, in part, that women are attracted to them and participate in such high numbers (DeLind and Ferguson, 1999; Schnell, 2007; Brown, 2008). Evidence for this appears in the DeLind and Ferguson study (1999) of the relationship of gender to community-supported agriculture in Michigan. Community-supported agriculture farms and the case study farm, called Growing in Place Community Farm (GIP) are discussed within the context of new social movements. When men and women were asked their reasons for joining the CSA, their answers indicated differences. Women were looking to build community, while men were looking for personal change. The women wanted to extend relationships beyond the CSA and create networks that reached into the community thereby contributing to a greater social welfare by enhancing community service work. Women were also interested in elevating cultural, racial and class awareness among the CSA members (DeLind and Ferguson, 1999). This pattern also characterized the participants in my own study when interviewing female farm operators and their relationships with their communities, and will be discussed in more detail in a later chapter. Also, due to awareness and concern for their children's health as well as their family's, women may desire to produce and consume foods free of chemicals and pesticides by farming organically. Organic farming is the preferred practice by many CSAs (Neubauer, 2002). Studies have found high concentrations of toxic chemicals, such as dioxin, in the breast milk of mothers throughout the world. This finding is considered to be, in large part, a result of conventional, chemically-dependent, large-scale agriculture (Leonard, 2010). In their study of gender differences in environmental concern, Xiao and McCright (2012) point to the fact that there is much support for the gender socialization theory to explain why women are more concerned than men about local environmental problems that pose health and safety risks for their families and community members, such as food

grown with pesticides and other chemicals. Gender socialization indicates that as girls are socialized into the culture, they are taught caring, compassion, empathy and how to make connections with others (Xiao and McCright, 2012). Therefore, gender socialization may explain, in part, the increasing numbers of women owning or operating different types of alternative agriculture niche farms, such as alpaca farms, organic produce farms and direct-sales farms, such as CSAs. Evidence to support this link was found in my ethnographic study of female farmers and will be discussed in Chapter 5: *Women in Agriculture: A Qualitative Portrait*. This type of agriculture decreases the risk that environmental problems can bring to their families, friends and community members, such as exposure to toxic chemicals from pesticides used to produce food by way of conventional agriculture. Community-based agriculture done on the local level also allows for control of the food supply while heightening the degree of food safety for the community (Anderson-Wilk, 2007; Vandermeulen, et al, 2006; Henderson and Van En, 2007).

A debate exists among ecofeminists as to whether women, who are seen as nurturers and caregivers, are strengthened or weakened by this when it comes to farming. The spiritual ecofeminist perspective supports the view that women are inherently close to nature, due to their reproductive ability and therefore have a natural capacity to grow food and provide for their families. This intrinsic connection may be one reason women enter farming. Social ecofeminists disagree completely with this notion and contend that it only acts to weaken women and keep them marginalized, and from being taken seriously as farmers (DeLind and Ferguson, 1999; Wilson, 2005). Current research has found that alternative agriculture, such as CSAs and farm markets, appear to be diminishing the gender gap between men and women in farming by giving legitimacy to women by providing (public) places of acceptance where they can demonstrate their capability as farmers (Trauger, 2004). This study will attempt to

explore this area in greater depth and the results will add to the current body of knowledge regarding the ‘feminization of agriculture’ and its implications.

## **2.4 Understanding Historically Constructed Gender Inequalities**

Studies have looked at the sociology of gender and agriculture. Researchers analyzed the problem of gender inequalities in the agricultural system today and have found reasons of a historical nature to be the underlying cause of present day inequities that challenge women’s ability to enter farming and to explain the underrepresentation of women as heads of farming households (Trauger, et al, 2008; Brandth, 2006; Saugeres, 2002, 2002a, Price and Evans, 2008, Domosh and Seager, 2001). The findings of these studies suggest that socially constructed identities originated from the prevalence of patriarchal cultures, and as a result, women in farming have been viewed as “farmwives” rather than farmers or decision-makers. A patriarchal family farm structure placed control of the land in the hands of the father and he determined how it would be distributed to his sons. Women therefore, had minimal access to land (Geisler, Waters and Eadie, 1985; Sachs, 1983). Additionally, research on gendered embodiment of agricultural work, such as the view that a man’s work on the farm is valued over a women’s, has been found to create unequal gender relations and identities in farming families. (Trauger, et al, 2008; Brandth, 2006; Saugeres, 2002, 2002a, Price and Evans, 2008, Domosh and Seager, 2001).

## **2.5 Feminist Theory**

For a more comprehensive look at the “feminization of agriculture” that is occurring today, it is necessary to begin with the history of feminism itself. Research on the literature of the development of the feminist movement in a geographical context provides a foundation and prelude to the role of present day women in agriculture, and

the obstacles confronting them as they strive to become farmers in today's male-dominated world. I will begin with the existing body of literature that discusses the historical roots of feminism, connect it with and transition into the current body of literature that examines issues surrounding women in agriculture today. This will provide insight into the directions women in farming are taking in response to the pressures they face and newly created opportunities due to agricultural transitions.

Historically, there have been three distinct, identifiable periods of feminism. The first period of feminism can be considered the women's suffrage movement and occurred during the years from 1848 to 1920, the year women gained the right to vote (Dicker, 2008). The 1960s through part of the 1980s encompassed the second era and it is here that feminism emerged as a visible political movement and began to influence academic practices. Radical feminists who were more influential outside academia, focused on women's differences from men and called for separatist politics. They emphasized women in the arts, women as nurturers and their ability to give birth, as well as their closeness to nature. These were seen as characteristics that unified women (McDowell and Sharp, 1997, ch.1). It was during this second period that the feminists helped shape society's understanding of the roles, behaviors and attitudes available to men and women and have articulated theories such as the social construction of gender. By the early 1990s, the third stage of feminism emerged and called for women of color, the poor and third world women to be recognized and heard (Mohanty, 1992; Frankenburg, 1993).

It is during the second and third periods of feminism, as described above, that feminist geographic perspectives developed in particular, of which three strands run through feminist geography. During the second period developed, first, the "geography of women," and then, with a break in the late 1970s and 1980s, "socialist feminist

geography.” During the third stage, toward the end of the 1980s, the “geography of difference” developed (Johnston, 2000).

The initial entry of gender into geography is a time in which geographers found women to be “hidden” from geography. By the 1970s, little had been done to investigate the role of women in society, other than their existence and adjustment in a male-dominated society, and it became clear to feminist geographers that it was necessary to make women “visible.” It is during the second period of feminism that research attributed to the changing social position of women increased. Studies confirm that although women in agriculture have historically been invisible, their contributions have been enormous. In addition to their duties in the field, the farmwives had constant domestic responsibilities, such as childbearing and rearing, cooking, cleaning and washing (Sachs, 83; Haney and Knowles, 1988; Brandth, 2006; Saugeres, 2002, 2002a; Trauger, 2008). They frequently performed two functions; a man’s work in the fields and a woman’s work in the home (Haney and Knowles, 1988). Sachs (1983) characterizes a woman who participates in farm work to be similar to that of a nonfarm woman working outside the home. Because of these traditional gendered roles, the hard work and contribution of farmwives was hidden within the family household structure. Barbara Pini (2002) used focus group research to make the once invisible issues now visible by deconstructing the traditional male-dominated research. Using focus groups as an empowerment strategy for farmwomen in the Australian sugar industry, Pini emphasized participation among the women. They were given a forum and a voice and were able to relate their own individual and collective experiences regarding their contributions to the sugar cane industry. They were able to express ideas about ways to increase their participation in an agro-political group, the Canegrowers, which would be a benefit to the women. The feminist researcher found that focus groups created an environment in which the women revealed more information about these issues than they normally

would have. By utilizing focus groups as part of her research, Pini was able to produce knowledge that is socially and politically significant to women.

Feminist theory enables a better understanding of why contributions by women in agriculture were afforded little public value (Haney and Knowles, 1988). The social construction theory proposes that gender is dependent on time, place, culture and interactions of everyday life (Dicker, 2008). It is the social construction theory that historically formed the identities of farmwomen as “farmer’s wives” rather than farmers and considered them to be subservient to their husbands (Sachs, 1996; Trauger et al, 2008). This lesser identity constructed for farming women and the problem of not being taken seriously, continues into present day. This makes access to farming difficult, due to lack of appropriate agricultural education and availability of resources. A focus group study that was conducted by Pini (2002) examined ways to develop training and educational opportunities for women in farming by understanding these socially constructed identities that acted as barriers (Trauger et al, 2008).

Within academia emerged socialist feminism, which separated women into roles of gender, race and class. It looked at the capitalist society and the system of patriarchy and the way it created unequal divisions of labor and wages among men and women (Sachs, 1983, 1996; McDowell and Sharp, 1997, ch.1). One of the key contributions of feminists during the second period was the rejection of this traditional division of labor, which cast men as breadwinners and women as homemakers (Dicker, 2008). This was demonstrated in research that studied this patriarchal ideology and the way it functions to marginalize women from agricultural production in farming. The study examines the gendered embodiment of men and women in farming families in France and looks at the masculine and feminine roles and deems the woman’s work on the farm as secondary to that of the man’s role, which is primarily due to masculine attributes (Saugeres, 2002, 2002a).

The construction of geographies of gendered identities calls for a focus on place, location, and cultural diversity. Differences in gendered identities among farmers can be seen regionally in the United States and can also occur as a result of race and ethnicity. These factors can impact the family farm structure and the numbers of female farm operators present in those regions. For example, the preponderance of single, black, female-headed households in the south may explain high numbers of female farm operators in that region. In Arizona, where large populations of Amerindians occur, a correspondingly high number of female farm operators are present. Conversely, in the Midwest region of the U.S. where traditional roles among farm family members still exist, relatively low numbers of female farm operators occur (U.S.D.A., 2007).

These gender relations are important because of the way in which spatial division plays a part in their construction of gendered dualisms or binaries that cast woman as man's "other," such as the dichotomies between public/private, man/woman, and nature/culture (Merchant, 1980, ch.5). McDowell (1999) suggests that perhaps if these gendered divisions were rethought and knowledge was reconstructed, then structural inequalities between men and women might be reversed. More recently, gendered identities and inequalities once present among farm men and farm women appear to be changing on a regional basis in the United States. Further examination of this will be discussed in a later chapter on national trends.

### **2.5.1 The Binary Distinction of Nature/Culture**

To understand the historical perspective of the nature/culture dualism is to understand the origins of the perception of women and nature as subordinates in a male-dominated culture. This dichotomy reinforces the man/woman binary and suggests that there are important connections between the oppression and domination of woman and the exploitation of nature (Rose, 1993a, ch. 4). Carolyn Merchant discusses the



origins of viewing woman as nature, dating back as far as ancient Greece and Rome when cultures opposed the mining of metals and saw it as an abuse of mother earth and therefore, exploitation of women (Merchant, 1989, p.143; 1980, ch.1). Women have been understood to be closer to nature because of their ability to give childbirth and to be nurturers, caregivers and mothers. The patriarchal power structures that demonstrate control over the environment, act to weaken the ability of women to act and make individual choices. McDowell and Sharp suggest that women should resist and break their ties to nature and “force their way into dominant masculinist culture, highlighting the hidden constructiveness of its gendering as they do so” (McDowell and Sharp, 1997, p. 166). The masculine/feminine and nature/culture binaries are also apparent in relation to farming and agriculture (Shiva, 1989). Lise Saugeres shows that the land has symbolic and economic value and produces the farmers’ masculine identities (Saugeres, 2002). In the masculine ideology, the category “woman” is seen as “other” to the masculine identity and is considered to be subservient, marginalizing women from farming. This ideology acts then to validate men’s dominance over nature and over women (Shiva, 1989; Griffin, 1978). Brandth (2007) discusses the masculine nature of the farm in terms of farm machinery such as tractors and harvesters, and identifies this as the main reason that farm women are not taught how to use it. Men have a mastery over the machinery (masculine) and their land/nature (feminine), and therefore, have control over women. Also, this subsequent lack of experience with farm machinery due to gendered identity acts as a disadvantage to modern day women wanting to run their own farms and therefore becomes problematical. The development of agriculture has always been directed toward the men. New developments in agricultural science or mechanization were taught to the men thereby increasing their agricultural productivity. Men bring prime land into cultivation in order to grow additional cash crops, land that once was farmed by women for subsistence. This land is taken from the women and becomes the property of

the men and the women are still expected to work in the men's fields. The women's status in agricultural productivity declines while the men's is elevated (Sachs, 1983). This is a common pattern seen in the developing world as well. Schroeder (1999) found the same pattern in The Gambia on the West African coast. Female rice growers often lost control of their own plots to men with the introduction of pump irrigated rice cultivation. Land surveys reallocated land use rights to the male household heads giving them not only control over their wives' labor, but the benefit of the rice product derived from the newly established plots.

Social ecofeminists agree with the ideology that men have a mastery over nature, and therefore have dominance over women; however, there is an ongoing debate. Spiritual ecofeminists, on the other hand, reject the fact that women's' close association with nature makes them subservient to men and find it to be quite empowering. These ecofeminists argue that on the basis of their biological makeup alone, women are intrinsically tied to nature as givers of life and nurturers and therefore have a natural ability to work with the land and produce food (Wilson, 2005).

### **2.5.2 Public/Private Spheres**

The familiar expression "a woman's place is in the home" is strongly tied to the ideas of space, place and gender. The public/private sphere, home/workplace dualisms that exist constructs gendered differences between men and women. This ideology separated the male world of work and the female world of home and family (Massey, 1994). Relative to agriculture, the farm and the fields are considered the public sphere, an appropriate workplace for men, but not for women. The woman's rightful place is in the home, or the private sphere (Trauger, 2004). This idea connects directly to the notion of the "invisible" farm woman (Sachs, 1983). Women are seen to be "out of place" when they are on the streets or in the workplace, out in public, and are perceived as unnatural

or immoral. Although men derive masculinity from walking city streets, the opposite is true for women, as can be demonstrated in the familiar expression “streetwalkers.”

There exists an archaic belief among some authoritative sources that women who are out on the streets in public after dark are somehow asking to be attacked or tempting fate (Wright, 2006; McDowell, 1999, ch.3; Domosh and Seager, 2001, ch.1). Melissa Wright (2006, ch.7) introduces this paradox in her discussion of the *Mujeres de Negro*, a female activist group, in Ciudad Juarez, Mexico, who take to the streets protesting the injustice and inaction on the part of local authorities to take any measures in investigating an upsurge of murders of young Mexican women in the community. This is due to the fact that the murder victims were perceived to be “bad” girls who were out on the streets in public after dark when they should have been “good” girls at home in their private surroundings. This belief pertains to women in agriculture, referred to as “farmers wives”, who are thought to be where they belong, when at home on the farm in the private sphere taking care of their families, rather than working in the fields which were considered the public sphere (Trauger, 2004). Domosh and Seager (2001) argue that little has changed since the 1970s in the “postmodern” home, and it is still a symbol of women’s oppression (Domosh and Seager, 2001, ch.1). The female identity is still derived from the home and its interior spaces, invisible to the world, while the male’s masculinity is reinforced with outside spaces, the green lawn, the barbeque grill and the garage, which are all considered “manly” (Robbins, 2007). More recently, with the advent of alternative agriculture, research has found that sustainable agriculture, such as CSAs, and direct sales operations, such as farm markets, provide women not only with access, but spaces of empowerment and a new found sense that they belong in the ‘public space’ of the farm and not just in the ‘private space’ of the farm house. These visible public spaces give women the opportunity to show their capability as farmers (Trauger, 2004).

The transition or shift in agriculture under study is multiscalar and must be studied as such in order to make sense of what is occurring and to infuse these agricultural transformations with meaning across a range of scales. For the purposes of this study, scale varies from the interactions among individual farm families in the private sphere to the contrasting larger scale regional level where foods are produced and marketed in the public sphere. An appropriate methodology is necessary in order to examine the agricultural transformation and processes occurring at different scales. A qualitative approach using case study and ethnography was used for local farm families closer to home to gain insight about their occupational life histories and how they came to be farmers. A quantitative methodology from national census data was also used to characterize the growth in both the feminization and urbanization of agriculture and to explain regional patterns or variations that might be occurring. By combining the qualitative and quantitative data collection methods, the information obtained from statistical analysis and face-to-face interviews should provide information to determine if a confluence exists between urbanized locations, alternative agricultural practices and women farmers, and examine the reasons behind these trends. This will be discussed in greater detail in the methodology chapter.

## **Chapter 3: Research Design and Study Site**

### **3.1 Research Design**

In order to examine the relationship between the urbanization of agriculture and the feminization of agriculture, it was necessary to devise a methodology that would enable an investigation of this link across geographical scales. My goal is to study the way in which the process of urbanization influences farming practices and demographics, in particular, alternative agriculture and women. In this study I use both quantitative and qualitative methodology to achieve this outcome with the results of the methodologies informing one another. The following discussion will be a description of the methodology the research follows.

For the purposes of this research, it is necessary to determine where farms are located in the U.S., how many of them exist and also specific farm type. It is also necessary to determine if they are male or female operated. For the quantitative portion of this study I use the U.S. Agricultural Census data to characterize the growth in both the feminization and urbanization of agriculture. I document and perform statistical analysis on the growing population of women farmers as principal operators throughout the U.S., in order to see if the feminization of agriculture and the urbanization of agriculture largely coincide geographically in the nation.

The quantitative portion of my research informed me of the following: the geographic extent of urbanization in the U.S., where the farms located, how many there are, the farm type and if they are male or female operated. I learned that areas with increased numbers of female farmers tend to coincide geographically with the areas of urbanization and that alternative agriculture such as direct marketing farms, CSAs, and farm markets are located in mainly urbanized areas. Therefore, I concluded that affinities do exist between urbanization, the number of women farmers and alternative agriculture practices. There appears to be a causal relationship between urbanization and the

feminization of agriculture. As urbanization increases, there is a corresponding increase in the numbers of female principal operators, which in turn, makes agriculture more urbanized.

I used The 2007 Census of Agriculture data to describe the geographical patterns of growth in female headed farming households and the spatial overlap with areas of urbanization. These data are aggregated to the national, state and county level. The two measures used to differentiate rural from urban areas were Urban Influence Codes and Rural-Urban Continuum Codes, as discussed in Chapter 6: Introduction to the National Picture. These measures were combined with agricultural census data and were analyzed for regional correlations using the SPSS (Statistical Package for the Social Sciences) program. Statistical analysis indicated the degree to which growth in the numbers of female-headed households coincides spatially with the growth in alternative agriculture operations and proximity to urbanization throughout the nine census regions of the U.S. These analyses would serve as a complement at a larger scale to the individual ethnographic case studies of gender and alternative agriculture at the county level in New Jersey. It was my expectation that associations would emerge among female farm operators, proximity to urban locations and alternative agriculture operations.

The qualitative part of the study used New Jersey as a case study and ethnography as a methodology and focused on New Jersey farms. It was originally intended to focus within one representative county; however, due to insufficient response to my letters of request sent to the farmers, I had to utilize a snowball methodology in order to achieve a sufficient sample size. I visited eleven counties in total, ten in New Jersey and one in New York and interviewed twenty-nine farmers, fourteen male and fifteen female. Information obtained through the interviews helped me gain perspective on issues including reasons for becoming farmers, ease or difficulty involved in doing so,

obstacles/challenges faced in becoming farmers, such as finding educational opportunities, securing credit to purchase land to farm, management strategies and overcoming other issues due to gender inequalities. The full array of questions in the interview schedule is appended to the dissertation as the Farmer Case Study Survey.

### **3.2 Case Studies of Individual Farmers**

As mentioned earlier, New Jersey farming takes place within the most urban state in the United States (Harrison, 2007). Although land in farms in New Jersey has declined by 72,232 acres or 9%, there has been an increase of 403 farms or 4% between 2002 and 2007. Nationally, the number of farms has increased by 75, 810 or 4% while land in farms decreased by 16,183,216 acres or 2%. In the U.S. between 2002 and 2007, there has been a 30% increase in the number of women as principal farm operators, while in New Jersey, during the same period, the number of women as principal operators increased by 15% (U.S.D.A., 2007). Women as principal farm operators comprise nearly 14% of all farms nationally, as compared to 20% in New Jersey. Trends in agriculture in New Jersey are consistent with national trends.

The on-farm, face-to-face interviews were conducted with male and female farmers engaged in alternative agricultural methods in order to gain perspectives on issues mentioned earlier. A sample of twenty-nine farmers were selected and interviewed. In order to better understand why women were historically marginalized from agriculture making access to land, capital and education difficult I examined the issue by using feminist theory and in particular, the theory of social construction (Haney and Knowles, 1988; Sachs, 1983; Trauger, et al., 2008). I was then able to compare the information obtained through the twenty-nine interviews of present day male and female farmers in an attempt to explain why this situation appears to be different today.

### 3.3 Timeline

After gaining the approval of the Rutgers IRB on 12/14/12, I was able to plan my strategy for the ethnographic portion of my research. The approval was effective for one year, until 12/14/13. My broad plan of action was to interview a sample of approximately thirty farmers, hoping to divide my sample as evenly as possible among male and female farmers. It was necessary for me to wait to begin the interviews until the “off-season” after harvest time. October is a time for harvesting crops and fall agritourism activities. I knew after Thanksgiving in late November, some farmers would still be busy with Christmas tree sales. After the holidays, the farmers have more down time and are better able to participate in the interview process. The second and unexpected consideration I had to take into account was Hurricane Sandy. Sandy struck on October 22, 2012 and I realized many of the farmers would be impacted and would need time to address the damage they sustained, deal with insurance companies, and to physically clean up their farms in general. After the interviews, many thanked me for waiting. I felt that I could safely begin to visit the farmers in December, approximately two months after the Hurricane hit. Originally intending to conduct a case study in Somerset County, I obtained a list of Somerset County farmers from the New Jersey Farm Bureau. I sent my letters of request to the farmers, asking them for their participation in my study. Farmers who wished to be a part of my study signed and returned all the necessary consent forms and I contacted them by phone or email, whichever they preferred. I set up interview times among my beginning sample of farmers. My first interview was on 12/12/12. Because I was not able to achieve a large enough sample size through my letters of request, I began to ask the farmers if they could recommend other farmers who might be interested in helping me. This required me to cast a wider net and go beyond Somerset County. Utilizing a snowball methodology, I was able to obtain enough farmers for my sample. I also attended three Annie’s Project workshops in New Jersey to secure



interviews with female farm owner/operators. With their permission, I also utilized the Annie's Project Facebook site to message the farm women in New Jersey and request their participation in my study. Each of these strategies proved to be successful. In total, I traveled to eleven counties in New Jersey and New York and interviewed the farmers from the winter in December 2012 to the spring of 2013, ending with my last interview on April 9, 2013. I do not feel that snowball sampling has adversely affected the substance of my findings. It did result in small clusterings of alpaca farms and Christmas tree farms; however, my sample did contain a diversity of farm types among the men and women. It is my belief that these clusterings had a beneficial effect on my findings because I was able to identify gender differences among male and female farmers and the types of farms they operate. I discuss this finding in more detail in Chapter 7: Conclusion. The timeline was successful because in the spring, the farmers were about to begin their agricultural cycle once again and would not be able to devote their valuable time to my study any longer. I then began to contextualize the qualitative ethnographic portion and make comparisons between the male and female farmers on the community level. Then I interpreted these results in the context provided by the large scale, national patterns.

### **3.4 Farmer Case Study Surveys**

The appended Farmer Case Study Survey is the farmer interview schedule I developed and used as an ethnographic survey for each farmer in my sample. I used it to gather basic characteristic data on each farmer and their operation. The questions then led to lengthier discussions about how they came to be farmers, their management strategies and goals for their farms. They spoke openly and candidly about their lives as farmers. The interview times ranged from one hour to four hours, depending on the individual farmer and the time they could allot. More often than not, each interview lasted for approximately 1.5 to 2 hours. The shortest interview lasted one hour because I had to

take advantage of interviewing one of the farmers on his lunch hour because he held a full-time off-farm job. But because I interviewed the farmers during their “off-season”, after the harvest, they were able to devote a sufficient amount of their time that resulted in productive interviews. With their consent, I audio-recorded the majority of the sessions; however, there were two farmers who declined to be recorded. All of the farmers in my sample gave consent for their farms to be photographed. All the information I gathered from the farmers was kept confidential and made anonymous.

Separately, the quantitative and qualitative research informed me in the following ways. The quantitative portion of my research provided a test on a large scale for my argument that a confluence exists between urban locations, alternative farming and women farmers.

The qualitative portion of my research provided answers to the following questions and gave me perspective on these issues: Why are women becoming farmers? What made them choose the type of farm they operate? Did they encounter ease or difficulty in becoming farmers? Did they face obstacles/challenges in becoming farmers and if so, what were they? Some challenges might include: finding appropriate educational training opportunities, securing credit/loans/grants to purchase land to farm, overcoming the labor intensive aspect of farming or other challenges that might face them today due to historical gender inequalities.

When combined, the quantitative and qualitative methodologies informed me in the following way: Alternative agriculture farms in New Jersey are usually smaller-scale, less land, capital and labor intensive. Previous research has found that these are the type of farms women appear to prefer due to historically constructed unequal gender identities that marginalized women from traditional farming and restricted their access because they weren’t taken seriously and were subordinate to men. This identity prevented them from borrowing capital and accessing agricultural education, historically directed to men

(Sachs, 1983; Trauger, et al., 2008). Information obtained through the interview process informed and supported these findings. Therefore, based on this, I found women farm operators increasing in number where alternative agriculture exists, as it opens access and opportunity for them to farm and eases the historical inequities and obstacles they face. Many of the female farmers I interviewed spoke frankly to me about their experience in obtaining financing from banking institutions. Although some had an easier time than others, ultimately all of the women I spoke to were able to secure the money they needed to start their farms. In addition, a mother/daughter farming team took advantage of a USDA loan recently made available specifically for farm women and minorities. This represents a change from the past obstacles farm women once faced when trying to borrow capital. Also, agricultural education and training has become available that targets women in farming, such as Annie's Project and networks such as the Womens' Agricultural Network (WagN) which are available to women in many states. This too represents a change from the historical lack of agricultural education available to women. In addition, I found many women in my sample chose to run niche farms such as alpaca farms, because they are smaller-scale and more manageable for women, requiring less land, labor, capital and overall maintenance and upkeep. These types of farms tend to be found in urban fringe areas that are best suited to direct marketing enterprises due to their proximity to markets and a population demonstrating consumer preference for healthier food, as prior research has shown. The information I obtained from statistical analysis and also face-to-face interviews provided information to determine that a confluence exists between urbanized locations, alternative agricultural practices and female farmers on the national level as well as in my case study state of New Jersey.

These various approaches and studies have examined issues surrounding women in agriculture, the urbanization of agriculture and in particular, alternative types

of agriculture. This study used this information to examine the convergence and apparent interaction of urbanization and feminization of agriculture, which does not appear to have been addressed by any other studies at this point in time. At a time when agriculture is becoming increasingly urbanized, consumers are taking a serious interest in the quality and kinds of foods they eat and are embracing community-based agriculture as a way to achieve this. It appears that the increased percentage of women as principal farm operators coincides with this trend and may in turn act to facilitate the urbanization of agriculture and therefore, civic agriculture. Many of the female farm operators in my study expressed their feelings about the importance of community involvement and providing healthy foods for their families and customers through organic farming practices. They actively participate with their communities by opening their farms to the public and offering educational activities. Many have also developed business relationships with local restaurants and grocery stores by providing them with fresh produce. My research suggests that a cause and effect relationship exists when women operate farms due to the importance they place on civic agriculture as a management strategy, and this results, at least in theory, in broader socio-economic, environmental and health benefits for communities.

### **3.5 New Jersey – Study Site**

I chose New Jersey as a study site for my research because it has a rich agricultural heritage and is consistent with trends in farming that are occurring on a national level. Despite the loss of farmland in the state, the number of farms has recently increased by 4% between 2002 and 2007. During the same period, the number of women as principal farm operators increased by 15% in New Jersey. Women as principal operators comprise 20% of all farms in New Jersey (U.S.D.A., 2007). The increase in both farms and women as principal operators is consistent with national

trends. Farms are smaller in acreage than the country's average – an average 83 acres compared to 441, and the farmers pay among the highest prices for land and labor.

Farming in urbanized areas has led farmers to adapt their agricultural practices in order to remain economically viable and competitive. Despite the suburban sprawl and loss of farmland, New Jersey's rich agricultural heritage, dating back to the Dutch in the early 1700s, is not in danger of disappearing (Harrison, 2007). Agriculture in New Jersey has been one of the state's economic engines, in the year 2000, producing revenues of just over \$800 million annually and employing nearly 30,000 people (U.S.D.A., 2002).

These trends in the aggregate data would suggest that the feminization and urbanization of agriculture are paralleling and intersecting in New Jersey, and appear to follow national trends. However, it was necessary to explore the particular circumstances that may contribute to the joint emergence of a more urbanized settlement pattern and a more feminized agrarian labor force. During the winter of 2012 to the spring of 2013, I visited twenty-nine farmers in eleven counties throughout New Jersey and one county in New York, who agreed to participate in my research and answer survey questions that guided lengthier conversations. The following information provides an overview of alternative agricultural practices that have evolved in New Jersey's peri-urban areas in response to pressure on farmland from increasing development and urbanization.

It should be noted that in order to increase my sample size, I had the opportunity to interview an ethnic farming couple that operated a niche farm and direct-marketed their produce at a farm market. Although they were located in New York and not New Jersey, I still took the opportunity to interview them because they farm in a state that comprises the Middle Atlantic states in the Northeast region of the U.S. Because they represent one farmer in one county in New York, a neighboring state, I still consider my case study site to be New Jersey, as it represented twenty-eight farmers in eleven counties.

### **3.6 Alternative Agriculture in New Jersey**

New Jersey, being the most highly urbanized state in which to farm in the U.S., has additional types of alternative agriculture that persist that in urban-fringe areas including ethnic farms that supply produce to surrounding area restaurants, such as Chinese restaurants, historic family farms with agritourism, and horse farms. Additionally, coastal New Jersey has an economically productive seafood industry, contributing \$600 million annually to the state's economy (Harrison, 2007). Examples of alternative farming methods that have become established through adaptation and innovation created by urbanization include niche farms, such as alpaca/llama, bison, sheep, organic vegetable farms, and vineyard/wineries.

With New Jersey's increasingly diverse population, such as Asians and Latinos, it makes sense for farmers to grow types of ethnic food grown in their home countries, providing new opportunities and outlets for their produce. New Jersey farmers have done well in adapting to increased urbanization with the adoption of new farming practices and strategies. Former peach farmers in New Jersey have successfully adapted by finding new niches in winemaking, saving forty-four farms in New Jersey from extinction. These types of niche farming are successful in the urban areas of New Jersey because of their proximity to urban centers and consumer markets that makes them economically feasible. This would not be economically possible if the farms were located in rural areas due to the high cost of transporting the products to urban markets, which would be prohibitive for the farmer (von Thunen, 1967). In rural Salem County, aquaculture, the breeding and marketing of Koi, an ornamental fish, is a big part of the industry and is a multi-million dollar business in the Garden State. Another changing agricultural practice being adopted by some farmers in New Jersey is that of "high tunnel farming", a way of prolonging the growing season for certain fruits and vegetables. High

tunnel farming uses plastic stretched over arched poles and utilizes the same principal as a greenhouse. The difference is that there is no floor, only dirt that the plants grow out of directly. The plastic acts to trap the heat from the sun and can be lifted to allow openings if there is too much heat build up inside. Raspberry growers in New Jersey can extend the growing season by as much as three months. It is an adaptation by New Jersey farmers that is slowly taking root. Many more examples can be taken from New Jersey and all are illustrative of the point that farmers must adapt and innovate if they are to stay competitive and economically viable as the face of agriculture continues to change (Harrison, 2007).

With the renewed interest in eating and producing locally, some historic family farms have been helped in their efforts to remain economically viable by creatively incorporating agritourism for supplemental income and participating in new urban farm markets where they can sell their produce. Agritourism, also referred to as agritainment, is an adaptation or type of niche marketing by farmers that involves on-farm entertainment. In 2004 the New Jersey State Board of Agriculture formally recognized agritourism development as a strategy for enhancing the viability of New Jersey agriculture. In a study done by the Food Policy Institute, NJ Agricultural Experiment Station (NJAES), Rutgers University, 48 farmers were interviewed and asked the reasons they added agritourism to their farms. The five main reasons given, in order of importance were to 1) generate additional revenue 2) improve their relationship with the community 3) educate the public about agriculture 4) diversify their farm activities 5) keep family members involved in the farm. The categories of agritourism taking place on the farms fell into five broad categories which were outdoor recreation, educational, on-farm direct marketing, accommodations and entertainment (Schilling et al, 2006). It's a recent addition to farming practices that has changed the traditional family farm from a private place for family members and friends, to a place that is open to the public at least

three days out of the week. Agritourism was born out of necessity and now is an important component to the economic viability of many historic family farms in New Jersey and around the country.

The Rutgers Food Innovation Center, located in Bridgeton, Cumberland County is one of New Jersey's Agricultural Experiment Stations. The center helps farmers find new innovative ways to market their produce in the hopes of keeping them economically viable and competitive. The Food Innovation Center has two hundred clients from all twenty-one counties. Some of their success stories include the Penn Heritage Vineyard and Winery in Gloucester County, a converted orchard, and the Cedar Run Farm in Salem County, a quality asparagus grower, who has found a new market for their asparagus guacamole salsa. Niche markets such as these bring profits to the farmer as added value beyond the price received for produce sold at the roadside market. It has proven that farmers in urban states can succeed if they make the necessary changes. Many New Jersey residents are actively working to maintain New Jersey's agricultural history and economic contribution (Harrison, 2007).

### **3.7 Overview- New Jersey Agriculture**

Agriculture in New Jersey is very diverse and there is a distinct difference in types of agriculture between North and South New Jersey. Distributed throughout the state are field crops, including grains, soybeans, corn, and also sweet potatoes, fruit and vegetable farms and bees. In the more rural counties of North Jersey where there is sufficient acreage for larger farms, there are bison, cattle and dairy farms. In contrast, South Jersey, which is also rural and has abundant acreage, is much flatter and is ideal for cranberry and blueberry farming, as well as aquaculture, pig and sod farms. Central New Jersey, which is a transition zone between North and South Jersey, has both rural and urban areas, and many types of alternative agriculture farms are in located in the



urban-fringe areas of those counties. There tends to be smaller animal farms, such as sheep, goats turkeys and horses. The very urbanized counties are located mainly on New Jersey's East Coast in North Jersey, although Camden County, which is just southwest of central New Jersey is also highly urbanized. Due to lack of land, these counties have relatively small numbers of farms and import their produce from neighboring counties (NJ Department of Agriculture, 2010).

### **3.8 Comparison: New Jersey Agriculture and Sample of Farmers**

My sample of farmers is broadly representative of New Jersey agriculture generally. As it is one of the most urbanized states to farm in, I found a diversity of smaller-scale niche farms located in the peri-urban areas of the counties I visited and fewer larger-scale, historic family farms. New Jersey farmers have had to respond and adapt to increasing development and pressure on the land and have done so through innovation and farming alternatively. Among women, alpaca farms were most numerous and among men, it was Christmas tree farms. Alpaca farming is very popular among women and I believe is related to gender. As the women operators of these farms told me, it takes only a few acres of land to raise alpacas, doesn't require as much physical strength and takes less time to care for the animals. Also attractive to women is the fact that the alpacas don't have to be slaughtered for meat, but instead are raised for their fiber. The sample also contains small animal farms, including sheep, chickens, geese, rabbits and pigs, organic vegetable farms with farm stands and ethnic vegetable growers who marketed their produce in community-farmers markets. There were two community-supported agriculture farms and also farms with orchards that ran "U-pick" operations. In South Jersey there was a vineyard/winery, and a horse farm, and in North Jersey, there was a bison farm. Scattered throughout New Jersey in various counties were five larger-scale conventional-style crop farms that grow hay, corn and grain, and raise cattle. Four

of out five were historic family farms with agritourism and the fifth was a large-acreage lease operation. I also interviewed greenhouse farmers that supplied restaurants with fresh produce, nursery operations and one experimental hydroponic farm that was representative of New Jersey's innovative farmers. The diversity of agricultural practices represented in my sample were typical of what I might expect to find in peri-urban agriculture where the proximity to urban markets allows for the cultivation of a wide range of crops, as von Thunen's contribution to central place theory suggests.

Concentrating on agricultural land use, he proposed a theory for location of agricultural products that depended on the distance to the town center and transportation costs (von Thunen, 1967). New Jersey's proximity to major metropolitan areas with their large differentiated markets would provide feasible locations for niche farming operations that produce a narrow range of exotic products that would find buyers in the large urban markets. My sample of farmers reflects these market conditions, but it also contains some larger-scale, conventional-style agriculture operations (see Table 3.1, Location of Participants Farms by County and State).

I would like to address the significance attached to the number of Christmas tree farmers in my sample. Although there were four out of fifteen, this does not appear to be an indication that Christmas tree farms are more prevalent than other types of farms. It was a function of the "snowball" effect that occurred in my search for farmers to interview. I found "word-of-mouth" recommendations from farmers were a very beneficial and effective strategy to identify additional farmers to include in my sample.

As I continued my interviews, it became clear that a popular type of specialty/niche farming among women was alpaca farming. One alpaca farmer (#11) told me they are relatively easy to take care of, in comparison to horses, and physical strength is not required. They can be managed on a small-scale farm of only few acres. Another benefit is that they don't have to be slaughtered, but are raised for breeding

purposes or selling their fiber. After meeting the alpacas, with their large round eyes and gentle demeanor, I quickly realized their attraction. As with the Christmas tree farmers, I took advantage of the snowball effect and found myself interviewing multiple alpaca farmers as part of my sample group.

### 3.9 Sample of Farmers and Counties of Origin

The following is a table showing the counties and states in which my sample of farmers operates their farms, broken down by gender.

**Table 3.1 Locations of Participant Farms by County and State**

PARTICIPANTS	WOMEN	MEN
<u>NEW JERSEY COUNTIES</u>		
Bergen	1	-
Burlington	1	1
Cape May	2	-
Hunterdon	1	1
Mercer	1	1
Middlesex	1	1
Monmouth	3	-
Ocean	1	1
Somerset	3	8
Union	1	-
<u>NEW YORK COUNTIES</u>		
Kings	-	1
Total Participants	15	14

## **Chapter 4: Men in Farming: A Qualitative Portrait**

### **4.1 Prototypical Pattern is Changing**

The gendered identity of agriculture in the U.S. has been one of overwhelming male-domination. Today, of the 2.2 million farms in the United States, 1.83 million have a white male principal operator. However, according to Agricultural Census data, demographics have been changing since 1987, with the number of women as farm operators steadily increasing (U.S.D.A., 1992). Notably between 2002 and 2007, there has been a nearly 30% increase in the number of women farming as principal operators, making them principal operators of nearly 14% of the 2.2 million farms in the U.S. There is also a growing number of farm operators of all races and ethnic backgrounds overall by 4%. This includes American Indian, Asian and Black farm operators. Hispanic operators as a group have risen by 10%, outpacing the 4% increase among all groups. Also noteworthy is that this majority of white male farm operators are an increasingly aging population. The 2007 census reports their average age continuing to rise from 55.1 to 57.1 since 2002. The next to largest percentage age group of farmers is between 55 and 64 years old. The largest percentage reported is age 65 years or older (U.S.D.A., 2007). As this group begins to retire, it is no longer only their sons who will take over the family farm, but their wives and daughters. Aside from inheritance, the number of women in farming has increased due to new opportunities that have come about by the vacancies created through the deaths or retirement of older male farmers. Due to changing identities and the restructuring of the American farm family (Sachs, 1983; Mortenson, 2013), a new, younger generation of men and women are taking their place (Raftery, 2011).

As evidence of the restructuring of the American farm family, has been the shift to primary or secondary off-farm work for family members. Farmers today increasingly

rely on off-farm employment as a source of income to maintain the economic stability of the farm. Today, it is more the norm for women to also work in non-farm positions. In many cases, it is necessary for male farmers to work part-time or full-time off-farm jobs. The 2007 agricultural census reports that out of 2.2 million farm households nationwide, 1.2 million depend on non-farm income to pay expenses and they are likely to run smaller farms, with 60% of them earning less than \$10,000. Out of the 2.2 million male and female farm operators, almost 900,000 report working off the farm at least 200 days out of the year. From 2002 to 2007, this number has risen from 55% to 65% of all farms, indicating a continuing shift away from traditional style agriculture and family farm structure. The census also notes, however, that farm operators of larger farms, with incomes over \$250,000, are less likely to work off-farm and report farming full-time as their primary occupation (U.S.D.A., 2007).

Census results show that the majority of U.S. farms are smaller operations. More than 36% are classified as residential/lifestyle farms, with sales of less than \$250,000 and operators with a primary occupation other than farming. Another 21% are retirement farms, which have sales of less than \$250,000 and operators who reported they are retired. In the five years from 2002 to 2007, agricultural transformation in the U.S. has not only been limited to the size, types and locations of farms, but also farm operator characteristics. While there remains a majority of white male farm owners/operators in the U.S., the number of women and non-white farm operators continues to rise (U.S.D.A., 2007).

## **4.2 Historical Background**

During the 18<sup>th</sup> and early 19<sup>th</sup> centuries, agriculture was centered around the family farm. It was Thomas Jefferson who believed that the family farm and agrarian way

of life was the basis for achieving independence and self-sufficiency, and for pursuing individual goals. In keeping with a patriarchal society, agriculture and the family farm structure was supported by a patriarchal foundation. Men controlled not only their land, but also the labor of their wives and daughters. Women had very little access to land and it was the sons who would benefit from the land they were given by their fathers. Sons had the ability to achieve economic independence through inheritance, while the women in the family rarely did. One of the most common ways for a man to own his own land was for a father to divide his land and distribute it to his sons. Only if there were no sons could a woman inherit the land, but if she were to marry, the land became the property of her husband (Sachs, 1983; 1996).

The opportunity to achieve upward mobility in farming afforded to men was referred to as climbing the “agricultural ladder”, a term coined by the US Department of Agriculture (USDA). In the 1920s, rural sociologists with the USDA studied the agrarian in farming communities in the Midwest. It referred to the steps or rungs on the ladder that a man had to climb on his way from being the unpaid help on his family’s farm, to farm ownership. There were five steps in all to complete before ownership could occur: unpaid family labor, paid agricultural labor, tenant farmer, mortgaged farmer and farm owner. At the bottom rung of the ladder, sons would work as unpaid labor on the farm, gaining experience without monetary compensation. If a man on the second rung of the ladder did not accumulate sufficient capital from earning wages as a paid laborer on other farms, he might rent or lease land as a tenant farmer and advance to the third step on the ladder. However, with enough earned capital, he might purchase his own piece of land outright. Alternatively, he might take out a mortgage from a bank to purchase a tract of land. Loans to do so were available to men, moving them from a mortgaged farmer to the top of the ladder as a farm owner (Bates and Rudel, 2004). In a historically

patriarchal society, a woman could occupy the lowest rung on the ladder as an unpaid family laborer, but social conventions made it impossible for her to climb the ladder. These arrangements perpetuated the white, male-dominated system of agriculture, elevating men into land ownership, to be passed on to their sons. Mothers and daughters had little opportunity to own land and were expected to work as farm laborers in addition to carrying out their domestic duties. The labor provided by the women benefitted the farmer and raised his standing within the community, while they received little or no credit. Landownership varied by region in the U.S. and was important in determining the types of production that developed and women's place in agriculture (Sachs, 1983; 1996).

As one example, the southern agricultural ladder is somewhat different from the traditional agrarian ladder in the Midwest, and explains why the ascent for southern black male farmers up the ladder differed from that of white male farmers. The southern agricultural ladder is composed of the following rungs from lowest to highest: wage worker, sharecropper, tenant, and owner. Wageworkers on the lowest rung were usually young men who had little physical capital and received low wages. Blacks were disproportionately sharecroppers and it is this second rung that presented difficulty in climbing higher. Being a sharecropper meant having no possession of the land, but renting land from the planters who were their former owners and getting paid with a proportion of the output. This meant more opportunity to gain experience while less opportunity to earn and accumulate capital with which to rent or purchase land. Although one rung higher on the ladder, being a sharecropper was considered little more than a wageworker. Despite these disadvantages, approximately 25% of black male farmers owned the land they farmed by the mid-20th century (Alston and Kaufman, 2001). After slavery ended, Black women continued to work in the fields for the Black male

sharecroppers. Their work consisted of chopping and picking cotton and hoeing corn. Some were paid wages in times of economic need, but many were unpaid laborers on their family's farm, along with their children. Some Black women became sharecroppers themselves and they performed this work in addition to childrearing and domestic chores (Sachs, 1996).

Lack of available land in the East necessitated expansion into the western frontier. Patriarchal rule prevailed and women were expected to not only help in establishing a homestead, but also do the men's work on the farm, with no reciprocation. Women were expected to work in the fields when labor was needed. However, as farms shifted from subsistence to market-based production and more money was needed to invest in the farm and update equipment, women's production roles diminished along with their contributions. Mechanization would decrease the need for both male and female labor (Sachs, 1983).

The government's Homestead Act of 1862 dispersed a portion of public lands in the West without cost, to farmers or homesteaders, who were willing to live on the land and develop it. Individual plots were not to exceed 160 acres in size. There was little government support for the homesteaders in the way of credit or guidance in their initial years of farming and over time, many of these farmers lost their land and became tenant farmers. Interestingly, in spite of increasing tenancy farming, more women in the West had the opportunity to own and farm land. A majority of them were widows who inherited the land, while others were women whose husbands had retired from farming. Still others were single women who owned and farmed the land and together, they totaled a quarter of a million people by the end of the 19<sup>th</sup> century. Although there are scattered reports of women farming independently in other regions of the U.S., such as New York, Ohio and Michigan, the majority of farming and land ownership was in the hands of men



who dominated agriculture through a patriarchal family farm structure within a patriarchal society (Geisler, Water & Eadie, 1985; Sachs, 1983; 1996; Haney & Knowles, 1988).

Historically, the U.S. system of agricultural extension has always focused on the development of male farmers. While men were trained and taught about agricultural science in order to enhance farm production, women were taught about the principles of home economics. This did little to boost their productivity on the farm and their work remained relegated to performing low-skill tasks that further minimized their contributions (Sachs, 1983; 1996).

My own research confirmed that the agricultural ladder still exists today among male farmers, facilitating their pathways into farm ownership. Many of the farmers I interviewed rose to landownership and achieved economic independence via the agricultural ladder. Some realized success independent of the ladder utilizing alternate means that will be discussed later in this chapter. Many farmers today as in the past are dependent on their wives for support in terms of division of labor on the farm. In most cases, this remains gender-specific. Today, that support includes supplemental income from part-time or full-time employment.

#### **4.3 Gendered Roles on the Family Farm**

Gendered roles from the past still exist on family farms today in regards to decision-making and division of labor. The twentieth century farmwoman had a large family with many children to rear and she focused primarily on domestic duties in the home. While on the farm she tended to the garden and small livestock. However, this did not relieve her of working in the fields to provide labor when necessary. It was her husband's responsibility to handle all other aspects of farm production and labor that included planting, growing and harvesting the cash crops, tending large livestock, as well

as equipment use and maintenance. The women's contribution, though vital to the farm, was "invisible" and considered to be secondary to her husband's (Sachs, 1983; 1996).

Although the farm structure was patriarchal, the wife played a role in decision-making with her husband. Together, they would make decisions concerning farm resources, such as borrowing money for farm and family purchases. However, men were the sole decision makers in the area of farm operations, and they chose what crops to grow and what fertilizer to use. When family farms were smaller, women were more involved with the decision-making. As farms became larger scale and more commercialized, women had less opportunity to be involved with decision-making and/or providing labor (Jellison, 1993; Sachs, 1983; 1996). My research indicates that gendered roles are still common on farms today and will be discussed.

#### **4.4 Summary Results: Achieving Farm Ownership**

The following is an examination of my study results after interviewing a subsample of male farmers and recording their occupational life histories as they relate to the traditional and less traditional means by which men achieve farm ownership (See Table 7.1 Pathways into Farming).

My research indicates that a portion of male farmers today have become owner/operators through traditional means and have done so by climbing all or part of the agricultural ladder. All of the farms I visited in this particular subsample except one, were owned and/or operated by white, male farmers, ages 50 or over. My sample group was consistent with the farmer demographics reported in the 2007 Agricultural Census.

Of the fourteen male farm owners I interviewed, three had acquired their farms through family inheritance. Some had grown up on their family's farm, learning and working as unpaid labor, gaining only experience. They chose to stay connected to their

family's farm throughout their adult lives, leaving only temporarily to attend college and then return, or to work off-farm positions to earn money, while still farming with their families. Still others left their family's farm entirely to pursue other full-time professions, yet returned out of necessity to become owner/operators of the farm upon their father's death or retirement. Two farmers have entered into leasing arrangements and are now tenant farmers. However, there was a greater portion of the farmers who I interviewed that became farm owners independent of family inheritance or in some cases, farming backgrounds. Eight of the fourteen male farmers I interviewed purchased their land independent of their families. Although they were raised on farms, they did not inherit the land from their fathers, but chose to become farm owners by purchasing land independently. As adults they pursued full-time careers other than farming, but wished to return to farming. They were on the fourth and final rungs of the agricultural ladder. These are men who accumulated enough capital to mortgage their own land and become owners. While this does imply that the agricultural ladder afforded them the opportunity to climb to farm ownership, they did not remain on the ladder throughout their lifetimes intending become farm owners. These men chose to get off the agricultural ladder and pursue career paths other than farming. However, these alternate career paths enabled them to earn wages and accumulate the necessary capital to purchase land outright or take a mortgage with a bank, and become farm owners, or alternatively, become tenant farmers. I found there to be varying types of arrangements among husbands and wives in terms of their labor and decision making roles on these farms. In some cases, there were strictly gendered roles among the husbands and the wives. In other cases, husbands and wives divided these tasks equally, while in other instances, the husband took on sole responsibility for the farm, but remained totally dependent on his wife's off-farm employment. Division of labor will be discussed in greater detail later in this chapter.

#### **4.5 Farmer Narratives (Male)**

##### **Farmer #1**

One unusual story I discovered was when I interviewed a male alpaca/llama farmer, age 58, who took a less traditional route into farming. He and his wife had no prior farming background and were not intent on farming in particular, but rather searching for a job that would allow him to work at home. After stumbling upon a newspaper article about alpaca farming he said, "I was intrigued by the tax benefit from it." His wife was a scientist and professor and he was an engineer. Although neither had a background in agriculture, she had an interest in the science of genetics and breeding animals. The article about alpacas seemed appealing and convinced them to purchase acreage and start "checking out livestock." He stated, "It was too stressful, both of us working full-time. The goal was for me to leave my job. I wanted to work from home." This arrangement would enable him to be home in order to do renovations on the house they purchased along with the acreage. This is a less conventional reason to become a farmer and occurs independent of the male-dominated agricultural ladder. However, it does represent the changing face of the farmer and perhaps the new generation of farmers coming onto the agricultural scene. These are men and women with no farming background but enough desire and in some cases, necessary capital or income, to purchase or lease land, choosing to make farming their livelihoods. The couple has since divorced and he is single and carrying on the farm alone, determined to make a success of the business. He is in the process of opening up a store on his property in order to sell value-added, alpaca/llama products to generate additional income (Anonymous interview, 2/13/13).

**Farmer #2**

In contrast to the alpaca/llama farmer, another male farmer I interviewed, age 52, is the thirteenth generation to run his family's 300 year-old historic family farm. On the 300-acre diversified use farm the main crop is hay and it supplies the many horse farms in New Jersey. He also raises hops, vegetables, chickens, hogs and sheep. He was married at the time of the interview and is the owner/operator of the farm. The roles he and his wife took on were very gender-specific. As was common in the past, she had primary responsibility for their four children and all domestic chores. On the farm, she was in charge of the family's flower and vegetable garden, as well as tending the chickens and two sheep. Along with her daughters, now teenagers, she also ran a farm stand from one of the barns, which has more recently been moved to a newly constructed solar powered greenhouse that is open to the public. She direct-marketed their produce at several local farm markets as well. The couple added agritourism activities for the first time in the farm's history in order to remain economically viable. They added pumpkin picking, hayrides and a corn maze in the fall. After Thanksgiving, the farm opens for U-Pick Christmas tree sales. His wife played a large role in this enterprise, as she greeted the public to be a visible presence on the farm. As I typically found among women in farming, the woman is in charge of all the marketing and community outreach for the farm. Her husband is the primary farm operator, working alongside his retired father, who now helps out, along with his two sons and one or two hired workers. He plants, maintains and harvests the crops, runs and maintains all the farm equipment and tends the hogs. He and his wife did make decisions together that pertained to their family and farm purchases; however, he has primary responsibility for making decisions that involve all aspects of farm production.

This farmer's path to farm ownership can be attributed to the traditional means of inheriting from family. He inherited the farm from his grandfather, rather than his father.

His father did not choose to become a farmer and started his own insurance business. Ownership of the farm skipped his generation and passed to his son. Knowing he one day wanted to take over the family farm, he remained on the agricultural ladder. He left to go to college, but upon graduating, immediately returned to run the farm alongside his grandfather, while at the same time teaching history at a local high school. Eventually, he became the principal farm operator and left his teaching job to run the farm full-time. After marrying and having four children to raise and eventually send to college, he started working in his father's insurance business to supplement his family's income. Currently, he has taken over the insurance company on a full-time basis after his father retired. He considers himself a full-time farmer in spite of his full-time off-farm job, because he works the equivalent number of hours at each. Today, this is typical of many farmers and their wives who find it necessary to work off the farm, on a part-time or full-time basis. None of the couple's four children are interested in operating the farm when he retires. When I asked him what would happen in that case, he smiled and answered, "There's always grandchildren." He and his wife were still married but in the process of divorcing when I conducted this interview (Anonymous interview (3), 1/25/13).

### **Farmer #3**

The next farm I will discuss is one that exemplifies a husband and wife enterprise with equal ownership and decision-making, but with a distinct division of roles. He is age 58, and his wife is age 50. They are co-owners of their farm. He works full-time in New York City and his wife, a former marketing executive, is now a full-time farmer. Today, their farm is a good example of an alternative agriculture farm. It is a smaller, mostly organic, 43- acre, highly diversified farm consisting of small livestock, such as rabbits, chickens, goats and hogs, and fruit orchards, honey, flowers and year-round greenhouses for growing greens and vegetables. The couple supplies produce to chefs

from local restaurants and sell direct to the public from a farm stand in their barn.

But it wasn't always that way. In fact, when the couple bought the property, they had no intention of becoming farmers. They bought the acreage, built a house and planted a garden, because he always loved gardening. Their first crop of zucchini was so abundant, they put the excess on the side of the road, free to the public. When all the zucchini was taken, they were so pleased that they became "hooked" she commented, and started expanding their garden. She said, "It kind of took on a life of it's own." She added that they, "reacted as necessary" with equipment purchases, building a barn and expanding. "It evolved" she said. Their story is another example of a less traditional pathway into farming, independent of the agricultural ladder, inheritance or farming background. The husband and wife team represent today's changing face of the farmer.

As farmers, their roles on the farm are gender-specific. As a female farmer, her full-time role is a demanding one. She is the principal operator during the day when her husband is working off-farm. She handles all day-to-day farm activities in addition to her household chores, and is the mother of two teenagers. As a former professional marketing executive, she does the farm's PR work and community outreach, such as school tours, food preparation classes, summer camp and working with local chefs. There are two hired full-time employees to help out. When her husband is home and working on the farm, he runs and maintains all the equipment. He has little interest in community outreach and prefers to be the silent partner on the farm, tending to the animals, orchards and the equipment.

Their farm is an example of a niche farm or a farm that specializes in a particular commodity and has little competition from surrounding farmers. With little or no competition, niche farming guarantees the farmer a good price for the product, since they alone supply it. In this case, the niche they fulfill is growing greens and vegetables year-round in greenhouses, in order to supply local, upscale restaurants. Chefs come to

their farm on a self-serve basis and she tells me what they've just picked "is on the plate fifteen minutes later."

The couple's entry into farming was accomplished in a less traditional way than it was in the past, without the benefit of the agricultural ladder to provide experience and/or inheritance. This type of farm does exemplify an alternative agriculture farm operation of the 21<sup>st</sup> century. This smaller-scale, diversified, niche farm represents the changing face of agriculture, and as co-owners and operators, the couple represent the changing face of the farmer. They came to be farmers with no previous experience or intention when they purchased their land and built their house. With only an affinity for gardening, their property evolved into a highly diversified farm that serves the community in many beneficial ways. With the exception of their orchard, the farm is organic. They not only supply their neighbors with fresh, healthy produce, but they provide educational and recreational programs for many age groups within the community (Anonymous interview (1), 1/12/13).

**Farmer #4** (declined to be recorded)

The next farm I will discuss is a small-scale, 7-acre farm operated by a farmer and his wife, both in the 50 and over age group. The farm produces vegetables and fruits and direct-markets the produce to the public via a farm stand on the property. The husband farms full-time since his retirement from a career in soil physics and his wife is a part-time farmer working a full-time off-farm position in agricultural engineering. They have no children. In keeping with the more traditional path to farm ownership, both grew up in an agricultural setting where they gained much of their experience and desire to continue farming. Interestingly, he and his wife both own farms. She is the owner of an 85-acre historic family farm that was inherited from her parents. Her farm is bounded by her husband's property and they are situated side-by-side. Although they are joint



operators of each other's farms, they are separate owners. Her husband purchased his farm in 1995. Their roles are not gender specific for the most part; however, he does drive the tractor. He has not sprayed pesticides for two years and is working to become certified organic. I will discuss his wife's farm operation and ownership in more detail in a subsequent chapter. Her husband's adjoining farm is representative of one of the trends in agriculture noted by the 2007 agricultural census, which is a rise since 2002 in the number of small farms that are less than 50 acres in size with sales of less than \$2,500/year (Anonymous interview (1), 3/15/13).

#### **Farmer #5**

A unique example of a niche farm in New Jersey is a 275-acre grass-fed bison farm that is owned and operated by a farm family in northwest New Jersey. It is a father and son operation that began in 1999. It is the only bison farm in the state and is so successful that the family earns their livelihoods from the farm. There is no necessity for them to work off-farm jobs. I interviewed the 73-year-old patriarch, who told me he is a self-taught bison farmer who purchased his land independently and did not acquire it through family inheritance. He came from a farming background when he lived in Colorado prior to moving to New Jersey. He retired from a full-time job in government contracting at age 62, and earned enough money to purchase land and a small herd of beef cattle in New Jersey. He said the land always flooded and he was looking to relocate. The land he presently farms was owned by the state of New Jersey and was selling at auction as preserved farmland. Prior to this, it was a dairy farm that went out of business. Rather than sell the farm to a real estate developer, the owner sold it to the state, which then preserved the land for agricultural use in perpetuity and sold it at auction. He was the successful bidder and paid in cash, a requirement by the state in an auction situation. When I asked him why he chose to become a bison farmer he said, "I

wanted to raise animals and be financially viable.” Although he had a family background in farming, he did not acquire his farm by traditional means through his family, but his son did. For him, it was a short climb on the agricultural ladder to farm ownership and he skipped a few rungs in the process. His son bypassed four rungs and went straight to ownership when his father asked him to be his partner, hoping to make the farm a father and son operation. He agreed and gained his experience in bison farming along with his father, who taught him everything he knew from raising livestock previously. Together, they own and operate the very successful one-of-a-kind bison farm in New Jersey. The bison are grass-fed and are given no antibiotics or growth hormones. But it was the farmer’s wife who did all the marketing and PR for the farm at it’s inception, when they needed to establish markets. She went to the local supermarkets inquiring if they might sell the bison meat in the stores. They did and eventually, the success overtook them. He said, “We were basically killed by our own success.” He was referring to the fact that they couldn’t meet the supermarkets demand and shipping the meat to the stores was not economically feasible. They had to stop supplying the supermarkets and became an on-farm operation only. Spreading through word-of-mouth, the bison meat was in such high demand, that they no longer needed to ship off-farm and the customers came directly to them. They opened a small store on the farm and are able to sell all the meat they produce yearly, which is butchered into steaks, burgers and kabob meat. Subsequently, his wife retired from any further public relations work for the farm (Anonymous interview, 1/13/13).

#### **Farmer #6**

The next farm I visited is an example of a niche farm that specializes in peaches, apples and tomatoes, and is now a “U-pick your own apples operation.” A 20-acre specialty family farm since 1950, they sold apples and peaches wholesale and did not

direct market to customers. The husband and wife, both over 57, have been co-operators and co-owners of the farm since 1986; however, for census purposes, it is his name that is on the books. Both have off-farm jobs, in fact, they own their own environmental consulting firm, but still consider themselves full-time farmers. His path to ownership was accomplished in the traditional way men come to be farm owners. He was raised on his father's farm and always helped out. He left the farm to go to college and upon graduating, chose to pursue a career outside of farming. It wasn't until his father became ill and he returned home to help out that he was "re-introduced to the farm" says his wife. "He didn't want to be a farmer." Her husband inherited the farm along with his six siblings when his father passed away. Taking over the farm's operation, he and his wife "fell in love with the lifestyle" and subsequently bought out his sibling's shares of the farm.

She describes their roles on the farm as being gendered, and reasons, "because agriculture is still old, but changing." As the male farmer, he runs the equipment, maintains the orchards and applies pesticides. As a female farmer, she does the marketing and bookkeeping, and describes her role as having "paper-based responsibilities." She tells me it was her idea to do "pick your own" apples, a change from the original farm. She also says she is "the face of the farm." It is her job to meet and greet the public. My research indicated this to be more common among female farmers who seem to be more comfortable in this role, and more accepting of it.

He came into farm ownership as many men do, through family inheritance, via the agricultural ladder. But in his case, he never intended to become a farmer and got off the ladder to pursue an alternate career. When he returned to the farm to help his father and subsequently took over the operation, his farming background proved to be valuable and allowed him to continue the family farm his father started in 1950. Working the farm renewed his love for the lifestyle, prompting him to buy out the shares of his brothers

and sisters and become the sole owner. His consulting firm business allowed him to generate the necessary capital and income for the buyout (Anonymous interview, 12/12/12).

### **Farmer #7**

Christmas Tree Farm #1 is a “choose and cut” and is owned and operated by a farmer, 73 and his wife, age 47. As is the norm, his name is on the books as owner. As a farmer, his path into ownership was a result of a less traditional means. Before marrying, he became a landowner by purchasing 17-acres independent of his family and not through inheritance. He gained farming experience through college courses as an undergraduate student and not from his family. It was necessary for him to take out a mortgage in order to purchase the land; however, he said it was a positive experience, with no difficulty involved. Although he did not arrive at ownership through the more traditional channels, it was necessary for him to go to a bank for a mortgage in 1983. Loans such as this were readily available to men, facilitating the process of land ownership. Acquiring this type of financing from a bank would have been more difficult for a single woman to obtain, or may not have been available at all (Sachs, 1983; 1996). He gained farming experience independent of his family, and became interested as an undergraduate student at his college. He took courses in dendrology and forestry that sparked his interest, taught a course in wildlife ecology and management and eventually obtained a master’s degree in conservation. His career as a college professor enabled him to earn the needed capital to purchase land with enough income to support a mortgage and start a Christmas tree farm.

He and his wife say their roles on the farm are gender specific. As in many other cases, she handles the marketing, website, blog, and does the writing and photography. She also creates value-added products to sell, such as Christmas wreaths and preying

mantis egg nests, to schools to be used for educational purposes. She helps her husband maintain the trees and uses small equipment, such as hedge clippers and hand shears. He maintains the trees, but uses the heavier equipment, such as the shearing machine, which she has never tried. He told me this machine, which must be strapped to the back, is heavy, cumbersome and dangerous to use. The couple practice integrated pest management, and both hand pick the pests from the trees. He said he keeps pesticide use to a **minimum** because the farm is a USDA-certified “River-Friendly” farm to help protect water resources within the watershed ([www.nrcs.usda.gov](http://www.nrcs.usda.gov)). He taught at a university and is comfortable speaking in front of people and so he is involved with community outreach. He enjoys teaching visitors who come to the farm about tree planting and management, and integrated pest management, as well as giving tours to the Future Farmers of America groups. This was a role I found to be more typical of the women I interviewed; however, as mentioned previously, he was a former teacher with public speaking experience (Anonymous interview, 12/17/12).

### **Farmer #8**

Christmas Tree Farm #2 is also a “choose and cut” operation, and is owned by a male farmer, age 59, and his wife, who does not farm. He is the operator of the 36-acre farm that is open on weekends only. Both have full-time professions. He is a forestry professor and his wife is a state forestry employee. He learned about the Christmas tree business from his father who was a Christmas tree grower in North Carolina. He said “I was exposed to it at an early age and I liked it.” He said, “It’s in the blood.” He did not inherit land from his father and purchased his own independently by financing it through a bank. He described the process as being positive and easy. His farm ownership came about in a more the traditional way that seems to be typical for many of the male farmers I interviewed.

As mentioned, his wife does not work with him on the farm. Although she is interested in their business and likes the farm, she feels it would be a conflict of interest for her to be involved. Because she has managerial responsibilities as part of her forestry job, it would put her in a compromising position, since some of the stakeholders are her husband's customers. Aside from this, she has little interest in working on the farm, and he says, "I doubt she cares to deal with the public all that much." This appears to be a gender role reversal of sorts, as in most cases, it was the woman who was more adept at dealing with the public. He describes his farm as being non-organic, but said he uses "as little pesticides as is possible." He hires paid hourly student workers from his university to help out on the farm, especially during the holiday season (Anonymous interview, 1/3/13).

#### **Farmer #9**

Christmas Tree Farm #3 is a 207-acre family farm that grows Christmas trees, row crops and vegetables. Sixty of the 207-acres is dedicated to growing the Christmas trees. The male farmer, age 32, is the principal operator of the farm and is in partnership with his mother since his father passed away. He wanted to become an owner along with his mother and accomplished this by buying out the share of a cousin who wanted to retire. He and his mother make all the decisions concerning the farm. His wife helps him on the farm and also runs her own community-supported agriculture farm (CSA), which I will discuss in more detail in a later chapter. They have two young children. He also had a full-time job off the farm at a fertilizer company until he was laid-off, but his goal is to make farming his livelihood and support his family completely. He was in the process of looking for another off-farm job at the time of the interview. The couple bought the share of the farm through financing with a bank.

As a female farmer, his wife works on the farm in addition to her household

chores and taking care of the children. Although she doesn't spray pesticides, she has learned to use some of the equipment, such as hand shears and the tractor. She said, "I wanted to learn in case something were to happen to my husband." They both work during the Christmas season when they open their farm to the public as a "u-pick and cut" operation, or by staffing their on-farm store that sells value-added holiday products. They share equally in time and effort devoted to the agri-tourism activities they provide to the public in the fall and winter seasons, that brings them additional revenue (Anonymous interview (1), 1/14/13).

**Farmer #10** (telephone interview)

Christmas Tree Farm #4 is a 93-acre farm owned and operated by a female farmer, age 58, a former chemical engineer and her husband, age 66, a retired electrical engineer. The couple felt it was important to diversify the farm and devoted 15-acres to growing the trees and 4 -5 acres to growing pumpkins, Indian corn and sorghum, which is also called broom corn. Approximately 60-acres are in woodland. She currently holds a full-time position as Dean of Students at a local college. She describes their on-farm roles as being "very much a partnership, split along our strengths." Her husband did not inherit their land from family or come to farming with prior experience. She was raised on a Christmas tree farm and brought her experience to their present operation. In 1984, they decided to buy vacant land for farming Christmas trees and went to a local bank for a business loan. She says the real estate market was bad at the time and the bank was motivated to give them a loan. As engineers, they both had good, solid credit and were granted the mortgage. Thirty years later they are operating a successful business and her husband is a full-time farmer since his retirement. She works as a part-time farmer and struggles to find a balance between farm and career.

Their roles on the farm are divided according to their strengths, and I found theirs

to be more typical of most of the husband and wife teams I interviewed. Although they both do the planting of the trees, her husband is primarily involved with tree maintenance, such as shearing and spraying pesticides for insect and weed control. He also handles the paper-based, business-side of the operation, such as preparing taxes along with their accountant. She said she finds paperwork to be “a pain in the ass.” She handles what she describes to be the more creative side of the work, such as marketing and advertising, making crafts to sell as value-added products and scheduling shows where they direct-market the products. She has created a Facebook page for the farm and has established an online store for their products which they sell through a website called Etsy.com. After she retires, the couple hopes to expand the farm, but currently, the financial security her job provides is a necessity. Their goal is to retire and farm, expand their markets, do more shows, and live out their lives. They say that for them, “farming is therapy and keeps us sane.”

Her husband’s entry in farming and ownership was accomplished in a less traditional way, since he had no farming background and did not inherit land from family. Instead, it was his wife who brought farming experience; however, it was his job, in part, that provided the necessary income and credit status required to obtain a loan. It was 1984 and she says something she will never forget was when the loan officer was reviewing their credentials. Upon realizing that she earned a higher income than her husband, he commented, “doesn’t it bother you that your wife makes more money than you?” Clearly, the loan approval was based on both their incomes; however, in a case of role reversal, hers was higher. “A sign of the times” she says, and “women coming into non-traditional fields” (Anonymous interview #10, 2/8/13).



**Farmer #11**

Another farm I visited is an example of an alternative agriculture operation called a community-supported agriculture (CSA) farm. The sole proprietor, a male farmer, runs it with the help of his wife. Both are age 48. The farm is unique in many ways, the first of which is that he leases the land from a local watershed association and became a tenant farmer in 1991. A total of 350-acres in size, with 100-acres in production, it also happens to be the largest CSA on the east coast and is USDA certified organic, growing 400 varieties of fruits, vegetables, flowers and herbs. It is a direct-marketing enterprise with 3,200 memberships and employs twenty-five workers, providing medical benefits to the full-time workers. The farm direct markets to the public on-farm, but also serves thirty-two communities by providing a box-share drop-off program. The farm earns over \$1 million in revenue annually. The scale of the operation is one that is not often seen.

The farming couple does not own the land, but through the leasing arrangement, have turned the farm into a highly profitable business. I interviewed the wife, as her husband was not available. I was very interested to know how they became such successful managers and if their backgrounds contributed. It was her husband's background and experience that enabled him to lease the land. I discovered that he had no family farming background, but did apprentice on farms for three years prior to starting the CSA. In college he studied mathematics and took a position with an insurance company calculating life expectancies, which his wife says he found depressing. He became interested in environmental studies and healthy foods in particular when his father passed away from a heart attack. One of his professors steered him in the direction of an organic farmer in need of labor. He took the job and started his first apprenticeship. He worked for three different farmers, one of which was a non-profit farm where he learned to use draft horses. The leasing deal with the watershed association presented itself. The Northeast Organic Farming Association

(NOFA) found him a partner with CSA experience and desire to start a farm. They partnered and presented their own plan for a CSA to the Watershed Association and were offered the lease arrangement. Her husband did not become a tenant farmer via the agricultural ladder and made his own pathway into farming by arranging apprenticeships to gain experience. He was fortunate to be in the right place at the right time when the watershed association was offering the lease and he was able to bring his recently acquired experience with him. The opportunities that presented themselves to him may not necessarily have been available to a woman in the same position and the fact that he is a man may have facilitated his entry into farming and ultimately, tenant farming. She describes their roles on the farm as gender specific. She describes herself as “the face of the farm” and handles all activities that involve the public. The couple’s long-term plan for the farm is to “turn the farm over to a young farm family in twenty years.” They have since gone on to purchase their own crop farm in New Jersey (Anonymous interview, 2/1/13).

## **Farmer #12**

A second lease arrangement I discovered was between a male farmer and county level government. Now age 56, he began leasing a 114-acre farm and house in 1982 that he “started from scratch.” He is married and depends on his wife’s full-time income as a registered nurse to support the farm. She helps out on the farm when and if she can. Interestingly, he was the President of the Somerset County Board of Agriculture when he won the bid to lease the land. He tells me he has been farming “since he was 8 years-old ” and has a history of working on farms for other farmers and earning wages. He became a farm manager of a dairy farm operation and gained experience in raising calves. He describes himself as a self-taught farmer who still takes agriculture courses and reads about farming to supplement his knowledge base to stay current. For him,

being a tenant farmer means he rents the land from the county, but owns the business, including the crops, cattle and machinery. If he wishes to retire from farming one day, he cannot sell his house and 114 acres, but he will be able to sell his business. He has a special arrangement with the Audubon Society to grow sunflower seeds and in doing so, has found a specialized, marketable product. He says the fields of sunflowers are a nice, visible product for the public to see, and 5% of the proceeds go back to the preservation of grassland habitats.

He became a tenant farmer through more traditional means and by way of a few rungs on the agricultural ladder, independent of family support. As a boy, he started to learn about farming and moved up the ladder to paid wage work on farms when he became older. Although he had numerous non-professional jobs, he managed to acquire a farm manager position that paid him wages and continued to teach him about raising cattle. His position as President of the County Board of Agriculture proved to be beneficial when the leasing arrangement with the County presented itself. The income earned from his wife's full-time off-farm position as a nurse is vital to support his livelihood as a tenant farmer (Anonymous interview, 1/9/13).

**Farmer #13** (on location at farm market, not recorded)

The next farm I will discuss diverges from the usual demographic of older, white, male farmers. This farm is a niche farm that is owned and operated by a Chinese husband and wife team, who direct-market their produce at farmers markets. They specialize in ethnic produce and grow a variety of Chinese and Japanese vegetables. She says they specialize because they don't want to compete with the same vegetables other farmers are selling and they can charge a little more for theirs. She says, "Because it is specialty, it is more valuable produce." When I asked her why they wanted to become farmers, she answers, "for survival." Also, she says, "no matter how rich or how

poor, you have to eat.” They described themselves as foreign people who came to the U.S. and started a jewelry business. But they decided to go into farming “because you don’t get robbed like in jewelry business.” Also, they wanted to be certified organic, because it they felt it would provide healthy food to people. She said to become organic was very expensive and they would need to have enough money. The couple started out by renting land and growing vegetables. When they generated enough capital, they searched for their own land and started their own farm in 1990. By finding a niche and growing ethnic vegetables, they were able to secure markets, such as restaurants and local ethnic populations that visit the urban farm markets. She says that specialty vegetable farming and becoming organic “enabled them to survive as farmers.” As part of their Chinese philosophy for life, they feel it is important to start with the basics: food, clothing, housing and transportation. As farmers, they wanted to provide “healthy, organic food to human beings.”

As a Chinese immigrant to the U.S., her husband did not become a farm owner in the same traditional way that American-born men do, but there are some similarities. Although he had no farming background or hope of family inheritance, he had to work hard to generate enough capital to buy land. The sale of his jewelry business provided enough money to start farming on land he and his wife rented as tenant farmers initially. When he generated enough capital from that enterprise, they searched for land to purchase, ultimately rising to farm ownership. Along with help from his wife, the farming couple has successfully evolved their niche farm by growing specialty vegetables for the surrounding ethnic community. They have contributed to the increasing number of non-white farm operators and specialty vegetable farms as reported by the 2007 Agricultural Census (Anonymous interview, 3/23/13).

#### **Farmer #14**

The last farm I will discuss is quite atypical from the types of farms I visited, but can nonetheless be considered an alternative agriculture farm. In 1890 the original farm consisted of 2740 acres of farmland, woodlots and a dairy. Today, it has been converted into a private, non-profit enterprise that I will refer to as the Farm, devoted to environmental and agricultural education, sustainability, energy conservation, wildlife management, native habitat preservation and stewardship. I interviewed the Director of Operations of this heritage farm who had responsibility for overseeing the entire operation. He told me the goal is to maximize the potential for multiple land uses. Presently, 1200 acres are farmland and the Director told me they are involved in programming for farmers “in an effort to bring agriculture back to New Jersey.” The Farm promotes sustainable, organic agriculture. They lease some of their acreage to established organic hay farmers and in conjunction with the Northeast Organic Farmers Association (NOFA) and the United States Department of Agriculture (USDA), run a 90-acre incubator program for young farmers. NOFA and the USDA provide grants for the beginning farmers and the Farm provides the land and a stipend. NOFA works with the young farmers to start them off and they eventually grow into their own businesses. The Farm has designated 400 acres for grazing and plans to introduce livestock on the land. The livestock will be fed with the organically grown hay.

Other uses for the Farm’s land include 500 acres of wetlands and 300 acres of native habitat for birds. The Farm is open to the public and offers numerous programs in agricultural and horticultural education, and environmental stewardship.

I purposely left this interview for last because I realize it is not necessarily representative of a typical independently owned farm operation and therefore is not consistent with the farmers interviewed in my sample. Although it was a privately owned farm for many years, today it is a non-profit enterprise. The Director of Operations is not

a farmer himself and therefore did not enter farming through traditional channels, but he does make decisions about sustainable agriculture on a daily basis, and therefore, similarities do exist. He is a white male over 50 years in age, and is the primary operator of an alternative agriculture farm that strives to promote, support and teach sustainable, organic agriculture to farmers in New Jersey. There is a division of labor among his staff, which is comprised of both male and female employees in various positions created to carry out the mission of the Farm. Interestingly, women hold the educational programming positions and men hold the natural resources/agroecology positions. This observation will be more fully understood after reading Chapter 5: Women in Farming: A Qualitative Portrait. In spite of the fact that this interview is not necessarily a representative sample from which I could draw conclusions about the prototypical pattern of agriculture in the U.S. and men in farming, I could not pass on the opportunity for an interview and visit to this very unique, historical farm (Anonymous interview, 12/13/12).

#### **4.6 Summary Results: Farmer Case Studies**

These examples have provided support for the prototypical pattern of agriculture in the U.S., which is dominated by white male farmers. As reported in the 2007 Agricultural Census, this group's average age has increased from 55 to 57 since 2002, they have an increasing reliance on off-farm employment and they are owners of smaller-scale, alternative agriculture farms. Nine farmers out of a sample size of fourteen were between 50 and 58 years old, following very closely to the national average. Three of the fourteen were 65 years or older. The remaining two farmers were under 50 years old. My interviews indicated that the majority of men and women working on these farms have gender-specific responsibilities. While some of the farmers in my sample did arrive at farm ownership via the agricultural ladder and/or family inheritance,

a greater number purchased the land independent of their families, and had little or no prior farming experience to bring. This group is representative of changing farmer characteristics that are occurring among male farmers today and a divergence from the traditional pathway into agriculture and farm ownership via the agricultural ladder

#### **4.6.1 Division of Labor, Part I**

Based on my research, it appears that a gendered division of labor exists, regardless of how the couples got into farming. Gendered division of labor takes place on the farm, whether it was acquired by more traditional or less than traditional means. Most of the farmers I interviewed were married and responsibilities were divided in similar ways among the couples, with a few exceptions. In many of the cases, the husband took on the behind-the-scenes duties of equipment operation and maintenance, large animal care, crop production and farm maintenance. It was mainly the wife's responsibility for childcare, bookkeeping, direct marketing either on or off-farm, public relations/marketing work for the farm, community outreach and agritourism activities. With some exceptions, these were the ways in which tasks were divided on the farm. Generally, women seemed to be more comfortable and/or willing to be the "face of the farm" when necessary and interact with the public. Women seemed to care more about community involvement and outreach. They felt it was important for the farm to play a role in the surrounding community in terms of the educational, recreational and business relationships it could provide. These tasks are distinctly urban ones and tend to occur in urban settings where larger populations and infrastructure exist, as opposed to rural agricultural districts with relatively small non-farm populations and little infrastructure. The men seemed more comfortable working behind the scenes on the farm with the crops, animals and equipment, having little interest in interacting with the surrounding community. Therefore, it appears that the rise of direct marketing, whether it is located

on or off the farm, expands the employment opportunities of women on farms.

Alternative agriculture is creating the spaces in which women feel comfortable and “in-place” doing business. In a study by Trauger (2004) she found that women who sold products on and off the farm felt that their relationship with the customers gave them legitimacy as farmers. Consistent with my own results, the findings of her study may provide evidence and support for the high numbers of women in direct-market operations, such as farm markets, on-farm sales and community- supported agriculture (CSA). This will be discussed in more detail in a later chapter.

Another characteristic I examined was the farmer’s marital status, because the majority of the farmers I interviewed were married. I wanted to determine if marital status played a role in becoming a farmer. Thirteen out of the fourteen farmers I interviewed were married. However, based on the interviews, I concluded that marital status did not seem to be a factor in how the men got into farming. Two of the fourteen obtained their farms prior to their marriages as single men and two have since divorced and run their farms independently. If the farmers acquired their farms by coming up the agricultural ladder or through inheritance, marital status did not seem to play a role. The attainment of farm ownership would have occurred regardless of whether or not they were married. However, marital status may play a beneficial role when examining the less traditional ways men acquire farms, such as purchasing land independent of their families. As I discovered after interviewing the farmers, if the couple wanted to purchase land on which to start a farm and needed to obtain financing from a bank, the wife’s income increased their chances of getting a loan. However, in the case of Christmas tree farmer #7, this was not the case. He was single and worked as a college professor with an appropriate income to qualify for a mortgage. He later married and a gendered division of labor took place between the couple on the farm. In the case of Christmas tree farmer #10, the wife’s income was higher than her husband’s and therefore, was beneficial in



obtaining financing. For many of the farmers I interviewed, being married was a benefit in terms of division of labor. As previously mentioned, women and men tend to take on the tasks at which they are most adept and/or comfortable doing. The women were very involved with marketing or public relations work for the farm and therefore, played key roles in agritourism activities. Men preferred to be invisible to the public, tending to farm equipment and production work. In other cases the wife played a minimal or non-existent part in providing farm labor. Instead, the farmer benefitted from his wife's off-farm employment to supplement their farm income. It appears that in order to secure the necessary financing from a bank, it is not necessarily dependent on the wife's supplemental income, but rather meeting the qualification requirements, single or married. Therefore, I concluded that marital status does not seem to make a difference when it comes to how the men got into farming. It does however, create a gendered division of labor, which appears to be beneficial to the farmer in general. Interestingly, I asked the women if they could run the farm alone should anything happen to their husbands, such as death, divorce or an accident. Most said yes or felt it would be possible by hiring someone to maintain the equipment periodically. This will be discussed in more detail in a later chapter on women in farming.

## **Chapter 5: Women in Farming: A Qualitative Portrait**

### **5.1 New Pathways into Farming: Alternative Agriculture**

While losses of farmland to urban development have occurred, agriculture has not lessened, but has only transformed. While farm acreage has decreased, the number of farms has increased between 2002 and 2007 (U.S.D.A, 2007). The urbanization of farming has actually been a catalyst for farmers to adapt new agricultural practices in order to remain economically viable, through the emergence of alternative farming methods that have simultaneously opened new opportunities for women to enter farming (Brown, 2008; DeLind and Ferguson, 1999, Trauger, 2004). Alternative farming, such as organic, specialty niche markets and the rise of direct sales, such as CSAs and farm markets, may be related to the changing demographics in agriculture and also to the creation of new opportunities for women to enter farming (Brown, 2008; DeLind and Ferguson, 1999). The rise of alternative farming methods such as these appear to be similar in nature to those that characterized subsistence farming of the past that relied in great part on women. Today, the raising of small livestock, such as chickens, sheep, alpacas and llamas, and selling of garden crops or value-added products at farm markets by women is indicative of types of alternative agriculture similar in nature to subsistence farming. Value-added products, such as eggs, milk, cut flowers, herbs, honey, candles, and fiber products among many others, are marketed by women and make contributions to the household income.

### **5.2 Pathways Into Farming**

Historically there have been numerous constraints facing women in agriculture that include lack of access to land, credit and education, in addition to their time-consuming household and family responsibilities. The U.S. agricultural extension system

focused on the transfer of agricultural information to men and on home economics to women. Today, with the formation of Women's Agricultural Networks (WAGNs) in many U.S. states, agricultural extension has become more focused on female farmers and the organization provides education, training and networking for women in farming. Women are at an economic disadvantage in acquiring land when compared to men because they typically earn lower salaries and confront difficulty in obtaining loans to purchase land or other farm-related products (Sachs, 1983; 1996). This was experienced by female farmer #24 when she went to a bank to obtain financing to start her farm and encountered much difficulty. The sentiment she expressed was, "I think, in general, they lend more easily to men. It's probably harder for a single woman" (Anonymous interview, 3/21/13). Women primarily gained access to land through inheritance, from their husbands or fathers; however, in one land ownership survey conducted in 1978, the results showed that over half of the female farm owners (57%) had acquired their land through purchase as compared to 33% through inheritance. This indicated a possible shift by women into full owner/operator status (Geisler, Waters and Eadie, 1985). Paying federal estate tax meant that women often lost their farms after their husband's death. Since then the inheritance tax laws have been changed due to opposition to the pre-existing law and cooperative political action by farmwomen throughout the U.S. (Geisler, Waters and Eadie, 1985; Sachs, 1983; 1996) Responding to the difficulty women farmers encounter when trying to borrow money, the USDA now offers a low interest loan program created specifically for minorities and women in farming. Two of the female farmers I interviewed (Farmer #22) took advantage of this program to purchase their land. Their story will be discussed at a later point in the chapter.

The aging of the farm population, coupled with the differential mortality of men and women, has begun to feminize American farmers. Although the average age of male farmers has risen from 50 in 1978 to 57 in 2007, the faster growing group is 65+ years

old. This aging population of male farmers means that spouses or children are inheriting the land. As I discovered while doing research, it is no longer only sons who inherit the land, but increasingly the daughters of farmers (Mortenson, 2013). This group of wives and daughters represent the newer breed of female farmers (Raftery, 2011) and they contribute to the increasing number of female farmers in the U.S. (U.S.D.A., 2007). Still other women “inherited” their land through divorce. Also contributing to these numbers are the women who become farmers by “marrying a farmer.” As I discovered during the interviews I conducted, in some cases women with no farming background or experience, married farmers, and became farmers by association. A few of the women I interviewed, described themselves as self-taught and entered into farming with little or no experience, but had a strong desire to farm. In comparison to the past, women today have new and alternate pathways into farming, including the rise of alternative agriculture and inheritance that are increasing the number of females as principal owners/operators of farms. Today, women as well as men are taking advantage of the “agricultural ladder” (Bates and Rudel, 2004) into farm ownership, as social texts regarding female farmers continue to change (Trauger, 2004). A more detailed discussion of the data I collected on these women will follow.

Using ethnographic research, I interviewed a sample of fifteen farm women in order to discuss how they got into farming and to analyze this data in an attempt to explain the changing role of female farmers and the “feminization of agriculture” trend that is occurring today as reported by the 2007 Agricultural Census. I interviewed a sample of fifteen women who were the principal owners and/or operators of farms. Some got into farming through family inheritance by death or retirement of their husbands or fathers. Others had a strong desire to farm but had little or no background or experience and became farmers via opportunities created through alternative agriculture operations, such as CSAs, farm markets and specialty niche farms. The restructuring of the

American farm family and the changing roles of farm women has brought about a newer breed of female farmers. These are the women who entered farming independent of men and are no longer the “invisible” farmers of the past. As principal owners and/or operators of farms, today’s women are accepted as equals to their male counterparts. Some have risen to farm ownership by way of the agricultural ladder.

Women have historically achieved farm ownership through their husband’s death or if there were no sons in the family. This remains true today, and as aging male farmers retire or pass away, their spouses become farm owners through inheritance, even divorce, and are choosing to keep the farms and operate them. However, there are other pathways being created that provide women with more opportunities to farm. Increasingly, daughters are inheriting and taking over the family farms from their fathers. Born into farming, they are on the agricultural ladder, choosing to make farming their livelihoods (Mortenson, 2013). Also, as alternative agriculture farm numbers increase, it appears to follow that the number of women farmers increases as well. The farms are smaller-scale, require less land, capital, equipment and labor, and therefore are more manageable for women to run independently. My research indicates that it is possible for women to successfully start and operate these farms without having any prior farming background or experience. This is supported by the results of the fifteen women I interviewed (See Table 7.2 Farming Background/Experience).

Thirteen women in the sample acquired their land by purchasing it with their husbands or partners, or by inheritance from parents, death of a spouse, divorce or marrying a farmer, but were still the principal owners or operators of their farms. Only two women farmers purchased their land independent of men or partners in general (See Table 7.1 Pathways into Farming). In total, thirteen of the farms in my sample were some type of small-scale, alternative agriculture specialty/niche operation, and two were historic family farms with agritourism (See Table 7.3 Farm Types). Seven of these

women had no prior farming background or experience, only the desire to become farmers. It appears that being married is an advantage to women when trying to purchase land on which to farm if a bank loan or mortgage is necessary. Two incomes are better than one; however, two of the farmers I interviewed did acquire funding independent of family, as single women, taking advantage of a USDA loan program for minorities and women. The others inherited their land from family, through the husband's death, divorce or by marrying a farmer. In all of these cases except inheritance from family, in which both female farmers were the daughters of farmers and single at the time, the women became farm owners because they were once married. It is difficult to predict if they would have successfully acquired farms on their own.

### **5.3 Changing Identities**

Recent studies of women in agriculture indicate that substantial numbers of them have come to see themselves in different ways. The findings of my own research also support this claim. As female farmers increasingly cross into the public sphere of farming and farm ownership formerly occupied by male farmers, gendered identities are changing. Traditionally, women's role as farmwife and therefore, as an invisible decision-maker, was consistent with what was considered to be appropriate behavior in these male-dominated public spaces. Although their contributions to the farm were significant, they were considered to be "invisible farmers", never receiving credit or recognition for their hard work (Sachs, 1983, 1996). When accompanying their husbands, farm women felt 'out of place' in public spaces such as feed mills, equipment dealerships and farm shows, as they represented the masculine work culture. They were treated as farmwives, and were not taken seriously or ignored. However, the results of a more recent study by Trauger (2004) show women's roles as farmers are changing and that an increasing proportion of women now head farming enterprises. They have sole

responsibility for decision-making, buying and renting farmland and equipment, production and distribution of products. Today, women farmers are entering traditionally masculine public spaces without feeling as though their behavior is inappropriate or 'out of place'. Agriculture is transforming and the sustainable agriculture community is providing alternative spaces where women can feel comfortable and 'in place' when conducting business. These spaces include farm supply stores, farmer's markets, organic and sustainable farming organizations and women's agricultural networks. The presence of other women as managers, workers or customers make the women farmers feel comfortable and identifiable as farmers and their visibility may act to increase participation in farming by other women. Also, women participating in direct-sales enterprises, who sold products on and off the farm felt that their relationship with the customers gave them legitimacy as farmers. It was at the point of intersection between producers of sustainable agricultural products and consumers of these goods that public exposure and valuation of work occurred giving women visibility and importance as farmers. Traditional agricultural spaces in the community made women feel invisible, ignored and unimportant. This study's findings are significant in that they show that the sustainable alternative agriculture community provides places where women are legitimized and recognized as farmers, and empowered as women (Trauger, 2004). These findings provide evidence and support for the large numbers of women in community supported agriculture (CSA), a type of alternative agriculture, and perhaps, for the increase in numbers of women farming as principal operators, in general.

In a patriarchal society, social convention did not allow women to take advantage of the agricultural ladder and achieve farm ownership. Families were large and there were likely to be sons, who would become the beneficiaries of their fathers land holdings. Only the absence of sons would entitle women to be given land through division of property or inheritance. Even upon marriage, the land would revert to her

husband (Sachs, 1983; 1996). This, in addition to a male-dominated, patriarchal farm structure, made it difficult or impossible for women to own their own land and become farmers or decision-makers. Studies on the gendered embodiment of agricultural work, such as the view that a man's work on the farm is valued over a woman's, creates unequal gender identities (Trauger, et al, 2008; Brandth, 2006; Saugeres, 2002, 2002a, Price and Evans, 2008, Domosh and Seager, 2001). However, the changing face of agriculture shows that increasingly, women are assuming control of their family farms. Today's smaller families mean fewer children to carry on the farm and sometimes there are no sons. Daughters that have grown up on their family's farm are beginning to assume leadership roles. Technological advances in agricultural equipment require less physical strength and enable women to operate it (Mortenson, 2013). And lastly, gendered identities and gender inequalities in farming are disappearing. Today, women "born into" farming have the advantage of the agricultural ladder (Bates and Rudel, 2004) and advancing into farm ownership. In some states, such as Oregon, these women are college educated and work in agricultural positions, such as farm managers, where they gain experience and earn wages, eventually buying their own piece of land or returning home to run the family farm (Mortenson, 2013). Alternative agriculture creates more opportunities for women to become owners or operators. Smaller in acreage, they are more manageable for women, and specialty niche farms, such as raising alpacas, require much less land, labor and demand on time. The agricultural ladder, once only the domain of men, reflects the changing face of agriculture today and new opportunities for women. Three of the fifteen interviews of female farmers support this argument.



#### **5.4 Farmer Narratives (Female)**

The following is a discussion of each of the interviews I conducted among a sample of fifteen female farmers in New Jersey and their individual pathways into farming.

##### **Farmer #15**

“It either kills you or it keeps you going ... until it kills you,” joked this 71 year-old female farmer. “It’s not the romantic thing people think it is. It’s hard, dirty, hot work. The reality of it is one thing. The vision of it is something else.” She was speaking of her “volunteers” who seem to disappear after only a few hours of work on the farm. But this farmer loves the life and she is the owner/operator of the 10.5-acre organic produce farm. She says her husband helps out, but he’s not a farmer and holds an off-farm position. She’s retired, but worked thirty years for as a State employee while working part-time on her farm. The small-scale specialty farm produces a variety of fruit, vegetables and greens that are direct-marketed from a farm stand on her property. No marketing work is required. She sometimes has help with the farm stand and if not, it becomes a “self-serve” operation. She describes her farm as having “a sense of neighborliness and a community feeling.” Although the farm is not certified organic, she says her customers know her, know the food and know it’s safe. Her management philosophy is to always be nice to customers and to grow food organically because she feels chemicals are dangerous. She would rather sacrifice a crop than spray pesticides. She operates all the farm equipment including the tractor that her father taught her to use. “I used to ride with him on the tractor when I was little. I’ve just always done it.” She showed me an old photograph as proof. The farm does not offer agritourism activities of any kind since there is not enough acreage to build a parking lot (Anonymous interview, 1/16/13).

This farmer's pathway into farm ownership came by inheritance from her family. She and her sister grew up on the original 109-acre family farm owned by her grandparents in 1917. There were no sons in the family and a portion of the land was divided between the sisters who inherited it when their father passed away. This female farmer came into ownership by being born into farming and less typically, climbing the steps of the agricultural ladder.

**Farmer #16** (Declined to be recorded)

This 8<sup>th</sup> generation farmer inherited her family's 8.5-acre farm in New Jersey. It is a historic family farm with agritourism. She is in her 50s and married to a farmer who I also interviewed and discussed in Chapter 4, Men in Farming. Both she and her husband are college educated in agricultural science fields. She is an agricultural engineer and still works full-time, while her husband is retired from a career in soil physics. Their backgrounds have proven to be useful on the farms. Because she still works off the farm, they help one another and share the work, but she is the principal owner of her farm. She runs a diversified organic farm, and direct-markets the produce from a farm stand on the property. She offers agritourism activities, including pumpkin picking, a corn maze and a petting zoo with ponies and goats. She tells me "you need to make money to make improvements, so expand agritourism." Her management strategy for the farm involves organic farming and community outreach. Her farm is in the process of being certified organic. She feels it is important to get sustainable, organic practices established now so that when the farm passes to her children, they will be in place. She also values education and feels that "if people see a working farm they can learn about food." Within the community, this farmer has reached out to special needs groups, the girl scouts and 4-H club (Anonymous interview (2), 3/15/13).

I considered their situation to be quite unique because each of them owns and operates their own farms, that are situated side-by-side. He purchased his 7-acre farm independently, while his wife inherited her 8.5-acre farm from her parents. She is an example of a female farmer who rose to farm ownership by way of the agricultural ladder. This is a less than conventional pathway for women, but one that occurs more frequently today.

**Farmer #17** (Declined to be recorded)

This (very impressive) 80 year-old, African-American, sheep farmer inherited the land when her husband passed away twenty-five years ago. She and her husband started the original 17-acre farm in 1959. They ran a diversified farm and raised horses, hogs, sheep, goats, chickens, ducks and geese. Her husband worked a full-time off-farm job, but still devoted the time to his love of raising harness horses which he ran at a nearby racetrack. He was the blacksmith, driver and trainer. Now retired, she was a former geriatric nurse for thirty years. After her husband's passing, she limited her farm to sheep only. She wanted to keep the property and remain on the farm. She said, "I'll live here 'til I cease to breathe." The State of New Jersey took three acres of her land to locate a road and she currently farms 14 acres. She wanted to take advantage of farmland tax assessment and decided on sheep farming to generate the necessary income. Although her son is not interested in farming, he does help out with the purchasing and transporting of feed and hay to her farm. She uses the farm equipment that includes shovels, picks and hoes, and maintains them herself. She demonstrated her physical capability for me by lifting a bale of hay using a metal hook. She asked me to give it a try and I'm embarrassed to say it was too heavy for me to lift. She did say she surprises herself sometimes and feels good about her work. She said, "It's like medicine for mental and physical health." When I asked her how she got her experience, she said,

“It’s just common sense more or less.” But she did grow up with some farming background. Her father, a former Tuskegee airman in the war, was a sharecropper in Alabama picking cotton, and “hated it” she said, earning only fifty cents a day. He brought them to New Jersey in 1942. He had a love of gardening and farming for his own family that he passed on to her (Anonymous interview, 3/13/13).

She came into farm ownership by the more traditional pathway for women, which was to inherit the property when her husband passed away. She chose to keep the property and continue to farm by scaling down the operation and raising only sheep, which was more manageable for her as a single woman. In this way, she still benefits from the lower farmland tax assessment that helps make the farm more affordable.

#### **Farmer #18**

“If I have my way, I’m never going to carry a briefcase again. It’s a big step up from a cubicle,” said this 50 year-old female farmer. She was referring to her former position as Vice President of Marketing for Merrill Lynch. She is now the full-time, principal operator of a 43-acre highly diversified farm consisting of fruit, vegetables, greens and small livestock. There is also a greenhouse that allows for produce to be grown year-round in order to supply local restaurants. She and her husband own equal shares of the farm; however, he has a full-time position in New York City. She never intended to be a farmer and told me the idea “just sort of happened.” She and her husband bought their property and built a house. They put in a vegetable garden and ended up with more produce than they needed. She had the idea of putting the excess produce out for the public to take for free and it quickly disappeared. She put together baskets with free samples of her produce and took them to local restaurants in the hopes of forming business relationships, which she later accomplished. After this she said she “was hooked” and slowly over time, began to make plans to start a farm.

Together, she and her husband planted an orchard, put up a greenhouse to grow year-round produce, and raised small animals, such as chickens, geese, turkeys and rabbits. It was her idea to add agritainment activities to the farm because she feels it is important to be involved with the local community. She discussed their roles and responsibilities as husband and wife and said, "We can both do everything the other does." Her husband is in charge of the farm equipment and prefers it that way. "I am the face of the farm," she told me. She discussed her partnership with the local restaurants and said the chefs love coming to her farm and get "the pick of the produce. They like to come here and get out of the kitchen." This arrangement allows the chefs to supply the customers with fresh farm-to-table produce in less than half an hour.

Her management strategy stems from the great importance she places on education and community involvement. She considers her farm to be "a partnership with the community." She attends local farmer's markets and has worked with the town library to create a children's garden. She has also helped with the installation of a community garden for the residents. Her farm is available for school tours and during the summer it provides a farm camp for the children at the local YMCA. "Reaching out to schools is incredibly rewarding", she told me. "Our main focus is to continue educating the children." One example is her relationship with a local school for autistic children, where the students come to her farm and volunteer their work. "They give me work, and they get a learning experience." One of her greatest challenges is getting the funding to put her land into preservation. She feels that a big part of farming is being able to reach out to the next generation so that they have an "understanding of the value of preserved land and the environment." She ended the thought by saying, "The last thing I want to see here is condos." (Anonymous interview (2), 1/12/13).

This is an example of a self-taught female farmer who took a new pathway into farming. She did not inherit the land from family, she had no prior farming background

and when she and her husband purchased their land, they had no idea they would become farmers. As she said, “It just sort of happened.” Their roles on the farm appear to be suited to each of them as individuals. He prefers to be out of the public’s eye working with the equipment and maintaining the land, and she thrives on involvement with the customers and the surrounding community.

### **Farmer #19**

She is the youngest farmer I interviewed at age 24 and is the sixth generation to run the historic family farm. She tells me she is the principal operator with her father as a managing partner. “Born into it” and raised on the farm, she inherited it from her grandfather, uncle and father. This 400-acre former dairy farm is now primarily a direct-sales operation of fruit, vegetables, flowers, straw and hay. Since her arrival as principal operator, there is now agritourism as well. It was her idea. She said her father wasn’t interested in it and “I had to twist his arm.” Interestingly, she never intended on becoming a farmer and went to college to pursue a degree in business management. She worked on the farm every summer and after she graduated she began to see different opportunities. She told me, “I really liked sales and marketing and I realized I could do what I wanted and liked.” And she did just that. In addition to adding agritourism activities of all kinds to the farm, she also started a CSA. She says of her historic family farm, “We evolve with the times.” When I asked what her greatest challenge was as a farmer, she said it was being so young and coming into a business that is on an established farm. She said, “I’m the farmer’s daughter on a silver platter, coming on the farm. Women are more sensitive and looking for approval. My dad says don’t worry so much.” She is a female farmer who wants to prove her capability to her grandfather, uncle and father ... the men she farms with. “I have ideas, and I’m taking it seriously. I’m improving the area,” she said. And she has improved the farm in many ways that

generate additional income and increase their sales and customer base. But she still feels she has to prove herself to the men around her, because she's a woman, because she's so young, and because she feels she didn't necessarily "earn" her position but was "born into it." She feels another challenge for her is that this level of farming is extremely demanding and is an "ongoing struggle" for which she has all but sacrificed her social life. She told me, "Women are more social. Men are totally work-oriented. I'm a different generation than my grandfather." She said she is striving to maintain her social life. She is getting married next year and her fiancé has plans to lease land and start a grain farm with a partner. He gained experience by working on other grain farms and now feels he is ready to operate his own farm. He intends on keeping his off-farm full-time position during the initial start-up, but his goal is to become a full-time farmer (anonymous interview, 4/9/13).

It was my opinion that this female farmer (and her fiancé) was representative of the new generation of young farmers coming onto the scene, wanting to make a livelihood out of farming the land (Raftery, 2011), and bringing new ideas and ways of farming that are less conventional than their grandparents or even their parents. Because she is the only child in her family, she is an example of a woman rising to farm ownership via the agricultural ladder through inheritance from her father. The reality of daughters inheriting farms from their families is becoming increasingly more commonplace today.

### **Farmer #20**

"I married into a farm family. I was at a point in my life where I needed to do something other than taking care of babies." said this principal operator of a CSA situated on her husband's 207-acre farm. She has responsibility for two small children, but has managed to attend agricultural conferences in order to educate herself and stay

current. She attended a growers convention where she learned about community-supported agriculture (CSA) and thought to herself, “I can do this.” With \$500 of her own money, and land from her husband’s farm, she decided to start a CSA. She signed up ten members initially, “and the rest is history” she said. At the time of the interview, she had fifty-five members. She admits that she likes knowing where her children’s food comes from and what they are eating. Growing food for her CSA is one way she can make sure of this. Her love of nature and the well being of her family and customers were the underlying reasons for her philosophy. She is not certified organic and does admit that economics come into play. She said she will choose an organic version to control a disease or to use as fertilizer if the cost is reasonable, but describes her combination of organic/non-organic management strategy this way:

“I will do whatever I need to do to prevent crop loss, but I will not do anything that will harm my family or their family (her customers) ... I will use only products that are family-friendly, pet-friendly and environmentally-friendly. My goal is to leave the ground in better condition than when I found it and for the generations to come. Everyone who is a part of my CSA knows that and understands that.”

She is also an active member on the executive board of the New Jersey Farm Bureau Women’s Committee. The committee provides support for farm women in general, whether they are running their own farms, or if they are in partnership with their husbands. They also provide educational programming and safety training for children and adults, and encourage community involvement.

Speaking of the women on her committee she said, “Almost all of us married our farmers, and that’s how we became farmers.” This represents another pathway into farming for women. This CSA operator was born into a non-farm family and raised in the suburbs by parents who worked 9 to 5 jobs. She possessed no farming experience or background until she married a farmer. She spoke of her new way of life and said, “I’m still working on it and coming to grips with it. It’s not my reality.” In spite of her lack of experience, she has learned to become a successful CSA operator and her business



continues to grow. Although being married to a farmer is an adjustment, she has chosen to embrace her new way of life and become a farmer herself (Anonymous interview (2), 1/14/13).

**Farmer #21** (Declined to be recorded)

She is the principal owner/operator of a niche specialty farm and literally takes her farm on the road. Her 6-acre farm consists of horses, ponies, donkeys and other livestock, including llamas, alpacas, sheep, goats, rabbits and a pot-bellied pig. She is in the agritainment business and she brings the animals to different events, such as birthday parties, county fairs, nursing homes, special needs groups, schools and day camps. She rents out her donkeys for nativity scenes. She said the animals, “Make people happy” and she loves teaching kids “life lessons” about them. She has also used her miniature ponies for an MTV show featuring recording artists Bruce Springsteen and Bon Jovi. Although she earns a good livelihood from her business, she told me that she is “always looking for different venues or new niches” that will generate income and allow her to “keep her head above water” which is her greatest challenge. She said she “doesn’t raise animals for food, only pleasure. The animals are family and I treat them extremely well.” She values good hygiene for the animals and before taking them to any event, she makes sure they are bathed, brushed and clean. She also likes teaching kids “how to be nice to animals.” It was apparent how much this farmer loved her animals and she told me, “Sometimes I’d rather relate to animals than to people.” She uses all the farm equipment, but admits there are types she doesn’t like to operate.

This farmer is an example of a woman who entered farming by purchasing her land independently and starting a farm business. She was raised around horses and her grandfather was a blacksmith. She said, “I was on a pony before I could walk.” She graduated college with a business degree and worked in NYC for many years. She

decided she was going to leave her job in the city and start a farm and told me, “You have to get up every day and like what you’re doing.” Her husband at the time and another partner wanted to purchase the farm. But they encountered difficulty in obtaining financing with the bank in spite of the fact that they all had full-time jobs. She said, “The mortgage company wouldn’t touch it because it was a farm, thinking that we might leave our jobs and default on the mortgage.” Finally, one bank took a chance and they secured the financing. Today, she owns and operates her USDA licensed agritainment business and is also a substitute teacher. Considering the fact that she had her husband’s and partner’s income in addition to her own and still had difficulty obtaining the necessary financing, it appears unlikely that she would have secured financing for the farm as a single woman. In this case, it appears as though it was not only beneficial, but also necessary to have the additional income from her husband and partner (Anonymous interview, 3/26/13).

## **Farmer #22**

My next interview was with a mother and daughter who partnered to become owner/operators of a 13-acre preserved farm. They grow a variety of vegetables organically, although not USDA certified, and also give horseback riding lessons. The daughter, age 38, works full-time with the county agricultural extension service, and discussed the benefits to female farmers of having a woman as extension agent. She said, “We’re lucky to have a female County Extension Agent. She’s a scientist and a farmer. Women are more comfortable coming and talking to a woman.” She benefits by learning about farming through the workshops the Extension Service offers. Her mother, age 61, has been retired for four years and has a background in horses and a “love of the land.” The mother/daughter team grew up with them, learned to ride and even competed. The daughter told me she feels a connection with the earth and growing her

own food and said, "I always wanted to be a farmer." When it comes to marketing strategy, the mother told me her daughter is the "brainchild for the farm." As part of this strategy, they feel it is important to educate their customers and emphasize the history of their heirloom vegetables. In fact, they choose from catalogues which variety of vegetables to grow by their history. They feel their need to do this comes from "the connection to nature that women have." They believe a male farmer's focus is more simply "Here's my tomato ... buy it." The women direct-market their produce from a farm stand in the front of their property, at farm markets and by selling to local food stores, such as Whole Foods. They also supplied an upscale local restaurant with their vegetables. They have decided against agritourism because their privacy is important to them and they want to maintain their lifestyle. The pair's longer-term goal for their farm is to find value-added products for additional income and they hope to have dairy goats and cheese products. They would also like to supply more local restaurants by adding a greenhouse in order to grow year-round. The mother and daughter say they are 100% organic with the vegetables and even the horses and plan on becoming USDA certified. They focus on soil health and some of their practices include picking off insects manually, using salt hay for weed suppression and moisture retention, crop rotation and cover cropping. They purchased and operate equipment that includes a tractor and plow. Because it is built to be smaller for use on smaller farms, they refer to it as "a woman's version of a tractor." Many of the women I spoke to during the Annie's Project conference talked of the need among farm women for smaller sized equipment to be made available by companies. Because alternative agriculture farms today are much smaller-scale, this need seems to be justified. The daughter told me that currently she is helping to write a grant for the Extension Service that seeks to fund a tractor course for women farmers that will teach them how to maintain this piece of equipment. The Agricultural Extension Service has come a long way since the days of teaching only

home economics to women and this is a true sign of the times, indicative of the changing face of agriculture.

When the pair decided to purchase the farm, it was already designated as a preserved farm, and they needed to obtain financing. They took advantage of a USDA Farm Service Agency (FSA) loan program for farm ownership for minority farmers and women, offering a low-interest rate of 3.2% and no down payment. “They made it very doable” the women told me. They discovered the program through Annie’s Project, a risk management educational program for women in farming that provides management training and gives women farmers the tools they need to run a successful farm business (Anonymous interview, 3/22/13).

### **Farmer #23**

This 54 year-old farmer and her husband purchased a house and 7.5 acres of land zoned for agricultural use. Her husband does not participate in farming and she is the principal operator. I met her through the Annie’s Project conference that I attended. She is a beginning farmer who is currently in the planning stages. She said she is trying a combination of all different methods of farming to find what is feasible, and currently “it’s kind of experimental.” She said she is “trying to find a weird niche.” Presently she farms are a variety of fruit trees, chickens, quail and pheasant eggs. And although her father was a butcher who taught her to butcher, she feels she is not able to take the life from something. Similar to what many of the female farmers told me, she said, “I can’t quite cope with raising animals to slaughter them.” What isn’t experimental is her management philosophy. Her methods must be non-GMO, organic, promote conservation and sustainability, and focus on food safety. She became interested in food safety after her own allergic response to the antibiotics and growth hormones that are fed to chickens. She told me, “No chemicals, and no pesticides, none, even if it means

losing a crop.” She is experimenting with hydroponic farming. This method promotes conservation by recirculating the water, and because it is mechanized, she feels it will lower her labor costs, which is a big issue for smaller farmers. She would like to market her produce to restaurants and is currently contacting them to determine if they have an interest in a partnership that allows them come to her farm, pick their own produce and offer their customers a farm-to-table dining experience. If there were sufficient interest, she would like to put in a greenhouse for year-round growing capability. One striking difference I noted in this farmer from the others was when she spoke about marketing. She considered marketing to be her “weak link” and said, “I stink at it.” Many of the women I interviewed found marketing to be their strong suit and were highly creative with many ideas on how to improve their farm operations. In addition, she is considering farming fish, which is done by using a closed-loop system to promote water conservation. She would like to find value-added products that she can make herself to generate income. Another goal is to focus on education and develop agritourism activities that will allow her to work with schools and bring students to her farm to learn. She feels strongly that “people have gotten away from the realities of their food sources. I want to focus on educating them.”

She had no prior farming background and brought only her desire to farm. Her knowledge of farming up to this point has come from agricultural education courses and conferences, like Annie’s Project. “I always wanted a farm,” she told me. “All my life, all I wanted was land and a farm.” Her story is similar to other female farmers I have interviewed who have strong ties to the land and the earth. They have an inherent desire to farm that is strong enough for them to find a way to do so. She does have a full-time off-farm position and considers herself a part-time farmer. She created and built a 900 square foot rooftop garden at her place of employment, which is located in an urban setting. One of her goals is to link the urban rooftop garden with her current farm

operation and have it generate income. This interview is another example of a woman who rose to farm ownership through a less than traditional pathway (Anonymous interview, 3/9/13).

#### **Farmer #24**

This farmer is 47 years old and moved to a popular shore town in New Jersey that derives much of its revenue from the tourism industry. In 2000, she purchased 50 acres of land independently and with no formal agricultural experience, started a vineyard and winery. On her farm, she also grows fruit, vegetables and greens, and raises small livestock, including hogs, chickens, goats and turkeys. She refers to her vineyard as, “agritourism at its finest” because she provides the tourists with a “year-round, upscale winery.” The winery employs a full-time manager who gives tours of the vineyard. They bring 4-H groups to the farm and teach them about farming as a livelihood. She also provides groups with a farm-to-table dining experience in her beautiful home on the property. “It’s a win-win situation because it creates employment and business”, she told me. She grew up in California around vineyards where the soils are sandy near the ocean and bay, the same as in her current shore town location. Her grandmother was the head of a horticultural society and always had plants and gardens. She told me, “I wanted to live her lifestyle and remain economically viable.” She got the idea for her vineyard from a picture on a wine bottle and later she designed and built her vineyard with a villa, where tourists go for wine tastings. She said, “I wanted to raise the vineyard experience up a notch. The local wineries aren’t that good. I wanted the ‘wow’ factor.” Prior to building her vineyard she bought and restored a Bed and Breakfast. Now the farm supplies the B & B’s restaurant with produce, meat and eggs and it has become a farm-to-table dining establishment.

In order to finance her vineyard and winery operation, she went to the Small Business Association for a loan and used personal money as well. But she described it as being difficult even though she had so much equity in her B & B. "I think, in general, they lend more easily to men", she said. "It's probably harder for a single woman." She was successful borrowing the money ultimately. The land she bought came with an older farmhouse on it, which she restored for her family to live in and a barn that she now uses to house the livestock. She handles the business and marketing end of her operation, but hired two men to do physical labor, such as pounding stakes into the ground to plant new grapevines and doing general grapevine maintenance that requires running tractors. "Physically they're stronger", she said, referring to men, "but I know how to do everything ... drive a tractor and work in the fields." Her management strategy seemed smart as she told me, "I'm very creative and have good ideas, but I'm not organized, so I surround myself with people that are good and can do things that I cannot do and take pride in things and make them their own. I don't micromanage." She was a woman who admitted to me that she knew her limitations, strengths and weaknesses and made management decisions that played to her advantage. She was very proud of her vineyard/winery and said, "It is a huge bonus to the whole area, promotes tourism and creates year-round jobs, not just three months of the tourist season, and is visually stunning."

This farmer is an example of the "new breed" of female farmer seen today. She is a single woman who came to New Jersey from her home state of California with only the desire to start her own farm. She had no agricultural background and needed financing from a bank in order to secure a loan to purchase land. Her story is unique because she was not married as many of the other farm women were, and did not have the advantage of a combined income to present to the bank. Although she encountered difficulties, she ultimately got the loan and started her vineyard and farm. Having no

husband to provide physical strength and labor, she did have to hire men to help her plant the vineyard. Her winery has become established and now competes successfully with other similar operations in the popular beach town (Anonymous interview, 3/21/13).

### **Farmer #25**

Farmer #25 is a 67 year-old alpaca farmer and she is the principal owner/operator of the 6-acre farm. She inherited the property after she and her husband were divorced. Today, this retired bookkeeper/accountant is a full-time farmer. As a child she grew up on her aunt and uncle's potato farm, and when she married, she and her husband wanted a farm. They bought the property she is presently on and raised horses. After the divorce, she stayed on the farm and continued to breed horses until her children were grown. When they left the farm, she found it too difficult to continue without help. As a newly single woman, she decided to raise alpacas and said, "I wanted to go into something where I could get an end-product without sending animals to be slaughtered." She could sell the fiber and said, "they are so much easier than horses and you don't need brute strength." They were an ideal type of livestock for a single person to farm and she retrofitted the horse farm to an alpaca farm. She built a store on her farm to sell alpaca fiber and products. Another strategy was to add an agritourism component to her farm. Every year from September to February she opens her farm to the public and gives tours. She enjoys educating the community about alpacas and having them spend a day on her farm. She feels that community involvement and education are important benefits her farm can provide. She taught herself marketing strategies and said, "I think women have more marketing ideas than men." She also taught herself through "trial and error" to operate all the necessary equipment an alpaca farmer needs, such as a mower and tractor with a front-end loader. She told me there was marketing, bookkeeping, vendor paperwork, attending street fairs, and agritourism



to do, but finished by saying “So far, I’ve been able to do it all myself.” (Anonymous interview, 1/29/13).

This is an example of a woman coming into farm ownership by inheriting the land through divorce. Acquiring property in this manner, although a less traditional means in the past, is more common today. Having a love of animals from her childhood, this farmer chose to keep the land and continue raising animals on her own. Through my research I found that women frequently choose to become alpaca farmers because they can raise them humanely without the need for slaughter and still earn a livelihood. Income can be earned from breeding the animals and selling fiber products, as a specialty niche farm. In addition, alpacas require a lesser amount of acreage and much less labor to care for them. These factors make this type of farming much more manageable and appealing to women, and in particular, single women trying to become farmers.

#### **Farmer #26**

This 62 year-old retired teacher is the principal operator of an 8-acre alpaca farm. She is married and admits that she gets help from her husband with the mechanical work. “I don’t have the mechanical knowledge,” she said, but doesn’t consider it to be a gender issue. She said she could hire someone to do it, but would lose profits. “It doesn’t have to be a man though. Of course women are capable. There are women who could run a farm like this themselves, but they would need to have mechanical knowledge.” She and her husband bought a piece of land from a sub-divided farm and built a house. When I asked her why she decided to farm alpacas, she said, “I just love it!” and she also added that her husband “didn’t want livestock that needed to be slaughtered.” She practices organic methods or minimal chemical use on her farm. In part, her background comes from her life on the family farm in Germany. The rest she learned in the U.S. from

her mentor, the woman from whom she purchased her alpacas. She bred and sold alpacas for high prices, but since then, prices have dropped and a solution to make additional income was to add a store to sell alpaca products and also to incorporate agritourism activities on her farm. She said, "Agritourism is a necessity on a small farm like this." In addition, she is the author of three books on alpacas and plans to write a fourth on how breeders can make a profit. She considers her teaching background to be an asset to her life as an alpaca farmer and said it "helped her to farm, be organized, goal-oriented and good at public speaking."

This female alpaca farmer was raised on a farm in Germany and therefore did not inherit her land or rise to farm ownership via the agricultural ladder. She and her husband bought a piece of land from a sub-divided farm, built a house and started a farm. She came to the U.S with a farming background and the desire to have her own farm. She grew up on a family farm in Germany during the 1950s and 1960s where she said there were "no gendered roles in farming." The women worked just as hard physically as men, and actually harder because they were still expected to do all the physical work that the farm entailed; cutting hay, milking, everything, and still take care of the house, cooking, washing and cleaning of the house." I asked her if in Germany she was considered a farmers wife or a farmer, and she told me they were considered farmers. There is even a German term that translates into "female farmer" to describe these women. Although her husband operates the equipment, she feels strongly that women with mechanical knowledge are as capable as men (Anonymous interview, 2/12/13).

The interviews with Farmers #27 and #28 were conducted on the same day. The farmers are friends and live near one another. They suggested I meet them together, which I did, at Farmer #27's house. When I arrived, the two ladies had lunch waiting, during which we had a very detailed conversation about their lives as alpaca farmers. After lunch, I interviewed each farmer separately. The following are their interviews:

### **Farmer #27**

This is an interview with a 58 year-old alpaca farmer who is the principal operator of her farm. She and her husband bought the land as a farm. She said it was foreclosure property and although it was set up as a farm, it was in bad shape. They bought the 8-acre farm because she always loved animals, especially horses, from the time she was a little girl growing up in Philadelphia where she groomed horses for the Mounted Police. It was this background and experience that led her to start a farm. She learned about alpaca farming from the person she purchased from, which is quite common among these farmers. I asked her why she chose alpacas and she said, "I fell in love with alpacas." She said she has a "therapeutic relationship with the kind, loving, very special animals." She and her husband operate all the same farm equipment, which consists of a tractor, post-hole digger, fence-stretcher, soil aerator and manure spreader. She opened her farm to agritourism and gives tours to 4-H groups, the Girl Scouts and families. Ties to the community are important to this farmer. In order to generate additional income from her farm, she built a store on her property, as so many alpaca farmers do. Combining her own skills as a spinner and weaver, with knitters, she is able to produce value-added products and sell them in her store. She said she is "always looking for new markets." Currently, she gives her alpaca manure to her neighbor to use as fertilizer on his hay fields. She has a love of the earth and nature and feels it is important to keep the land in agriculture. As an alpaca farmer she can keep the land in

permanent pasture, which helps prevent soil erosion and allows water to percolate through it. She works off-farm as a bookkeeper and said, “the split between farming and bookkeeper is 50/50, but actually more is farming.” She told me her goal as an alpaca farmer is “to be able to live off the farm as a livelihood after we retire.” (Anonymous interview (1), 1/25/13).

This farmer did not inherit land from family or have the benefit of being raised on a farm, but came to ownership by purchasing a farm with her husband. She grew up around horses, but had no farming background and only a love of animals. This was her inspiration to start her own farm. Although she and her husband share in equipment operation, it is work that can be done by a single farm woman, such as Farmer #25 (Anonymous interview, 1/29/13).

### **Farmer #28**

Farmer #28 is a 61 year-old alpaca farmer. In 2012, she and her husband bought 6 acres of field and a house with the idea of starting an alpaca farm. She is a beginning alpaca farmer and at the time of the interview had only farmed for one year. I asked her why she chose to become an alpaca farmer, and she said, as many alpaca farmers I interviewed said, “They are adorable and easy, and when I saw them, I fell in love. We wanted a rural life, and we weren’t going to slaughter anything.” The next challenge was to build a farm. I asked where she gained her experience, having no farming background, and she said, “I went to alpaca farms and talked to farmers. I also did a lot of reading and research. Alpaca farming is very easy to enter.” The first year the farm lost money, but she said that was to be expected. She wants to breed and sell alpacas, but had no prior experience. She took a course that was held on a farm where veterinarians spend the day and teach the farmers how to assist alpacas in delivery. She is also learning veterinary care of the animals because there is much of it a farmer can

do themselves to save money, such as injections and worming. She describes this as being her greatest challenge and said, “It’s really a struggle for us at this point.” Her husband helps her by running the equipment, such as the tractor and mower, but she uses the golf cart “to haul things around, like feed and water buckets.” But she also has plans to build a store on her farm, as so many alpaca farmers do, in order to generate additional income and also add agritourism activities. I asked what her goals for her farm are and she said, “to have successful deliveries of cria, to have a store to help support the farm, and to make some profit.” (Anonymous interview (2), 1/25/13).

This farmer is married and purchased the land with her husband. She had no prior background or experience with animals or farming. After retiring, the couple wanted to live in a rural setting and fell in love with alpacas after visiting her friend’s (Farmer #27) alpaca farm. She is a beginning farmer and hopes to be able to farm alpacas for profit. She is a retired registered nurse and full-time alpaca farmer.

### **Farmer #29**

This next farm is similar in nature to the heritage farm described in “Chapter 4: Men in Farming”, called the Farm, (interview Farmer #14). It was a discussion with the Director of Operations of a historic farm that had been converted to a non-profit enterprise devoted to agricultural education and environmental stewardship. It was an example of an alternative agriculture farm with a man as the principal operator. The farm I will be discussing now, is also a heritage farm that today has been converted into an alternative agriculture non-profit farming operation, but with a female operator. Built in 1772, the original 240-acre farm was owned and operated by a city lawyer who retired with his family to country life and later became New Jersey’s first Governor during the Revolutionary War. Today, the land is home to a university; however, 23 acres have been designated to remain farmland and currently, approximately 6 of those acres are in

production. This is because the President of the University had an idea and gave a directive to farm the land again. This is the interview of the woman who oversees the entire operation and acts as liaison between all parties involved with different aspects of the farm. With the expertise of a hired farmer, the farm grows a diverse variety of fruit, vegetables and greens. Although not USDA certified, the farm is organic, non-GMO, uses heirloom varieties of vegetables and composts all food scraps from the university cafeteria. A professor who heads the sustainable studies program developed and patented the technology for composting food scraps and wood chips in a five-day process. The Director of this farm applied for and received a grant to start a farmers market in order to make the produce available to a neighboring city that is low-income. She said a majority of the residents are at poverty-level and the city is considered to be an urban food desert, where there is no access to fresh, healthy foods, such as fruits and vegetables. The farm market accepts food stamps as payment. She told me the farm is “bringing us back to our roots” by once again establishing a relationship with the city as the original farm had in the past. In addition, there is a restaurant on university grounds that the farm supplies with produce and it has become a farm-to-table establishment. There was more yield from the farm than the restaurant could handle and so the excess food is donated to a community food bank. Customers of the farm market can also buy a bag of produce and donate it to the food bank. She said the hope is for the farm to be a prototype for other universities. She told me they would like to develop more acreage and start a CSA. The short-term goal for the farm is that it continues to address food deserts. She said the farm has a responsibility to build community awareness. The long-term goal is to provide educational programming from pre-school to adult in healthy eating, nutrition and cooking.

I asked this operator why she became a “farmer” in her present position and she told me that she’s always had a passion for farming, from childhood into adulthood. She

was a former yoga and meditation teacher with an awareness of the earth and farming, and the way in which food affects your health and moods. She said, "It's all interconnected." At one point in her life she became very ill and started to research the health benefits of eating certain foods. It was this awareness that led her to pursue a career in agriculture. She referred to farmers and said, "This is a life I always wished I had and I knew that I was born in the wrong place. For many, many years it's been in my heart to do this." She hopes to have her own farm soon and wants to educate and work with children. But for the present, she summed up her feelings about her position as the chief operator of the non-profit, urban farm market by saying, "For me it's been like a dream." (Anonymous interview, 3/19/13).

Although this is a university-run farming enterprise, it is an organic farm market and representative of an alternative agriculture farm. The farm market is directed by a woman with no farming background and brings only a strong, inherent desire to work with the land. She is also an example of the new breed of young farmers that are taking new pathways into farming. While this heritage farm operation is not representative of an independently owned farm, the director of operations is responsible for making decisions about sustainable agriculture.

## 5.5 Division of Labor, Part II

Although some of the women were married and were the principal owners or operators of the farms, their husbands sometimes helped out. The division of labor was similar in most of the cases. Most striking was the fact that the men preferred to be involved with equipment operation and maintenance and stay privately in the background on the farm. The women were the opposite and took on a more public image. In most cases, they considered themselves to be the “face-of-the-farm”. They were much more accepting of this role and in some cases enjoyed and welcomed opportunities to interact with the public and develop relationships within the community that were possible in the relatively urban settings. This represents a reversal of sorts, of the public/private sphere dualism that constructs gendered differences among men and women. This ideology traditionally places women in the “appropriate” hidden private sphere and out of the more inappropriate public spaces (Massey, 1994; Wright, 2006; McDowell, 1999, ch.3; Domosh and Seager, 2001, ch.1). Also, some of the women preferred their husbands to help out by operating the equipment and said that they had no desire to do, while others said they could operate the equipment as well as their husbands, but chose not to, and let it be the domain of their husbands.

My research also revealed a gendered role of the past that is still present on farms today. Childcare appears to be the wife’s responsibility. This was true in the case of the woman I interviewed who became a farmer by marrying a farmer. She had primary responsibility for taking care of her young children even though she was the principal operator a CSA, and commented that they were “always with her.” It was necessary for her to devise ways to work around them in order to operate her CSA. While it was true that her husband was a farmer who also held down a full-time, off-farm job, she was expected to help out on the family farm as well as care for the children, and tend to household chores, while trying to run her own farm business. Based on my research,



this domestic role does not appear to have changed for women, but perhaps a larger sample of farmers with children would return different results. However, this was also supported by a study conducted by Rosenfeld (1985) that measured time spent by U.S. farm women, on tasks done in the home and on the farm. Most frequently, women reported regularly taking care of the children, in addition to doing the bookkeeping, doing household chores, and tending to vegetable gardens and animals.

## **5.6 Management Philosophies/Strategies of Women Farmers**

There were some obvious similarities among the women regarding their management philosophies and strategies for their farms. The following are those mentioned most often in the interviews that the women shared in common.

The most obvious similarities among the women were the importance they placed on community outreach and education. They were actively involved in creating partnerships between their farm and the community. Women farmers such as these, who emphasize community partnerships and relationships are returning to a historically earlier form of “civic agriculture” in which the community establishes a relationship or bond with their local farmer and has the security of knowing where their food comes from and how it is produced (Lyson, 2004). As DeLind and Ferguson (1999) found in their study of why women join CSAs, the women wanted to extend relationships beyond the CSA and create networks that reached into the community thereby contributing to a greater social welfare by enhancing community service work. This was supported in my study where I found that through agritourism on their farms, the women fostered relationships with the schools, libraries, churches, and groups such as 4-H, girl scouts, YMCAs, and developed tours, educational programming, volunteer activities, and even farm camps. Some of the women farmers I interviewed developed business partnerships with local restaurants and food stores, supplying them with year-round fresh produce.

They had good ideas about how they could accomplish these relationships. They were very adept at dealing with the public and many felt they had strong marketing skills.

In addition to maintaining strong ties to their communities and emphasizing educational awareness and teaching, many of the women farmers mentioned their love of nature and the earth, environmental awareness and concern. This philosophy led them to adopt management strategies that would help protect human health and the environment. Many practiced organic farming out of concern for soil health and sustainability, and to promote food safety to ensure the health and well being of their families and customers. It was evident to me that this intrinsic connection to nature was an advantage to women rather than a hindrance. Gender socialization theory as discussed by Xiao and McCright (2012) may explain, in part, increasing numbers of women operating organic farms and also possessing a desire to connect with their communities much more so than their male counterparts, by opening their farms to the public and establishing educational and business opportunities.

This persuasion echoes the spiritual ecofeminists is discussed in Chapter 2: *Women in an Urbanizing Agriculture*, who find woman's inherent connection to nature and the earth to be quite empowering, suggesting that women should embrace it and use it to their advantage. Social ecofeminists feel woman's connection to nature is a weakness and she should separate herself from it. The argument here being that since man is dominant over nature, it follows that man is dominant over women. After interviewing the women, the results of my research tend to support the spiritual ecofeminists who feel women's strong connection to the earth, nature, and fertility is an advantage, especially in agriculture. Women who said they had a connection with the earth felt compelled to become farmers, even though they did not have farming experience, but were successful in achieving ownership and operating successful farms.

Spiritual ecofeminists would say this is due to the fact that women possess a natural ability to work the land and produce food (DeLind and Ferguson, 1999; Wilson, 2005).

In keeping with their love of nature, some of the women also discussed their love of animals, and therefore many female farmers choose to raise small livestock, such as alpacas, llamas, chickens, goats and sheep. The raising of small animals, considered a type of niche/specialty farming, is indicative in nature to subsistence farming of the past and was done primarily by women. The women said they chose to treat the animals with kindness and humanity and the animals were not raised to be slaughtered for food, but to produce value-added products such as fiber, cheese or eggs. Women also emphasized the importance of teaching children to be kind to animals and how to treat them well.

These considerations suggest that the feminization of agriculture may have broader environmental and health benefits for communities in which women farm. As agriculture becomes increasingly urbanized, consumers are taking a greater interest in eating healthy foods and are looking to local, community-based food production. Women farmers grow food organically because they are choosing to help protect human and environmental health. They possess a love of family and nature, and connection to the earth, and they manage their farms based on this philosophy. Organic farming methods help to promote soil health and sustainability, as well as providing food safety for their families and consumers who benefit from their fresh, healthy, chemical-free produce. It appears that due to increasing urbanization and alternative agriculture, the numbers of female farmers are increasing and creating a cause and effect relationship that may result in broader benefits to communities.

The feminization of agriculture appears to occur in tandem with the urbanization of agriculture in the United States. My ethnographic research provides empirical support for assertions about changing roles among women farmers, but it should be mentioned

that these shifts in the role of women in farming appear to vary from region to region in the United States and are not uniform. Factors such as race and ethnic divisions also produce similar differences in female farming and are discussed in Chapter 6 on national trends in the U.S.

## Chapter 6: National Picture

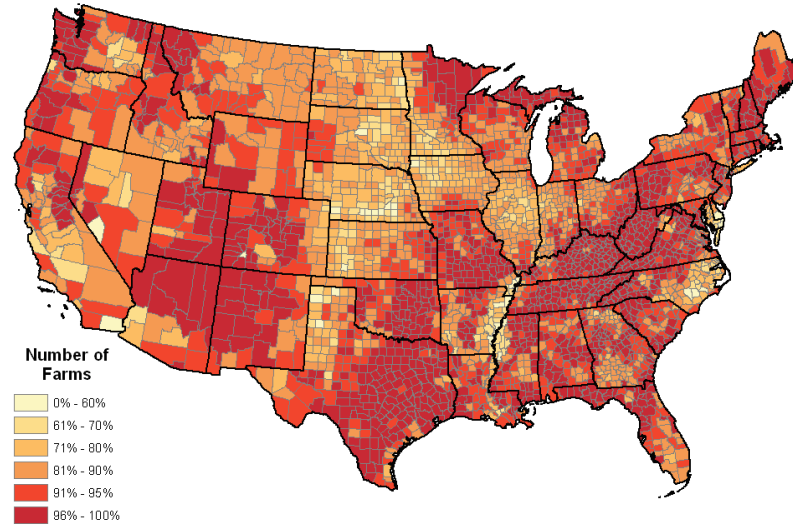
This chapter will describe the national agricultural trends showing the “urbanization of agriculture” by location and farm type and the “feminization of agriculture” by percentages of female farm operators and identify any correlations that may exist between them both at the national level and at a regional level. I conducted research in order to determine if the feminization of agriculture is dependent on the level of urbanization occurring throughout the U.S. Both trends coincide with the rise of alternative agriculture in the U.S. While the U.S. has experienced losses of farmland to urban development, agriculture persists in a transformed way in urbanized areas. From 2002 to 2007 there has been a 4% increase in the total number of farms in the U.S. and there has been a 30% increase in the number of women owning and operating their own farms. Women in agriculture though largely invisible, have always been a vital part of the U.S food production system, but it is only recently that a significant increase in the proportion of women as heads of farming households has occurred. The increase in women farmers has occurred in a larger context of an aging, overwhelmingly male labor force of farmers that impacts the numbers of female farm operators. If female headed farming households are found largely in the alternative agriculture sector, then these trends would suggest that a shift has occurred in some states from traditional farming to alternative farming in more urbanized areas and the results of my research have affirmed this. In Chapter 7: Conclusion, I will discuss New Jersey relative to the national picture. Agricultural trends in New Jersey are consistent with those found at the national level. From 2002 to 2007, there has been a 4% increase in the total number of farms and a 15% increase in the number of female principal farm operators. Women as principal farm operators comprise 20% of all farms in New Jersey, as compared to 14% for the nation as a whole. The qualitative portion of my research using ethnographic

surveys of New Jersey farmers, supports studies that have shown that peri-urban locations can support this type of agriculture that includes community-supported agriculture, ethnic/specialty produce farms and direct sales operations such as farm markets (Vandermeulen et al, 2004; Beauchesne and Bryant, 1999). These smaller-scale farming operations are increasingly owned and operated by female farmers (Trauger, 2004). The measures used to capture these trends in the data, along with the trends themselves will be discussed below.

### **6.1 Agricultural Trends in the U.S.**

Agricultural Census figures show a trend toward towards more small-scale (1-49 acres) and very large-scale farms (2000+ acres), with fewer mid-size farms (50 – 999 acres), in regards to acreage and sales. Between 2002 and 2007, the number of small farms with 1-49 acres increased by 110,014 and large farms with 2000 or more acres increased in number by 2,423 nationwide. Farms with acreages from 50 – 1,999 decreased in number by 37,627. Using a financial rather than a geographical yardstick, small farms by definition are those with sales of less than \$250,000 annually. Figure 6.1 below shows the percentage of small farms by county and state across the U.S. The Agricultural Census reports that 91% of all farms in the U.S are small farms by definition, with the highest percentages of small farms in the South and New England and fewest small farms in the West North Central region of the Midwest. States in this region include Nebraska, Iowa, Kansas, and Missouri (U.S.D.A., 2007).

**Figure 6.1: Percent of Farms with Sales Less Than \$250,000 in 2007**



Source: U.S. Agricultural Census, 2007

### 6.1.1 Female Farm Operators

Another agricultural trend highlighted in the 2007 Census is the growing number of female farm operators. The number of women as owner/operators of farms rose by 30% between 2002 and 2007 (USDA, 2007). Studies have shown that alternative agriculture, such as community-supported agriculture (CSA), has high numbers of female participants (Schnell, 2007), indicating that it may attract women because of the smaller, more manageable size of these operations. There is less equipment and machinery needed to operate the farm. Smaller farms require less in terms of start-up costs, such as capital and labor investment. There have been numerous constraints facing women in agriculture that include lack of access to land, credit and education, in addition to their time-consuming household and family responsibilities. Women are at an economic disadvantage in acquiring land when compared to men because of their wage differential and a corresponding lack of capital. They also confront difficulty in obtaining credit to purchase land or other farm-related products, because they are not taken seriously by lending institutions (Sachs, 1983). Therefore, women have greater access

and opportunity to become owners or principal operators of smaller-scale, alternative agriculture farms (Wilson, 2005, Trauger, 2004). These findings would provide evidence and support for the large numbers of women in niche farming and community supported agriculture (CSA) and perhaps, the increase in numbers of women farming as principal operators, in general (Trauger, 2004). However, the largest group of female farmers is the daughters and widows of the aging farm operators who are becoming owner/operators through inheritance (Sachs, 1983). As this older group of male farmers declines through either death or retirement, a new, younger generation of farmers has begun to take their place, a portion of who are females (Rafferty, 2011). This newer breed of women fall into two groups: beginning principal farm operators/entrepreneurs and the largest group: the spouses of aging farm operators (Sachs, 1983). Many represent a new type of women in farming who want to demonstrate that they are as professionally capable as men are to farm and want to be taken seriously (Haugen and Brandth, 1994).

### 6.1.2 Regional Presence of Female Farm Operators

The position of women in agriculture varies regionally. The percent of women as principal farm owners/operators is highest in New England and the West (Mountain and Pacific states). As the map below shows, women principal farm operators are also found in high concentrations in the Middle States region, as well as counties in the Great Lakes region and the South in the “Black Belt States”<sup>1</sup>, Florida in the South and Arizona in the West.

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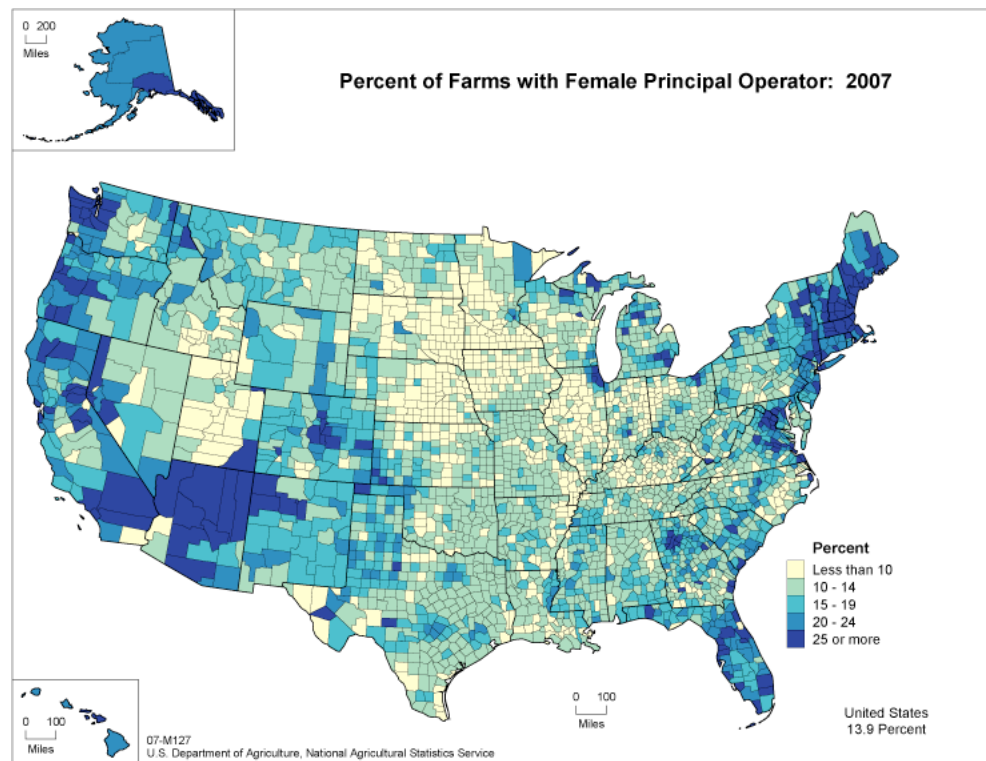
<sup>1</sup> **“Black Belt”** — Considered a crescent of rural counties stretching from eastern Virginia southwest to northern Florida west to the Mississippi Delta and eastern Texas. Originally, this region was named for its dark, fertile soils, where cotton production and slavery once existed, but takes on a new social and political definition due to the large African American population still present today (Wimberley, 2010).



States with highest numbers of female farm operators are: Arizona (38.5%), New Hampshire (29.7%), Massachusetts (28.9%), Maine (25.1%) and Alaska (24.5%).

The lowest percentage of female principal operators are in the Midwest with less than 10% in the West North Central states: South Dakota (7.7%), Nebraska (8.4%), Minnesota (9.1%) and Iowa (9.1%).

**Figure 6.2 Percent of Farms with Female Principal Operators: 2007**

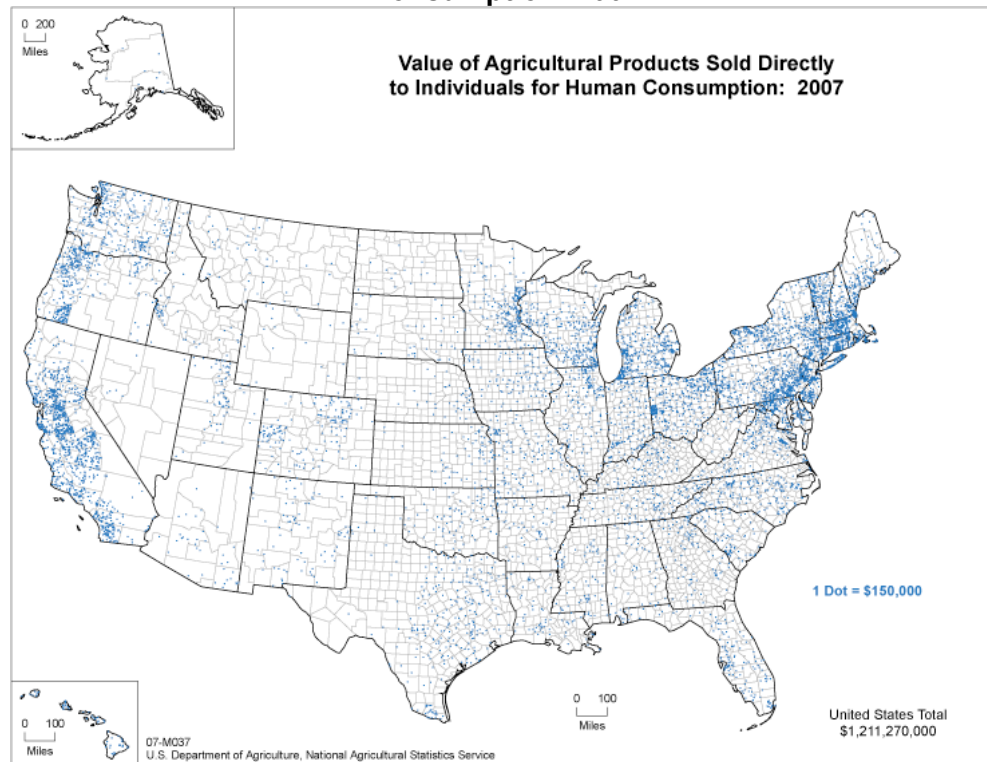


Source: U.S. Agriculture Census 2007

By comparing the two maps demarcating small farms (Figure 6.1) and percent female principal operators (Figure 6.2), it becomes apparent that the two conditions covary. Most direct-market farms, such as CSAs are located near urban centers in New England, the Mid-Atlantic States, and the Great Lakes region, with growing numbers in other areas, including the West Coast. The latest census data from 2007 reports the highest percentage of women principal operators in the Mountain and Pacific regions of the West and New England, with the lowest percentages in the Midwest (U.S.D.A.,

2007). There are also significant numbers found in the Middle States region, as well as the southern states of the U.S. that comprise the “Black Belt” region. This pattern appears to follow the geographical distribution of CSAs and other types of smaller-scale, agriculture farms.

**Figure 6.3: Value of Agricultural Products Sold Directly to Individuals for Human Consumption: 2007**



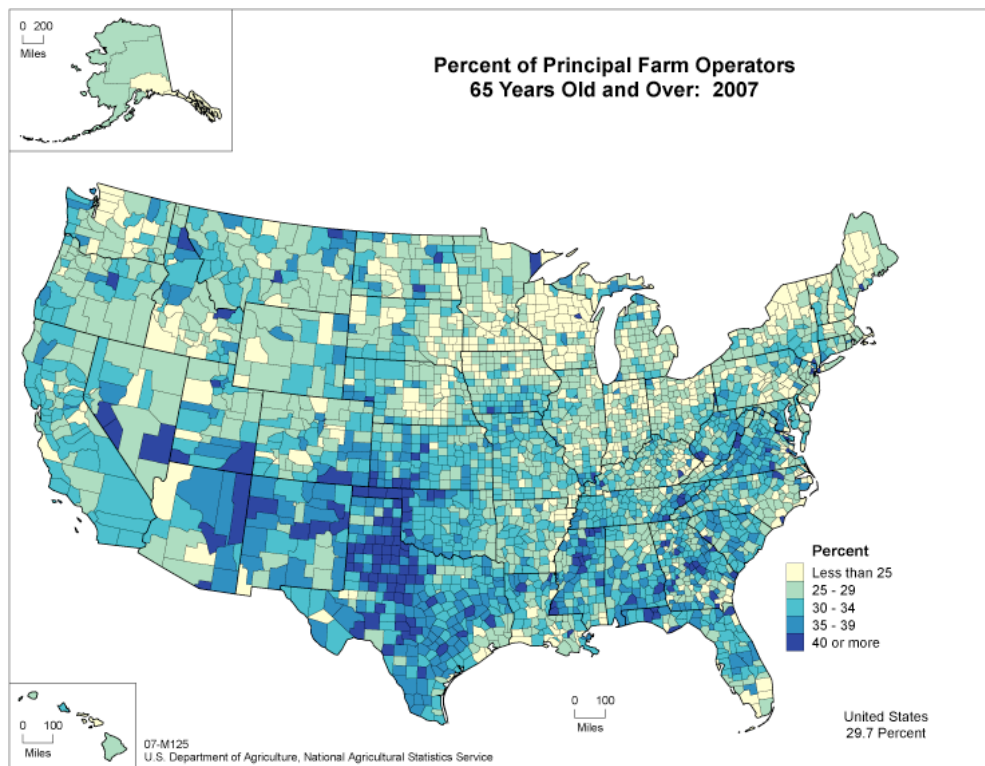
Source: U.S. Agricultural Census 2007

Farms that market directly to consumers through either CSAs or farmers markets are also increasing in numbers. The 2007 Agricultural Census reports a 17.2% increase since 2002. Figure 6.3 shows the occurrence of these farms throughout the U.S. The majority of these farms are considered small farms with sales of less than \$250,000. CSAs are located in close proximity to urban centers that serve as outlets for produce to be directly marketed to consumers. When the maps are compared, small farms (Fig. 6.1), direct sales (Fig. 6.3) and female farm operators (Fig. 6.2) follow similar regional patterns.

### 6.1.3 Aging Farm Operators

Also highlighted in the 2007 Agricultural Census is the occurrence of aging of farm operators. The average age of the principal farm operator has increased roughly one year in each census cycle, from 50.3 in 1978 to 57.1 in 2007. The majority of farm operators are between 45 and 64 years old, but the fastest growing group of farm operators is 65+ years old.

**Figure 6.4: Percent of Principal Farm Operators 65 Years Old and Over: 2007**



Source: U.S. Agricultural Census 2007

This group occurs in the highest numbers in the South and West. The states with the highest percentage of older principal operators are New Mexico (37%) and Arizona (35%) in the Mountain region, Texas (35%) and Oklahoma (33%) in the West South Central region, Mississippi (34%) in the East South Central region of the U.S.

The states with youngest average age principal operators are Indiana and Wisconsin in the East North Central region, Pennsylvania in the Middle States, Minnesota in the West North Central and Delaware in the South Atlantic.

An aging population of male farmers means that in some cases, the farm will be inherited by the farmer's spouse or children (Sachs, 1983), which in fact, has begun to occur, increasing the number of female farm owners as reported in the 2007 Agricultural Census. Aside from inheritance, the number of women has increased due to new opportunities that have come about by the vacancies created through death or retirement of older male farmers and a new, younger generation of farmers taking their place (Raftery, 2011). Women are a part of this group inheriting the land, and they represent a new breed of female farmers who are stepping out of their traditional roles due to changing identities and the restructuring of the American farm family (Sachs, 1983). They are choosing to make farming a part of their livelihoods and want to demonstrate their capability as farmers (Wilson, 2005; Trauger, 2004). While conducting my research, I was able to identify alternate strategies that enabled women to acquire land to farm. In addition to inheriting land, women have also acquired land through leasing situations, paying monthly rental fees allowing them to begin farming without the initial capital expenditure of purchasing land. Another arrangement I identified occurred on a family farm between a father and his daughter. Seeking to operate a farm of her own, the daughter was given a portion of the acreage from the family farm by her father. This arrangement is beneficial as it saves her the expense of purchasing land and allows her to share farm resources, such as equipment and labor. As described by Raftery (2011) these women are part of the newer breed of farmwomen who have more recently emerged onto the agricultural scene. Women's roles as farmers are changing, as the

women now have sole responsibility for decision making, buying and renting farmland and equipment, production and distribution of products (Trauger, 2004).

Given this dynamic, the impact of age structure on farming in terms of gender may increase the number of women principal operators particularly in the South and also the Midwest in the West North Central region of the U.S. Currently, the Midwest region has a relatively low percentage of female principal operators compared to other regions of the U.S. Factors that may also be influencing the numbers of female farm operators regionally are the differential presence of female-headed households in rural Afro-American, Amerindian and Hispanic populations. These groups and the regional variations that occur as a result of their numbers will be discussed in more detail later in this chapter.

Prior to beginning my research, it was my expectation to find women farm operators increasing in number where alternative agriculture exists. Alternative agriculture farms, such as farm markets and CSAs should be found in urban areas that are best suited to direct marketing enterprises due to their proximity to markets and a population demonstrating consumer preference for healthier food, as prior research has shown (Trauger, 2004). By examining this on a national and regional level using county-level agricultural census data I was able to identify and examine correlations between the presence of female farm operators and urban influence in a more precise way. If correlations were not strong, I attempted to explain the regional variations or exceptions by examining socio-economic, demographic or geographic factors present in particular regions of the U.S.

## **6.2 Measures Used**

The quantitative portion of this study used the U.S. Agricultural Census data to characterize the growth in both the feminization and urbanization of agriculture. This study documented and performed statistical analysis on the growing population of

women farmers as principal operators throughout the U.S., in order to see if the feminization of agriculture is dependent on the urbanization of agriculture as they largely coincide geographically in the nation.

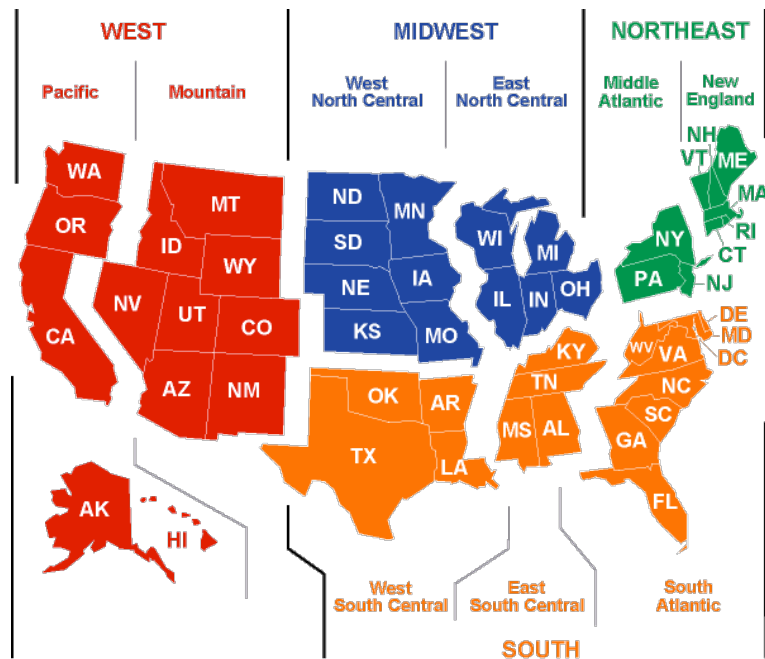
The U.S. Department of Agriculture (USDA) uses several different measures to differentiate rural from urban areas. The two measures of rurality used in this study are Urban Influence Codes and Rural-Urban Continuum Codes. Because rural and urban areas cannot always be delineated with accuracy and may have an impact on the study's outcome, two measures were chosen for this study. The rationale for using both measures was supported due to the fact that together, they would capture a more complete picture. Population density is one measure to distinguish rural from urban communities and degree of urbanization is another. The two measures of rurality will be discussed in more detail shortly. These measure were then coupled with agricultural census data on the numbers of female farm operators by county and state, and statistically analyzed for regional correlations using the SPSS program. The 2007 Agricultural Census data was used to describe geographical patterns of growth in female-headed farming households. The spatial overlap between this variable, urbanization, and alternative agriculture operations could then be characterized in a broad, albeit imprecise way.

### **6.3 Statistical Analysis Description**

Using the 2007 Agricultural Census, data was obtained for analysis at the county, state and national levels to determine if female farm operator numbers seemed to coincide geographically with proximity to areas of urbanization throughout the nine census regions of the U.S (Figure 6.5). The units of analysis are the 3143 U.S. counties within the nine regions of the U.S. as delineated by the 2007 Economic Census, and the percent of female principal farm operators/owners by county. In order to determine if the

presence of female farm operators is dependent on urban influence, two classification measures were used; Urban Influence Codes and Rural-Urban Continuum Codes. Urban Influence Codes and Rural-Urban Continuum Codes both utilize metropolitan and also non-metropolitan classifications for the breakdown of data into finer residential groups.

**Figure 6.5: Nine Census Regions of the United States**



Source: U.S. Department of Commerce Economics and Statistics Administration U.S. Census Bureau

#### 6.4 Urban Influence Code Classification

Urban Influence Codes classify counties into twelve categories (Table 6.6). Metropolitan counties (population size of 50,000 or more) are distinguished by the population size of their metro areas, rather than the degree of urbanization as classified in Rural-Urban Continuum Codes. They fall into two groups and are classified as “large” metro (population size of 1 million or more) or “small” metro (population size of 50,000 – 1 million). Non-metropolitan counties are all counties outside of metro areas. These are classified as either micropolitan (population of 10,000 – 49,999) or non-core (less than 10,000 population). Non-metro counties, which are comprised of micropolitan and non-

core, are classified by the size of the largest city or town and proximity to metro or micropolitan counties. For example in Table 6.6, UI code #9 is classified as a non-core area (less than 10,000 population) and in this case, the size of the largest town is at least 2,500 residents, and it is adjacent to a micropolitan area (10,000-49,999 population size).

**Table 6.6: 2003 Urban Influence Codes**

<u>Code</u>	<u>Description</u>
1	Large — in a metro area with at least 1 million residents
2	Small — in a metro area with fewer than 1 million residents
3	Micropolitan* area adjacent to a large metro area
4	Noncore adjacent to a large metro area
5	Micropolitan area adjacent to a small metro area
6	Noncore adjacent to a small metro area with town of at least 2,500 residents
7	Noncore adjacent to a small metro area and does not contain a town of at least 2,500 residents
8	Micropolitan area not adjacent to a metro area
9	Noncore adjacent to micro area and contains a town of at least 2,500 residents
10	Noncore adjacent to micro area and does not contain a town of at least 2,500 residents
11	Noncore not adjacent to a metro/micro area and contains a town of 2,500 or more residents
12	Noncore not adjacent to a metro/micro area and does not contain a town of at least 2,500 residents
*(micropolitan = population size of 10,000-49,999)	

Source: U.S. Department of Agriculture, Economic Research Service (<http://www.ers.usda.gov/briefing/rurality/>)

The variables being used for the correlations are the following: the independent variable is urban influence in a metro or non-metro area, based on population size, and the dependent variable is the presence of female farm operators in these locations, measured by percent. A weak causal link exists between the two variables, and in most cases, the higher the urban influence the more female farmers are present. While this is not conclusive, it is supported by the analysis.



The urban influence variable is ordinal, meaning that places are considered to be more or less rural based on their proximity to urban areas. The codes for this variable are reproduced in Table 6.6.

#### **6.4.1 UI Results**

The table below (Table 6.7) shows the percent of female farm operators, the mean urban influence and the correlation that exists in each of the nine census regions of the U.S. Using SPSS (Statistical Package for the Social Sciences), a software program for statistical analysis, and running a bivariate analysis of female operators by county and urban influence by county, any correlation that exists between the two was identified by region, analyzed and explained. There was an inverse relationship between the numerical measure of urban influence and the percentages of female farm operators: the proportion of women rises as you descend on the urban influence value scale of 1 – 12. In some regions, there was a strong correlation between the two variables. If urban influence was high, there were high percentages of female farm operators, such as in the New England and Middle States regions, suggesting that the number of female farm operators is dependent on regional population size and urban influence. However, there were exceptions in some regions, such as in the Pacific region where numbers of female farm operators is high and this number is not dependent on urban influence. Further explanation was warranted and is discussed at a later point. A discussion of the results of the analysis by region will follow.

**Table 6.7: Correlation by U.S. Region: Urban Influence and Percentage of Female Farm Operators**

<b>REGIONS</b>	Mean Urban Influence 1=most urban 12=least urban	% Female Operators	Correlation
<b>NORTHEAST</b>			
Middle States	3.18	0.18	-.300***
New England	4.27	0.26	-.264*
<b>MIDWEST</b>			
East North Central	4.65	0.13	-.031
West North Central	7.34	0.10	-.052
<b>WEST</b>			
Mountain	7.07	0.16	-.288***
Pacific	4.31	0.21	-.091
<b>SOUTH</b>			
South Atlantic	4.27	0.17	-.340***
East South Central	5.37	0.12	-.141**
West South Central	5.46	0.13	-.091*
*p<.05			
**p<.01			
***p<.001			

## 6.5 Rural-Urban Continuum Code Classification

A second measure of rurality, the rural-urban continuum code, provides a second way to explore the relationship between female farming and rural social structures. The 2003 Rural-Urban Continuum Codes are classified into nine categories (Table 6.8). They distinguish metropolitan counties by the population size of their metro areas and non-metropolitan counties by the degree of urbanization and adjacency to a metropolitan area. Each of the U.S. counties is given a R-U code from 1-9. There is an inverse relationship between rural-urban continuum and percent female operators: the proportion of women rises as you descend on the urban influence value scale of 1–9.

Metropolitan counties are distinguished by their population size and fall into three groups: (1) one million or more (2) 250,000 to one million (3) less than 250,000. Non-metropolitan counties are divided into a total of six categories. The first breakdown falls into three categories: (1) population of 19,999 or more (2) population of 2,500 to 20,000 (3) population is less than 2,500. These are further subdivided into three additional categories by whether or not they are: (1) adjacent to one or more metro areas (2) at least 2% of its labor force is commuting to central metro areas. Non-metro areas that do not meet the criteria are considered non-adjacent. In contrast with the urban influence code that emphasizes the geographic location of places, the rural-urban continuum code discriminates between places more demographically, drawing more fine-grained distinctions between the size of central places

**Table 6.8: 2003 Rural-Urban Continuum Codes**

Code	Description
<u>Metro Counties:</u>	
1	Counties in metro areas of 1 million population or more
2	Counties in metro areas of 250,000 to 1 million population
3	Counties in metro areas of fewer than 250,000 population
<u>Nonmetro Counties:</u>	
4	Urban population of 20,000 or more, adjacent to a metro area
5	Urban population of 20,000 or more, not adjacent to a metro area
6	Urban population of 2,500 to 19,999, adjacent to a metro area
7	Urban population of 2,500 to 19,999, not adjacent to a metro area
8	Completely rural or less than 2,500 urban population, adjacent to a metro area
9	Completely rural or less than 2,500 urban population, not adjacent to a metro area

Source: U.S. Department of Agriculture, Economic Research Service (<http://www.ers.usda.gov/briefing/rurality/>)

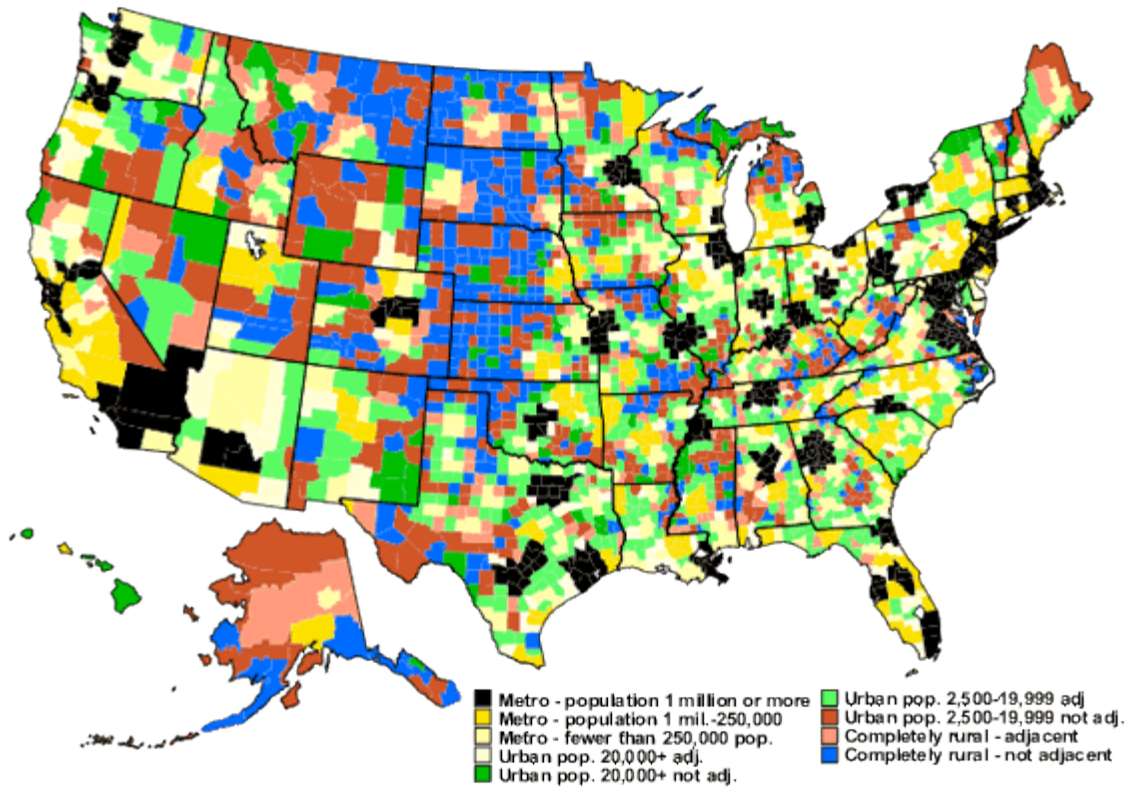
The middle scores on the scale consist of more rural regions. The interstitial rural areas have less clearly defined boundaries and lie between the definitively rural and the definitively urban areas. These areas of change or continuums (Figure 6.9) have developed accordingly. An effective economic development plan for communities in the

interstitial rural areas outside of major urban centers are farm markets that provide a low cost direct connection between farmers and consumers (Anderson-Wilk, 2007).

Cooperative arrangements such as these might occur in counties with a higher R-U Continuum Code classification where population is lower but adjacent to a metro area and at least 2% of the population is commuting to the central metro area. This would allow CSAs to be in close proximity to urban farm markets that can provide outlets for farmers to market their produce (Corboy, 2002; Brown, 2008).

**Figure 6.9: Rural-Urban Continuum Codes by County**

Rural-urban continuum codes, 2003



Source: USDA, Economic Research Service.

### **6.5.1 R-U Results**

The table below (Table 6.10) shows the percent of female farm operators, the mean rural-urban continuum by county and region, and the correlation that exists in each of the nine census regions of the U.S. Using SPSS and running a bivariate analysis of female operators by county and rural-urban continuum by county, correlations were identified by region, analyzed and explained. The correlations were very consistent with those found using Urban Influence Codes (UI). In some regions, there was a strong correlation between the two variables. If level of urbanization was high, there were high percentages of female farm operators. In other cases, female operator numbers were high regardless of level of urbanization. There was an inverse relationship between mean rural-urban continuum and the percentages of female farm operators: the proportion of women rises as you descend on the mean rural-urban continuum value scale of 1 – 9. However, there were differences between R-U and UI in regions such as the East North Central, West North Central and Pacific in relation to the presence of female operators. Further explanation was warranted and is discussed at a later point in this chapter. A discussion of the results of the analysis by region will follow.

**Table 6.10: Correlation by U.S. Region: Rural-Urban Continuum and Percent Female Farm Operators**

<b>REGIONS</b>	Mean R-U Continuum 1=most urban 9=least urban	% Female Operators	Correlation
<b>NORTHEAST</b>			
Middle States	3.83	0.18	-.344**
New England	3.96	0.26	-.283**
<b>MIDWEST</b>			
East North Central	4.53	0.13	-.132**
West North Central	6.53	0.10	-.101*
<b>WEST</b>			
Mountain	6.04	0.16	-.337**
Pacific	4.66	0.21	-.169*
<b>SOUTH</b>			
South Atlantic	4.21	0.17	-.336**
East South Central	5.3	0.12	-.155**
West South Central	5.26	0.13	.064
*p<.05			
**p<.01			
***p<.001			

## 6.6 Analysis by U.S. Region

The following discussion is an analysis by region of the correlations that exist between urban influence and presence of female farm operators, and rural-urban continuum and presence of female farm operators. The correlations were generated using rural-urban continuum codes, urban influence codes and percent female operators, in the nine regions of the U.S. (Figure 6.5). As defined by the U.S. Census, the nine regions are: Middle States, New England, South Atlantic, East South Central, West South Central, East North Central, West North Central, Mountain and Pacific.

The Rural-Urban Continuum Code measure produces higher correlations than the Urban Influence Code measure. One possibility may be that the rural-urban measure is more directly related to the population size of nearby markets and large market size is crucial to alternative agriculture where most women farmers are.

### 6.6.1 Middle States

New Jersey, New York, Pennsylvania

Middle States	% Female Operators	Correlation UI	Correlation R-U
	0.18	-.300***	-.344**

There is an extremely strong correlation ( $p < .001$ ) between urban influence (UI) and percent of female operators ( $-.300^{***}$ ) and a similarly strong correlation between percent of female operators and rural-urban continuum (R-U). There is a high percentage of female farmers as principal operators (18%) in this region. Degrees of urban and rural make a difference in determining the presence of female farm operators. The more urbanized an area, the greater the numbers of female farm operators are present.

Farm operators in the Middle Atlantic region are younger than the average age farmer (57.1) nationally. Youngest operators are found in Pennsylvania and Delaware. The younger farmers seen in this region may also be due in part to increased numbers of women becoming new farm operators/owners, as a population of aging male farmers declines.

My case study area, New Jersey, is located in the Middle States region of the U.S. The pattern of agriculture that exists in New Jersey also occurs in New York and Pennsylvania, states that comprise the remainder of the Middle States region. Many urbanized areas in New York and New Jersey have a number of alternative agriculture farms, including direct-market farms such as community-supported agriculture and farm

markets and specialty/ethnic farms that supply diverse, local immigrant populations and ethnic restaurants. As reported in the 2007 Agricultural Census, New York (6.4%) and PA (6.3%) rank 2<sup>nd</sup> and 3<sup>rd</sup> in direct sales states behind California at number one with 13.4%, together comprising 26.1% of the nation's total direct sales of \$1,211, 270,000. New York and Pennsylvania rank 4<sup>th</sup> and 6<sup>th</sup> respectively in numbers of certified organic farms in the U.S. Women are found increasingly to own and/or operate smaller-scale, direct sales farms and organic farms. There are high numbers of small farms in the Middle States region.

The 2007 Agricultural Census reports an increasing number of ethnic/specialty vegetable farms in the Middle States region since 2002 due to increases in numbers of Asian, Black/African American and Hispanic farmers. Although male farmers may own the majority of these farms, the 2007 U.S. Agricultural Census reports that growing percentages of ethnic/specialty farms are female-owned and operated.

At a time when agriculture is becoming increasingly urbanized, consumers are taking a serious interest in the quality and kinds of foods they eat and are embracing locally produced, community-based agriculture as a way to achieve this. As the growing consumer preference for healthier food parallels the urbanization of agriculture and emergence of alternative farming methods, it appears that the increased percentage of women participating is a function of these factors and these trends may be self-reinforcing. These types of farms are located in peri-urban areas in close proximity to urban centers that allow for the direct marketing of produce.



### 6.6.2 New England

Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island

New England	% Female Operators	Correlation UI	Correlation R-U
	0.26	-.264*	-.283**

Urban and rural make a difference in regions such as New England in determining the presence of female farm owner/operators. There is a strong correlation ( $p < .05$ ) between urban influence and percent female principal operators (-.264\*) and a correspondingly strong correlation between rural-urban continuum and percent female farm operators (-.283\*\*). There is a high percentage of female farmers as principal operators (26%) relative to other regions of the U.S.

One reason may be that there are more urban areas in the states that comprise New England, therefore, more opportunities for females to operate farms. In this region there is a high proportion of alternative agriculture farms, such as CSAs, direct sales markets/farm markets, organic agriculture, specialty crop/vegetable farms. In the mid-1980s, community-supported agriculture (CSA) first came to the U.S. in New Hampshire, from originating countries Japan and Switzerland, which may be one reason for this region to report high numbers of alternative agriculture farms nationally. Also, this is a region of ethnic diversity and therefore it supports a high number of ethnic/specialty farms. These types of farms, also called niche farms, produce culturally appropriate food for the diverse immigrant populations as well as local ethnic restaurants in the region. Their smaller size may make it more likely that they will be female-operated.

In this region, there are younger operators than average age of farm operators (57.1) nationally. The highest numbers of small farms by census definition are in the NE region. Direct sales are also very high in the NE region. This region also has higher numbers of new farms/new farm operators.

### 6.6.3 Pacific

Washington, Oregon, California, Hawaii, Alaska

Pacific	% Female Operators	Correlation UI	Correlation R-U
	0.21	-.091	-.169*

In this region, there is not a strong correlation between urban influence (UI) and the percentage of females as principal operators (-.091). The correlation is more significant between rural-urban continuum (R-U) and percent female operators (-.169\*). There is a high percentage of female farmers as principal operators (21%) in the Pacific region and this is not dependent on urban influence. This may be due to differences in gender roles, acceptance of females as principal operators and equality to male farmers.

Washington, Oregon and California are very liberal states that have legalized one or all of the following: assisted suicides, same-sex marriages and non-medical marijuana use. This liberal perspective may account for greater acceptance of female farm operators/owners in the region. The correlation may also be low due to the high level of industrial farming in the Pacific region.

This is a region with high numbers of indigenous Amerindian populations. Females in these groups are more likely to be heads of households and principal farmers in their families (Hawaii, Alaska). Also, Amerindian farming households are on reservations that are located far from urban areas, therefore the association of an urban location with female Amerindian populations would not be present. This pattern, in turn, would influence the regional pattern. The 2007 Census of Agriculture shows that U.S. farmers and ranchers are becoming more diverse and that the number of American Indian or Alaska Native farm operators continues to rise, growing by 88 percent from 2002 to 2007. There were a total of 55,889 American Indian operators who reported American Indian or Alaska Native as their only race in 2007. Of these, 34,706 were

principal operators, up 124 percent from 2002. These results are from a reclassification by the USDA.<sup>2</sup>

Although the Pacific region is an exception and does not follow the inverse relationship between UI and percent female operators, it does follow the trend of high numbers of female operators and presence of alternative agriculture farms. Distance from urban areas may be less important in the west. Amerindian farming households are on reservations that are located far from urban areas, and the association of an urban area with female Amerindian populations would not be present, therefore influencing the regional pattern.

California ranks first in direct sales as well as first in sales revenue from CSAs. Studies have shown high numbers of women involved in direct sales operations, such as farm markets and CSAs (Schnell, 2011), which may contribute to the high percentages of females as principal operators in CA. Additionally, CA has the highest number of certified organic farms in the U.S. which may be linked to higher numbers of female operators. Female farmers are contributing to the progress of organic agriculture in CA (Neubauer, 2002). CA also has the highest number of new farms/farm operators — younger than the average age (57.1) and less likely to farm full-time. This might be a contributing factor to high numbers of female farmers in this state.

I believe the pattern observed in New Jersey and again in Washington, Oregon, Hawaii are similar in terms of high numbers of female farmers and alternative agriculture farms. Smaller-scale alternative agriculture farms create greater access and opportunity

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<sup>2</sup> **Reservation Pilot Program** — In 2002, the U.S. Department of Agriculture's National Agricultural Statistics Service conducted a pilot program to count American Indian operators on reservations in three states — North Dakota, South Dakota and Montana. Single reservations were no longer counted as a single farm operation. Individual operators were now being counted and in 2007, the pilot program was extended throughout the United States. The majority of the increase in the number of American Indian operators occurred in just two states: Arizona and New Mexico, where the count increased between 2002 and 2007 (U.S.D.A., 2007).

for women to become owner/operators (Trauger, 2004). Washington ranks 3rd and Oregon ranks 5<sup>th</sup> to CA in certified organic farms in the U.S.

In Hawaii, most farms are small (1-9 acres) and 24% of farmers are women with 40% of the farmers being Asian. Asian farm operators are predominantly male, as are principal operators overall. However, the total number of Asian female farm operators grew 45 percent from 2002 to 2007. Women now comprise 18 percent of Asian operators, up from 15 percent in 2002. The percentage of Asian principal operators is highest in Hawaii (34%) and California (5%). In fact, more than half of all the nation's Asian principal operators live in these two states. Hawaii also has the highest numbers of new farms/farm operators in the U.S. along with CA. There are high numbers of new farms/new farm operators in the Pacific region in general. Asian farmers and ranchers tend to be slightly younger on average than their counterparts nationwide (U.S.D.A., 2007).

#### **6.6.4 Mountain**

Montana, Idaho, Wyoming, Nevada, Utah, Arizona, Colorado, New Mexico

Mountain	% Female Operators	Correlation UI	Correlation R-U
	0.16	-.288***	-.337**

There is a very strong correlation in this region ( $p < .001$ ) between urban influence (UI) and percentage of female principal farm operators ( $-.288^{***}$ ). A strong correlation also exists between rural-urban continuum (R-U) and percentage of female farm operators ( $.337^{**}$ ). There is a high percentage of female farmers as principal operators in this region (16%) and particularly in Arizona (27%). New Mexico has the second highest percentage of female operators (19%) in the region.

Indigenous Amerindian populations were previously under-counted until the 2007 agricultural census. Figure 6.12 shows the large native population of farmers, particularly in the northeastern counties of Coconino, Navajo and Apache. The 2007 Agricultural Census reports 54% of all farms in Arizona (15,637) are American Indian/Alaskan Native operator farms (8,545). By comparison, 46% of all farms in Arizona (15,637) are farms with white operators (7,187) and 38% of all farms (15,637) are female principal operator farms (6020) (U.S.D.A., 2007).

According to the 2007 Agriculture Census, the states with the top five percentages of American Indian principal farm operators are: Arizona (53.9%), New Mexico (21.5%), Nevada (12.5%), Oklahoma (8.1%), and Montana (5%).

#### **6.6.5 West North Central**

North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri

West North Central	% Female Operators	Correlation UI	Correlation R-U
	0.10	-.052	-.101*

There may be no significance in the West North Central region between urban influence (UI) and percent female farm operators (-.052). There is stronger significance between rural-urban continuum and percent female farm operators (-.101\*); however, this region has a low percentage of female farmers as principal operators (10%) in general. This may be attributed to more traditional, gendered farming occurring with the majority of farmers being male. Less urban areas in this region combined with less alternative agriculture and therefore fewer small farms, may provide fewer opportunities for women to enter farming and become owners and/or operators. More traditional farming may mean there is less acceptance of females as principal farmers.

Fewer numbers of small farms, new farms and new farm operators occur in this region. Fewer indigenous populations/immigrants to the region may mean less demand

for specialty/ethnic produce and therefore less alternative farming is taking place and therefore fewer women are farming. The region doesn't lend itself to direct-sales marketing. Most farms are not in close enough proximity to urban centers and markets that serve as outlets for produce or for direct-marketing to consumers with changing consumer preferences. This translates into less alternative agriculture, less direct sales and therefore fewer opportunities for women to farm as principal owner/operators. These may be some of the reasons for a low correlation between UI and percent female farm operators in this region.

#### **6.6.6 East North Central**

Wisconsin, Illinois, Michigan, Indiana, Ohio

East North Central	% Female Operators	Correlation UI	Correlation R-U
	0.13	-.031	-.132**

There is not a statistically significant correlation in this region between urban influence (UI) and percent female farmers (-.031); however, Ohio, Wisconsin and Michigan show increasing numbers of women farm operators as reported in the 2007 Agricultural Census. There is a stronger correlation between rural-urban continuum and percent female operators (-.132\*\*). Although percent of female operators in the region in general does not correlate strongly with UI, there may be other factors identified that influence their appearance in this region and correlate more strongly with R-U. While the states in the East North Central region have lower percentages of female operators overall, there are some exceptions in scattered counties within each state. Some of the counties that show significantly higher percentages of female farm operators are found in Lake County (32%) and Cook County (35%) in northeastern Illinois, Marquette County (28%) in the northwest part of Michigan, and Wayne County (34%) and Oakland County

(34%) in the southeast part of the state, Vilas and Oneida County in northern Wisconsin, and northwestern Lake County (21%) and Brown County (27%) in Indiana. This may be due to their proximity to larger urban areas that are more conducive to direct-marketing of produce to consumers. The 2007 Agricultural Census reports a growing number of CSAs in this Great Lakes region as well as a growing number of female farm operators.

### 6.6.7 East South Central

Kentucky, Tennessee, Mississippi, Alabama

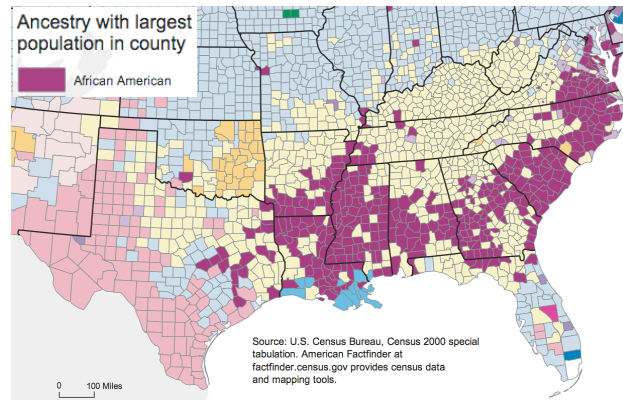
East South Central	% Female Operators	Correlation UI	Correlation R-U
	0.12	-.141**	-.155**

East South Central correlation ( $p < .01$ ) is significant between urban influence (UI) and percent female farm operators ( $-.141^{**}$ ), as well as rural-urban continuum (R-U) and percent female operators ( $-.155^{**}$ ). In this region, the presence of female operators (12%) may be dependent on the degree of urbanization in this region. Other demographic factors may contribute as well.

These states contain a portion of the “Black Belt” region of the U.S. (Figure 6.11) A large African American population is present in this southern region of the U.S that ranges from eastern Virginia to eastern Texas. Among the Black population today that has remained in this region since the days of slavery, there are more single, black, female-headed households, due to socio-economic factors, such as poverty and unemployment. These factors will be discussed at a later point in this chapter. This may account for a significant percentage of female farm operators in the region. As heads of households, it is the responsibility of these women to produce food for their families and they may also direct-market the produce in urban centers for additional income to support their families. Also, Mississippi ranks fifth in the nation as having the largest

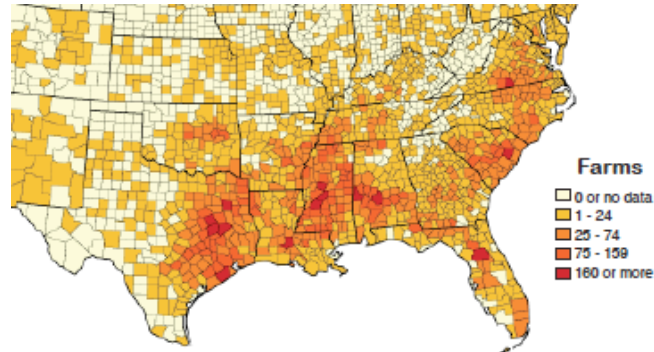
percentage of older farmers over age 65 and these women may become farm owners through inheritance from their spouses.

**Figure 6.11: Black Belt States**



Source: U.S. Census Bureau, Census 2000 special tabulation. American Factfinder at [factfinder.census.gov](http://factfinder.census.gov)

**Figure 6.12: Number of Farms with Black or African-American Operators: 2007**



Source: U.S. Agricultural Census, 2007

Tennessee, Kentucky, West Virginia have some of the highest numbers of small farms. The Black Belt states all have very high numbers of small farms, as well as new farms and new farm operators.

Figure 6.12 shows number of farms with Black or African American Operators in 2007. The percentage of black principal operators is highest in the Southern United



States. The states with the highest percentage of black principal operators are Mississippi (12.6%), South Carolina (8.1%), Louisiana (6.4%), Alabama (5.6%) and Georgia (4.3%). These states are included in the “Black Belt” region of the U.S. that contains 12% of female-headed farming households (Figure 6.16c).

The number of Black operators grew 9% from 2002, outpacing the 7% increase in U.S. farm operators overall. Texas has 6,124 Black principal farm operators, the largest number in any state. Blacks make up 2.5% of the total farm operators in Texas. In 35 states, Blacks or African Americans comprise less than 1% of all principal farm operators.

#### **6.6.8 West South Central**

Oklahoma, Texas, Arkansas, Louisiana

West South Central	% Female Operators	Correlation UI	Correlation R-U
	0.13	-.091*	.064

There is a significant correlation between urban influence (UI) and percent female operators (-.091\*) in the Texas Oklahoma panhandle region. There is less statistical significance between rural-urban continuum (R-U) and % female operators (.064). The percentage of female principal operators in this region is .13. Age structure may influence the numbers of women as principal owners of farms. Texas and Oklahoma have increasingly more females, as they inherit farms through the deaths of an aging male farmer population. In many parts of Texas 40% or more farmers are 65 or older and also in western Oklahoma. The majority of Oklahoma counties are made up of at least 30-34% and 35-39% of 65 years or older farmers. Nationally, the average is 29.7%. This may create opportunities for younger, beginning farmers and in fact, the

2007 Agricultural Census does report this trend. This trend may also account for increasing numbers of female farm operators due to deaths or retirement of aging male farmers. Another factor may be younger farmers more recently appearing on the agricultural scene (Raftery, 2011). As highlighted in the 2007 Agricultural Census, Texas has a high number of small farms, direct sales, CSAs and certified organic farms. Figure 7-1 shows a large number of counties in Texas and Oklahoma are made up of 96-100% small farms, earning less the \$250,000/year. Texas is one of the states with a significant number of new farms/beginning operators at 35%. Texas ranks fifth among the top states for organic produce sales of \$149,328 with California in first place with \$1,148,650. Also reported in the 2007 Agricultural Census is that Texas has some of the highest numbers of CSAs nationally and 10% of the nation's "value-added" farm operations (U.S.D.A., 2007). My research indicates that these enterprises are often marketed and operated by women.

Arkansas, Louisiana and Texas are also states included in the "Black Belt" region where there is a preponderance of single, black, female-headed households. (Figures 6.16c & 6.16b, respectively).

#### **6.6.9 South Atlantic**

Maryland, DC, Delaware, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida

South Atlantic	% Female Operators	Correlation UI	Correlation R-U
	0.17	-.340***	-.336**

There is a highly significant correlation ( $p < .001$ ) between urban influence (UI) and percent female operators (-.340\*\*\*) and also rural-urban continuum (R-U) and percent female operators (-.336\*\*). The South Atlantic region has a relatively high

percentage of female farmers as principal operators (17%). The majority of “Black Belt” states are in this region.

In the South Atlantic region, three states are “Black Belt” states (North Carolina, South Carolina, Georgia) with West Virginia having the highest number of small farms in the U.S. Florida ranks among the highest states in Black and African American farm operators. Being in the “Black Belt” region with high numbers of single female-headed households, it is likely that an increasing number of these farmers are women. As areas in this region continue to urbanize, it is likely that the numbers of smaller farms and female farmers will increase. Urban centers enable farmers to direct-market their produce at urban farm markets to populations with changing preferences for locally produced, fresh foods.

Most of the farms in the south are small farms that earn \$250,000 or less per year. Florida has not only high numbers of small farms, but is the highest in numbers of beginning farmers. There are also high numbers of direct-market sales farms. This region shows a very strong correlation between urban influence (UI) and percent female farmers as principal owners/operators.

## **6.7 Highlights of Regional Variations: A Closer Look**

### **6.7.1 Hispanic Farmers**

The 2007 Census counted a total of 82,462 Hispanic operators on 66,671 farms and ranches across the United States (Figure 6.13). The number of Hispanic operators grew 14% from 2002, significantly outpacing the 7% increase in U.S. farm operators overall. A total of 55,570 U.S. farms had a principal operator of Spanish, Hispanic or Latino origin in 2007, up 10% from 2002. When compared to all farms nationwide, those

with Hispanic or Latino principal operators tend to be smaller both in terms of size and sales. Hispanic farmers and ranchers tend to be slightly younger on average than their counterparts nationwide.

Hispanic or Latino principal farm operators themselves are predominantly male, as are principal operators overall. However, the total number of female farm operators of Hispanic or Latino origin grew 20% from 2002 to 2007. Also in 2007, women comprise 12% of Hispanic operators, up from 10% in 2002.

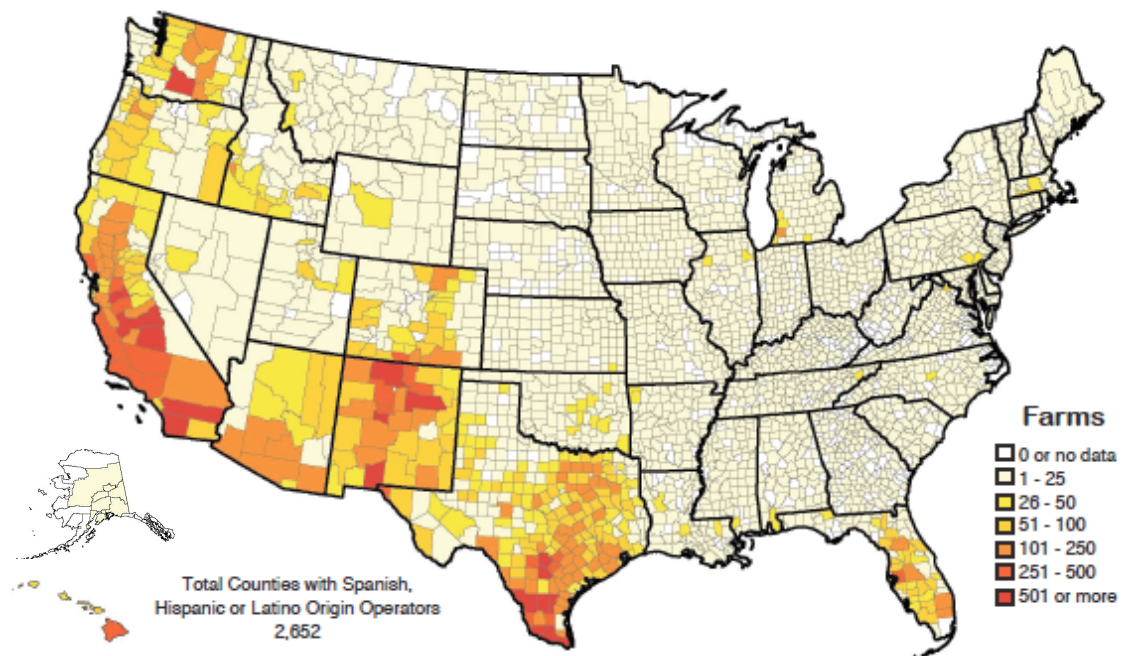
The states with the highest percentages of Hispanic principal farm operators are: New Mexico (30.9%), California (11.3%), Texas (8.2%), Florida (6.7%), and Hawaii (5.9%).

The Rio Grande Valley in Texas contains counties with very few female-headed farming households, which reflects the predominantly Hispanic composition of the local population. In counties and states where high populations of Amerindian farms occur, there are correspondingly high numbers of female principal operators. This is not necessarily the case where large numbers of Hispanic farmers are present. In the case of the Amerindians, it is traditional for the female of the family to have primary responsibility for producing food and therefore, higher numbers of female operators are present. In areas with large Black/African-American farm populations, there are high numbers of single, female-headed households due to various socio-economic reasons, including marital patterns, such as high rates of divorce. As a result, higher numbers of female principal farm operators are present because women become the heads of households and primary caretakers for their families.

In the case of the Hispanic farm population, there does not appear to be a direct relationship with occurrence of female farm operators. Where there are high numbers of Hispanic farms there are not correspondingly high numbers of female farm operators.

This is in contrast to the Amerindian and the Black/African-American patterns that emerge. Unlike the Black/African American population in the Black Belt states of the South, Hispanic families stay together, “intact” and the spouses are less likely to separate and divorce, leaving single, female-headed households behind. Also, Hispanic families are more likely to maintain traditional gendered roles between the husband and wife, which means there is less acceptance of women in male-dominated professions, such as farming, making it less likely for women to become principal farm operators. In spite of this, the 2007 Agricultural Census reports the total number of Hispanic women as principal farm operators grew 20% from 2002. Their numbers continue to grow, as the census reports that women make up 12% of all Hispanic farm operators, up from 10% in 2002. This may be an indication of changing tradition and roles within the Hispanic family structure and an increasing Hispanic population in general.

**Figure 6.13: Number of Farms per County with Hispanic or Latino Operators: 2007**

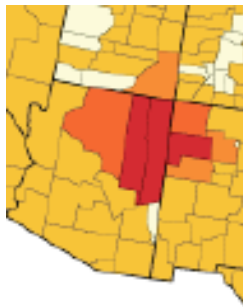


Source: U.S. Agricultural Census, 2007

### 6.7.2 Arizona

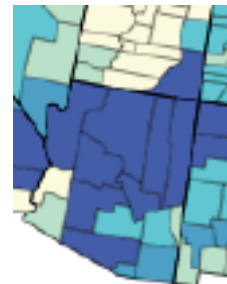
There is a very strong correlation in the Mountain region of the U.S. between urban influence (UI) and percentage of female farm owners/operators. Arizona has the highest percentage of female farm operators among the Mountain states at 27%. The 2007 Agricultural Census reports that principal female farm operators make up 38% of all farms in Arizona. This is a region with high numbers of indigenous Amerindian farm operators, previously under-counted in the agricultural census. As reported in the 2007 Agricultural Census Reservation Pilot Program, 54% of all farm operators in Arizona are American Indians.

**Figure 6.14: Number of Farms with American Indian or Alaska Native Operators: Arizona: 2007**



Source: U.S. Agricultural Census, 2007

**Figure 6.15: Percent of Farms with Female Principal Operators: Arizona: 2007**



Source: U.S. Agricultural Census, 2007

Figure 6.14 shows large populations of Amerindian operators particularly in the counties of Apache, Navajo and Coconino. Figure 6.15 shows the high numbers of female farm operators in most counties across the state. There appears to be a direct relationship between Native American farm operators and female farmers. Among the Amerindian groups, typically it is the women who have primary responsibility for farming and producing food. Where large Native American populations of farmers exist, there are

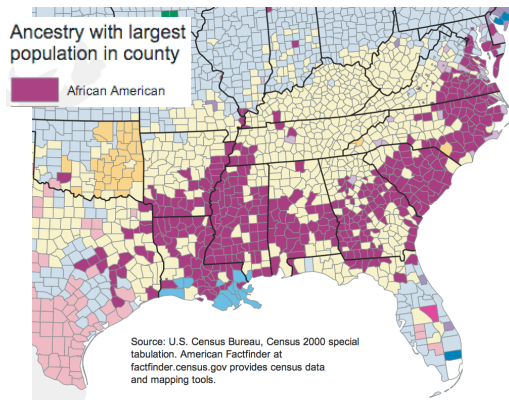
high percentages of female farm owners/operators. Arizona's female principal farm operators (6,020) make up a significant portion, 38% of all 15,637 farms in Arizona. In Apache County, there are 2,259 female operated farms out of all 4,243 farms, or 53%. In Navajo County 1,367 female operators comprise 46% of all 2,259 farms. In Coconino County, the 771 female operators make up 48% of the 1,597 total farms (U.S.D.A., 2007). The data supports the direct relationship between Amerindian populations and the presence of female farm operators in Arizona. It is likely that this pattern would emerge again in other regions of the U.S. where climate could support agriculture and where Amerindian populations exist. As discussed previously, proximity to urban areas is less important and the relationship between urbanization and female farm operators is weaker among minority groups, such as Amerindians, than among Caucasians.

### **6.7.3 The Black Belt Region of the Southern U.S.**

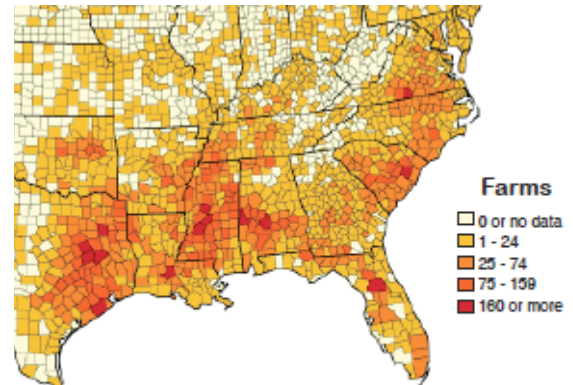
This is a region of counties that form a crescent shape and extend through the deep South, from Virginia to eastern Texas (Figure 6.16a). A large number of farms with African American farm operators are present in the “Black Belt” region of the U.S (Figure 6.16b). Originally, this region was named the “Black Belt” because it has dark, rich, fertile soils that supported cotton production and where slavery once existed. Over time the term has shifted in definition to be representative of the large Black/African American population that remains there today, many as rural farm workers (Wimberley, 2010). Research has shown an increasing number of female-headed households among the Black population due to socio-economic factors, such as poverty, crime, unemployment and divorce. These factors, when coupled with urbanization and low education levels, increase the chances for marriages to fail, creating more single, female-headed households (Wilson, 1992; Espinosa and Rolison, 1994). Because it is likely that this group of women is either unemployed or low-income, and have primary responsibility for feeding their families, they produce food by farming. This may account for a significant percentage of female farm operators in this region. Also, Mississippi ranks fifth in the nation as having the largest percentage of older farmers over age 65 and these women may inherit farms from their spouses, further increasing the number of female farm owners in this region.

It becomes apparent, when comparing the maps below, that in the states of the Black Belt region of the U.S (Figure 6.16a) with large populations of African American farmers (Figure 6.16b) and single, female-headed households, there are also high percentages of female farm operators (Figure 6.16c).

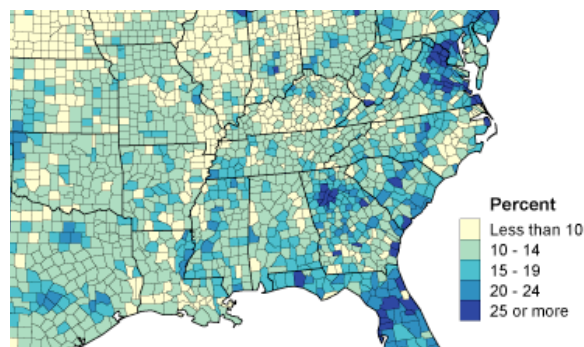


**Figure 6.16a: Black Belt Region: 2007**

Source: U.S. Census Bureau, Census 2000 special tabulation. American Factfinder at [factfinder.census.gov](http://factfinder.census.gov)

**Figure 6.16b: Number of Farms with Black or African-American Operators: Black Belt Region: 2007**

Source: U.S. Agricultural Census, 2007

**Figure 6.16c: Percent of Farms with Female Operators: Black Belt Region: 2007**

Source: U.S. Agricultural Census, 2007

#### 6.7.4 Texas-Oklahoma Panhandle Region

There is a significant correlation between urban influence and presence of female operators in the Texas Oklahoma panhandle region. One reason may be that Texas, along with Arkansas and Louisiana are states that comprise the “Black Belt” region where there is a preponderance of single, black, female-headed households.

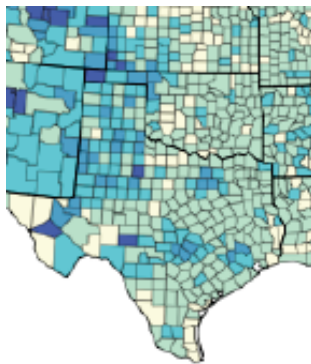
Figure 6.16 shows the high numbers of Black/African-American farms in eastern Texas

counties. This would account for a higher percentage of female farm operators in this region. Also, Texas ranks third in the U.S. for percentage of Hispanic principal farm operators at 8.2%, with a growing number of them being women according to the 2007 Agricultural Census. New Mexico ranks first with 30.9% of the nation's Hispanic farm operators. Hispanic or Latino principal farm operators themselves are predominantly male; however, the total number of female farm operators of Hispanic or Latino origin grew 20% from 2002.

When compared to all farms nationwide, those with Hispanic or Latino principal operators tend to be smaller both in terms of size and sales. Hispanic farmers and ranchers tend to be slightly younger on average than their counterparts nationwide.

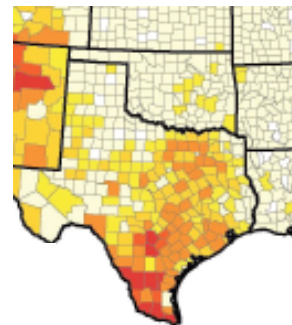
When a comparison is made of the two maps below showing Farms with Hispanic Operators (Figure 6.20) and Percent of Farms with Female Operators (Figure 6.19), the trends do not appear to reinforce one another. Many Texas counties with high numbers of farms with Hispanic operators do not have correspondingly high numbers of female farm operators even though numbers of Hispanic female farm operators are growing.

**Figure 6.18: Percent of Farms with Female Operators: Texas-Oklahoma Panhandle: 2007**



Source: U.S. Agricultural Census, 2007

**Figure 6.19: Number of Farms with Hispanic or Latino Operators: Texas-Oklahoma Panhandle: 2007**



Source: U.S. Agricultural Census, 2007

## 6.8 Conclusion to Trends and Variations

These cases are considered variations to regional patterns found and occur among certain ethnic groups of farmers and influence the numbers of female principal farm operators. Differences occur among various minority groups and the data suggests women become farmers in random ways as a result. Examples of this are among the large Amerindian farm population in Arizona, the Black/African American farmers in the extensive southern Black Belt region of the U.S. and the large concentrations of Hispanic farmers in the Texas panhandle region. Numbers of female operators are either high or are increasing in these regions independent of urban influence.

By analyzing county, state and national-level agricultural census data I was able to identify correlations between numbers of female farm operators and urban influence in the nine census regions of the U.S. The results of my analysis supported my expectation that higher numbers of female farm operators exist in regions of increased urbanization where numbers of alternative agriculture farms are also high. Six of the nine U.S. regions show high correlations between numbers of female farm operators and urban influence. However three regions, Pacific, East North Central and West North Central yielded correlations that were not significant and therefore constituted exceptions. One such exception was Arizona, in the Mountain region of the U.S. Although a higher numbers of female operators are found in this area, their numbers are not necessarily dependent on urban influence, but on the presence of a large Amerindian population. The same was true for regions in the southern U.S. where counties span the “Black Belt” states. The high numbers of female operators were not necessarily dependent on urban influence alone, but in part by socio-cultural reasons associated with the Black/African-American population present in those areas. These examples represent exceptions; however, six out of nine U.S. regions followed the inverse relationship between number of female farm operators and urban influence.

## **Chapter 7: Conclusion**

### **7.1 Comparisons of Pathways into Farming between Men and Women**

My ethnographic research has identified the traditional and less traditional pathways into farming for men and women. My study supports the presence of two main groups of female farmers: beginning principal farm operators/entrepreneurs and the spouses of aging farm operators. Based on my research, this study will discuss both groups of women and their pathways into farming, and compare this to the men. In addition to the less traditional pathways into farming, it appears that women are now taking advantage of paths into farm ownership that were traditionally available primarily to men, such as the agricultural ladder and family farm inheritance.

The results of my interviews show that an increasing number of women are inheriting farms from their families and assuming leadership roles as owners and operators of farms. While not based on a probability sample, my snowball sample of respondents described in Table 7.1: Pathways into Farming, shows a similar range of pathways for men and women. From a sample size of fifteen women, six had inherited their farms, although through different means of inheritance. Of the six, three inherited from family, while one came into ownership after becoming a widow, another through divorce, and the last became an operator of a CSA by marrying a farmer. Among the men, three farmers from a sample size of fourteen inherited their farms from family. The even number of men and women inheriting their farms from family would suggest that women are in fact, increasingly assuming leadership roles of the family farm. Presumably, gendered identities that once existed among farm men and women have lessened over time, thereby removing a cultural obstacle to full-scale participation in farming by women.

I believe this data shows that today, women as well as men are able to take advantage of the agricultural ladder in order to reach farm ownership. As discussed previously in Chapter 4: Men in Farming, the “agricultural ladder” refers to the steps or rungs on the ladder that a man had to climb on his way from being the unpaid help on his family’s farm, to farm ownership (Bates and Rudel, 2004). In the past, with a patriarchal society in general, and in particular, a corresponding patriarchal family farm structure, the “invisible” women farmers were only considered farm wives and helpers, doing what was required of them. Their work was looked upon as secondary to their husband’s and therefore, subordinate, even though they performed “double-duty” in the home and on the farm (Sachs, 1983; 1996). Although women could occupy the lowest rung on the ladder as an unpaid laborer, they were seldom afforded the benefits of climbing any further. Social conventions restricted the ability of women to gain enough experience or accumulate sufficient capital to own their own farms. Their families did not bequeath the farm to them unless there were no males in the family. My interviews found that a total of five men from a sample of fourteen came into farm ownership by taking advantage of the agricultural ladder. Of the three men that inherited the farm from family, all three were born into farming and therefore utilized the agricultural ladder. The remaining male farmer entered into a lease arrangement and was principal owner/operator of his farming business, although he did not own the land. He did gain farming experience from his work on farms since boyhood, but never accumulated the capital necessary to purchase outright. He was able to climb the lower rungs of the agricultural ladder and now owns his farm business that he is free to sell if he chooses. Of the six women that inherited their farms, the three that inherited from family were the three who were born into farming and were able to rise into ownership by climbing the rungs of the agricultural ladder over their lifetimes. I believe these three cases support

the fact that women are increasingly taking over their family's farm operation by climbing the rungs of the agricultural ladder into farm ownership.

My research found that more male and female farmers in my sample became owners through the purchase of land than through the inheritance of land. The results among men and women were very similar. Among the women, a total of eight from a sample of fifteen women purchased their land in this manner, two being single women and six married at the time of purchase. It appeared beneficial and perhaps even necessary for the women to be married or to have an investment partner to contribute additional income in order to secure financing from a bank. Even in that case, one woman, who had the advantage of her husband's second income and a third from another partner, had difficulty obtaining a loan. It should be noted, however, that the year this occurred was 1986. Less common were the cases of single female farmers successfully securing financing to start their farm operations. In the year 2000, the single female farmer who eventually secured a bank loan to start her vineyard encountered a great deal of difficulty, despite the high equity she had as owner of a bed and breakfast. Obtaining a loan or credit was historically difficult for women to accomplish (Sachs, 1983) and therefore illustrates changing social texts and disappearing gendered identities in farming today. In 1986, with three combined incomes from full-time jobs, it was still difficult for the female farmer to obtain the necessary financing. In 2000, the female farmer still had great difficulty, but managed to secure a loan as a single woman. Setting aside for the moment the particulars of this case, her changing fortunes suggest progress for women as societal norms and gendered identities were changing and women were being recognized as financially equal to men. By 2007, the mother /daughter team I interviewed were able to take advantage of a low-interest loan program being offered by the USDA specifically for minority farmers and women. Much progress was made between 1986 and by 2007. Women farmers were not only being accepted as

equal to male farmers, they were being supported and encouraged to become farm owners and operators through a government funding program.

Similar to the results I found for the number of women who purchased land independently, more than half of my sample of male farmers, eight out of fourteen, purchased land independently. Seven of these men were married at the time of purchase. I discussed the importance of marital status among men in obtaining farms in Chapter 4, and concluded based on my research results that while being married did not seem to play a role in how they became a farmer, it did play a role in how they acquired the land. If land was purchased independently and a bank loan was necessary, it was beneficial to have the wife's supplemental income to secure the financing to acquire the farms, but men entered into farm ownership regardless of whether they were married or single. It was more a matter of whether they qualified financially for the loan and approval was not dependent on a second income. Two of the fourteen male farmers I interviewed were single when they acquired their farms, one inheriting and the other purchasing independently. Two of the marriages have since ended in divorce and the men run their farms as single men. The final category I identified as a pathway into farming was "operator via employment." One man and one woman became the directors of non-profit farming enterprises by being hired into the position and they possessed no background or experience with agriculture. In both cases, the original family farms transformed over the years and donated a portion of the land to start programs with the mission of promoting sustainable, organic farming practices. Today, the farm market is owned by a university and brings fresh, healthy produce to an urban food desert. "The Farm" is owned and operated by a private foundation dedicated to educational programming in agriculture, ecology, and environmental stewardship. Although they represent anomalies in the sample and are not independently owned farms, the

operators of each of these farms are responsible for making decisions regarding sustainable agriculture on a daily basis.

Farming as a married couple does have the added benefit of division of labor between the husband and wife, as previously discussed in Chapter 4: Men in Farming. The division was quite similar to women owning and operating farms with the help of their husbands, as discussed in Chapter 5: Women in Farming: A Qualitative Portrait. The women in both cases assumed a more public role on the farm than their husbands and were involved with agritourism activities, community outreach and marketing. In some cases of husband and wife operations, both operated the equipment equally, but in most cases, the men seemed to prefer equipment operation and maintenance to public interaction and this arrangement was satisfactory with their wives. When the female farm operator was married and received help from her husband, labor was divided in the same manner. The single farm women I interviewed usually operated the equipment themselves, although there were instances where they did not feel comfortable using the equipment and hired laborers to help out.

Responsibility for the children was left to the woman, even if she was the principal operator of a CSA, such as one female farmer I interviewed. As was typical in the past for farm women, it was her job to tend to domestic duties, such as household chores and childcare in addition to doing farm work. These findings were also consistent with the results of a study conducted by Rosenfeld (1985) based on a sample of 2000 responses to the Farm Women's Survey, that measured the percent of time farm women were involved in farm and home tasks. The three top categories of tasks that farm women performed regularly were 1) doing household tasks 2) looking after children and 3) taking care of the vegetable garden or animals for family consumption. As discussed in Chapter 2: Women in an Urbanizing Agriculture, historically these tasks were the



responsibility of the women living on a traditional family farm with a patriarchal structure, and still tend to be present on farms today.

**Table 7.1: Pathways into Farming**

INHERITANCE	WOMEN	MEN
passed from family	3	3
divorce	1	0
spouse's death	1	0
marrying a farmer	1	0
PURCHASED LAND INDEPENDENTLY/single	2	1
PURCHASED LAND INDEPENDENTLY/spouse or partner	6	7
LEASE ARRANGEMENT	0	2
OPERATOR VIA EMPLOYMENT	1	1
SINGLE at time farm was acquired	2	2

### 7.1.1 Farming Background or Experience

Many of the farmers, both men and women, came to own successful farms with no prior background or experience, but only the desire to become farmers. The results as shown in Table 7.2: Farming Background/Experience for men and women were fairly similar. Generally, men possessed more farming background or experience than women. Among women, eight out of fifteen farmers had farming background or experience, while seven did not. Among the men, nine out of fourteen had some farming background or experience, while five did not. This is indicative of the new generation of farmers, both men and women, young and old who are becoming farmers without any experience and are essentially self-taught. Educational programming and beginning farmer workshops are now offered for women as well as men and have increased substantially in recent years. Many states have started Women's Agricultural Networks (WAgN) that specifically provide assistance and support to farm women. Some of the farmers I interviewed were just beginning their careers, as young as 24 years old and

single, while others were retired couples starting a new phase of their lives as farmers. This is representative of the changing face of agriculture and the farmer. The highest numbers of both male and female farmers fell within the 50 to 64 year old age group. There were higher numbers of younger female farmers under the age of 50 than male farmers, but only slightly, at four and two, respectively. Both groups had two farmers over 65 years old.

**Table 7.2: Farming Background/Experience**

Farming/Agricultural background or experience?	WOMEN	MEN
NO	7/15	5/14
YES	8/15	9/14
AGRICULTURAL LADDER	3/15	4/14

### 7.1.2 Farm Types

The fact that the numbers of farmers that acquire land by purchasing independently are higher than for ownership through inheritance appears to support the argument that the face of the farmer is changing as conventional agriculture continues to transform into different types of alternative agriculture. Farms that were acquired through family inheritance were larger, ranging from 85 to 400 acres, whereas the majority of farmers that bought their land by direct purchase owned much smaller plots of twenty acres or less. Considering the escalating prices for farmland, these smaller-scale alternative farms are more manageable, in particular for women, because they require less land, capital, equipment and labor costs. Raising alpacas is one example and is considered a specialty niche farm; however, as my research indicates, there are numerous types of alternative farms, differing somewhat among men and women as seen in Tables 7.3 & 7.4: Farm Types. Alpaca farms were in the range of 6-8 acres in size as compared to Christmas tree farms, which were in the range of 17 to 207 acres.

In total, among women, there were two historic family farms with agritourism. Both were diversified operations that raised crops, vegetables and animals. There were two larger-scale, historic family farms with agritourism for the men and also one larger-acreage, diversified use farm with leased parcels of land for growing crops, vegetables and cattle. In general, there were greater numbers of specialty niche farms for both men and women. Among women there were thirteen out of fifteen farmers operating specialty niche farms, while among men there were eleven out of fourteen. These numbers attest to the fact that smaller-scale alternative agriculture farms are increasing in number, among men as well as women. Interestingly, the highest number of specialty niche farms for women were alpaca farms and among men, they were Christmas tree farms. Alpaca farming solves the historical constraints faced by women by requiring a minimal amount of land, labor, equipment and physical strength to raise them, as discussed in Chapter 4: *Women in Farming: A Qualitative Portrait*. Christmas tree farms were usually larger in acreage and required the use of heavier, more dangerous equipment and pesticides in order to maintain the trees. These may be some of the reasons that this type of niche farming is owned and operated by more men.

Although my research returned similar numbers of organic farms operated by men and women, at nine and eight respectively, I noted a striking difference during the interview process among men and women when it came to expressing their reasons for preferring organic farming to conventional. In eight interviews, female farmers expressed a love of nature and/or animals, and a strong connection to the earth. This inherent connection was so strong it compelled many of them to become farmers, even though they lacked any farming experience or background. As discussed previously in Chapter 2: *Women in an Urbanizing Agriculture*, this finding may be supported by Xiao and McCright's (2012) study of gender differences in environmental concern and may be a result of gender socialization theory. These findings also appear to be consistent with

the spiritual ecofeminist perspective, also discussed in Chapter 2, that argues women's inherent connection to nature is empowering and should be embraced (DeLind and Ferguson, 1999; Wilson, 2005). Also, the women farmers expressed concern for the well being and health of their families and customers.

Among the male farmers, five expressed that they felt their efforts on the farm might improve environmental conditions in particular ways. The bison farmer expressed the desire to produce a healthy meat product, as the bison were grass-fed and given no growth hormones or antibiotics. I felt the basis for this preference to be more economic, since the "exotic" bison meat sold at a much higher price than conventional types of meat and this would lend itself to justification for the higher prices charged to the customers. One farmer had an arrangement to grow sunflower seeds for the Audubon Society and while 5% of the proceeds went back to supporting grassland habitats, this did represent a profitable niche product for him. One of the Christmas tree farmers operated a USDA-certified "River-Friendly" farm, and he expressed his concern and desire to do his part to help maintain water quality through improved soil conservation methods and minimal use of pesticides ([www.riverfriendly.org](http://www.riverfriendly.org)). The Chinese couple operating the organic, ethnic vegetable farm expressed concern for producing a healthy product for the well being of their customers and placed great importance and value on their USDA organic certification that represents a significant cost to farmers. Lastly, the mission of the non-profit operation I referred to as The Farm, is to promote sustainable, organic agriculture by working in conjunction with the USDA, NOFA-NJ and organic farmers. Although these were expressions of concern for the environment by the male farmers, I felt two were influenced by economics and therefore their reasons to farm organically were more instrumental. "The Farm" by virtue of its' purpose and mission in general is to promote environmental stewardship and sustainability. The remaining two farmers expressed concern for environmental quality and/or human health and well

being, and spoke of their desire to promote this by farming organically, using little or no pesticides. I concluded that these two male farmers along with the women farmers were engaged in organic agriculture for the inherent value of the practice.

Among women, ten of the fifteen I interviewed added some type of agritourism component to their farms, while six out of fourteen male farmers incorporated agritourism on their farms. It appeared that women were more accepting, willing, and/or excited about the potential to interact with the public and their community in general, stressing its importance. They were creative in developing relationships and opportunities for increased community outreach and educational programming. Male farmers who added agritourism activities to their farms were married and it was primarily their wives' responsibility to be the "face of the farm" and to meet, greet and interact with the public.

**Table 7.3: Farm Types/Women**

FARM TYPES	#OF FARMS
HISTORIC FAMILY FARM (w/Agritourism) (diversified uses)	2
SPECIALTY/NICHE TYPE:	13
Alpaca	4
Community-supported agriculture (CSA)	2
Produce/Restaurants	1
Farm Stand vegetables/produce/fruit	1
Sheep	1
Vineyard/Winery	1
Hydroponic	1
Horseback Riding Lessons/Farm Stand fruit/vegetables	1
Agritainment Traveling Farm Show	1
Organic	7
(Expressed love of nature, animals, connection to earth)	8
Agritourism	10

**Table 7.4: Farm Types/Men**

FARM TYPES	# OF FARMS
HISTORIC FAMILY FARM (w/Agritourism)	2
LARGER ACREAGE/LEASED PARCELS: (diversified uses)	1
SPECIALTY/ NICHE TYPE:	11
Christmas Trees	4
Bison	1
Alpaca	1
Pick-Your-Own (fruit)	1
Chinese vegetables	1
Fruits/Vegetables	1
Community-supported agriculture (CSA)	1
Produce/Restaurants	1
Organic	6
Agritourism	6

## 7.2 Comparison to National Picture

Through my research, I attempted to show that agriculture is transforming and an “urbanization of agriculture” is occurring by location and farm type. Paralleling this is the “feminization of agriculture” with increasing percentages of female farm operators.

Looking for correlations between the two, I conducted research in order to determine if the feminization of agriculture is dependent on the level of urbanization occurring throughout the U.S. The results of the quantitative analysis supported my expectation that higher numbers of female farm operators exist in regions of increased urbanization where numbers of alternative agriculture farms are also high. The results of my qualitative analysis via ethnographic surveys of female farmers supported my expectation as well. The qualitative portion of my research supports studies that have shown that peri-urban locations can support this type of agriculture that includes community-supported agriculture (CSA), ethnic/specialty produce farms and direct sales

operations such as farm markets (Vandermeulen et al, 2004; Beauchesne and Bryant, 1999). These smaller-scale farming operations are increasingly owned and operated by female farmers (Trauger, 2004). They present increased opportunities for women to enter farming because they require less land, labor, capital, equipment, and in some cases, time to operate, and therefore are more manageable. As previously discussed in Chapter 1: Introduction, farming in New Jersey takes place within the most urban state in the United States (Harrison, 2007). Despite the loss of farmland in the state, the number of farms has recently increased by 4% between 2002 and 2007. Farming in urbanized areas has led farmers to adapt their agricultural practices in order to remain economically viable and not disappear. During the same period, the number of women as principal farm operators increased by 15% in New Jersey (U.S.D.A., 2007). These trends in the aggregate data would suggest that the feminization and urbanization of agriculture are paralleling and intersecting in New Jersey, and appear to follow national trends. The narratives offered by my respondents are consistent with the trends observed in the national level data. The urbanization of agriculture has led to an increasing importance of the face of farming in the peri-urban farms. However, the urbanization effect does not appear to play out the same way among minorities, such as African Americans and Amerindians. Female-headed farms reflect, more than anything else, the predominance of female-headed households among these groups.

These trends would suggest that a shift has occurred in some states from traditional farming to alternative farming in more urbanized areas and the results of my research have affirmed this. The 2007 Census of Agriculture reports a 17.2% increase since 2002, in alternative agriculture farms, such as ethnic specialty/niche farms, participants in farm markets, direct sales operations and community-supported agriculture (CSA). Small farms with sales of less than \$250,000 make up 91% of farms in the U.S. My findings were consistent with this trend. From a sample size of twenty-

nine farms, fourteen male operated and fifteen female operated, twenty-four were smaller-scale, alternative agriculture farms consisting of between 1-49 acres. Five were medium-sized farms and comprised between 49 – 1,999 acres (see Tables 7.3 and 7.4: Farm Types). Farm size based on acreage is by Agricultural Census definition.

Women historically have been at a disadvantage when compared to men due to gendered identities and income disparity, which presented difficulty in obtaining financing to purchase land (Sachs, 1983). However, as my research has shown, this is changing, as women are increasingly successful in securing the financing necessary through private banks or taking advantage of recently created government loan programs such as the USDA low-interest loan program for minority farmers and women.

My sample of farmers was also consistent with the national figures in terms of age structure. The 2007 Agricultural Census reports that the largest group of farmers is between the ages of 45 -64 and the majority of my sample fell within this range. The census reports the average age of the farmer being 57.1. The fastest growing group of farmers is 65 + years, and as these farmers continue to age and retire or pass away, new farmers are taking their places. One of these groups is the beginning principal farm operators/entrepreneurs and the second group is the spouses of aging farm operators. The majority of my sample tended to be consistent with first group; however, one female farmer inherited the land through the death of her spouse, another through divorce and the third inherited it from her grandfather, uncle and father who made her a managing partner. The increase in female farm owner/operators has occurred due to the restructuring of the American farm family and as an aging, male-dominated labor force of farmers creates vacancies through death or retirement. As my research confirms, as women's roles are changing, a newer breed of female farmers are taking their places and assuming sole responsibility as principal owner/operators of farms.



### **7.3 A Concluding Note: Contextualizing the Trend towards Female Headed Farming through Time and across Nations**

#### **7.3.1 2012 Agricultural Census**

The Agricultural Census is conducted every five years and at the time I began my research, the most recent census data available was the 2007 Agricultural Census. Although the 2012 Agricultural Census is not available in its entirety at the present time, a portion of the data has been published. Upon completion of its publication, it should be analyzed for comparisons and consistencies, and any changes that might have occurred since the 2007 census. The updated 2012 census data will provide future direction for the continuation of my thesis and through further study and analysis I can determine if my arguments remain supported by the data. In the following, I present some of the published highlights of the current 2012 Agricultural Census that are directly relevant to my dissertation. Without further analysis of this data, it is difficult to know the reasons behind the changes that have occurred.

#### **7.3.2 2012 Census Highlights**

In 2012, the total number of farmers declined, with the percentage decline more for women than men, and the number of beginning farmers declined. U.S. farmers were older and their average age continued to increase from 57.1 in 2007 to 58.3 in 2012. Farmers were more diverse than in 2007 with an increase in all categories of minority-operated farms between 2007 and 2012. Hispanic-operated farms were up 21 percent since 2007, with the largest percentages in New Mexico, California, Texas, Florida and Hawaii (U.S.D.A., 2012). Although the majority of these farms are male-operated (88%), there was a 20% increase in the total number of female operators of Hispanic or Latino origin between 2002 and 2007. However, the significant increase in Hispanic farm operators overall may play a part in the decline in numbers of female operators in 2012.

Asian farmers also grew by 21% between 2007 and 2012. The rise in minority-operated farms may point to an increase in the number of ethnic specialty/niche farms. These types of alternative agriculture farms are often operated by women (Brown, 2008; DeLind and Ferguson, 1999, Trauger, 2004), especially for women in particular traditional cultures as previously discussed in Chapter 6: National Picture. Perhaps this may account in part for the increase of female operators in 16 states as reported in the 2012 Agricultural Census; however, further study would be required to determine this.

### **7.3.3 Fewer Women Farming**

Of the 2.1 million principal operators in the United States, 288,264 were women (Table 7.5). This was a 6% decrease since 2007 – larger than the decrease in male principal operators. But for all female operators (principal, second, and third), the decrease was only 1.6%. Women were nearly 14% of principal operators but 30% of all operators. Factors that might be attributed to the overall 6% decrease are the decline of female farmers age 75 years and older, and also the decrease in farms that gross less than \$1,000 in sales, as reported in the 2012 Agricultural Census. These are smaller-scale farms that are often operated by women (Harris, 2014).

Some areas of the country have higher concentrations of women farmers than others. In 16 states the number of female operators increased while in 34 states, they decreased. As seen in the map in Figure 7.6, higher concentrations of women are still seen in particular regions and states, such as the Northeast region, Arizona, Oregon and Washington (U.S.D.A., 2012) as they were in 2007 (U.S.D.A., 2007). Without further analysis, it is difficult to know why 16 states experienced an increase in the number of female operators, while in 34 states the numbers decreased, but it does represent an opportunity and direction for future study.

Table 7.5

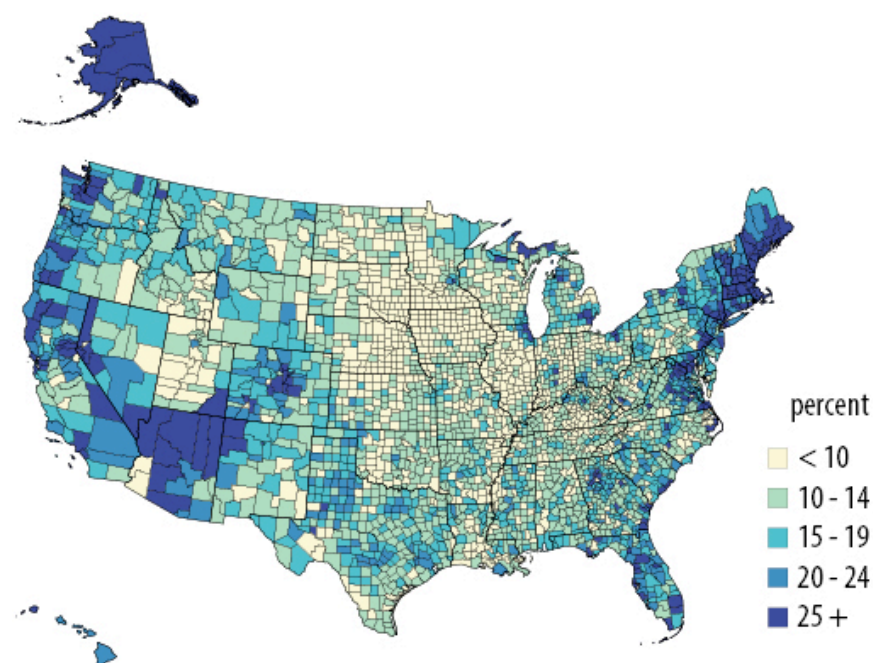
**Female and Male Farmers, 2007 and 2012**

	2007	2012	% change
<b>Female Operators</b>			
Principal	306,209	288,264	-5.9
All	985,192	969,672	-1.6
<b>Male Operators</b>			
Principal	1,898,583	1,821,039	-4.1*
All	2,296,342	2,210,402	-3.7*

Source: USDA NASS, 2012 Census of Agriculture.

\*Statistically significant change.

**Figure 7.6**  
**Farms with Female Principal Operator, by County, 2012**



Source: USDA NASS, 2012 Census of Agriculture.

#### 7.4 International Picture

Lastly, I would like to discuss another future direction of inquiry that might be conducted as an extension of my research. The findings in my study could be used as a basis for comparisons to be made to countries outside the United States that are practicing alternative agriculture in urban or peri-urban areas in order to identify any similarities, differences, patterns or trends. As discussed in Chapter 1: Introduction, research studies discuss forms of urban agriculture that are taking place in the U.S. and other countries around the world in Canada, Latin America, Asia, Africa and Europe (Beauchesne and Bryant, 1998; Vandermeulen et al, 2004; Viljoen, 2005). Viljoen (2005) points to successful peri-urban agricultural projects in many parts of the world including Italy, Cuba, Kenya, Tanzania, China and Russia. Much like the philosophy of direct sales operations like CSAs and farm markets in the United States, the successful urban farming program in Havana, Cuba, a cooperative community effort, brings together producers and consumers in the production of healthy, nutritious, locally grown food (Viljoen, 2005).

Similar situations exist for female headed farming households in the U.S. and developing countries like The Gambia region in West Africa. As in the U.S. technological advances in agriculture have been directed to the men thereby creating conditions that reallocate land use rights to the male heads of households causing females to lose their agricultural plots and become laborers for their husbands.

Increasing populations mean development and competition for agricultural land. In the U.S., the urbanization of farming has actually been a catalyst for farmers to adapt agricultural practices in order to remain economically viable, through the emergence of alternative farming methods that have simultaneously opened new opportunities for women to enter farming (Brown, 2008; DeLind and Ferguson, 1999, Trauger, 2004). As competing pressures for land continues and development occurs, pushing agriculture to

the urban-fringe in countries outside the U.S., will the trends seen in the U.S. be repeated? Will the adaptive practice of alternative agriculture open new opportunities for women to become farm operators and cause their numbers to increase, as has been shown to occur in the U.S? Will their pathways into farm ownership be similar to or different from U.S. women? The study of urbanization, the rise of alternative agriculture and its relationship to the numbers of female farm operators in countries outside the U.S. represents another potential area of inquiry.

### **7.5 A Concluding and Notable Observation**

I conducted my farmer interviews during the winter months of December 2012 to the spring in April 2013. It was an exceptionally cold winter that year and because I do not prefer to be in cold temperatures, one difference between the men and women farmers was very evident to me. The women welcomed me into their homes and made me warm and comfortable. Some had fires going, served me coffee and pastry, lunch, or put out a spread of vegetables, cheese and crackers, and desserts. They had gone out of their way to prepare for my visit. In contrast, the men brought me into their unheated barns or farm stores. Although I was quite cold and uncomfortable, few men invited me into their homes and none offered me food or drink of any kind as the women did. I had to question if this gendered behavior was the response of the male and female farmers to a female researcher. Would they have behaved any differently for a male researcher? And did their behavior highlight the maternal versus paternal differences between men and women? I would say it did, but the specific reasons behind their behavior are difficult to know without further study, but certainly evoke thought. Whatever the reasons, one thing was clear to me. During my visits, the women became the face of the farm, a role that seemed to be more natural, comfortable and enjoyable for them to assume than it was for the men.

### Appendix: Sample: Farmer Case Study Survey

- (1) \_\_\_Male \_\_\_Female
- (2) \_\_\_Age
- (3) What municipality do you live in?  
\_\_\_\_\_
- (4) Are you the principal farm operator?  
\_\_\_ yes \_\_\_no
- (5) Do you farm independently or with a partner(s)?  
\_\_\_ male \_\_\_female
- (6) What year did you begin farming?  
\_\_\_\_\_ year
- (7) How many acres do you currently farm?  
\_\_\_\_\_ total acres  
\_\_\_\_\_ owned acres  
\_\_\_\_\_ leased acres
- (8) What is the primary farm commodity produced on your farm?  
(Mark 1 for primary use and 2 for secondary use)  
\_\_\_ Grain (wheat, corn, soybean, etc.)  
\_\_\_ Other Field Crops  
\_\_\_ Vegetables, Melons, Potatoes  
\_\_\_ Fruits & Nuts  
\_\_\_ Horse / Other Equine  
\_\_\_ Nursery / Greenhouse  
\_\_\_ Beef Cattle, Hogs, Sheep  
\_\_\_ Poultry  
\_\_\_ Dairy

- ☐ Other Livestock  
☐ Christmas Trees

(9) What is your farm type? (Mark 1 for primary and 2 for secondary)

- ☐ community supported agriculture (CSA)  
☐ organic  
☐ non-organic  
☐ direct-marketing sales/farm market stand  
☐ historic family farm  
☐ with agritourism  
☐ without agritourism  
☐ horse farm  
☐ other – please specify type of livestock or poultry  
 \_\_\_\_\_  
☐ winery  
☐ specialty vegetable farm – please specify type of vegetable(s)  
 \_\_\_\_\_  
☐ nursery/greenhouse  
☐ other – please specify  
 \_\_\_\_\_

(10) What made you decide to choose this type of farming?

(11) How did you acquire your farm?

- ☐ inheritance  
☐ purchased independently  
☐ purchased with partner(s)  
☐ leased land  
☐ other means

(12) What was your reason(s) for becoming a farmer?

(13) Where/How did you gain the experience/education to become a farmer?

- ☐ Inherited from family

- ☐ Agricultural education courses
- ☐ Agricultural conference/workshop

- (14) Through what means did you receive your education? Example – college/university, Women's Agricultural Network (WAgN), extension service, vocational school.
- (15) Was it easy or difficult to find the education you were seeking in order to become a farmer?
- (16) Was it necessary to apply for credit/loan at a banking institution to finance your farm or did you receive a grant?  
☐ credit/loan ☐ grant
- (17) Did you have a negative or positive experience when doing so? Was it easy or difficult to obtain financing? Please explain and/or discuss your experience with the lending institution.
- (18) Do you consider yourself to be a full-time or part-time farmer?  
☐ Full-time ☐ Part-time
- (19) Do you work off the farm?  
☐ yes  
☐ no
- (20) How much in sales revenue does your farm generate?  
☐ Less than \$10,000  
☐ \$10,000 to \$49,999  
☐ \$50,000 to \$99,999  
☐ \$100,000 to \$249,999  
☐ over \$250,000  
☐ prefer not to answer
- (21) What type of farm equipment do you use, if any?



- (22) Do you operate your own farm equipment?
- (23) Does your farm offer agritourism activities?  
\_\_\_\_yes \_\_\_\_no
- (24) What type of agritourism activities do you offer?
- (25) In what year did you first begin offering on-farm recreational/educational activities, including direct marketing, to the public?  
\_\_\_\_\_year
- (26) What do you consider your greatest challenge to be as a farmer? Please explain.
- (27) What type of management strategies/philosophies do you employ on your farm?
- (28) Do you see any benefits coming from your farm? to you, your community, the environment, etc.?
- (29) What are your goals for your farm, in the short term and long term?

END OF SURVEY

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**Farmer Interviews Schedule:**

Anonymous interview #6, December 12, 2012, Somerset County.

Anonymous interview #14. December 13, 2012. Somerset County.

Anonymous interview #7. December 17, 2012. Somerset County.

Anonymous interview #8. January 3, 2013. Ocean County.

Anonymous interview #12. January 9, 2013. Somerset County.

Anonymous interview (1) #3. January 12, 2013. Somerset County.

Anonymous interview (2) #18. January 12, 2013. Somerset County.

Anonymous interview #5. January 13, 2013. Hunterdon County.

Anonymous interview (1) #9. January 14, 2013. Middlesex County.

Anonymous interview (2) #20. January 14, 2013. Middlesex County.

Anonymous interview #15. January 16, 2013. Monmouth County.

Anonymous interview (3) #2. January 25, 2013. Somerset County.

Anonymous interview (1) #27. January 25, 2013. Hunterdon County.

Anonymous interview (2) #28. January 25, 2013. Hunterdon County.

Anonymous interview #25. January 29, 2013. Monmouth County.

Anonymous interview #11. February 1, 2013. Mercer County.

Anonymous interview #10. February 8, 2013. Burlington County.

Anonymous interview #26. February 12, 2013. Burlington County.

Anonymous interview #1. February 13, 2013. Somerset County.

Anonymous interview #23. March 9, 2013. Ocean County.

Anonymous interview #17. March 13, 2013. Mercer County.

Anonymous interview (1) #4. March 15, 2013. Somerset County.

Anonymous interview (2) #16. March 15, 2013. Somerset County.

Anonymous interview #29. March 19, 2013. Union County.

Anonymous interview #24. March 21, 2013. Cape May County.

Anonymous interview #22. March 22, 2013. Cape May County.

Anonymous interview #13. March 23, 2013. Kings County.

Anonymous interview #21. March 26, 2013. Monmouth County.

Anonymous interview #19. April 9, 2013. Bergen County.