FROM OLD AGRICULTURAL LADDERS TO NEW LAND ACCESS
SPRINGBOARDS: AN EXAMINATION OF LAND LINK PROGRAMS IN THE
NORTHEAST U.S.

A Thesis in
Rural Sociology

by
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ABSTRACT

Numerous opportunities in sustainable, local and regional agriculture are prompting many people to consider a farming career or to offer their land to a farmer for agricultural production. This may be a welcome phenomenon as the average age of principal farm operators in the U.S. today is 57 and many beginning farmers face significant barriers to accessing farmland in a career that has historically relied on intergenerational farm succession. Land link programs are one type of organizational response that seeks to address these challenges by connecting beginning farmers to farmland owners through online listings of available farmland, as well as through partnership support and educational and mediation services. Land link programs have multiplied to almost 50 programs across the U.S. since the first was founded in 1990, and 19 programs serve the 11-state Northeast U.S. region. This research focuses on 17 Northeast land link programs and their participants to better understand who joins the programs, what participants’ goals and expectations are when they join, and how land link programs work to facilitate strong partnerships between seekers and owners. Semi-structured interviews with 16 key informant staff members and an online survey of 271 farmland seekers and 104 farmland owners who have joined a land link program provide the data for this study. The results analyze participant characteristics and the types of opportunities sought and offered, and assess the contributions of land link programs toward supporting sustainable land access opportunities for the next generation of farmers. The findings show that seekers and owners have similar motives for joining land link programs, but often have unclear, differing or even conflicting mental models, or goals and expectations, of what farming will entail on a property. However, the results also point to several ways that land link programs work to facilitate positive relationships during the “matchmaking” process. I conclude that the interpersonal aspects of a match relationship are not
always an explicit programmatic focus, but land link programs’ work to support participants in this way is essential to positive partnerships between farmland seekers and owners. This research also contributes to the literature about farmer and team mental models by considering the landlord-tenant relationship, as well as to the literature about farmer neighboring at the rural-urban interface by examining neighboring needs within the context of the landlord-tenant relationship.
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CHAPTER 1

Introduction

U.S. farm entry rates have steadily declined since the 1970s (Gale 2003). In this historically intergenerational career, there are both fewer farm kids, and fewer of the remaining farm kids have been taking over the family farm (Gale 1993; Lasley 2005). Those currently in farming are aging: according to the 2007 USDA Census of Agriculture, the average age of principal farm operators in the U.S. is 57 and 30 percent of principal operators are over age 65 (USDA 2009). Not only are farmers older than they have ever been, but there are also many fewer of them: at the beginning of the twentieth century around one-third of the U.S. population were farmers while by the beginning of the twenty-first century less than two percent of the population was involved with farm production (Lobao and Meyer 2001, p. 103). This demographic profile raises concerns about the future sustainability of family farming and rural communities across the U.S. In response to these demographic trends, U.S. Secretary of Agriculture Tom Vilsack expressed a need for the addition of 100,000 new farmers when he spoke before the Senate Committee on Agriculture, Nutrition and Forestry at the Farm Bill Oversight Hearing in June 2010 (Hamilton 2011).

As the demographic trend of aging farmers becomes a concern for USDA officials and others, rising numbers of people, increasingly from non-farming backgrounds, aspire to become farmers (Hamilton 20011, p. 4). Farming is one of the few occupations in the U.S. today that still largely relies on intergenerational family transfer for recruitment (Lobley et al. 2010). Unlike other careers, the skills and resources for farming are often passed down from parent(s) to child(ren) (Blanc and Perrier-Cornet 1993, p. 320). However, new farmers in the twenty-first century
increasingly come from cities, suburbs or rural towns (rather than from farms) (Korkki 2012; Kitroeff 2012). Despite increased interest in farming and growing market opportunities for sustainable and local farm products, many new farmers are concerned that substantial barriers exist to accessing farmland, the primary means of production for most farm products (Shute 2011). Several entry barriers for beginning farmers have been noted, including a lack of sufficient capital, gaps in business planning and marketing skills development and unavailable or unaffordable housing (Shute 2011; Parsons et al. 2010). However, relatively little attention is given to the sociological aspects of land access. This study seeks to improve our understanding of this area through analyzing the opportunities and constraints that farmland seekers may face in establishing partnerships with farmland owners. I focus specifically on farmland access through land link programs, which are a relatively new type of program specifically designed to address land access barriers. Furthermore, this study focuses on the land link programs in the Northeast U.S., where a large number of these programs are located.

Land link programs have been touted as a means to facilitate land access for greater numbers of beginning farmers (Hamilton 2011). These programs are a relatively new type of farmer support program that initially emerged in the 1990s specifically to support farmland access for the next generation of farmers. While many of these programs now exist across the U.S., little is known about the characteristics, aspirations or expectations of the farmland seekers and owners who join land link programs, nor about how land link programs work to facilitate good relationships between seekers and owners that support secure land access. Through phone interviews conducted with 16 Northeast land link program key staff members between November 2012 and February 2013, and an internet-based survey of the land link program participants in ten of these land link programs, this study explores social differences between farmland seekers and owners. This research uses a
mental model framework to better understand the goals, motives, expectations and knowledge of the farmland seekers and owners who join land link programs, as well as the range of activities that land link programs do to facilitate sufficient and shared mental models between the often differing parties of seekers and owners. Thus, it maintains a programmatic focus rather than a policy focus, although policy recommendations are offered in the concluding chapter. Ultimately, this research seeks to facilitate greater understanding of the opportunities and barriers in land access that relate to the interpersonal aspects of land access and how land link programs might mediate these relationships, in order to support increased rates of farm entry and greater land access security for the next generation of farmers. In the remainder of this chapter, I will provide a brief overview of land link programs, the Northeast context and mental models as a framework for analyzing land access partnerships. I will then outline the research questions that guided this study and provide an outline of the remainder of this thesis.

I. Land Link Programs

The first land link program\(^1\) was established in 1990 by Nebraska’s Center for Rural Affairs (Hamilton 1996, p. 22). Since then, 47 programs have been established in 30 states across the U.S. (author’s count). Nineteen land link programs are located in the Northeast U.S. (Figure 1). The organization types that manage land link programs include

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\(^1\) Other typical program names include “farm link” and “farmland match.” “Land link” is used here because this is how the staff people interviewed in this research most often referred to the programs, and also to emphasize that land is frequently what is offered and accessed in the Northeast, not always a previously working farm.
non-profits, state governments, universities and land trusts. The geographical reach of land link programs ranges from single-county to multi-state regions, and a few have a national focus. The programs identify several goals, including to facilitate land access for beginning farmers, reverse the trend of shrinking rural communities, maintain working landscapes and support transfer of land from the aging farmer population to a new generation of farmers. Programs typically focus primarily on gathering information about farmland access opportunities that are available within their service area, and then posting these opportunities on a centralized website. The opportunities are generated from an application form that is submitted by a land owner or sometimes by a realtor. These access opportunities can involve farmland lease, purchase or work-to-own. Some programs also post farm work opportunities. People seeking land can then peruse the opportunities and establish contact with any that meet their criteria. While listings are typically the predominant activity of land link programs, many programs also provide educational support through workshops or by providing online resources such as sample lease agreements. Some also act as a third-party mediator in developing a land access agreement. This research identifies several types of work done by land link programs to facilitate more well-defined and shared goals and expectations between a seeker and owner in a potential match.

II. Farmland Access in the Northeast U.S. Context

Several trends indicate that the Northeast U.S. is an important geographical area for a study about land access. First, land link programs are most densely located in the Northeast; 19 of 47 total U.S. programs serve the 11-state Northeast region. Second, local foods have rapidly gained in popularity over the past several years, motivating significant interest in growing food for local markets among would-be beginning and first-generation farmers (Shute 2011). National news sources regularly report on this growing trend (e.g. Johnson 2012; Charles 2011).
growing local food movement may be a motivation not only for beginning farmers to farm, but also for land owners to offer land for local food production (Weaver 2012). This is particularly true in the Northeast U.S., where farmers’ markets, CSAs and food hubs are prolific (Strolling 2013). Third, the Northeast is also a region with high development pressures on farmland, which makes land access barriers particularly acute as farmland is in shorter supply and land prices tend to reflect higher development values more so than agricultural values (Nickerson et al. 2012, p. 23). Furthermore, the Northeast has a history of strong public support for purchase of development rights (PDR) (Pfeffer and Lapping 1995), which could potentially be mobilized to support the protection of working farms. Finally, land link program participation by non-farming land owners may be particularly high in the Northeast, which may create certain opportunities and challenges to land access for beginning farmers that are important to understand. This research defines several land owner types based on academic literature about land owners and the rural-urban interface (RUI), and illustrates the ways that mental models of farming held by non-farming land owners may affect the establishment and long-term success of land access arrangements, as well as the ways in which land link programs might support this type of owner.

III. Mental Models

Mental models are internal, cognitive representations of the external world. They are unique to each individual, based on a person’s prior experiences, knowledge and values in a given area (Eckert and Bell 2006). People use these mental models to interpret external phenomena and make decisions. Acknowledging and incorporating the diversity of mental models about farming and farmers that exist among land owners is therefore a key component of developing effective land link programs. For land seekers, gaining access to farmland, be it through lease or even through purchase, requires a decision on the part of the land owner to permit access. Thus, it is important
for farmland seekers to understand what values and experiences with farming are shaping owners’ decision-making process. For land owners, finding a farmer who shares similar goals and values requires a similar understanding of the diversity of mental models which exist, and how to elucidate them through dialogue with a land seeker. Finally, land link program staff people must acknowledge and understand the multiple values, experiences and understandings that exist among their participants to be effective mediators between seekers and owners in land access partnership establishment. This research identifies several types of work that some land link programs currently do, but which could be expanded through a more explicit focus on mental model recognition and development.

IV. Research Questions

This research seeks to improve our understanding of the often divergent goals, motivations, expectations and knowledge about farming and land access held by beginning farmers looking for land to farm in the Northeast U.S. and the farmland owners seeking to provide them with an opportunity to access farmland. Furthermore, it explores the ways in which land link programs work to facilitate successful partnerships. These relationship factors may be key to establishing more and better land access arrangements, but little is understood about the parties involved nor how they establish a partnership. This research seeks to fill this gap by addressing the following two research questions:

1. What are the characteristics, motives and goals of seekers looking for land and owners offering land through land link programs in the Northeast U.S., and how do they shape their mental models of farming, one another and land access?

2. How do land link programs facilitate development of accurate and shared mental models of farming and land access among participants to facilitate more sustainable land access partnerships?
V. Thesis Overview

The following chapters will address the two research questions. In chapter two, I review relevant literature about beginning farmers, farmland owners and land link programs, then develop the mental model conceptual framework used in the study. This chapter defines land owner types based on key characteristics, and highlights the unique qualities of farming and land access partnership needs at the rural-urban interface. Chapter three documents the methods utilized in this study, as well as key attributes of the programs under study. I conducted 16 semi-structured interviews with key informant staff members representing 17 land link programs across the Northeast U.S., and distributed an internet-based survey to the participants (both seekers and owners) in ten Northeast land link programs. Chapters four and five present the results from the interview and survey data. Chapter four explores the first research question by highlighting the differing mental models held by farmland seekers and owners about farming, each other and land access, as revealed by the key informant interviews and supported by the survey data. The staff people interviewed are the primary contact person for participants in their respective programs, and thus “have a high level of aggregated and specific knowledge that is otherwise difficult to access” about their participants (Otto-Banaszak et al. 2011, p. 220). Chapter five explores the second research question by analyzing three key areas of work that land link programs use to facilitate more accurate and shared mental models between participants. This programmatic work focuses on mental model screening, strengthening and sharing. Finally, chapter six offers discussion, conclusions from the research and recommendations for future areas of inquiry.
CHAPTER 2

Literature Review and Conceptual Framework

This chapter provides a review of relevant literature about beginning farmers, land owners, farmer neighboring and land link programs, as well as a conceptual framework for understanding the role of mental model development and similarity in contributing to successful matches between farmland seekers and owners. First, I provide an overview of the literature about beginning farmers and farmland seekers in the U.S., with a focus on motives, opportunities and barriers to entry. Second, I review the literature about U.S. farmland owners and highlight relevant owner types. Third, I review the literature about farming and neighboring. Fourth, I provide a descriptive overview of the prior research about land link programs to situate this research within the (scant) prior research about land link program activities and outcomes. Finally, I develop a conceptual framework of mental models, with a specific focus on 1) individuals’ mental model antecedents, content and effects, and 2) collective mental model attributes, with a focus on mental model accuracy and sharedness. This includes a section on the literature about the “agricultural ladder” as a mental model of farmland tenure.

The social organization of farming in the U.S. has undergone substantial changes throughout the industrialization and globalization of the agri-food system since the mid-twentieth century (Lasley 2005). Decreased rates of farm entry coupled with steady farm exit rates have led to fewer total operators as well as consolidation of farmland into the hands of fewer land owners (Gale 2003, p. 169). Increases in tenancy rates and consolidation of land ownership are at least partly due to rising prices of farmland across the U.S. Fewer farmers can afford to purchase land at such high prices, and those who can afford it tend to already own the largest farms.
Costs to enter farming have risen over time, not only due to the price of land, but also because of the more mechanized and input-intensive nature of modern, large-scale farming. To purchase tractors, combines, seed, fertilizer, pesticides and other inputs necessary for commodity production requires substantial capital, and often, significant debt (Mooney 1988). However, as operating costs have escalated for mechanized, industrialized, productivist, commodity agribusinesses, other versions (and visions) of agriculture have emerged that are built on alternative premises (Lyson and Guptill 2004). These alternatives seek to reverse trends of environmental degradation, falling farm-gate prices, the decline of rural communities, and most recently the growing obesity epidemic among both adults and children and concerns over continued high reliance on fossil fuels (Feenstra 1997). Alternative agriculture pursues more sustainable alternative production and marketing systems, seeking to promote environmental balance, a living wage for farmers and more resilient communities.

Many new farmers are motivated by these sustainable agriculture principles; they are often attracted to this type of agriculture via interest in local food, environmental or community values (Shute 2011). But perhaps just as importantly, at least some versions of this type of agriculture represent a means for entry into farming by a new generation of farmers who have no opportunity to inherit land or machinery and cannot afford to purchase expensive inputs (Lasley 2005). Sustainable agriculture often relies on a smaller land base; rather than needing to secure a thousand-acre farm for commodity production, a farmer might start out very small, on only one acre, and sometimes even less, producing vegetables for local markets. This type of agriculture also seeks to use fewer off-farm inputs, further reducing costs of startup and maintenance; sustainable agriculture instead relies more on labor and on renewable sources of inputs such as compost and cover crops (Pfeffer 1992). Finally, the market for foods produced in a more
sustainable manner has expanded rapidly since the turn of the century. The broad national increase in support for the local and sustainable food movement over time can be seen in the growth of farmers’ markets nationwide, which increased almost 450 percent since 1994 to 7864 markets in 2012 (USDA 2012), and even in announcements from large grocery suppliers such as Wal-Mart that they intend to source more local fruits and vegetables for their supercenters in the future (Wal-Mart 2012). Clearly, consumers increasingly support the purposes affirmed through the local and sustainable food movement. National media sources frequently cover the local food movement, helping make local farmers into heroes in many communities (e.g. Korkki 2012; Kitroeff 2012). This increased demand for specialty foods coupled with opportunities for farmers to capture a greater share of the food dollar via direct markets has opened opportunities for growing numbers of people to enter farming. The next section describes who these new entrant farmers are and what motivates them to farm.

I. Beginning Farmers

As farm wage laborers or apprentices, or simply aspiring farmers with no farming experience, the farmland seekers who join land link programs likely are not represented in the USDA farm census, which is instead designed to represent farm operators: those with ownership and/or management responsibilities on a farm with sales or typical sales of $1000 or more annually (Harris et al. 2009, p. 20). Research about beginning farmers may somewhat characterize the population of farmland seekers, as a beginning farmer is someone with ten or fewer years of farm management experience as a sole or joint operator. With these limitations in mind, this review considers the literature about relevant aspects of prospective and beginning farmer motives, entry constraints and opportunities.
As noted above, entry rates into farming have overall declined for many years. Gale (1993) found that from 1982-1987, entry declined 50 percent among 18- to 24-year-olds and 29 percent among 25- to 34-year-olds. He also found that potential entrants declined over that time period, measured by number of farm family sons between ages 18 and 34 during the same time period (then the most common successor). He predicted continued declines in entrants through 1997 based on this finding. This trend was due in part to declining fertility rates among farm women, as well as farm outmigration by women (p. 140). This suggests that declines in the farmer population over time have not only been the result of a lack of desire or ability to survive in farming, but that the demographic structure of farm families places limits on the capacity of intergenerational transfer as a strategy for replacement and maintenance of the U.S. farm population. Thus, replacements for retiring farmers and others who exit farming may need to come from beyond the farm family.

The trend observed by Gale in the latter parts of the twentieth century has largely continued into the twenty-first century. Between the 2002 and 2007 Census of Agriculture, there was a 4 percent increase in all principal farm operators, but a 21 percent decrease among farmers under age 45. Growth occurred primarily among farmers age 65 and older; that demographic increased by 18 percent (USDA NASS n.d.). Thus, for the most recent agricultural census period, there was a slight net increase in the total number of farmers, but these beginning farmers are predominantly over age 45, an age that has typically been considered mid-career for farmers (Gale 2003, p. 178). In fact, almost one-third of beginning farmers are age 55 or older (Ahearn and Newton 2009, p. 1).

A. Demographic Characteristics

The USDA defines beginning farmers as “those who have operated a farm or ranch for 10 years or less either as a sole operator or with others who have operated a farm or ranch for 10 years
Beginning farmers differ from established farmers in several ways. Beginning farmers are more likely to own the land they farm than are established farmers, but they own smaller quantities of land than established farmers (p. 11). The average farm size of beginning farmers is 174 acres, compared with 461 acres among established farms (p. iv). Fifteen percent of all beginning farmers rent their land on a cash basis, compared with 30 percent of established farmers (p. 11). Beginning farmers are more likely to operate small farms as defined by the USDA as farms that gross under $250,000 annually (p. 3). Ninety-six percent of beginning farmers operate small farms, as compared with 88 percent of all farmers (p. 7). They are also more likely to be female, young and non-white than established farmers, although most beginning farmers are still male, middle-aged and white (p. iii). An additional definition to consider is that of the young farmer. The USDA defines young farmers as those under 35 years of age, which, as noted above, is an age category that relatively few beginning farmers are part of. Although most beginning farmers are not young farmers, more beginning farmers are young than are established farmers. According to the 2007 Agricultural Resource Management Survey (ARMS), just 17 percent of beginning principal operators are under age 35, although this is more than the 2 percent of established principal operators who are under age 35 (Ahearn and Newton 2009, p. 7). Finally, being a first-generation farmer signifies that without farming parents, farmland is not available for purchase or lease within the family. Among beginning farmers who own their land, half purchase it from a non-relative; this rate is even higher in the Northeast region, where over 60 percent of beginning farmers purchase their land from a non-relative (p. 12).

B. Motives for Farm Entry

As farm entry by first-generation farmers is historically rare, there is a relative dearth in the academic literature on this population, but the known literature is considered here. The
National Young Farmers’ Coalition (NYFC) published a survey of 1300 primarily active and beginning, first-generation farmers that outlines several reasons why many people are for the first time considering a career in farming: the rising interest in local food, environmental concern, a desire for outdoor and physical activity, growing market opportunities, and seeing other young farmers succeed (Shute 2011, p. 10).

Johnson et al. (2001) conducted focus groups with young, beginning, first-generation farmers across the Northeast U.S. to understand their motives for entering farming. In one of the study’s focus groups with young, beginning farmers from non-farming backgrounds, the following motivations were related:

They were entering agriculture for personal, environmental, and larger social reasons, but none because they thought they could make more money in agriculture than another business. Motivations included “worthwhile work”, “sense of personal accomplishment”, “a practical lifestyle”, and to “live sustainably”. Self-employment and making a positive difference to the world were also motivations. Many expressed that doing education and addressing social and environmental concerns was a part of their motivation as well (p. 29).

This observation echoes the findings from the National Young Farmers’ Coalition (Shute 2011) that entering farmers are motivated primarily by environmental and social concerns, along with quality of life considerations.

Ross (2005) reported farmers’ goals and motives for farming from interviews with 32 successful farmers in Maine who produce and market locally or regionally. Three-fourths of these farmers were first-generation farmers. Primary lifestyle motives outlined in the study included having more family time, doing work they believe in and to produce food for the local community (p. 116). Finally, “emotional wellbeing” through working outdoors and producing food were primary motivations for farming shared by eight young farmers from non-farming backgrounds in Nova Scotia (Haalboom 2013, p. 34). These studies indicate that lifestyle and personal goals are strong motivators for first-generation farmers to enter farming, and growth of
sustainable agriculture opportunities may be facilitating even greater interest in farming among this population.

C. Differences in Entry Patterns

The literature on farm entry points to several individual-level attributes that influence farm entry, motivations and continuation. Farming background and skills, as well as future goals influence need for varying support services (Johnson et al. 2001). Social networks are important to accessing needed resources for farm startup (Mailfert 2006). Available assets can also affect farm entry and continuation, as farmers lacking equity may not be able to afford high-quality land or fund input needs (Dodson 1996). Mann (2007, p. 440) found that motivation to farm among farm offspring on Swiss farms differed by age. Teenaged farm offspring were not personally interested in farming but perceived strong economic incentives, whereas farm offspring in their 30s did not see any economic incentive in farming, but were more personally attached to the family farm.

Finally, not only entry patterns can vary by farm background, but continuation of the farm may differ as well. Inwood et al. (2013) compared the farm values of first-generation and multi-generation farmers, and found that multi-generation farmers were more likely to socialize their children to also become farmers, whereas first-generation farmers were more likely to encourage their children to pursue whatever career they want.

D. Barriers to Farm Entry

Ahearn and Newton (2009) pointed to two key barriers to entry that beginning farmers face. This includes the high cost of farm startup and a dearth of land available for either rent or purchase (p. iii). The National Young Farmers Coalition survey also revealed several startup barriers identified by first-generation beginners: lack of capital (78 percent), land access
challenges (68 percent), unaffordable health care (47 percent), low access to credit (40 percent), and need for business and marketing skills (36 percent) (Shute 2011).

As of 2012, 914 million acres were in farming and ranching in the U.S. (USDA 2013), which is a decline of approximately 8 percent since 1990 (EPA 2013) and is the least amount of land in farming since the data series began in 1945 (Nickerson et al. 2011, p. 5). Approximately 3000 acres of farmland are lost to development each day in the U.S. (EPA 2013). Urban expansion is one factor that affects farmland availability, which may be particularly acute in the Northeast U.S. The amount of urban land in the U.S. increased by approximately 7.8 million acres, or by 13 percent, during the period between 1990 and 2000 (Lubowski et al. 2008, p. 28). The Northeast contained 17.6 million acres of farm and ranch land in 2007, which is just 15.8 percent of the total land mass of the Northeast region (Nickerson et al. 2011, p. 10). This is the lowest proportion of farm and ranch land of all regions of the U.S. The Northeast region also has the highest proportion of acres classified as urban, at 11.2 percent, as compared with 2.7 percent nationally (Nickerson et al. 2011, p. 10). This means fewer total acres may be available for farming in the Northeast region. Furthermore, while renting may have traditionally been a method of entry for beginning farmers, land rental is increasingly used by established farms as a way to expand an operation while avoiding high capital investments, causing possible competition between expanding and beginning farmers for rental ground (Hoppe 2006, p. 20).

For farmers to purchase farmland in the Northeast, they typically pay some of the highest prices in the U.S. Nickerson et al. (2012, p. 3) reported that in 2007, the average value of farmland in the Northeast was $5000 per acre, which was approximately double the national average. Potential macro causes for high prices of agricultural land include increased farm and rural non-farm incomes (Henderson and Novack 2005, p. 70; Duffy 2011, p. 2), diminished
supply of land as farmers hold onto their land longer (Duffy 2011, p. 2), development pressures for urban, non-farm residential and recreational uses (Bastian et al. 2002, p. 337; Snyder et al. 2008, p. 69; Cavailhes and Wavresky 2003, p. 354) and increased interest in farmland purchase as a relatively stable investment strategy (Nickerson and Barnard 2006, p. 13, Duffy 2011, p. 3). In the Northeast, over 30 percent of the value of agricultural land is attributed to its development value in most states, compared with a national average of development contributing 10 percent of the value (Nickerson et al. 2012, p. 23).

Several site-specific factors also influence farmland sale price, including soil quality (Nickerson and Barnard 2006, p. 14), vicinity to large population centers (Plantinga et al. 2002, p. 574), recreational amenities (Snyder et al. 2008, p. 68) and government payments (Nickerson et al. 2012, p. 18). Plantinga et al. (2002, p. 575) found that the price of agricultural land in many Northeastern states in particular can be attributed to future, potential development uses. For example, the authors found that over 80 percent of the value of farmland in New Jersey and Connecticut was attributable to development potential. The relative dearth of farmland and particularly high land prices in the Northeast point to challenges to land access being especially salient for beginning farmers in this region. Such barriers may preclude land purchase for many beginning farmers and necessitate alternative means of land access.

II. Farmland Owners

A. Farmland Ownership Trends

The USDA Census of Agriculture tracks data about farmers, farms and tenure trends. Many of these farmers are also land owners, but not all. Likewise, many land owners are farmers, but not all. Thirty-six percent of farmers rent some or all of the land that they farm

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2 See Figure 18 on p. 23 in Nickerson et al. 2012 for land prices by distance from population centers.
(Ahearn and Newton 2009, p. 11). However, there is limited data available specifically about the non-farming land owner population (Geisler 1993). The most recent national survey that included this population was the 1999 National Agricultural Statistics Service (NASS) Agricultural Economics and Land Ownership Survey (AELOS), which determined there were 2.2 million agricultural landlords (Nickerson et al. 2012, p. 29). In 1999, 42 percent of the land in farming was owned by non-farmers (Hoppe 2006, p. 17), and in 2007, non-operating land owners owned 29 percent of the U.S. land in farms (Nickerson et al. 2012, p. 29). These data do not include rural land owners whose land is not in farming. Nationally, the 2007 major land uses estimate for the number of acres of land in nonfarm, rural residences was 103 million acres (Nickerson et al. 2011, p. 29), compared with an estimated 56 million acres in 1980 (p. 30). Past research shows that there are important differences between farming farmland owners and non-farming farmland owners that have the potential to affect outcomes for beginning farmers. The academic literature which considers the population of non-farming rural land owners is found in studies about the rural-urban interface, as well as the farming and neighboring literature. These areas of research reveal sometimes conflicted relations between farmers and non-farming neighbors (Lasley 2005). The following sections outline the key differences between types of land owners.

**B. Land Owner Demographic Characteristics**

In 2007, 29 percent of all U.S. land in farms and 77 percent of rented farmland was owned by non-farming land owners (Nickerson et al. 2012, p. iv). In the Northeast region, 24 percent of all farmland was owned by non-farming land owners in 2007 (Nickerson et al. 2012, p. 30). This rate may be even higher in urbanizing counties. Non-farming farmland owners are older than farming land owners (42 percent are over age 70 compared with 20 percent of owner-operators in 1999), less likely to live on the land (29 percent versus 82 percent of owner-operators in 1999),...
operators) and participate less in conservation programs than do farm operators (8 percent compared with 10 percent of owner-operators) (ibid p. 31).

C. Land Owner Goals, Motives and Values

Prior research about farmland owners draws various distinctions between different types of land owners. Some researchers have compared farmers to non-farmers in a general way, while others have compared residents to absentee land owners, or non-farming land owners from different backgrounds. Not all distinctions have been found to be related to differences in motives or values, however. For example, in a survey of non-farming rural land owners in Ontario, Canada, Milburn (2011) identified demographic differences among non-farming farmland owners but concluded that further dividing non-farming farmland owners into categories of retirees, exurban commuters and second residence owners, was not useful because these groups had very similar goals, motives and values for living in a rural setting (p. 17). Instead, Milburn determined that the more important distinction in terms of demographics, motives and type of connection to the land, was between non-farming and farming land owners (p. 18). Similarly, Smith and Sharp (2005) measured differences in attitudes about farming between long-time and newcomer non-farming residents, but found little difference in their level of annoyance with farm neighbor issues such as odors and dust, nor about their attitude toward farmers in the community. Instead, the only differences identified were between farmers and all non-farmers.

There is some evidence to indicate that differences between non-farming farmland owners and farmers may be growing as non-farming land owners have increasingly distant ties with farming or rural communities. Arbuckle (2011, p. 14) stated that it is important to acknowledge that the “percentage of landowners who are geographically and culturally removed
from farming will grow” in the future. Rural land owners who have never farmed may have different property goals and values than land owners who have some connection to farming, such as active and retired farmers, or widow(er)s and children of farmers (Arbuckle 2011). With many ways to differentiate land owners, terms used to refer to non-farming rural land owners abound. Examples include “non-operators,” “absentee landlords,” “amenity buyers” (Sorice et al. 2012), “lifestyle oriented rural land owners” (Gill et al. 2009), “seasonal residents” (Green et al. 1996), “second homeowners” and “non-farming land owners.” The main characteristic that each of these terms has in common is that they are used in contrast with “farmer,” or “owner-operator.”

Some studies point to differences between farmers and non-farming farmland owners in their goals and motives about land use and land access decisions. Koontz (2001) found that owners who relied on the property for some portion of household income were more motivated by financial returns for several land use-decisions than were owners who did not rely on this income. However, the majority of both groups cited non-monetary motivations for most of their activities on their land (p. 59). Further, land owners who base their decisions primarily on non-monetary factors own smaller parcels, own fewer total acres of land, have higher incomes, have higher levels of education and are younger than owners who base decisions primarily on financial factors (p. 61). Butler et al. (2007, p. 356) found environmental values, as well as family legacy motivations, to be primary reasons for owners to seek conservation measures on their land. Owners who live on their property but do not use it as a source of income own smaller parcels and prioritize amenity values over financial goals, whereas those who derive income from their land own larger plots and are more likely to participate in conservation programs (p. 352).

Motives for living in a rural place may also differ between non-farming and farming land owners. Gill et al. (2009) identified several reasons why “lifestyle oriented rural land owners”
bought land in rural areas, including motives predominantly based in lifestyle preferences, such as being outdoors and providing contact with nature to their children. They also identified a strong desire for greater privacy and distance from others (p. 323). Participants also expressed a desire for their land to be productive in some way, and some felt guilt if they thought it was being underutilized (p. 325). These land owners were very motivated by “doing the right thing” in natural resource management, but the definition of what actually constitutes good management varied from person to person (p. 327). They also found that many new rural land owners are initially unaware of the cost and magnitude of time required to develop infrastructure, acquire equipment and otherwise manage their land according to their objectives (p. 327).

Sorice et al. (2012, p. 60) identified primary motivational factors for purchasing farmland among Texas land owners, which clustered into three types by primary motives for ownership: agricultural production owners (26 percent), multiple-objective owners (35 percent) and lifestyle oriented owners (39 percent). Production-oriented owners were primarily motivated by profit and production potential, multi-objective owners were mainly motivated by a rural lifestyle and investment incentives, and lifestyle-oriented owners were motivated by rural lifestyle goals. All groups had similar demographic characteristics, including age, income and education levels, but production-oriented owners owned the most land, had more ranching experience and self-identified as more competent ranchers than the other two groups, while lifestyle-oriented owners ranked the lowest of the three groups on these factors. The findings offer an example of values-based land management differences that could cause conflict among different types of owners: production-oriented owners remove plants of low grazing value but lifestyle-oriented neighbors encourage these same plants to spread based on false beliefs that they benefit wildlife (p. 62). Finally, Milburn et al. (2010) compared motives for rural living among farming and non-farming land
owners, and found that non-farming owners prioritized the aesthetics of rural spaces as well as the “restorative” properties including perceived seclusion, open space and safety. Further, these owners were motivated to actively maintain the aesthetics and health of their environment (p. 41).

While Milburn (2011) found no significant distinctions between types of non-farming rural land owners, the people in that study all had in common that their residence, either primary or secondary, was also located on the rural property. What may be an important distinction, however, is whether the non-farming land owner has a residence on the property or is an absentee land owner, particularly as absentee land ownership may be on the rise (Duffy and Smith 2008, p. 3). Petrzelka et al. (2013) identified several differences between absentee land owners and owners who live on the land through a meta-analysis of peer-reviewed literature analyzing absentee forest land, range land and farm land owners. They found that overall, absentee farm land owners tend to not be dependent on income from the land, typically do not have a farm background and are apt to rely on the tenant farmer to make land management decisions (p. 162).

In a comparison of first-generation and multi-generation farming land owners in six RUI regions across the U.S., Inwood et al. (2013) found differing farm succession goals between these two groups: multi-generation farmers were committed to ensuring their farm continues to the next generation, while first-generation farmers were more likely to say their children could choose for themselves whether they want to farm (p. 20). Succession decisions also relate to farm adaptation strategies and farm entry; Inwood and Sharp (2012) found that farms with an identified successor used a variety of intensification strategies to support the next generation, while farms without a successor tended to stagnate or decline. Zollinger and Krannich (2002) found that farmers’ motives that were positively related to expectation to sell land located in peri-urban agricultural areas include perception of increased barriers to farming in that location, decline in farm
productivity and lack of a farm successor. The following figure (Figure 1) highlights the distinctions from the literature about land owner types. The present study focuses primarily on distinctions between farming and non-farming land owners. Secondary distinctions are drawn between types of non-farming land owners.
Figure 2

Farmland Owner Types
D. Owner Influence on Availability and Affordability of Farmland

Individual land owner characteristics may affect availability of and accessibility to land for farmers, both for rental and purchase. For example, Bryan et al. (2011) found that rental rates in Ontario, Canada, vary by type of land owner. Widow(er)s charged the highest rates, followed by retired or active farmers, investment companies, non-farming residents, owner investors, and finally, government. Those with a farm background (widow(er)s and active or retired farmers) charged significantly more per acre (p. 18). Land quality and complexity of the rental agreement were also positively related to rental rate and length of the rental relationship was negatively related to rental rate (p. 18). No known studies consider why a non-farming land owner might decide to rent land to a farmer, nor how they decide what type of production to promote on their property. This research explores this issue within the context of participation in land link programs, which are attracting considerable numbers of non-farming land owners seeking to offer land to a farmer.

The relationship between the land owner and the tenant farmer may be important to understanding not only patterns in the farmland rental market, but also on-farm decision making participation (Constance et al. 1996). Among farmland renters and owners in Wisconsin, Gilbert and Beckley (1983, p. 578) found that renters tend to have greater control over decisions affecting the rented land than do owners. However, this and other studies (e.g. Salamon 1992) focus primarily on agriculture in the Midwest, where land owner-tenant relationships tend to be between family members, neighbors or other prior acquaintances. In the potential relationships highlighted in the present study, owners and prospective tenants are typically strangers, and locate each other via the internet or through recommendation by a land link program staff person.

Little research has explored the landlord-tenant relationship between parties who are both relatively new to the area. While some studies consider non-farming land owners as newcomers
to the rural-urban interface, few consider that beginning farmers may also be newcomers to the area. Two studies which focused on newcomer farmers include Mailfert (2007) and Ingram and Kirwan (2011). Mailfert (2007) found that newcomer farmers in France had fewer local social networks than long-time farmers, which sometimes had negative effects on attempts to access land. One newcomer farmer even experienced legal action against him by a long-time resident in an attempt to keep him from acquiring land in the area (p. 28). Ingram and Kirwan (2011) evaluated an initiative to facilitate farmland transfer from retiring farmers to new farmers in Cornwall, England. They found that only one match was successful, but that the beginning farmer was not a newcomer to the area, and had in fact worked for the exiting farmer in years past, prior to successfully arranging a farm succession plan. No true newcomer matches were successful. The authors concluded by recommending greater support for land transfer between parties who already know one another rather than making further attempts to bring strangers together (p. 925). This points to the importance of owners developing a relationship with newcomer farmers on their land or in their area.

Sale price and the relationship of the owner to the buyer are also related, demonstrating that social factors can also play a role in determining land prices (Kostov et al. 2008; Perry and Robison 2001). For example, Robison et al. (2002, p. 53) found that the minimum sale price that farmland owners in Nebraska, Michigan and Illinois were willing to accept was lower when selling to either a “friendly neighbor” or to a relative, indicating that the relationship of the owner to the buyer affects sale price and pointing to the influence of social capital in determining outcomes. Farmers without an heir are more likely to sell their land for development (Zollinger and Krannich 2002). Intention to build a house on the property on the part of the buyer was positively related to land purchase price by Snyder et al. (2008, p. 62). Perry and Robison (2001, p. 396) also point
to the importance of social networks for finding available land in the first place, before it becomes public knowledge. As noted above, newcomer farmers may lack these social networks for finding land.

III. Farming in the City’s Shadow

Of the 3141 counties in the U.S., 63 percent of counties were considered non-metro or rural in 2013 (USDA ERS). However, only 61 percent of all U.S. farms are located in these non-metro counties; the other 39 percent are located in metropolitan counties (Ahearn and Newton 2009, p. 11), and produce 40 percent of the value of all U.S. agricultural output (Nickerson et al. 2011 p. 31). While agriculture has historically been viewed as a predominantly rural activity, increased urbanization of previously rural and agricultural spaces across the U.S. is effecting changes in these areas that affect the structure of agriculture (Jackson-Smith and Jensen 2008, p. 1). These boundary shifts have potential to bring about new social structures between rural and urban places (Lichter and Brown 2011). Changing social, economic and demographic structures at the interface between rural and urban communities can create new tensions that require both old and new residents to adapt (Abdalla and Kelsey 1996). Because many of the land link programs in the Northeast region serve communities in these evolving areas at the rural-urban interface, it is important to understand the unique forces that affect farm entry and exit in these areas.

The space where non-farming agricultural land owner residents are able to live and commute to urban workplaces has widened around cities over time due to improvements in transportation and telecommunication, along with the movement of more jobs out of urban centers and into suburban areas. Farm production and adaptation pressures and patterns in these metropolitan areas may differ from those experienced by farms in more rural areas (Inwood and
Sharp 2012). These pressures may be particularly salient in the Northeast U.S., where 71 percent of counties are exurban counties (174 of 244 total)³.

Prior literature has used various terminology to refer to this space where agricultural and rural areas intersect with non-farm, urbanite influences, including “exurbia” (Spectorsky 1955), the “rural-urban interface” (Johnston and Bryant 1987) the “city’s countryside” (Bryant et al. 1982), “peri-urban” (Clark et al. 2007) and the “urban fringe” (Heimlich and Anderson 2001). Heimlich and Anderson (2001, p. 2) also differentiate the area beyond the urban fringe, where very low density residences (more than half of residential lots are 10 acres or larger) are increasingly being built. Following Sharp and Smith (2003), the term rural-urban interface (RUI) is primarily used here to emphasize the dynamic, evolving nature of the space. The RUI is of interest to researchers both for the potential loss of (prime) farmland to rural non-farm residences and concurrent threats to high-value food production capabilities (Heimlich and Anderson 2001, p. iv), and also because of the potential for social conflicts to arise between the farming and rural population, and the influx of exurbanites who may be from a different socio-economic class and bring with them differing cultural values and motivations for rural living (Kelsey and Vaserstein 2000).

Characteristics, opportunities and constraints of farms and farmers at the rural-urban interface may differ from those of farms and farmers in rural areas. Furthermore, farmers’ perceptions of the shifting rural to urban nature of their area may differ, along with their ability or willingness to adapt to these changes (Liffmann et al. 2000). Heimlich and Anderson (2001) outlined several pros and cons of farming at the RUI. Urbanization’s positive effects on farms include access to local labor, off-farm employment options for the farmer and/or partner and opportunities for high-value sales of specialty and direct-marketed products. Negative effects

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³ This was calculated by totaling all counties with UIC codes 1 through 4, plus counties with UIC codes 5 through 7 and population change greater than the U.S. average of 9.7 percent (there were none in this category), following Clark et al. (2007).
include conflicts with non-farming neighbors, shrinking markets for some crops (i.e. grain elevators may close), reduced local availability of farm inputs, rising real estate taxes, water-use restrictions and lower crop yields due to smog or vandalism (p. 39).

The makeup of farms in the RUI is diverse, and includes recreational or hobby farmers, adaptive farmers (farms producing high-value goods) as well as traditional farmers (Hoppe and Korb 2001). Certain crops are more commonly produced in RUI areas of the U.S.: 91 percent of all fruit, nuts and berries; 78 percent of vegetables, 67 percent of dairy and 54 percent of poultry (Brinkley 2012, p. 259). Opportunities for direct-marketing of farm products can also be more prevalent in RUI areas, due to closer proximity to large populations in urban areas (Clark et al. 2007, p. 3); to remain competitive, farms tend to intensify production and engage in part-time farming at the RUI (Lockeretz 1988). Also, production of specialty crops may be higher: for example, Beauchesne and Bryant (1999) found that farming in RUI areas of Quebec, Canada, more often involved organic production than in other areas.

These trends illustrate several types of farmer adaptation at the RUI. Clark et al. (2007) identified several adaptive activities carried out by farmers at the RUI, including production intensification, direct marketing and changes in farming practices to placate neighbors. Hoppe and Korb (2001) found that adaptive farms are the type of farm most densely located in metro counties, but cautioned that this is not evidence of high survival of these farms at the RUI, but rather of high rates of entry into this type of farming as people are attracted to the high potential earnings in specialty products marketed to urban consumers (p. 9). Interestingly, there was some tendency for adaptive farms to become traditional farms over time, on the same property (p. 7). This tendency increased the further the property was from a metro area, but there is no accounting for changes among farmers who may have begun their operation by operating an
adaptive farm on rented ground close to a metro area, but later moved to a more rural area to rent or purchase land. The present study indicates this may occur among some farmers, but would require panel data to explore further.

Neighboring between farmers and non-farming residents at the RUI, and the potential effects of these social considerations on the sustainability of farms in those areas is another key area of research. Scholars have raised concerns for many years that the attitudes and activities of non-farming neighbors moving into the RUI from urban areas may negatively affect agriculture in the area (Berry 1978, Lockeretz 1987, Bryant and Johnson 1992, Liffmann et al. 2000), although Smith and Sharp (2005) pointed out that positive attitudes toward local farms on the part of non-farming neighbors also have the potential to improve support for agriculture through activities such as patronizing a local farmers’ market (p. 566). Neighboring work such as holding a farm open house is a way to build social capital and trust among non-farming neighbors (Sharp and Smith 2003). Sharp and Smith (2004) found the impact of neighbors on farms to differ by type of farm. Full- and part-time farmers reported that social challenges are a greater concern than did retiree or hobby farmers (p. 122). They are also more likely to do neighboring work than retiree or hobby farmers, such as holding an open house on the farm or shifting work to accommodate neighbors’ activities (p. 125). Communication between mushroom farmers and non-farming neighbors was found to be key to mediating conflict over concerns such as odors and chemical use, although neighbors were more likely to complain to other neighbors or local government officials than directly to the farmer (Kelsey and Vaserstein 2000, p. 465). These studies explore owner to owner neighboring work, not tenant to landlord, however. The present study explores aspects of tenant to owner neighboring work. Neighboring between tenants and
owners may be even more crucial, as both parties seek to use the same property for separate and potentially conflicting purposes.

Farmers’ perceptions of the opportunities and barriers facing them at the RUI vary as well. Oberholtzer et al. (2010) found that among 15 urbanized counties, not more than 60 percent of farmers in any one county planned to still be farming in ten years. In all but one county, less than half of farmers had a family successor planning to take over the farm. Furthermore, despite supposedly greater opportunities for direct-marketing in urbanized counties, direct market farmers were less optimistic about agricultural prospects and had higher expectations of developing their land in the future than wholesale farmers (p. 69). In contrast, Sharp et al. (2002) identified direct marketing, and community supported agriculture (CSA) in particular, as a key strategy to increase awareness about farming among non-farming neighbors, increase social capital among farmers and mediate potential conflicts. Furthermore, Sharp et al. (2011) found that the presence of formal agriculture organizations such as food policy councils can positively affect perceptions about a region’s agriculture. Key informants in RUI counties with greater agriculturally-oriented organizational support expressed more optimism about agriculture’s future, indicating that the existence of formal agriculture organizations can positively affect agriculture in the area (p. 189).

The substantial increase in CSAs, farmers’ markets and other local food outlets in urban and RUI areas may in fact be generating enough awareness and social capital to motivate land owners to offer land access to a local farmer. Local food movement-generated land has the potential to become a positive aspect of farming at the RUI. As chapter four will illustrate, many land owners who join land link programs express motives for joining that relate to this support for local food. However, Smithers et al. (2008) questioned the limits of local as a value held by consumers,

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4 I acknowledge Analena Bruce, Rutgers University, who provided the idea for this term through her work on food movement-generated labor in her paper titled “Labor of Love: Viability Strategies in Sustainable Farming” at the 2013 Agriculture, Food and Human Values Society annual meeting.
finding that farmers’ market shoppers sometimes use that space as a status marker (p. 349). The findings from this research indicate there might be similar limits to local motivational factors as a source of land access.

**IV. Prior Research on Land Link Programs**

**A. History**

The first U.S. land link program was established by the Center for Rural Affairs (CFRA) in Nebraska in 1990 (Hamilton 1996, p. 22). It was created in response to the trend of high numbers of people exiting agriculture with concurrently low rates of entry. The CFRA was concerned that this trend would negatively affect rural communities (Strange et al. 2003, p. 173) and lead to consolidation of smallholder family farms if the trend was not reversed (Knehr 2000, p. 1). The CFRA Land Link website states its mission thus: “Land Link is an opportunity for beginning farmers and ranchers and established landowners to work together to secure their farming futures. These relationships benefit both parties, and they secure the future of American small family farms” (CFRA n.d.). Other programs frame their mission around a need to support new entrants into farming, to transition farmland from aging and retiring farmers to the next generation, and to support the continuation of rural spaces and working lands (Hubbard 2006).

Through internet research on these mostly state-based programs, I identified 47 programs in 30 states across the U.S. as of March 2013, with 19 located in the Northeast region. Following Hammer (2008), land link programs are broadly defined here as programs which link farmland seekers not only directly to land and land owners, but also to resources that will help those seekers be prepared to make good choices regarding land access. This definition more fully encompasses the wide range of activities conducted by many programs, and broadens target outcomes beyond number of matches made. Land link programs are run by non-profits, land
trusts, state governments or universities. Central to land link program functions is an application process in which both seekers and owners outline their needs and interests in writing. This information is then entered into a database (typically made available on the internet), parties can search for potential matches, and they then meet with a potential partner to arrange a land access agreement, a “match” or a “land link.” Links can take the form of leasing, purchase, rent-to-own, and other models. Other program activities can include follow-up phone calls to discuss participants’ goals in greater depth, educational workshops, one-on-one consultations, resource provider referrals, review of lease or purchase terms, and kitchen table consultations to facilitate seeker-owner conversations. Hubbard (2006) reviewed six land link programs in a professional paper, and found that the activities of the programs fall under three broad categories of a “Hands Off Approach,” “Arm’s Length Approach” and “High Involvement Approach.” Each of these programmatic approaches has a different level of financial and staff time investment, which Hubbard found to be the limiting factor to providing services for most programs (p. 28).

A persistent issue faced by land link programs is that stakeholders often perceive the primary target outcome to be number of matches made. This is problematic because programs make seemingly few matches per year, often only one or two, although some programs make around ten matches each year (Hammer 2008, p. 11). Land link program staff people also tend to view this objective as somewhat out of their control, making it a poor indicator of program effectiveness (Hubbard 2006, p. 26). Finally, many program staff people point to the many associated programming activities they conduct as important components of service and outreach (such as educational workshops) that a metric based solely on number of matches made cannot adequately evaluate (Hammer 2008, p. i). This study looks beyond the number of matches made
to consider land link program participants’ preparedness for both making a match and maintaining a positive relationship with one another.

B. Organizational Context

No known research has been conducted about organizational foundings of U.S. land link programs over time or across geographical space. When Hammer (2008) conducted her research in mid-2007, she identified 15 functioning programs at that time (and two defunct programs). In March 2013, I identified the existence of 47 programs. Thus, it appears that the number of programs tripled between 2008 and 2013 over the number of programs in existence between 1990 and 2007. Hammer also found that most of the 15 programs served a single-state region, whereas by 2013 there were several which serve a single- or multi-county region, or a multi-state region. The CFRA Land Link has even expanded to serve the whole U.S. (CFRA n.d.).

The 47 land link programs operating as of March 2013 span 30 U.S. states. This study is focused on the Northeast region, which includes the 11 states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont. Within this region, there are 19 land link programs. Thus, proportionally, the Northeast has a higher density of programs than other regions of the U.S. While this study does not seek to understand why there are more programs located in the Northeast U.S., it may be important to understand the characteristics of the region that may contribute not only to a higher density of programs, but also to a particular range of opportunities and constraints they may encounter.

Data from the Natural Resource Conservation Service (NRCS) Farm and Ranchland Protection Program (FRPP), the federal program begun in 1996 to promote and fund farmland preservation show that eight of the eleven Northeastern states ranked in the top ten for total number of parcels preserved since the program began. In addition, eight of the eleven Northeastern
states ranked in the top ten nationally for the percent of available crop acres preserved from 1996-2012 (author’s calculations). This, combined with the fact that six of the 19 land link programs in the Northeast region are operated by land trusts, indicates that farmland preservation goals may be a key factor in organization establishment, although it is not a focus of the present research.

V. Mental Models

The mental model framework is used in research that seeks to understand people’s internalized views of the external world. It has been used in fields including agricultural extension (Baynes et al. 2011; Eckert and Bell 2005; Schöll and Binder 2010), education (Taylor et al. 2003, Dove et al. 1999), entrepreneurship (Hill and Levenhagen 1995; Lim et al. 2013) and organizational team research (Mohammed et al. 2010; Lim and Klein 2006; Mathieu et al. 2000). Because people can have a diversity of mental models, a key use of practice-focused mental model research identified in the literature is to recognize and address stakeholders’ missing or incomplete knowledge about relevant domains (Jones et al. 2011). Mental models are commonly elicited through guided construction of an external representation (words or drawn images) of the internal model, or through qualitative research methods.

A. Overview

Mental models are “simplified representations of the world” (Kempton et al. 1996, p. 10) that individuals maintain to “represent, organize and restructure domain-specific knowledge” in their mind (Eckert and Bell 2006, p. 2). Individuals maintain mental models of many areas of their life, including things such as how or when day-to-day tasks should be done, and how to behave in a particular situation such as parent-child or employer-employee relationships. Mental models are shaped by a person’s values, experiences and knowledge about the given domain.
(Eckert and Bell 2006, p. 2), and also serve as a filter for accepting or rejecting new knowledge or perspectives—mental models “guide and regulate human perceptions of the physical and social world” (Baynes et al. 2011, p. 378), as well as direct future learning and individual decision making (Eckert and Bell 2005, p. 1).

While mental models are internal, cognitive representations of the external world, the ways in which people communicate and act in a particular context can reveal their mental model of that domain (Eckert and Bell 2006). For example, if my mental model of a healthy diet consists of knowledge about the relationship between reducing calorie intake and weight management, and a belief that weight management constitutes health, then I will choose to eat low-fat or sugar-free foods. Alternatively, if my mental model of a healthy diet includes the knowledge that a diversity of vitamins and minerals is related to avoidance of illness and a belief that avoiding illness is the most important component of health, then I will choose to eat nutritionally dense foods but not necessarily select low-calorie foods.

The components of an individual’s mental model about a particular domain are unique to each person (Eckert and Bell 2005), but adherence to or rejection of similar mental models “often has a clear social pattern of variation, as can be shown by analyses of which beliefs and values are shared across which groups of society” (Kempton et al. 1996). Thus, demographic characteristics may align with differing mental models among different populations and cultures.

People’s mental models of particular domains can also be incomplete, inaccurate and/or inconsistent (Chi 2008, p. 61). People may fill gaps where knowledge is missing or incomplete with inaccurate knowledge. For example, a land owner who has never seen a vegetable farm might construct a mental model of a vegetable farm based on the images she sees at her local farmers’ market. This is not illogical if it is the closest thing to a vegetable farm that she has
encountered. However, the model she forms is incomplete because it fails to incorporate other objects such as mud or bugs that the farm includes but the farmers’ market does not (assuming the farmer thoroughly washed his wares).

Studies that use a mental-models framework to consider farmer knowledge, beliefs and attitudes frequently do so in order to argue for the inclusion of this perspective in program development and dissemination among agricultural extension personnel. The important role of land link staff people in this research and in the programs’ outcomes indicates a mental models framework may offer similarly useful perspectives. For example, Schöll and Binder (2010) found that the mental models of farmers and experts were substantially different in the area of pesticide risk management. Furthermore, they concluded that these differing conceptualizations of pesticide use were in part responsible for ineffective educational programming, and recommended changes based on a more comprehensive understanding of the farmers’ existing mental models. Baynes et al. (2011) came to a similar conclusion about the deleterious effects of differing mental models between farmers and extension personnel in the Philippines, and recommended that the staff people reorient their training to account for these differences.

B. Collective Mental Models

Mental model studies in the management literature have developed the concept of team mental models, which are “team members’ shared, organized understanding and mental representation of knowledge about key elements of the team’s relevant environment” (Mohammed et al. 2010, p.879). A team mental model includes two key aspects: accuracy and sharedness. Teams with more accurate and shared mental models about pertinent domains are able to exhibit “a common view of what is happening, what is likely to happen next, and why it is happening” (Mohammed et al. 2010, p. 880). This research focuses on partnerships, which
may differ from teams, but share a need for some level of accuracy and sharedness. In the case of partnerships, it may be a difference of degree that also depends on the level of owner involvement in the farm operation. This research seeks to understand the differing mental models about farming, one another and land access that are held by the farmland seekers and owners who join land link programs, and how these differences may influence seekers’ ability to secure land access. Furthermore, this research analyzes the activities carried out by land link program staff people to facilitate development of accurate and shared mental models within partnerships between a farmland seeker and owner. Analysis of the relative effectiveness of different activities in achieving more accurate and shared mental models can improve our understanding about how to better facilitate this process among participants. Chapter four illustrates several scenarios of inaccurate and non-shared mental models between the populations of seekers and owners in land link programs, and how this sometimes acts as a barrier to land access and sustainable partnerships.

Effective mental model development is particularly essential in contexts characterized by uncertainty (Mohammed et al. 2010, p. 876). Hill and Levenhagen (1995) emphasized that entrepreneurs frequently operate in uncertain environments, wherein they must create new meaning through developing new industries in order to remain competitive with already-established industries. In these environments, the entrepreneur must do both sensemaking—develop mental models of how the new environment works, and sensegiving—communicate these new mental models to others in order to gain support. As will be shown in chapter four, many land seekers who join land link programs have goals to start alternative farm enterprises and sell their products through alternative markets. Thus, sensemaking may be a key activity for these entrepreneurial farmers. Furthermore, because they lack a vital resource to realizing their
farm goals—land—they must engage in the work of sensegiving with farmland owners in order to garner their support and trust, and gain access to that resource. Chapter five describes the ways that land link programs facilitate sensemaking through mental model strengthening work, as well as sensegiving through sharing work.

C. The Agricultural Ladder as Actual and Mental Model of Land Tenure

The “agricultural ladder,” is a term thought to have first been used by Richard Ely in 1917 (Kloppenburg and Geisler 1985, p. 59). The agricultural ladder is a model of the stages that farmers progress through as they reach different social and economic configurations of farming. The initial four rungs recognized as such were family worker (farm youth) → hired man → tenant operator → owner operator (Barlowe and Timmons 1950). The owner operator stood on the top rung, with the three factors of production, land, labor and capital, all under his control. More rungs were quickly conceptualized, however: by 1923, researchers acknowledged seven rungs, including wage labor → share cropper → other tenants → mortgaged part-owner → part owner → mortgaged owner → full owner (Gray et al. 1923). Galpin and Hoag (1919) brought the ladder full-circle by adding farmer retirement as the final rung, which they saw as the point when the retiring farmer also became a landlord for a farmer seeking to attain the tenant run. Other rungs have been proposed over time, including off-farm work (Barlowe and Timmons 1950), 4-H, Future Farmers of America (FFA) or similar organization-led projects (Harris 1950), going to college (Lyson 1979) and even temporary labor migration in developing world contexts (Bates and Rudel 2004).

The agricultural ladder enjoyed frequent use as a conceptual framework for farm tenure of the individual farmer throughout much of the early twentieth century. Many researchers who focused on the agricultural ladder made assumptions that it is uni-directional, and some also saw
it as linear. A farmer gains skills and capital during wage labor and tenancy in order to then progress to owner-operator status (Barlowe and Timmons 1950, p. 33). Thus, a farmer moving from tenancy to ownership is moving up the ladder, while someone who leaves a tenancy situation to become a farm wage laborer moves down the ladder (e.g. Alston and Ferrie 2005). A farmer might also skip one or more rungs, but still be seen as climbing the ladder (Barlowe and Timmons 1950, p. 31).

Progression up the rungs of the ladder has been associated with various individual-level attributes and outcomes. Those on higher rungs tend to have a higher net worth (Gray et al. 1923, p. 548; Alston and Ferrie 2005, p. 1067) and be older (Gray et al. 1923, p. 548). Family assistance such as a gift or inheritance of land was also a very helpful “leg up” to higher rungs in the early- and mid-twentieth century (Barlowe and Timmons 1950, p. 47). With greater numbers of first-generation farmers in the early twenty-first century, this type of assistance may not be as readily available.

Harris (1950) described the agricultural ladder in America’s social imagination during the pre-World War years thus:

The process was thoroughly American and reasonably descriptive of the experience of many farm operators. The young married couple with no financial resources, but with good health, ambition, thrift, and industry, could start from scratch and climb to the top rung of the ladder. Individual initiative and economic ruggedness were depended upon to guide young farmers on their way to complete ownership. Little attention was paid to human exploitation, and little thought was given to deterioration of land resources (p. 259).

Barlowe and Timmons (1950) sought to address concerns that the agricultural ladder was more myth than reality by the middle of the twentieth century. They concluded that the agricultural ladder works during periods when farm incomes are relatively high, but that it breaks when farm incomes decline and costs of farm entry are high (p. 45). Ultimately, Kloppenburg and Geisler (1985) laid the agricultural ladder to rest as an inaccurate representation of farmer tenure realities,
but acknowledged its place in history as a mental model of a Jeffersonian agriculture ideal. In that vein, this research considers not whether the agricultural ladder is a real representation of farmers’ tenure track, but rather whether it remains an ideal in the minds of beginning farmers in the twenty-first century.

VI. Conclusion

In summary, in this chapter I provided an overview of the literature about beginning farmers and barriers to farm startup. I then described relevant literature about farmland owners and highlighted key distinctions between owner types found in the literature. Next, I examined the literature about farming at the rural-urban interface, and the implications this can have for the need for neighboring work to bridge differing social backgrounds. I then provided history and context about land link programs from the literature, and finally, developed a conceptual framework of collective mental model accuracy and similarity. Chapter three outlines the methods used in this research, before exploring the results in chapters four and five.
CHAPTER 3

Methods and Study Context

In this chapter I describe the methods used for collecting and analyzing the data. I first provide an overall description of the research design. Second, I describe the selection process, recruitment method, data collection, and data analysis methods for the interviews with the land link program key informant interviewees. In this section I also outline the descriptive attributes of the land link programs involved in the study. Third, I describe the data collection and analysis methods used for the internet survey of land link program participants. Finally, I discuss the guiding ethical considerations in the research relationship, as well as aspects of validity and research quality.

I. Research Design

This study is most similar to the case study approach in qualitative research. Case studies are frequently used to study organizations, and utilize multiple methods of data collection (Creswell, 2013, p. 104). Creswell (2013) stated that the focus of case studies is to “explore an issue or problem using the case as a specific illustration” (p. 97) through the purposeful selection of a bounded study sample. Land link programs in the Northeast U.S. are the bounded, instrumental case used to illustrate the opportunities and obstacles in land access between beginning farmers and land owners, and how land link programs configure resources to better facilitate access. In this study, data from the key informant interviews focus on 17 land link programs across the Northeast U.S. to improve our understanding of how seekers’ and owners’ mental models of farming and land access differ, and how land link programs mediate these partnerships. Data from the internet survey are drawn from participants in ten Northeast land link programs and further illustrate differences in mental models between and among seekers and owners.
This research is a mixed methods study because it employs both qualitative and quantitative research methods to explore the research questions. Qualitative approaches seek to understand “the meaning individuals or groups ascribe to a social or human problem” (Creswell 2013, p. 44) through identification of common and divergent themes within the data. In contrast, quantitative approaches tend to seek to collect numerical data and employ a deductive approach to research through development and testing of a hypothesis (Bryman 2004). Together, the use of both qualitative and quantitative approaches in mixed methods research incorporates not only multiple methods, but also multiple research philosophies and inclinations in the research design (Creswell and Plano Clark 2011). Key informant interviews constitute the qualitative data, and surveys compose the quantitative data. From a philosophical standpoint, I view mixed methods as a more holistic research approach. Mixed methods allow for understanding the world from the subjective viewpoints of research participants, then using components of these participant perspectives to develop measures that can be tested through survey research. In this sense, I approach research from a pragmatic paradigm, where both subjective and objective knowledge is appreciated (Creswell and Plano Clark 2011, p. 43).

I employed the exploratory sequential design of mixed methods research, in which qualitative data is collected and analyzed first, and quantitative data is collected and analyzed building on the qualitative research phase (Creswell & Plano Clark 2011). In this design, findings from the qualitative research phase are used to inform the development of the quantitative research phase. In this study, I used the key informant interviews with program staff to guide the development of survey questions about participant attributes and perspectives.

Mixed methods were chosen for this study for three reasons. First, each of the research questions has a different orientation to understanding the world. The first research question asks
both quantitative and qualitative questions in order to generalize about land link program participants, in addition to drawing from qualitative interviews with staff to provide greater context for the survey data, as well as a qualitative representation of participants’ mental models. The second question seeks to understand the process through which land link organizations operate and facilitate partnerships among participants, which is more qualitative. Additionally, the interviews with staff key informants were valuable for survey question development. These interviews also served the practical purpose of establishing relationships with the staff people, which was helpful for garnering their cooperation to allow access to their participants for the survey. Second, the sample size at each level of analysis required the use of different methods. Pragmatically, a sample of 17 program staff people is too few for use of statistical tools, which survey research methods rely on, and several thousand land seeker and land owner program participants is too many to contact through interviews given the study timeline. Finally, as a social science researcher in training, I had personal goals of gaining skills and knowledge in both qualitative and quantitative research methods through my thesis research which will inform my future work within and beyond academia.

II. Semi-Structured Staff Interviews

A. Participant Selection

No single list is known to exist that includes all U.S. land link programs. Therefore, I conducted internet-based searches for these mostly state-based programs and identified 47 programs in 30 states across the U.S. as of March 2013. Several land link programs’ websites maintain partial lists of other land link programs (in particular, the International Farm Transition Network and the Center for Rural Affairs list many), which were compiled, and then a Google search using terms including “land link,” “farm link,” “farm match program,” and similar terms uncovered a few more. I also showed the list to a staff person at one land link program that maintains its own list
of other programs around the country and that person had no additions; thus I am fairly confident that the entire population of land link programs has been identified through these searches.

From this larger group, the Northeast region (consisting of the 11 states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont) was selected as the study boundary for three reasons. First, this was a convenience sample in that it provided a reasonable number of programs to study (19 total programs) through mixed methods. This sample size allowed for personalized communications with staff people and with their program participants while also providing a large enough pool of programs and participants for analysis. Second, the Northeast states are relatively homogenous compared with other regions in the U.S. in terms of factors such as population density, farming traditions, support for farmland preservation and support for local, regional and sustainable agriculture. Bounding the study to the Northeast region helps control for these environmental factors since they may influence the activities and effectiveness of land link programs. This allows greater focus on the phenomenon of the land access relationship. Finally, the choice was somewhat externally guided because financial support for this research was provided in part by Northeast SARE (Sustainable Agriculture Research and Education), which serves this region (as well as West Virginia and Washington D.C., which do not have land link programs).

An additional program selection issue was setting definitional boundaries for what constitutes a land link program. The definition used follows that suggested by Hammer (2008, p. i), which is, broadly, programs that actively and intentionally link beginning farmers to a variety of resources that support land access. This includes but is not limited to links directly to land. An initial list of 22 programs was compiled based on this definition. It was determined that one of these programs did not fit the definition because it is not a program at all, but rather a website.
with a list of resource providers. Two other programs were rejected from the sample because, although while they do occasionally connect a land seeker with an owner, land access support is done on an ad hoc basis and not as an explicit program activity. Thus, the final program sample frame consisted of 19 land link programs in the Northeast region.

B. Data Collection

The person primarily responsible for management of the land link program and in direct contact with their participants within each organization was identified by consulting each program’s website. These key staff people were initially contacted by personalized email in October 2012 to ask them if they would be willing to participate in the study by spending approximately one hour in a phone interview. Follow-up emails and phone calls were necessary to establish contact with several key informants. Sixteen staff people representing 17 of the 19 programs were interviewed (one staff person represented two land link programs). An additional staff person who was not interviewed responded to several questions by email, and the final staff person was observed during a workshop but was not interviewed. While some contact occurred with these two programs, the results reported here focus only on data collected through the interviews and internet survey. Semi-structured phone interviews were conducted with these 16 key staff between November 2012 and February 2013 (see interview guide in Appendix A). Interviews lasted from 50 minutes to an hour and 30 minutes. To supplement the interviews, the key informants were also asked to complete a short (23 question) questionnaire via Survey Monkey prior to the interview. The questionnaire asked quantitative questions about the programs, such as how many people join per year, the annual budget and when the staff person started his or her position. Responses to this questionnaire, in addition to website content analysis, served as background information to focus the interviews. More open-ended interview questions
focused on understanding program histories, the process through which the programs operate, programmatic and participant challenges and opportunities, and intended program outcomes. All interviews were recorded and then transcribed by a professional transcription service. This resulted in approximately 350 pages of transcription text. To protect the confidentiality of the interviewees, pseudonyms are used throughout this study to cite program staff people’s interview responses. Furthermore, no program that was part of this study is referred to by name. Findings about the programs are organized by theme and reported in an aggregated manner.

C. Data Analysis

The open source software RQDA (Huang 2012) was used to code the interview transcripts. Coding followed two of the coding types outlined by Saldaña (2009). The first round of coding employed descriptive coding, which uses code terms to describe the primary topic of a section, in order to begin to index the data (Saldaña 2009, p. 70). Descriptive codes were applied to sections of text ranging from one line to two paragraphs in length. The second round of coding used attribute coding, which highlights the descriptive information about the case itself (Saldaña 2009, p. 55).

D. Sample Population Attributes

The 17 land link programs in the study represent a range of organizational characteristics. Three programs are run by the state government, and are also state-mandated (but not necessarily highly prioritized) programs. Eight programs are run by non-profit organizations, four of which are exclusively focused on farmland access and transfer issues, and five of which have other related programs within the organization. Examples of other programs run by these organizations include “buy local” campaigns and vegetable production workshops. One program is run by university extension staff. Finally, five programs are run by land trusts or land conservancies. Table 1 outlines descriptive characteristics of the sample population of programs.
| Non-Profit 1  | 1998       | multi-state | <$10K | 5   | 2007 |
| Non-Profit 2  | 2001       | single state | $51-100K | 60  | 2001 |
| Non-Profit 3  | 2001       | multi-state | <$10K | 5   | 2004 |
| Non-Profit 4  | 2008       | single state | $26-50K | 35  | 2011 |
| Non-Profit 5  | 2009       | single county | <$10K | 25  | 2012 |
| Non-Profit 6  | 2010       | multi-county | $51-100K | 45  | 2011 |
| Non-Profit 7  | 2012       | multi-state | <$10K | 5   | 2012 |
| Non-Profit 8  | 2012       | multi-county | $26-50K | 10  | 2012 |
| Land Trust 1  | 2004       | single state | >$100K | 40  | 2004 |
| Land Trust 2  | 2009       | single county | $51-100K | 15  | 2009 |
| Land Trust 3  | 2010       | single county | $11-25K | 20  | 2012 |
| Land Trust 4  | 2011       | multi-county | $11-25K | 30  | 2011 |
| Land Trust 5  | 2011       | single county | $11-25K | 10  | 2011 |
| Government 1  | 1997       | single state | $11-25K | 15  | 2003 |
| Government 2  | 2007       | single state | >$100K | 15  | 2011 |
| Government 3  | 2007       | single state | $51-100K | 20  | 2007 |
| University Extension | 1998 | single state | <$10K | 10  | 2007 |

Source: Staff responses to an online questionnaire and a website content search

### III. Internet Survey of Land Link Program Participants

#### A. Participant Selection

Since there are varying numbers of participants in these 19 programs and because it was unknown how many programs would be willing to include their participants in the survey, the goal was to survey as many program participants as possible rather than drawing a random sample, in order to achieve the highest response possible. The websites of the 19 land link programs were consulted to determine whether or not each program has a formal application process for both seekers and owners to join their programs. Five programs were eliminated from consideration because they do not have any formal way for participants to “join” their program. Fourteen of the programs have a formal application for seekers and owners. These 14 programs
were contacted to ask for access to their participants for the survey, plus one other program was contacted that has a formal application for seekers but does not have an application form for owners. Among these 15 programs, two programs were non-responsive, two programs said they did not have enough time to participate, and one program was unable to participate because all of their application forms are on paper and the contact information has not been digitized, thereby precluding their ability to email their participants. Thus, the program participants from ten of the 19 Northeast land link programs were included in the internet survey.

Program staff people were asked to send the survey link to past and present participants, but some programs do not keep past participants in their databases. The number of participants that the survey link was sent to by email is reported in Table 2. In all, 2004 land seekers and 565 land owners were emailed. Having a finite number of people who received the survey link facilitates accurate calculation of the response rate, but this is complicated by the fact that some people join more than one program. Thus, some people were double-counted because they received the recruitment email from more than one program. A question in the survey asked people whether they have joined other land link programs, and 43 percent of land seekers and 16 percent of land owners indicated that they joined one or more other programs. Thus, an adjusted sample size and response rate were calculated by reducing the raw totals by these respective proportions, assuming that both respondents and non-respondents are equally likely to have joined one additional program and be double-counted. This also seems reasonable because programs permit any seekers to join their program if they are interested in land in that service area, regardless of where the seeker is currently located. In contrast, land owners are only allowed to post their land if it is located within that program’s service area. Thus, duplicate participation among owners can occur only in areas served by multiple programs, while duplicate
participation among seekers is likely much more common because it is based on how widely seekers are looking for land.

B. Survey Data Collection and Analysis

I wrote the survey instrument using the key informant interviews as a guide for several of the questions, in addition to references to the literature and other surveys of farmers. Several experts then reviewed the instrument for its face validity. These experts included three faculty from the Penn State College of Agricultural Sciences who have experience researching and writing surveys for farmers. One expert was a staff person at the Survey Research Center who is an expert in survey research methods. A beginning farmer who recently undertook a search for farmland and a staff person at the Center for Rural Affairs Land Link also reviewed the instrument to verify the relevance and validity of the items. A pilot of the online survey was then sent to participants in the Center for Rural Affairs’ Land Link. This program was one of the first programs to be established in the United States, in 1990. It is based in Nebraska and now has a national focus for its linking efforts. It was chosen to pilot the survey because it is not part of the survey sample, and I have worked with staff people at the Center in prior work, so they were willing to collaborate with me. The pilot survey was open from January 30, 2013, to February 25, 2013, and a Center staff person sent three recruitment emails on January 30, February 7 and February 15 to 307 seekers and 19 owners. The pilot helped further refine the survey questions and determine that the survey recruitment protocol was workable.

Other than one program, the land link programs were not willing to directly provide me with the email contact information of their participants because most had included a statement on the application form that participants’ contact information would be kept confidential. Thus, a protocol had to be developed which allowed the program staff people to send the recruitment
emails themselves. Additionally, three programs expressed concern about sending too many emails to their participants because they also contact them by email to announce upcoming workshops and promote new properties in the program. They thus decided that the only way they felt comfortable participating was by including the survey recruitment language within their larger, regularly-scheduled update emails. These differences are noted in Table 2.

I developed a recruitment protocol following Dillman et al. (2009), who recommend contacting participants multiple times to remind them to participate and thereby increase response rates. In this protocol, I wrote personalized recruitment language for each contact email and asked each program staff person to send the first email on day 0, the second on day 7 and the final request on day 21. Survey development and distribution was designed to accommodate the seasonal nature of farming, so the survey went live on February 18, 2013 and was closed six weeks later, on March 31, 2013. Table 2 reports the actual recruitment timeline followed by each program. As noted, some programs did not send the second or third recruitment email, which likely negatively affected the overall response rate. The survey instrument contained a total of 71 questions, but skip logic meant that respondents saw somewhat different questions, and no respondent saw all 71. Skipping happened at two points, so that unmatched seekers could answer 38 questions, matched seekers could answer 45 questions, unmatched owners could answer 33 questions and matched owners could answer 33 questions. Qualtrics (Qualtrics, Provo, UT Version 40, 373) was used as the internet survey platform to distribute the survey. This program allowed for display logic, skip logic and carrying answer choices forward. Carrying answer choices forward means that when a participant selected which program they joined, all future questions referenced that program specifically. The survey questions are included in Appendix B.
Table 2 reports the actual days and times the survey recruitment emails were sent. Three programs sent the emails as part of larger e-newsletters, six programs sent the emails as stand-alone messages, and I sent emails directly to participants of one program through Qualtrics. No differences in response rates are apparent between methods of contact, other than one program that only sent the recruitment email as part of a larger newsletter and only included it one time.

Survey data analysis began after the survey was closed, in April 2013. The survey data were first checked and cleaned for missing data in an Excel spreadsheet, then transferred to SPSS. SPSS was used to run statistical analyses, which included frequencies and independent-samples t-tests. The survey also included several comment boxes in which respondents could supply open-ended responses. Respondents were randomly assigned a number between one and 376, and comments included in the results are cited as, for example “Owner 117.” Thus, throughout the results chapters, staff interview statements are attributed to the person by a first-name only pseudonym, and seeker or owner open-ended survey comments are attributed to the person by whether they are a seeker or owner plus their randomly-assigned code number.
Table 2. Land Linking Program Participants Internet Survey Response Rates by Program and Participant Type

<table>
<thead>
<tr>
<th>Program</th>
<th>Seekers</th>
<th>Owners</th>
<th>Total</th>
<th>1st email sent</th>
<th>2nd email sent</th>
<th>3rd email sent</th>
<th>Final Response Rates (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>172</td>
<td>49</td>
<td>221</td>
<td>1:48pm 2/22</td>
<td>3:35pm 3/1</td>
<td>2:00pm 3/22</td>
<td>Seekers: 19.8 Owners: 38.8 Total: 24.0</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>7</td>
<td>20</td>
<td>4:09pm 2/19</td>
<td>4:06pm 2/26</td>
<td>3:39pm 3/12</td>
<td>Seekers: 7.7 Owners: 14.3 Total: 10.0</td>
</tr>
<tr>
<td>3</td>
<td>1013</td>
<td>95</td>
<td>1108</td>
<td>11:00am 2/18&lt;sup&gt;a&lt;/sup&gt;</td>
<td>11:26am 2/25&lt;sup&gt;b&lt;/sup&gt;</td>
<td>11:30am 3/12&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Seekers: 12.1 Owners: 24.2 Total: 13.2</td>
</tr>
<tr>
<td>4</td>
<td>161</td>
<td>139</td>
<td>300</td>
<td>12:06pm 2/19</td>
<td>4:42pm 2/26</td>
<td>12:48pm 3/12</td>
<td>Seekers: 9.9 Owners: 15.1 Total: 12.3</td>
</tr>
<tr>
<td>5</td>
<td>220</td>
<td>100</td>
<td>320</td>
<td>8:30pm 2/20</td>
<td>12:00pm 2/28</td>
<td>na 3/18</td>
<td>Seekers: 8.2 Owners: 14.0 Total: 10.0</td>
</tr>
<tr>
<td>6</td>
<td>45</td>
<td>35</td>
<td>80</td>
<td>5:01pm 2/21&lt;sup&gt;b&lt;/sup&gt;</td>
<td>12:30pm 3/1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>na</td>
<td>Seekers: 11.1 Owners: 17.1 Total: 13.8</td>
</tr>
<tr>
<td>7</td>
<td>250</td>
<td>na</td>
<td>250</td>
<td>3:37pm 3/6</td>
<td>8:33pm 3/13</td>
<td>na</td>
<td>Seekers: 19.6 Owners: na Total: 20.0</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>26</td>
<td>31</td>
<td>2:31pm 2/24</td>
<td>2:35pm 3/14</td>
<td>na</td>
<td>Seekers: 20.0 Owners: 38.5 Total: 35.5</td>
</tr>
<tr>
<td>9</td>
<td>50</td>
<td>24</td>
<td>74</td>
<td>9:53am 3/1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>na 3/8&lt;sup&gt;b&lt;/sup&gt;</td>
<td>na</td>
<td>Seekers: 12.0 Owners: 12.5 Total: 12.2</td>
</tr>
<tr>
<td>10</td>
<td>75</td>
<td>90</td>
<td>165</td>
<td>3:36pm 2/19&lt;sup&gt;b&lt;/sup&gt;</td>
<td>na</td>
<td>na</td>
<td>Seekers: 1.3 Owners: 3.3 Total: 2.4</td>
</tr>
<tr>
<td>TOTALS</td>
<td>2004</td>
<td>565</td>
<td>2569</td>
<td></td>
<td></td>
<td></td>
<td>Seekers: 13.5 Owners: 18.4 Total: 14.6</td>
</tr>
<tr>
<td>ADJUSTED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seekers: 23.8 Owners: 21.9 Total: 23.3</td>
</tr>
</tbody>
</table>

Seekers: N=271; Owners: N=104 owners; Total N=375

<sup>a</sup> Recruitment emails were sent directly through the survey software rather than by a staff person

<sup>b</sup> Recruitment emails were sent as part of a larger e-newsletter rather than as a stand-alone email

<sup>c</sup> Rates were adjusted based on how many seekers and owners reported joining more than 1 program, assuming all who joined more than 1 had joined 2 and were thus double-counted. Individual program response rates do not reflect this adjustment.
IV. Ethical Considerations and the Research Relationship

As in any social sciences research with human subjects, several ethical issues were addressed prior to, during and after the study. Approval from the Pennsylvania State University Institutional Review Board (IRB) was secured prior to initiating contact with research participants. Secure data management was maintained by storing original copies of interview and survey data on the secure server at Penn State University. Transcription texts were kept on my personal laptop during coding. Survey data had no personally identifying information attached to them.

Researcher reflexivity is a crucial element of research, particularly qualitative research, where in many ways the researcher is the research instrument. While the scientific method seeks researcher objectivity, qualitative researchers have challenged this assumption, instead pointing out that bias is inherent to all research, evident even in what types of questions the researcher seeks to answer. Rather than claiming objectivity in research, reflexivity and openness with oneself and with others regarding the assumptions, biases and proclivities one brings to the research are instead espoused. Thus, it is important for me to report here my own position and interests in this research, so that readers can be aware of the lens through which I have approached this research.

As someone who has come from the field of non-profit beginning farmer support services prior to graduate school, I have a keen interest in understanding land link programs. I sympathize both with the program staff and the beginning farmers that they work with because I was running a program with similar goals of helping beginning farmers get established in farming. In addition, the nature of this research has meant that I have had to maintain fairly frequent contact with the key staff people at each of the organizations I studied, first to interview them and later to solicit their cooperation in distributing the internet survey. To give some sense of this, I communicated back and forth with most of these staff people by email and phone not fewer than 15 to 20 times
between October 2012 and March 2013. Given these proclivities and relationships, I sought to maintain an empathetically neutral stance throughout this research. Patton (2002) espouses this stance as a middle ground between being overly involved, which can jeopardize neutrality, or too distant, which can hinder empathy. To maintain this stance, I have kept a personal journal to reflect on my perspectives and the tensions inherent to the research, and have also consulted others throughout the research process to ensure that my findings and interpretations are truthful and appropriate. In addition, I have closely documented and employed triangulation through the use of website content analysis, interviews and surveys to increase the credibility of my research.

V. Validity and Research Quality

While verification and validity are somewhat ill-fitted concepts in qualitative research, there are many other standards by which the quality of a qualitative study may be assessed. For example, Whittemore et al. (2001) outlined four alternative criteria by which a qualitative study can be evaluated. These are credibility, authenticity, criticality and integrity. Credibility and authenticity are upheld through a true and balanced representation of each participant’s meanings and understandings uncovered during the research, in addition to the use of multiple data collection methods. This standard was also upheld in this research by re-reading a subset of the interview transcripts after analysis to ensure participants’ meanings were accurately represented. Criticality demands an on-going critical stance from the researcher, for example, by scrutinizing the assertions of the study and searching for possible alternative hypotheses. Finally, integrity is upheld through a continually self-reflexive stance on the part of the researcher. These four criteria have been used throughout the planning, data collection and analysis phases of the study and kept at the forefront in a research journal where I have been able to reflect on these stances.
There is no known response bias among programs who participated in the interviews or agreed to allow access to their participants for the internet survey of program clients, nor is there any known response bias among survey respondents themselves. Because the internet was used for survey dissemination, it is possible that some people were unable to respond because they do not have internet access. Since the land link programs themselves are heavily internet-based, making it almost a necessity to have some kind of internet access to even join a program, this is likely a very small subset of participants. The actual sample frame and therefore the survey response rate was calculated based on two assumptions: 1) all participants who responded to the survey and all who did not are equally likely to be participants in more than one land link program; and 2) all participants who said they have joined more than one land link program have joined only one other land link program. In regards to the first assumption, there is no way to verify this, but the ten programs that permitted access to their participants have no geographical, size or other major differences that would indicate their participants differ substantially. In regards to the second assumption, this is likely a conservative estimate because at least some portion of people who joined more than one land link program have likely joined more than two. Nineteen percent of the seeker respondents said they are looking for land across the entire Northeast or across the entire U.S., making it likely that these individuals have joined multiple land link programs in their search for land.

VI. Conclusion

In this chapter I explained the mixed methods research design used in this study. I first conducted website content analysis to gain background knowledge about the programs prior to implementing the study. I then collected data through semi-structured interviews with staff people at 17 land link programs across the Northeast U.S. Based on these data, I then designed
and administered an internet survey to the land seeker and land owner participants of 10 land link programs. The interview transcripts were coded for themes in an iterative manner to organize the data around themes of participant perceptions, expectations, learning, knowledge and interaction. The surveys were analyzed through statistical means for basic descriptive information about participants, comparisons within and between groups of seekers and owners and for bivariate relationships between respondent characteristics and outcomes. In the following chapter I present the research results.
CHAPTER 4

Land Link Participants: Farmland Seekers and Owners

This chapter presents results about the farmland seekers and owners who participate in land link programs in the Northeast U.S. drawn from both the key informant interviews and the internet survey of land link participants. The findings are organized into three sections that together illustrate how sufficiently accurate and shared mental model development in seeker-owner partnerships is key to land access and the successful maintenance of relationships between land owners and farmer tenants in lease arrangements through land link programs in the Northeast U.S. These mental models may affect people’s ability to successfully secure and maintain a farmland match. As discussed in chapter two, it is the “prior experience, values and beliefs, and knowledge” in a substantive field (Eckert and Bell 2005, p. 2) which form and inform people’s mental models of that domain. In turn, people’s mental models of a domain direct actions, decision making, new learning (Baynes et al. 2011; Eckert and Bell 2005), and inform their assessment of risk (Morgan et al. 2002).

This chapter will show that seekers and owners who have a sufficient and accurate understanding of what farming entails on a property, and of what constitutes a workable land access arrangement for both parties, are better prepared to establish a land access partnership. Further, seekers and owners who share similar goals and motives for joining land link programs and for supporting farming have more common ground on which to establish partnerships and maintain good relationships. Conversely, seekers and owners who lack an understanding of what is involved with farming and land access, or have differing expectations, goals and motives for joining land link programs can experience incompatible land link relationships. The challenges
may be particularly acute at the rural-urban interface, where residences and farms often exist in close proximity, and rural residents lack prior ties to agriculture (Arbuckle 2011). As one staff person observed about her service area during her interview, “There’s definitely been times and places where there’s a big divide between the farm community and the more wealthy landowner community” (Faye). The following three sections 1) characterize the seekers and owners who join land link programs in the Northeast from the survey data; 2) compare and contrast the motives and goals for farming that are held by seekers with those of owners offering land to be farmed; and 3) analyze how seekers’ and owners’ mental models of farming, one another and land access may affect their likelihood of success at establishing and maintaining a land access partnership.

I. Description of Land Link Program Participants

As outlined in chapter two, mental model similarities and differences often reflect patterns of social variation (Kempton et al. 1996) and correspond to a person’s experience and knowledge in a given domain (Eckert and Bell 2006). This section describes similarities and differences between seekers and owners in demographic characteristics, farm knowledge and experience, motives for joining a land link program and farm production goals.

A. Demographic Characteristics

Demographic characteristics of seekers and owners were collected through the online survey. Participants were asked to have the person in the household who is most responsible for land decisions complete the survey. Results are reported in Table 3. Among seekers, 58 percent of respondents are male, and among owners, 44 percent of respondents are male. Almost all seekers and owners identified their racial or ethnic identity as white. Ages of seekers range from 22 to 68, with an average age of 42. This is lower than the national average farmer age of 58. Just over one-third of seekers are young farmers (i.e. 35 or younger), but this is higher than the national average,
where just under four percent of all farm operators and less than two percent of principal operators are under age 35 (USDA 2007). The study data mirror national data about beginning farmers, which show that more than half are over age 45 (Gale 2003). Owners’ ages range from 30 to 86 with an average age of 61.

Respondents also indicated the highest level of formal education they have completed. Response categories include: Less than high school, Graduated from high school, Some college, 2-year college degree, 4-year college degree, Some graduate school and Completed graduate school. Farmland seekers possess high education levels: three-quarters of seekers have a four-year degree or more and nearly one-third hold a graduate degree. One land link staff person echoed these findings, noting that “Some of these people are engineers, they could be taking down $150,000 salary but they want to farm” (Nina). These data differ from national statistics about established and beginning farmers. According to the 2011 Agricultural Resource Management Survey (ARMS), only 30 percent of beginning farmers and 25 percent of all farmers hold a 4-year degree or more, indicating that those who join land link programs in the Northeast have more education than other beginning farmers. Owners also have a high education level, with 80 percent holding a four-year degree or more.

One-quarter of seekers reported that their 2012 household income was $25,000 or less, and another one-quarter reported annual household incomes of $25,000-$50,000. This differs from all beginning farmers across the U.S., for whom median household income was $64,431 (USDA 2011). Survey results indicate that owners have significantly higher levels of income than do seekers (p<.001; df=291). Mean 2012 annual household income level for seekers was in the $50,000-$74,999 category, while for owners it was in the $75,000-$99,999 category. Close to half of owners reported annual household income of $100,000 or more. While seekers generally
have limited financial resources, Mara described one subset of the population of farm seekers who join her program who are likely to have more capital available to invest in their farm operation:

We have a lot of retiring people that have worked with the Navy and some of them are interested in going into farming so they might not be in their 20s, they might be in their 40s or 50s, but they have a sincere interest in farming and a lot of times they have some capital investment (Mara).

This observation was made in contrast to the many twenty-something seekers who join the program seeking to farm as their first career, but have more limited resources available for farm startup.

| Table 3. Characteristics of Land Link Program Participants |
|----------------------------------|-------|-------|-----|-------|-------|-------|
| Gender (percent)                 |       |       |     |       |       |       |
| Male                             | 58.3  |       | 228 | 44.4  | 90    |       |
| Female                           | 41.7  |       | 55.6|       |       |       |
| Race/Ethnicity (percent)         |       |       |     |       |       |       |
| White                            | 95.9  |       | 218 | 96.6  | 87    |       |
| Other race/ethnicity             | 4.1   |       | 3.4 |       |       |       |
| Age (mean)                       | 42.0  | 22    | 68  | 11.7  | 224   | 61.1  | 30    | 86    | 10.7  | 88    |
| Education\(^a\) (mean)           | 5.1   | 1     | 7   | 1.7   | 225   | 5.5   | 1     | 7     | 1.6   | 90    |
| 2012 household income (percent)  |       |       |     |       |       |       |
| $0-$24,999                       | 25.0  |       | 54  | 6.5   | 5     |       |
| $25,000-$49,000                  | 24.1  |       | 52  | 20.8  | 16    |       |
| $50,000-$74,999                  | 16.2  |       | 35  | 20.8  | 16    |       |
| $75,000-$99,999                  | 10.2  |       | 22  | 9.1   | 7     |       |
| $100,000 and above               | 24.5  |       | 53  | 42.9  | 33    |       |

\(^a\) Education was measured on a scale of 1-7, with 1 being less than high school and 7 being completed graduate degree.

As the literature review about farmland owners shows, differences in decision-making and other outcomes also exist between farming and non-farming farmland owners, residents and absentee owners, and by the type of ownership structure. The prevalence of each of these owner characteristics is reported in Table 4. Whether or not the land owner lives on the property may affect his involvement in land decisions and the level of sharedness of mental models with a
seeker that is necessary. An owner who lives on the property is more likely to interact with the farmer working the land, whether intended or not, so aligning goals and expectations becomes more important. The survey results show that 48 percent of land owners have their primary residence on the farm property they are offering, and another 13 percent have a second residence on the property. The remaining 39 percent do not live on their land. Programs that focus on locations in highly urbanized areas may differ from this overall trend; Gina and Faye are both located in a densely populated RUI area, and observed a different trend in their regions:

The majority of the land owners are second home owners. Because we’re so close to the city, that’s just sort of the nature of people who are able to afford to buy land around here. So we have a lot of land owners who have bought up what were farms, farms that went out of business. They bought up the farms, and they have their house and they’re up here on the weekends (Gina).

A lot of them are second homeowners. Our area, as I said before, the cost of property here is above ag value. And that’s in large part because of the second homeowner boom in the [region]. People from metropolitan [city] are able to afford higher prices for land than beginning farmers are (Faye).

Forty percent of owners or a member of their household currently farm their land, and 60 percent do not. A small number of the non-farming land owners are private or public land trusts, or manage public land. Land ownership types in this study sample are dominated by private land owners (79 percent). Another 13 percent represent either a private or public land trust and 2 percent are public lands managers. Five percent identified as the listing realtor and one respondent is a land link program staff person who listed a private land owner’s property on the website (both represented under Other). Ownership structure may further influence the level and type of decision-making influence exerted over a farm property by the owner. Finally, some owners offer their land for sale while others for lease. Leases may be short- or long-term. One-fifth are offering their land for sale, with the remainder offering a lease. Of those offering a lease, similar proportions are offering short- and long-term leases.
Table 4. Owner Relationship to the Land Offered

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence on land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>48.1</td>
<td>50</td>
</tr>
<tr>
<td>Secondary</td>
<td>12.5</td>
<td>13</td>
</tr>
<tr>
<td>None</td>
<td>39.4</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>104</td>
</tr>
<tr>
<td>Farm the land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently</td>
<td>40.4</td>
<td>40</td>
</tr>
<tr>
<td>Previously</td>
<td>22.2</td>
<td>22</td>
</tr>
<tr>
<td>Never</td>
<td>37.4</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>99</td>
</tr>
<tr>
<td>Owner type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>79.4</td>
<td>81</td>
</tr>
<tr>
<td>Private trust</td>
<td>7.8</td>
<td>8</td>
</tr>
<tr>
<td>Public trust</td>
<td>4.9</td>
<td>5</td>
</tr>
<tr>
<td>Public land</td>
<td>2.0</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>5.9</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>102</td>
</tr>
<tr>
<td>Access type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale</td>
<td>21.2</td>
<td>21</td>
</tr>
<tr>
<td>Short-term lease (1-3 years)</td>
<td>33.3</td>
<td>33</td>
</tr>
<tr>
<td>Long-term lease (4+ years)</td>
<td>29.3</td>
<td>29</td>
</tr>
<tr>
<td>Other</td>
<td>16.2</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>99</td>
</tr>
</tbody>
</table>

B. Background and Experience in Farming

While research about young and beginning farmers in the twenty-first century is limited, it appears that increasing numbers of people from non-farming backgrounds desire to farm. A national survey of young and beginning farmers reported that 78 percent of the 1053 respondents who currently farm are first-generation farmers (Shute 2011, p. 14). This study found similar results: 74 percent of seekers are first-generation farmers; only 26 percent grew up on a working farm. Without early years spent on the traditional first rung of the agricultural ladder as an “unpaid laborer on the home farm” (Spillman 1919, p. 170), other types of experience in farming may be important for the next generation of farmers to gain production and management skills, in
addition to material resources. For example, one staff person observed that many seekers come from farm apprenticeships or training programs when they join her land link program: “There are a lot of newish, youngish farmers coming out of training programs, apprenticeship programs, things like that” (Gina).

Furthermore, even among those who began their climb up the agricultural ladder as unpaid family labor, they may not have continued along the traditional middle rung as a hired hand. While some of those who grew up on a farm may have known for some time that they wanted to be a farmer, Dale observed that some seekers in his program were raised on a farm, but left for other types of employment, only to later realize that they now want to farm:

I have folks who grew up on farms and left…But then once they get out in the real economy and do it for a few years they realize that there is something about farming that’s very compelling, even though it’s a difficult occupation. And so they have experience as children on farms and then go back to it (Dale).

The survey results show that relatively few owners grew up on farms either: one-quarter of owners reported that they grew up on a farm. However, the number of seekers and owners who grew up on a farm likely varies substantially across the study programs, as some programs focus heavily on intra-family farm succession planning while others focus primarily on facilitating lease arrangements with non-farming land owners. One program, which was not included in the online survey, almost exclusively serves transitioning farms by providing farm transfer and succession advising services. Thus, the seekers and owners who participate in that program almost all come from a farming background. Alan described the situations he encounters through this program:

In a given year all but maybe one or two are intergenerational…The smaller percentage are the folks that have no agricultural background but are looking to start into farming. The vast majority would be folks that are intergenerational transfers. And then we do get a good number of situations that are, you know, like the family farm could support one of the children but not all of the children. So we may have folks that are looking to site or
locate an additional farm, that they’re going off on their own or something along those lines but they do have a farming background. They could be buying a neighboring farm down the road. They’re a second generation or a third generation farmer but they’re not buying it from their parents (Alan).

Experience in farming was discussed by many staff people as a key seeker characteristic that influences their ability to secure land access. As with other characteristics of seekers, level of experience in farming varies widely across participants, but also exhibits strong trends. Table 5 reports the number of years of farm experience that seekers have gained, categorized by farmer type. Seekers have a wide range of both types and number of years of farming experience. Almost three-quarters of seekers are beginning farmers, defined by the USDA as farmers with 10 or fewer years of farming experience (Ahearn and Newton 2009, p. 1). This is much higher than the national statistics on farmers, which reveal that fewer than one-quarter of all farmers are beginning farmers (USDA 2007). Not only are most seekers beginning farmers, but some have very little or no experience in farming at all. Among land seekers, almost one-third are prospective or new entry farmers, but another almost one-third have more than ten years of experience. Seekers reported having an average of 9.2 years of farming experience, with a median of six years of experience.

<table>
<thead>
<tr>
<th>Farmer Type (Years of Experience)</th>
<th>Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prospective (0)</td>
<td>10.4</td>
<td>27</td>
</tr>
<tr>
<td>New entry (1-3)</td>
<td>20.3</td>
<td>53</td>
</tr>
<tr>
<td>Restrategizing (4-7)</td>
<td>26.8</td>
<td>70</td>
</tr>
<tr>
<td>Establishing (8-10)</td>
<td>13.4</td>
<td>35</td>
</tr>
<tr>
<td>Established (11+)</td>
<td>29.1</td>
<td>76</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>261</td>
</tr>
</tbody>
</table>

Note: Terminology is based on Johnson et al.'s (2001) review of terms used by farmer service organizations.
Gina reflected on this range of farming experience of the seekers in her program:

There definitely are a fair share of farmers who don't have very much experience… We also have farmers who are really experienced, who have been running a farm elsewhere for five or six years, managing a farm, and now are ready to own their own business, do their own thing. And then we have people who grew up on a farm and did farming for 40 years (Gina).

Here, she described those as “really experienced” both by identifying the quantity of years of experience (“five or six”), but also by specifying the type of experience (experienced farmers have managed a farm elsewhere first). This indicates that another way to consider farming experience is to assess the type of experience. Both seekers and owners were asked to indicate what types of experience they have in farming; choices included: I have owned a farm business, I have worked as a farm intern or apprentice, I have worked as a farm manager, I have worked as a paid farm worker (other than an intern or apprentice), I have volunteered on a farm, I got a university or technical degree in an agricultural field, I have participated in an incubator farm program, I have no previous farming experience, and Other.

Table 6 reports the type of farm experience that both seekers and owners have. Just over half of all seekers and under one-third of owners have owned a farm business. Other common types of experience among seekers include working as paid farm labor, volunteering on farms and working as a farm intern or apprentice. Fewer owners reported having experience in farming in most categories. Just over one-third of owners have no experience in farming of any type. This is likely an overestimate of the number of owners with no farming experience among all programs across the Northeast because two programs which focus heavily or exclusively on recruiting farming land owners are not included in the survey. In those two programs, staff people estimated that 90 percent to 100 percent of the land owners in their programs are currently or previously farmers. However, in most Northeast land link programs, non-farming land owners and owners with little or no previous experience in farming are a common type of land owner.
Table 6. Land Link Program Participants' Types of Farm Experience

<table>
<thead>
<tr>
<th></th>
<th>Seekers</th>
<th></th>
<th>Owners</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>N</td>
<td>Percent</td>
<td>N</td>
</tr>
<tr>
<td>Farm owner</td>
<td>51.1</td>
<td>136</td>
<td>31.7</td>
<td>33</td>
</tr>
<tr>
<td>Paid farm worker</td>
<td>47.0</td>
<td>125</td>
<td>10.6</td>
<td>11</td>
</tr>
<tr>
<td>Farm volunteer</td>
<td>44.7</td>
<td>119</td>
<td>17.3</td>
<td>18</td>
</tr>
<tr>
<td>Farm intern/apprentice</td>
<td>42.5</td>
<td>113</td>
<td>9.6</td>
<td>10</td>
</tr>
<tr>
<td>Farm manager</td>
<td>32.3</td>
<td>86</td>
<td>11.5</td>
<td>12</td>
</tr>
<tr>
<td>University ag degree</td>
<td>18.0</td>
<td>48</td>
<td>5.8</td>
<td>6</td>
</tr>
<tr>
<td>Othera</td>
<td>13.9</td>
<td>37</td>
<td>7.7</td>
<td>8</td>
</tr>
<tr>
<td>None</td>
<td>12.4</td>
<td>33</td>
<td>34.6</td>
<td>36</td>
</tr>
<tr>
<td>Ag training program</td>
<td>6.4</td>
<td>17</td>
<td>2.9</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Categories do not total to 100% because respondents were asked to select all that apply.

a Common responses to Other included homestead farming and working on farms owned by extended family.

Following a categorization developed by Johnson et al. (2001) of farm experience that beginning farmers may have, the results on farm experience type among seekers were further grouped into “farming background,” “management skills” and “technical farming skills” and are reported in Table 7. Farming background was measured by a question asking whether the seeker grew up on a working farm, and as noted above, 26 percent of seekers reported that they grew up on a working farm. Management skills were measured by adding affirmative response to having owned a farm business and having worked as a farm manager, yielding possible values from zero to two. Technical skill experience was measured by adding affirmative responses to all other experience types, yielding possible values from zero to five (“Other” was excluded). Actual values ranged from zero to four. The data show that while a considerable portion of seekers lack experience in each of these categories, many more do have a variety of experiences in farming, having either grown up on a farm, managed their own or another person’s farm, or worked on a farm or received agricultural education.
Table 7. Seeker Level and Type of Farm Experience

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Farming background</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25.6</td>
<td>69</td>
</tr>
<tr>
<td>No</td>
<td>74.4</td>
<td>201</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>270</td>
</tr>
<tr>
<td><strong>Management skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>36.5</td>
<td>97</td>
</tr>
<tr>
<td>One experience</td>
<td>43.6</td>
<td>116</td>
</tr>
<tr>
<td>Two experiences</td>
<td>19.9</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>266</td>
</tr>
<tr>
<td><strong>Technical skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>24.8</td>
<td>66</td>
</tr>
<tr>
<td>One experience</td>
<td>22.6</td>
<td>60</td>
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<tr>
<td>Two experiences</td>
<td>27.1</td>
<td>72</td>
</tr>
<tr>
<td>Three experiences</td>
<td>20.3</td>
<td>54</td>
</tr>
<tr>
<td>Four experiences</td>
<td>5.3</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>266</td>
</tr>
</tbody>
</table>

In summary, the survey data demonstrate that, relative to seekers, land owners who join land link programs are older, have higher incomes, and have similar education levels. Over one-third of owners have no experience in farming. Seekers have more farm experience than do owners, but just over one-third lack farm management experience. Further, relative to the overall U.S. farmer population, farm seekers who join land link programs in the Northeast region are beginning farmers, younger but middle-aged, well-educated, relatively limited-resource and come from a non-farming background.

The next section considers the motives and goals that seekers have for farming, and that owners have for joining a land link program to offer their land to a farmer. The motives indicated as important by owners demonstrate that the local food movement may be influencing owners to offer land access opportunities. The section then outlines the production goals of seekers and owners. Staff people illustrated several situations in which shared goals facilitated a partnership, but also other situations in which unclear or mismatched goals hindered match establishment or maintenance.
II. Motives and Goals for Farming and Finding a Farmer

Motives and goals also contribute to people’s mental models. In this section, I first discuss seeker motives for farming and owner motives for offering land. I then outline the production goals of seekers and owners, and highlight areas in which these goals may converge or conflict.

A. Participant Motives for Joining a Land Link Program

Farm seekers were asked in the online survey why they want to be a farmer, with responses reported in Table 8, in order from reasons rated most important to least important. Results corroborate findings from other studies about beginning farmers, namely that quality of life factors (Johnson et al. 2001; Ross 2005) and “emotional wellbeing” through outdoor and productive work (Haalboom 2013, p. 34) are important motives. The low rating given to profitability in farming as a motive also corroborates findings by Johnson et al. (2001) in their study of beginning farmers. The low rating given to maintaining a family tradition in farming likely reflects the fact that only one-quarter of respondents grew up on a farm, which in turn indicates that their family does not have a tradition in farming to maintain.

<table>
<thead>
<tr>
<th>Motive</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be outdoors</td>
<td>4.50</td>
<td>0.71</td>
<td>258</td>
</tr>
<tr>
<td>Other</td>
<td>4.49</td>
<td>1.21</td>
<td>41</td>
</tr>
<tr>
<td>Quality of life</td>
<td>4.34</td>
<td>0.86</td>
<td>258</td>
</tr>
<tr>
<td>Produce quality food for family</td>
<td>4.31</td>
<td>1.02</td>
<td>256</td>
</tr>
<tr>
<td>Produce quality food for community</td>
<td>4.16</td>
<td>1.14</td>
<td>256</td>
</tr>
<tr>
<td>Be own boss</td>
<td>3.97</td>
<td>1.14</td>
<td>253</td>
</tr>
<tr>
<td>Environmental concerns</td>
<td>3.82</td>
<td>1.24</td>
<td>255</td>
</tr>
<tr>
<td>Sense of security</td>
<td>3.26</td>
<td>1.28</td>
<td>256</td>
</tr>
<tr>
<td>Feed the world</td>
<td>3.24</td>
<td>1.32</td>
<td>252</td>
</tr>
<tr>
<td>Raise kids on farm</td>
<td>3.23</td>
<td>1.56</td>
<td>252</td>
</tr>
<tr>
<td>Profitability in farming</td>
<td>2.62</td>
<td>1.20</td>
<td>253</td>
</tr>
<tr>
<td>Maintain family tradition in farming</td>
<td>1.96</td>
<td>1.37</td>
<td>246</td>
</tr>
</tbody>
</table>

Table 8. Seeker Motives for Farming

Note: Respondents rated possible reasons from 1-5, with one being not at all an important reason and five being an extremely important reason.

* Responses to Other included: work with animals; save farmland; do varied and challenging work; and address sustainability, capitalism and economy concerns.
Staff people reported motives for farming among seekers that echoed the survey findings, including a desire for a career change, wanting to raise their children in the countryside, and wanting to return to the farming or rural lifestyle they themselves experienced as children. Nina described seekers she sees leaving more profitable careers and having many personal reasons for farming, such as to raise their children in that lifestyle and to “get back to the basics:”

That’s the thing to understand with farmers, their decisions are not just business, there’s a lot of personal issues behind it, a lot of family issues... They want to farm because that’s what they want—to provide that lifestyle to their children, that type of growing up… People want to get back to the basics, they want to get back to the land, back to owning something, seeing their kids every day, having animals and learning how to grow plants, and a lot of it’s about that. It’s a personal preference, definitely (Nina).

Dale also observed that many people leave an office job for farming, where they can interact with the outdoors: “They’ve been sitting at a desk running a computer all of their lives and they all of a sudden think they want to get out and get their hands dirty” (Dale). Nina observed motives for farming stemming from a major crisis in the city and a resulting desire to establish a rural lifestyle. This observation may be unique to that specific location, but may also illustrate a broader desire for a sense of security through farming:

We did see a spike in farm seekers after 9/11. We had a lot of people that just wanted out of [New York City] and wanted to have an agricultural life. There are a lot of people that want to farm (Nina).

Owners’ motives for offering their land were also elicited through the online survey. Table 9 reports the importance of each of these motives to land owners, in order from most important to least important. Owners rated a series of potential motives for offering their land to a farm seeker through a land link program. They were also allowed to mark “not applicable,” which is why the response rate for each motive varies. High responses of “not applicable” to finding farm help and selling a farm business likely reflect the overall low number of farming land owners in the survey. The highest-ranked motive was for owners’ land to be put to good
use, which reflects prior research about owners (Gill et al. 2009). An interesting finding is that motives rated highly by owners are values-based motives and indicate strong support for the local and sustainable food movement, whereas more instrumental motives such as rental income or tax benefits were rated much lower. Rena saw these top motives as related, saying, “[Owners] have this idea that, ‘wouldn’t it be nice if my land was more productive and it would be contributing to the local food system?’” (Rena).

Table 9. Owner Motives for Offering Land Through a Land Link Program

<table>
<thead>
<tr>
<th>Motive</th>
<th>Farmer</th>
<th>Non-Farmer</th>
<th>All Owners</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put land to good use</td>
<td>4.70</td>
<td>4.64</td>
<td>4.67</td>
<td>0.61</td>
<td>95</td>
</tr>
<tr>
<td>Help local farmers</td>
<td>4.40</td>
<td>4.26</td>
<td>4.36</td>
<td>0.91</td>
<td>88</td>
</tr>
<tr>
<td>Support local food</td>
<td>4.38</td>
<td>4.17</td>
<td>4.31</td>
<td>1.00</td>
<td>90</td>
</tr>
<tr>
<td>Help beginning farmers</td>
<td>4.21</td>
<td>4.04</td>
<td>4.14</td>
<td>1.15</td>
<td>88</td>
</tr>
<tr>
<td>Support organic food</td>
<td>4.38</td>
<td>4.17</td>
<td>3.89</td>
<td>1.30</td>
<td>93</td>
</tr>
<tr>
<td>Find farm help</td>
<td>3.56*</td>
<td>2.27*</td>
<td>3.29</td>
<td>1.54</td>
<td>55</td>
</tr>
<tr>
<td>Rental income</td>
<td>3.00</td>
<td>3.25</td>
<td>3.07</td>
<td>1.46</td>
<td>72</td>
</tr>
<tr>
<td>Tax purposes</td>
<td>3.04</td>
<td>2.95</td>
<td>3.00</td>
<td>1.56</td>
<td>74</td>
</tr>
<tr>
<td>Land is under easement</td>
<td>3.03</td>
<td>2.70</td>
<td>2.87</td>
<td>1.85</td>
<td>54</td>
</tr>
<tr>
<td>Sell land</td>
<td>2.79</td>
<td>2.87</td>
<td>2.77</td>
<td>1.86</td>
<td>56</td>
</tr>
<tr>
<td>Sell farm business</td>
<td>2.62*</td>
<td>1.00*</td>
<td>2.30</td>
<td>1.73</td>
<td>37</td>
</tr>
</tbody>
</table>

Note: Importance was measured on a scale of 1-5, with 1 being not at all an important reason and 5 being a very important reason.

*p < .05; **p < .01; ***p < .001

As the following quotations from staff members illustrate, many staff have observed a trend of owner motives that relate to food movement support. Several staff talked specifically about the motives of non-farming land owners for finding a farmer, since this group represents the majority of owner participants for many programs. Kara described the motives of the mostly non-farming land owners in her program primarily as a desire to support farmers in local agriculture:

They are really interested in seeing their land farmed, and want to support that person in local agriculture. And so it's people that really, they may have a background in farming, but it's not something that they are currently doing on their land at all (Kara).
Gina, who also has predominantly non-farming land owners in her program, likewise suggested that most owners offer their land because they want to contribute to the local food movement, and less so because they want the tax benefit of keeping their land in agriculture.

I originally thought that they would do it primarily for the agricultural assessment, the reduction in property taxes. But primarily they don’t. They almost all of them really want to be part of the local food movement, and they really want their property to be used for food production. That’s a pretty common thread, I would say… There are some who just say, ‘I’ve got this field in the back of my property, and I’d like someone to do something more interesting with it than just hay it. I’d like to see it have animals or crops or vegetables, or whatever’ (Gina).

Gina also connected owners’ support of farmers’ markets in the city to their desire to further support local farmers by offering their land for local production:

There are a lot of land owners who…buy their food at the green markets in the city. And so, they’re really committed to this movement. And I think in some ways it makes them feel good to do something. They’re contributing to the community and making their land available to farmers (Gina).

Rena described owners’ motives in great detail. She pointed to several motives, including a desire to keep the land in farming, support farmers, maintain agricultural use property tax benefits, support the local food system, and because the land is conserved and thus has more limited uses:

A lot of them are just caught up in wanting to support the farmers that they hear about, or they’re looking out at their land and having a fresh eye on it because maybe it’s been hayed by a neighbor for a long time or something like that, and they want to keep it open and productive. But maybe that’s for the tax purposes as much as it is for anything else… (Rena).

The survey results and staff interviews indicate that local food movement-inspired land may be an important source of new farmland opportunities through land link programs, although it is unclear whether these land owners are likely to follow through and commit to a partnership, and it provides no guarantees of land availability if interest in the movement were to wane. Hope illustrated some of the potential disconnect between seekers and non-farming land owners due to the food movement-related motives some owners have for offering their land. She related how
some non-farming land owners in her area have motives for offering their land that constitute a farming “fantasy,” which creates challenges to facilitating a successful match.

I think in the beginning my predecessor had to do sort of a lot of teeth pulling in order to get land owners interested in the idea of having farmers on their property, and then it became like a feather in the cap. And then it was like ‘Well, I want a farmer too.’ And so there was sort of like a mini-trend in the community in terms of people coming out of the woodwork saying ‘Oh, can I have a farmer?’… How do you get people to understand what you're doing and realize that it's not this proprietary thing, that what they're doing is allowing someone to test their skills and entrepreneurship, yes, on your land, but you don't own them? And I think navigating that space between where a land owner's fantasy ends and a farmer's entrepreneurship begins can be a challenge, but I think that's just another side of my job (Hope).

She asked an important question for land link programs working with non-farming land owners:

“How do you get people to understand…that what they’re doing is allowing someone to test their skills and entrepreneurship, yes, on your land, but you don't own them?” The line between owners partnering with a seeker by offering land resources to an independent farm business owner, and partnering by expecting that seeker to enact the owner’s farm “fantasy” appear blurry for some. Just as the experience for the farmers’ market shopper can become a commodity itself for some sustainable food movement supporters (Smithers et al. 2008, p. 340), so too might the experience of hosting a local farmer on one’s land among the landed class.

Finally, the survey results indicated that financial factors appear to be relatively weak motivators for owners. Brad explained the differential property tax rate for farmland, and how some non-farming land owners may just seek to meet the minimum requirement (usually hay) to lower their property taxes but others may be willing to allow “more active types of agriculture” on their property, such as vegetables, despite the lack of extra financial incentive:

The motivation or incentive for having your land farmed if you’re not farming it, for leasing it out, is so that you can get lower property taxes, differential property taxation through the Farmland Assessment Act. Pretty much every state has that. So if the land is farmed then you can get lower property taxes. So you want to have it farmed by somebody if you’re
not farming it yourself. If there’s someone that might seek a low intensive use and then just to meet the minimum. Others might be open to more active types of agriculture (Brad).

Several other staff noted that hay is a typical use of fields prior to joining, and there is no incentive for allowing vegetables or other more active uses of the land.

The survey data about owner motives were further analyzed for potential differences between farming and non-farming land owners, based on both the literature review and distinctions drawn by land link staff members (see Table 9). However, overall, motives for farming and non-farming land owners for joining a land link program did not differ significantly. Finding farm help and selling a farm business were the only two motives that the two owner types differed significantly on. Farming owners rated finding farm help higher, at 3.56, while non-farming owners rated it at 2.27. Farming owners rated selling a farm business higher, at 2.62, while non-farming owners rated it at 1.00. These differences are not surprising. Farming owners are more likely to need farm help, and have a farm business available to sell. What may be more interesting about this finding is that farmers and non-farmers are both likely to cite factors relating to supporting the local and sustainable food movement as top motives for joining a land link program to find a farmer for their land. Land link programs appear to be attracting substantial interest among owners who support the local food movement, regardless of type of owner. This may be an opportunity to make more land available to farmers at the RUI, but does not ensure long-term access, as noted previously.

Finally, degree of motivation to find a partner between seekers and owners was compared. Motivation is often greatest in domains that hold great personal importance to the individual and where individual agency is key to arriving at a decision, and these motivational factors may influence the person to devote greater cognitive resources to making decisions (Denzau and North 1994, p. 7). Survey results indicate that motivation to find a match is stronger
among seekers than among owners, as measured by the number of people from the other party they have contacted and the number of other methods they have used to locate and secure land. Slightly more than 60 percent of owners reported that they have not contacted any seekers through a land link program, while in contrast, over 50 percent of seekers have contacted two or more owners. Respondents were also asked what other methods they have used to find land or advertise their land, and more seekers indicated using all methods than did owners, except for Other (Table 10). Many more owners indicated only using the land link program to find a partner than did seekers.

<table>
<thead>
<tr>
<th>Method</th>
<th>Seekers Percent (N=239)</th>
<th>Owners Percent (N=93)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real estate websites</td>
<td>79.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Farm publications</td>
<td>64.4</td>
<td>14.0</td>
</tr>
<tr>
<td>Drove around countryside</td>
<td>61.9</td>
<td>na</td>
</tr>
<tr>
<td>Newspaper classifieds</td>
<td>54.0</td>
<td>18.3</td>
</tr>
<tr>
<td>Other land link(s)</td>
<td>43.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Sent letters directly</td>
<td>36.0</td>
<td>16.1</td>
</tr>
<tr>
<td>Other a</td>
<td>19.0</td>
<td>33.7</td>
</tr>
<tr>
<td>Only used this land link</td>
<td>5.9</td>
<td>37.6</td>
</tr>
</tbody>
</table>

Note: Responses sum to more than 100 percent because respondents were asked to mark all methods that they have used to find or offer land

Other included word-of-mouth, realtor, family and other classifieds for seekers; Other included word-of-mouth and Craigslist for owners

In summary, seekers have many quality of life goals for wanting to farm, which reflects the literature about beginning farmers. Owners want their land to be put to good use, and the results indicate that the local and sustainable food movement may be increasing interest among owners in allowing use of their land for local food production. This may be an opportunity to increase the availability of land for seekers who want to produce for local markets, but may also create tension if the owner participates in part because of their own “farm fantasies”. The next
section explores the specific production goals of both seekers and owners, and further explores how these goals may converge or conflict.

B. Participants’ Production and Marketing Goals

While there is great diversity across seekers, common themes exist regarding how seekers want to farm, how they want to market their farm products, the size of operation they desire and what they want to produce. Owners also often have specific production goals for their land, and some of these goals align with those of seekers, while others do not. The main trends demonstrated through the survey data are that seekers want to produce sustainable farm products for direct markets and that many hope to grow vegetables or diversified farm products. Owners also support sustainable production, but can have specific ideas of what they want produced on their land.

Seekers were asked how many acres they are seeking, if they are still looking for land, and how many acres they accessed if they have already located land. Table 11 reports the number of acres that farm seekers want or have, as well as the number of acres offered by land owners. For parcels between one and forty acres, a greater proportion of owners are offering land than seekers looking for that many acres, while for parcels 41 acres or larger, a greater proportion of seekers want land of that size than the proportion of owners offering that many acres. This indicates that for seekers who wish to establish farm operations larger than 40 acres, land link programs may provide a relatively limited pool of potential land owner partners. However, this may vary substantially for individual programs. For example, Joan noted that farmland seekers in her program have historically wanted very small parcels of land, although she has seen this increase slightly over time:

[This state’s] farms tend to be a lot smaller than the national average but to us they look big. So when we have a 1,000 acre farm that’s big to us. Well, the farm seekers traditionally want something that’s five acres or less… in the past it used to be micro micro farms and it’s starting to trend towards a 10 to 20 acre farm (Joan).
Kara also thought that the trend in her area is toward seeking relatively small parcels, noting, “No one seems to want more than 10 acres, at all…a lot of people are saying, ‘I want at least an acre. That's what I want. I'll take anything. I want at least an acre’” (Kara).

<table>
<thead>
<tr>
<th>Number of Acres</th>
<th>Seekers</th>
<th></th>
<th>Owners</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>N</td>
<td>Percent</td>
<td>N</td>
</tr>
<tr>
<td>0-5</td>
<td>16.6</td>
<td>41</td>
<td>19.8</td>
<td>19</td>
</tr>
<tr>
<td>6-10</td>
<td>11.0</td>
<td>27</td>
<td>18.8</td>
<td>18</td>
</tr>
<tr>
<td>11-20</td>
<td>13.0</td>
<td>32</td>
<td>17.7</td>
<td>17</td>
</tr>
<tr>
<td>21-40</td>
<td>18.7</td>
<td>46</td>
<td>21.9</td>
<td>21</td>
</tr>
<tr>
<td>41-100</td>
<td>24.4</td>
<td>60</td>
<td>15.6</td>
<td>15</td>
</tr>
<tr>
<td>&gt;100</td>
<td>16.3</td>
<td>40</td>
<td>6.3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0</td>
<td>246</td>
<td>100.0</td>
<td>96</td>
</tr>
</tbody>
</table>

Seekers were asked to select all markets they intend to use from a list of twelve options. Table 12 reports seekers’ survey responses about their intended market outlets. Markets are listed in order of prevalence from greatest to least with farmers’ markets and CSAs topping the list. Furthermore, seekers intended to sell through an average of 3.6 different market outlets, excluding personal consumption goals. Family consumption, while not a market outlet, was a high priority for seekers, ranking after farmers’ markets and CSAs as the target use of farm products. Family consumption may reduce reliance on formal market outlets that rely on cash exchange.
Table 12. Intended Market Outlet of Seekers (N=245)

<table>
<thead>
<tr>
<th>Outlet</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers' market</td>
<td>66.1</td>
</tr>
<tr>
<td>CSA</td>
<td>58.8</td>
</tr>
<tr>
<td>Family consumption</td>
<td>55.5</td>
</tr>
<tr>
<td>Restaurant, direct</td>
<td>51.8</td>
</tr>
<tr>
<td>Farm stand</td>
<td>43.3</td>
</tr>
<tr>
<td>Grocery, direct</td>
<td>31.8</td>
</tr>
<tr>
<td>Other(^a)</td>
<td>27.2</td>
</tr>
<tr>
<td>Institution, direct</td>
<td>17.1</td>
</tr>
<tr>
<td>Food hub</td>
<td>13.1</td>
</tr>
<tr>
<td>Auction</td>
<td>7.3</td>
</tr>
<tr>
<td>Processor, direct</td>
<td>6.9</td>
</tr>
<tr>
<td>Processor, contract</td>
<td>6.1</td>
</tr>
<tr>
<td>Grain elevator</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Note: Responses total more than 100 percent because respondents were asked to select all that apply

\(^a\) Other: N=184; Top responses include direct to consumer and to friends or family

Kara noted that many farmers want to establish CSAs, largely in response to what is perceived to be insatiable demand for sustainably grown foods. She tied this to motives for farming as well.

The other thing: tons and tons of farmers have mentioned starting CSAs…that's why, I think, so many people think that they can make a go of farming and are really interested in getting started is that—I've had one farmer describe it to me, that it's like the ocean, there's no end to the demand for locally, sustainably raised—particularly sustainably raised foods, table crops, in markets and in CSAs (Kara).

Gina agreed, although she also acknowledged that some of the farmers in her program are more conventional commodity producers looking for extra acres:

There are a lot of people looking to do vegetables, CSAs, people who are growing vegetables and selling it down to restaurants in [the city]. It's really diverse. We also just have more conventional farmers who are looking for additional land to lease for hay or crops (Gina).

The prevalence of interest in direct local market outlets on the part of seekers indicates that this may be an opportunity for seekers to connect with owners given that owners exhibited a high level of support for local farmers and local food in the online survey.
The survey results demonstrate that all participants in land link programs have goals that align with commonly recognized sustainable agriculture goals, which may be another opportunity for seekers and owners to connect. Six paired statements developed by Beus and Dunlap (1991) were used in the survey “to measure adherence to alternative versus conventional agriculture” (p. 432). A response of one indicates strong agreement with the sustainable agriculture statement, a response of five indicates strong agreement with the statement more aligned with conventional agriculture, and three indicates equal support of both statements. Results are reported in Table 13.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Seekers</th>
<th>Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Rural is important vs. unimportant</td>
<td>1.39</td>
<td>0.761</td>
</tr>
<tr>
<td>Local/regional sales vs. national/international sales</td>
<td>1.48</td>
<td>0.823</td>
</tr>
<tr>
<td>Natural fertility building vs. synthetic fertilizers</td>
<td>1.49</td>
<td>0.949</td>
</tr>
<tr>
<td>Species diversity is important vs. unimportant</td>
<td>1.97</td>
<td>1.025</td>
</tr>
<tr>
<td>Farm and product quality vs. farm efficiency</td>
<td>2.18</td>
<td>1.148</td>
</tr>
<tr>
<td>Farming is a way of life vs. business</td>
<td>2.69</td>
<td>1.296</td>
</tr>
</tbody>
</table>

Note: Responses were measured on a continuum which was assigned numeric values from 1 to 5, with 1 being strongly agree with the sustainability view and 5 being strongly agree with the conventional view. All statements were selected from Beus and Dunlap (1991).

These results demonstrate a strong alignment with sustainable agriculture among participants. Several staff people observed that most seekers in their land link programs seek to farm organically, but Gina qualified this by saying “the majority of the farmers for sure are maybe not necessarily certified organic but are following organic, whole-farm type of principles, looking to be part of the whole local food movement” (Gina), and another said, “I’ve really found is almost all of these farmers are mentioning either ‘organic’ or ‘sustainable,’ ‘biodynamic,’ ‘heirloom’—words like that, to discuss what their plans are” (Kara).

Thea said almost all owners want their land to be farmed organically, although she cautioned that owners are not always sure what that means in practice. For this reason, her
program uses a set of external sustainability standards published by the Food Alliance that both seekers and owners are asked to adhere to as participants in this land link program.

We particularly felt it was important for the landowner’s side to be able to provide them with a level of assurance that they weren’t going to have to worry about practices or products that were being used on their farm because the fact is that 99 percent of the landowners say ‘I want it to be organic,’ but they have no idea what that means (Thea).

Kara said only about half of the owners in her program have the goal of a farm on their land being organic or sustainable, although she too qualified her statement with the observation that many owners are not clear about what those terms mean in practice.

It’s hard to know. The landowners and farmers—I mean any time you’re talking to them about “organic,” “sustainable,” when someone doesn’t say those words it doesn’t necessarily mean they want—I hate the word “conventional,” but it doesn’t mean that they want pesticides used on their property. But what I have found is that on both sides, people are using the words “organic” and “sustainable” in what it is that they want (Kara).

Survey results show that the product-type goals held by seekers are quite diverse, but trends are evident. In the internet survey, seekers were given a comment box in which they were asked to describe the farm products they produce or intended to produce. Responses cited a wide array of products, but vegetable and/or fruit production was the largest single type of product listed, with 32 percent of respondents stating they intended to grow vegetables and/or fruit. Livestock was the reported production goal of 16 percent of respondents and dairy was listed by 6 percent of respondents. Beyond single product types, 35 percent of respondents stated they intended to establish a diversified farm operation which includes produce, livestock and/or dairy, and often several other enterprises such as bees or ornamentals. The remaining 11 percent listed other target farm products, such as agri-eco-tourism, maple syrup or other tree products.

To give a better sense of the wide diversity of products seekers want to produce, selected seeker open-ended survey comments include: “micro dairy, small orchard, pick-your-own berries, bees, maybe pizza nights” (Seeker 35), “aquaponics, apiary, wool production, goat cheese
production, cider production” (Seeker 197) and “depending on soil quality and topography, I would look to establish a silvopastoral system in the long term with early successional crops and non-timber forest products to aid cash flow in early years; cash crops could include berries, ginseng, ramps, wild turkey, and other pasture animals” (Seeker 158). One interesting finding is that thirteen respondents specified they hope to establish an educational farm, suggesting a desire to engage with and serve their communities through farming on the part of some seekers.

Owners, like seekers, exhibit an array of goals for what type of products they want grown or raised on their property. While many land link program staff people emphasized the importance of linking participants based on a seeker’s material farm needs and expectations, such as housing availability or soil type to meet their production goals, many also gave many examples in which additional types of connections between seekers and owners were critical to a successful match. These shared production goals with owners may at times even be more important for seekers to actually establish a partnership. This may reflect owners’ relatively high emphasis on good land use and local food and farm support, and relatively low emphasis on financial motives. Several staff people alluded to an ideal wherein the seeker connects with the owner on a personal level, rather than simply arranging a financial transaction. Kara described this owner perspective, emphasizing the importance of owners’ goals for seeking to offer their land for farming either to help a particular farmer, to support a specific type of agricultural product, or to support local agriculture generally:

I’m sure it isn’t easy to open your land up to have someone come in and change it in some way. I think you have to want—that extra piece is wanting to support either a specific farmer, a specific crop, or just agriculture in general (Kara).

Staff people described many instances in which owners have particular goals about the type of farm they want on their property, but base these goals on personal preference or pipedreams, more than on actual knowledge about agriculture, further demonstrating that some owners may be after
a particular experience. This scenario was described particularly in lease and work-to-own arrangements because the owner often also lives on the property being farmed, but is somewhat so even in purchase agreements. Brad noted some of the differences between owners seeking to sell versus lease their land, as well as differences between owners offering land for lease:

Land owners, if they’re looking to sell their land they’re just looking to sell their land. If they’re looking to lease their land, some of them have specific ideas. They want organic or sustainable or something specific; others don’t care (Brad).

However, as will be shown, even during a land sale, some owners still have specific production goals in mind for their property. The following sub-sections consider owners’ goals in the three primary land access scenarios in turn: lease arrangements, sale of the property and work-to-own.

i. Owner Goals in Lease Arrangements

Despite many owners having little or no experience in farming, they may still have a particular idea of what a farm on their property should be. Some have fairly broad goals for offering their land, but others have specific goals in mind for their property. Brad explained how many owners do not offer their land broadly for any type of farming, but instead, often have specific product goals in mind:

There’s people that have land and want to make it available for vegetables and somebody wants to make it available for horses and somebody wants to make it available for some other type of agriculture from the land owner side (Brad).

Kara made a similar observation, explaining that the specific type of operation a seeker wants to start can be dependent on an owner joining the program who “has always dreamed of” running that same type of operation.

It’s timing, it’s who—you know, there’s a guy looking to start a goat dairy on here. I don’t know whether one of these land owners has always dreamed of owning a goat dairy. I have no idea. And so it’s Providence. It’s a bit luck and luck of the draw here (Kara).
This observation alludes to some owners seeking to farm vicariously through leasing their land to a farmer, and expecting particular types of production to occur on their property to achieve their farm dream, echoing the earlier observation about owners’ farming fantasies.

Sara gave an example of a successful lease agreement made through her program, involving a seeker renting land from a local school. The farmer has a background in environmental education, so she plans to bring the school kids out to her farm in partnership with the school. Sara sees this match as an ideal link because the farmer is using the land not only for her own farm goals, but is able to use the land in a way that can meet some of the land owner’s goals as well.

The woman has a background in environmental education and so she’s really excited to work with the school and to have school kids come out onto the land to do different types of partnership activities together, and the [local] school chef is interested in buying produce (Sara).

Hope gave an example of a successful match for a biodynamic farmer. This match was made because the land owners are familiar with biodynamic agriculture through their work as wine importers. Since the international wine grape industry includes many biodynamic farms, the land owners were able to connect with this farmer in a positive way.

I was contacted by a land owner who actually works in the wine importation business, and so he had a really, I think, interesting perspective on organics and biodynamics, because there is a really strong history of natural and biodynamic wines certainly in Old World wine producing countries. I don’t know if this is your experience, but I think for a lot of people, if you talk about biodynamics, they either just completely glaze over, or they’re like, ‘Oh, yeah. That’s organic, plus,’ which it’s not, really. It’s a very interesting cosmology, and so it was actually—it was kismet, because the land owners were already really fully versed in what biodynamics entailed, and they were—and it seemed to fit their personal value system in terms of the business that they run (Hope).

The match was made because of alignment of personal values, not necessarily because of alignment of the soil type with the seekers’ crop goals or any other material production needs.

Hope continued with another example of “personal” and “intimate” connection for an owner. She
pointed to this owner as an example of heightened commitment to organic vegetable production because of the difference that diet changes made for the health of a family member.

I have a land owner that I've worked with a little bit right now who is a father with young children. One of his children was diagnosed with autism, and he and his wife found transformational success in modifying their son’s diet as it related to his diagnoses, and so in that way I think for him it's a very personal but also very therapeutic thing for him to find someone who can farm his land. So I think it's a really significant story. I mean, this is not the stuff of Big Ag. This is a very small and kind of intimate affair, but I think that that kind of sensitivity on the side of the land owner makes for a good match. So when I talk to people I really try and sort of tease-out motivation too (Hope).

Kara shared an example of a match she facilitated that illustrated an intersection of the farmer’s material needs and the owner’s available resources. But the staff person’s description of the owners’ response indicates that it was also important for the land owners to approve of the intended farm product. Would this match have been secured if the owners did not happen to “love persimmons?”

There’s a couple that are supporters of ours that have an old, sort of run-down orchard area on their property out in the agri-village, and so the one person that applied to do persimmon farming had been very specific about the land that he would need, and our executive director had gone out to talk to these supporters about possibly being a partnering land owner on this and saw this orchard and was like, ‘This is exactly what he said he needed. This is great for persimmons.’ And, you know, of course, the couple is like, ‘Oh, we love persimmons. Yeah, that'd be ideal.’ So it worked out (Kara).

In the internet survey open-ended comments, some owners expressed very specific ideas about what they want their land to be used for. In these instances, the seeker is expected to share and implement the owner’s vision for her land in what sounds like an employee-type relationship, but the land owner wants the seeker to rent her land and operate it as an independent business.

I am talking to many, many people and only lately realized it’s Edible Forest that is really right for this land… I need to decide if it’s a concept that is ahead of its time or if I just need someone to help me. I need this to start happening now. I was literally trained to collaborate from an early age. I’m looking for an out of the box, artist, conceptual thinker with hands on experience and an open mind, a business plan and let ‘em go, with all support (Owner 376).
While this owner is very enthusiastic about her goals to develop her land as an Edible Forest, she also has very specific expectations about finding a farmer who both has a written business plan that incorporates this farming model, and is willing to implement her ideas for her land rather than his own. Another owner stated, “We are now looking to work with SPIN-Farmer wannabes. We provide mentoring and expertise on SPIN methods, tools and training” (Owner 138). This owner wants to offer land specifically to people who want to learn and use the SPIN farming method.

**ii. Owner Goals in Sale Arrangements**

It may be important for the land owner to support the specific type of farm products being raised on her land in a lease arrangement since the owner often continues to live on that property, and may be affected in some way by the type of farm on her land. In a sale, as Brad noted, most owners simply want to sell their land to whomever offers an acceptable price. However, one land link program staff person talked about owners who have a product preference even when selling their land. He gave an example of an owner who prefers one kind of cow over another. In this case, since the land link organization purchased the land, the owner does not have any actual influence over the decision of which farmer to sell the land to. Eric’s statement shows the contrast between what the previous land owner bases his farmer preference on and the basis on which the organization selects a farmer to purchase the land.

Some of the cases, the people did have a very strong vested interest and were happy to sell the property and also really cared about what the outcome was, and in some of those cases we haven’t left it up to them to make the decision on who the farmer is, but we’ve said, ‘Here’s our top two or three farmers. Do you have any reactions, feedback for us?’ And we’ve considered that when making the final selection, but the final selection is usually left up to us because we’re really looking at it from a financial standpoint, a feasibility standpoint, and in some situations, if a previous owner has a particular style of agriculture that they prefer over another type of, like organic versus non-organic or one type of livestock over another type of livestock, they’ll say, ‘I like this person because they have

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5 SPIN stands for Small Plot INtensive, and is a method of farming which involves planting at high densities to increase yields from small spaces.
Holstein cows and I don’t really like Jerseys.’ And it’s like well, we’re not going to pick someone based on that. We’re going to be picking on experience and the wherewithal to carry out the plan and not because they have Holsteins or Jerseys (Eric).

He explained the benefits of his program’s system of outright purchase of farm properties and systematic screening of prospective farmers who are interested in buying and farming on that land:

Certainly some of the farmers we’re working with who want to sell their property, they’re looking for us to make a match. ‘Help me find a buyer who I like.’ That’s an old way of looking at a match…. I think it’s a little overwhelming in some cases for a land owner to try to figure out who is a good match for their property and so when we step in we have the capacity. We have a very standardized system at this point for vetting farm proposals and sort of assessing them and things like that, so we also come at it from the perspective of having seen a lot of these proposals and things like that, and sort of being able to suss out the details and the small things that someone might read [the proposal] and say, that sounds good, and not really have a basis or understand what they’re looking at (Eric).

Here, he contrasted the “old way” of approaching matches with the newer method that his program has developed. Until about 2003, the program facilitated sales of preserved farmland to local farmers. Since then, the land trust has developed the financial capacity to purchase properties outright, then place conservation easements on the land, and thereby become the seller and maintain control of the buyer selection process. He questioned the ability of land owners to select the most appropriate farmer for purchasing their land. When left to the preferences of the land owner, someone who the owner “likes” may acquire the land, rather than the farmer with the most viable farm business. In contrast, the staff person described the organization’s method of selecting a farmer through a three-person panel review process. Seekers submit farm plan proposals and personal references, then go through an interview process by which they are evaluated on the basis of their likelihood to carry out the plan and be profitable farmers.

iii. Owner Goals in Work-to-Own Arrangements

Work-to-own situations are a type of land access arrangement that few of the land link programs focus on. While these arrangements may seem to offer a path to ownership for farmers
who lack capital but can offer labor, they often prove challenging in practice (Ingram and Kirwan 2011). In a program that does facilitate these arrangements, Nina talked about how seekers need to be flexible when they start working for an owner. She said that even when the new farmer does not completely agree with management decisions, he should comply and do the work anyway. The seeker may not want to farm the way the owner does, but wants to work into eventual ownership of the land, and so complying with the owner’s goals as a farm worker may be necessary at least in the short term. She described the successful seeker in a work-to-own arrangement:

If they’re just kind of open to the options, can kind of quietly take direction from the farm owner even though they may not agree with it at that perfect instant, to kind of be willing to walk a different path than they have their heart set on to learn for a little bit and then eventually they’ll have their own spot to do what they want: they’re the successful ones. If they’re less rigid about things, then they can generally find a farm (Nina).

While she highlighted flexibility on the part of the seeker as key, she later described a situation where the seekers entered a work-to-own arrangement in which the owner changed his mind after the beginning farmers had invested several years of labor into the farm, and the beginning farmers were forced to leave. Of owners she noted, “Some of them think they want to transfer the farm and in reality they’re just looking for an employee” (Nina). This indicates that compliance with the owner’s goals may not be the only requirement for seekers to be successful in a work-to-own land access arrangement, particularly if the owner is himself unclear about his own goals. Nina later also said that seekers need to establish a concrete plan with an owner to determine the work-to-own arrangement and ensure that each party’s goals remain compatible.

Work-to-own arrangements may be especially susceptible to conflicting goals between seekers and owners, as the owner not only often lives on the property, but also remains actively involved in management of the farm operation. This may reflect the sometimes tenuous intergenerational transfer model and unwillingness of aging farmers to relinquish control, but

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with the added dimension of a new farmer from outside the family. Nonetheless, the relative infrequency of this type of arrangement through Northeast land link programs leaves questions about what is being done to address the oft-stated problem of aging farmers needing successors.

In summary, both seekers and owners often have particular production goals in mind, even though in the case of owners they are typically not actually involved in the farm operation. Alignment of these goals was highlighted by staff as an important component of securing a match. The following section expands upon the characteristics, motives and goals of seekers and owners to explore their mental models of farming, one another and land access, and the ways in which these mental models may support or constrain establishment and maintenance of access partnerships.

III. Participants’ Mental Models

Understanding the mental models of farmland seekers and owners about farming, one another and land access is important for identifying ways in which they may or may not be adequate and overlap with those of the other party. Both accurate and shared mental models are important for effective partnership functioning (Mohammed et al. 2010). With limited resources for purchasing land, many seekers find leasing to be an attainable land access arrangement at least in the short-term. This further necessitates a partnership perspective, as land owners often continue to live on the property or have other vested interests in their property. The following three sections outline the differing mental models held by seekers and owners about farming, one another and land access as identified in the interviews with land link program staff people with some comments written by survey respondents as supporting data.

A. Mental Models of Farming

This section illustrates aspects of owners’ and seekers’ mental models of farming, as described by program staff people. Some owners have been or are farmers themselves, so they
may have a more comprehensive mental model of farming. However, as the survey data show, land owners who offer their land for farming through land link programs in the Northeast U.S. are often non-farming land owners. These individuals may have only very rudimentary farm mental models, or even inaccurate mental models of farming. Owners’ experience with farming can affect their ability to evaluate a potential opportunity or anticipate a farm’s interaction with other uses of the property. Specifically, owners may lack knowledge about whether their property is suitable for agriculture, how a farm will look on their property, and how a farm on the property might affect other property uses and goals.

Many staff people suggested that owners’ incomplete mental models about farming affect their ability to assess whether their land is suitable for farming, and therefore suitable for participation in the program. Faye related her experience with enthusiastic land owners who did not realize that their property has limited agriculture uses due to being largely forested:

Land owners really—they love their land, they love their land and they just want other people to love it too, which is great, but not as, you know, it’s not for me if I can't farm it. And even in those situations, I was trying to be very creative and I contacted foragers to find out if they wanted to start mushrooms or ginseng, but at a certain point that's not exactly what we’re looking for in listings. So we had to educate them on what to look for in terms of soil and location and what different lands are best for, and that type of thing (Faye).

Thea encounters similar types of situations, such as owners who fail to understand that hilly ground precludes viability of a vegetable operation on their land:

I went out to do the initial site survey, and part of the function there is to help them to realize what’s desirable and what’s lacking in their properties because they’re your typical land owner, who’s not a farmer, can’t really anticipate what a farming operation is going to need. So in one instance they thought they’d really like to have an organic vegetable farm there. Well it's totally hilly. That’s not going to work for vegetables. Vegetable growers need flat—they need a table, and it just didn’t really occur to the people that that was the case (Thea).

Finally, even if the property is not forested or hilly, the soil type may limit the type of agriculture that is feasible on the site, and this is another area that many owners fail to understand or be able
to communicate. Cole related the difference in knowledge about soil type between non-farming land owners and owners who have some background in farming, explaining that non-farming land owners need more education than owners with farming experience:

Soil is often the key piece of information that farmers need. Before they even go out to visit a site, the farm seekers always want to know what kind of soils exist on the land. It’s really hard for land owners to describe, especially non-farming land owners, to describe the soil types that exist. They just have absolutely no background in the subject… So when a land owner says, ‘Hey, I have no idea what soils are here. Can you come help me assess the soils and the agricultural viability?’ then I say yeah that's, you know, that will make a lot of sense to do <laughs>. In cases where the land owners are more experienced farmers, they might not be farming now, but they were farming 10 years ago or something, they require a lot less assistance and they probably don’t require a site visit (Cole).

At least some non-farming land owners may readily acknowledge that they need additional education about their property’s suitability for agriculture. For example, one owner offered a comment in the internet survey that demonstrates that while she does not know everything she needs to know before finding a match, she is aware of this knowledge gap:

I had a visit [from program name] rep, but I am such a novice, I think I need more encouragement. We would definitely like to offer our land for good use, animals or crops, but are not sure the quality of our land is useful (Owner 117).

Owners’ mental models of farming may also fail to incorporate an accurate understanding of the visual appearance of a working farm on the property, which in turn may jeopardize a match if the owner is unhappy with the reality. As one staff person described it, “If they think farming is just hay, and not black plastic and tractors every day and employees and all that stuff, then it doesn’t work” (Sara). This also highlights the lack of financial incentive between hay and more active uses of a property, as noted previously. Gina described two examples of owners who lack a well-developed understanding of what a farm on their property will look like and how the farm might affect them, and also indicated that some owners may not have as much self-awareness as
the owner quoted above. When asked how she would characterize an ideal land owner in her program, Gina said,

I think it’s helpful if they’re humble enough to recognize what they don’t know. It’s not helpful when—and we really try to do education in this regard—is when people have a piece of property and think, just because it’s open land, like within a year it can magically be transformed into the most beautiful vegetable garden on earth. So it’s a matter of them having a good reality…That’s one of the things you really try to get people to talk about in the beginning in terms of, ‘Are you a land owner? While you say you want vegetables, are you really comfortable with a CSA where people are going to be coming and doing their pickups every Saturday morning or whatever it is?’ (Gina).

In this example, she described owners who think their land can be “magically transformed” into a bounteous garden overnight, and others who think a CSA farm sounds wonderful, but fail to realize that the CSA involves customers regularly driving onto the property to pick up their share. She continued with another example that echoes findings in the literature on neighbor relations and farming:

Or, ‘Are you really okay with the farmer spreading manure? It’s going to make your house smell, and if you have animals or—that means you’re going to have flies, and they might escape and end up on your back porch during your cocktail party.’ So those kinds of things, we really try to get people to think about (Gina).

Faye observed that the biggest challenge for owners is that “they don’t really understand what farming is.” Many land owners’ mental model of farming is inaccurate because it fails to include equipment, tools lying around, or piles of compost:

I think that from the land owner perspective, the hardest thing for them is likely the fact that they don’t really understand what farming is <laughs>. And they have a specific idea or a visual of what a farm looks like and feels like, and the reality is, is that there’s equipment and tools around and there's, you know, a pile of compost… it takes education for land owners just to understand what they're involved in (Faye).

Not all owners have well-formed mental models, but some also may not personally need well-developed mental models of farming. If the owner is genuinely flexible about what is acceptable on their property, they may also be willing to regularly establish new partnerships as
previous situations fail to work out. Gina noted that some owners are more flexible about the farm and farmer on their land than are others:

> There's a lot of land owners who don't have any experience at all and are okay with that. They just want someone to come and use their land, and if it doesn't work out, it doesn't work out (Gina).

Sara highlighted the importance of owner flexibility to the formation of one match:

> So a land owner was just really excited about the end thing – her land used, and she’s really flexible and supportive. Her main thing was as long as they’re using organic practices. It seems to be going well (Sara).

Flexibility may also be related to the proximity of the farm operation to the residential space, or to how frequently the owner is on his property in the case of second home owners. Gina noted this type of situation:

> It’s helpful, I think—the ones who don’t come up very much, it’s sort of helpful because the farmers—they’re not having a lot of conflicts with the farmer because they’re not there that often. But there are some who come up every weekend, and it can be a conflict (Gina).

However, Rena cautioned that what may initially seem like openness or flexibility on the land owner’s part may actually signal an inability to anticipate the range of possible scenarios.

> A lot of times the land owners that call seem to be pretty wide open and this is nice, but then when you get into the nitty-gritty details, it’s like anything. You start off being ‘anything’s possible’ and as you get into it, you’re like ‘well, actually, but I do have this condition, oh and I hadn’t thought of someone wanting to do that, no I wouldn’t be okay with that,’ you know what I mean? So having those conversations with people earlier on helps to identify what some of those stumbling blocks might be, not stumbling blocks, but what the parameters might be, what some of the limits might be to a person’s openness, which then helps create some structure for that farmer to decide whether or not that would work for them (Rena).

While land owners who join Northeast land link programs are frequently non-farming land owners, several programs also work with existing retiring farmers to help them find a farm successor. Farmers’ mental model of farming often includes themselves as the farmer,
maintaining control of their operation as long as physically possible. Alan said many aging farmers he serves are reluctant to plan their farm’s transition:

Oh, even research that we've done, the vast majority do not have a formal plan to transition the farm. Some of them are truly unprepared. Most have probably at least thought about it or, you know, considered that it's going to happen and what that might look like. The minority are the ones that have either started discussions on what that's going to look like with their children or with their parents, and the true minority are those that have actually physically sat down and prepared a plan (Alan).

Finally, Nina also described succession planning challenges that reflect many aging farmers’ closely held identities with their farm. She said helping these farmers “move on with life” is her program’s largest obstacle:

Farmers are very attached to their farm. It’s part of their family. The biggest challenge we face is assisting people with learning to let go and move on with life. There is a traditional view in agriculture that a farm owner wants to die while farming. They’d rather not deal with the transfer or estate plan, they would just like to die on the job and then somebody else will have to deal with that. It’s not the best way to leave it for the rest of the family or whoever to clean up, but that seems to be the prevalent attitude and especially with dealing with the older population they’ve spent 60-70 years building this farm up and they just don’t want to relinquish control (Nina).

The observations also reflect the potential for conflicting management goals between seekers and owners in work-to-own arrangements.

While it may be understandable that a land owner who has never farmed will have an incomplete mental model of farming, land link staff people expressed concerns that many seekers also have incomplete mental models of farming. Seekers’ amount and type of farm experience affects the content, accuracy and completeness of their mental model of farming, and therefore their preparedness to farm. Dale described this connection between a lack of farming experience and a lack of understanding regarding what farming entails among seekers:

So I’m speaking of new entry farmers, people who don’t necessarily have a farming background who want to get into it—and I get a lot of that… I don’t mean to be dismissive of these people because there are many of them who have a good idea of what’s involved.
But I do get some people who are very naïve and sort of wide-eyed about what farming consists of. So I try to let them know that it can be a very difficult proposition (Dale).

Dale shared a specific example of an inaccurate mental model of farming he has observed among seekers in his program, regarding the cost to rent or buy farmland:

We have a lot of people who are just getting into farming. And this is actually a bit of a problem in a way. They’re getting into farming so they really don’t have a good idea of, well, for example, what farmland costs to rent or to buy. And I see a lot of people who are astonished when they see listings for half a million dollars and that sort of thing (Dale).

Joan also has many inexperienced seekers join her program, and she shared a concern that if they secured land and began farming, they would quickly fail.

Not to be hurtful—and be careful to word it the way I say it—there are a lot of farm seekers who have no experience in agriculture and have a dream to get into agriculture, and I have a concern that that entire population would fail within the first five years (Joan).

Likewise, Kara noted the trend of inexperience among seekers, and said the people with very few years of farming experience do not know what farming involves:

One thing that I’m seeing with the farmers… these people are new. These people have maybe two years, sometimes more, farming experience. They don’t necessarily know what they’re doing (Kara).

Mara attributed a developed mental model of farming not to experience in farming specifically, but to “life experience,” in addition to having available capital:

Particularly in our [region] we have a lot of retiring people that have worked with the Navy and some of them are interested in going into farming. So they may might not be in their 20s, they might be in their 40s or 50s… they’ve got some life experience, they kind of have a game plan already about what they want to do. Sometimes the younger folks are not quite sure where they want to go. They’re kind of thinking about this and kind of thinking about that. Usually our second career people, they’re like, ‘okay, I’m going to do cut flowers,’ ‘I’m going to do organic produce,’ or whatever (Mara).

This echoes the findings of Johnson et al. (2001, p. 9), which highlighted an array of skills, knowledge and resources that farmers need to succeed. Experience in farming helps a beginning
farmer be successful at farm management, but other work or life experience can also contribute to more developed farm management skills.

In sum, land link program staff people observed that non-farming land owners frequently possess incomplete and often inaccurate mental models of farming, affecting their ability to assess whether their land is suitable for agriculture, what a farm on their property will look like, and how that farm might affect their other uses of the property. Farming land owners can also have mental models of farming that create barriers to finding a match. They may view themselves as the primary operator on their farm and be reluctant to relinquish control. Staff people pointed to a need for land owners to understand these aspects of farming and its interactions with other property uses, but that it is also influenced by factors including whether the owner lives on the property as their primary or secondary residence, and how flexible the owner truly is about having a farmer on her land. Staff people also expressed concerns that seekers who join their programs but lack farming experience have substantial gaps in their mental model of farming, making them unprepared to be successful in farming. The survey results show that relatively inexperienced farmers constitute a considerable category within the population of seekers. The next section analyzes seekers’ and owners’ mental models of one another and the ways that their perceptions may affect the success of the match relationship.

B. Mental Models of One Another

This study did not directly measure participants’ perceptions of one another, but several open-ended comments on the internet survey provide some preliminary categories for understanding their views. In addition to many positive comments about their experiences in a land link program, approximately 25 separate comments were made by seekers about owners in the survey, and these reflected perceptions that owners are “clueless” about farming,
uncommitted or unclear about their goals, and want to “cash in” on their property. Almost 25 separate comments were made by owners about seekers through open-ended survey comments. Owners tended to perceive many of the seekers as lacking knowledge, skills and/or management experience in farming. An owner is less likely to view such seekers as reliable. Many of these views also reflect statements made by staff during the interviews.

One farm seeker said that the owners she contacted were so “clueless” about farming that they failed to realize that their pasture would have to be plowed in order for it to be used for growing crops. She viewed this as a considerable challenge that needs to be dealt with:

A bunch of the people I corresponded with didn't realize that if they signed up for their beautiful piece of pasture/field to be farmed, that when it came time to farm it- it would look different. Wealthy land owners can be pretty amazingly clueless, and inflexible. Not to mention totally unrealistic. I don't know how you'd make this easier on your farmers to deal with... but it'd be nice if you could make an attempt. Also you should push your land owners to be much more explicit about what it is they want to see happen on their property, what they want to see from potential farmer candidates and what their decision making process will be. And if they want to be involved on the operation somehow—to what extent (Seeker 291).

From this quotation, additional components of this seeker’s mental model of land owners are evident, including that they are wealthy, inflexible and unrealistic. She also found that many have a desire to be involved in the farm, but are not able to communicate their goals succinctly.

Other seekers shared similar concerns about land owners through open-ended survey responses. One seeker wrote, “Land owners are often unaware of what they would be expected, as owners, to provide (electric, water)” (Seeker 207). Another seeker suggested that owners make assumptions about his current farming practices, making him uncomfortable about engaging with them: “Land owners make huge assumptions about my current horse herd. Assumptions are difficult and actually scare me from continuing to negotiate based on their biases” (Seeker 102). These and other seekers expressed substantial frustration about the owners
they have encountered, in addition to a desire for the land link programs to incorporate more education for owners, to ease the burden on seekers to do this work.

Some seekers indicated that they see owners in land link programs as uncommitted, unwilling to help a beginning farmer get started, and at times even greedy about the prices they want for access to their land. One seeker expressed disappointment that owners are not as committed as he might have hoped, and that they charge too much money for rent:

I feel that the land owners aren't as committed as the land seekers. Committed land owners that are reasonable in their assessment of what a farmer can provide for them. I think [this state’s] farm owners are a bit out of touch with how much to charge a farmer for land and lodging. They're a bit too expensive (Seeker 102).

This seeker also felt that owners have an exaggerated view of the value of their land when offering it for sale: “What I would like to share about the [program] is that the land owners seem to be unrealistic in what they're offering to a potential farmer. Most want to sell their farms at exorbitant prices” (Seeker 102). The following seeker shared a similar view: “My experience has been that the majority of listings from [the program] are people looking to cash out and selling for prices that are not affordable for a beginning farmer…” (Seeker 7).

One seeker who had located land expressed confusion and frustration about the land owner’s behavior when he ended her lease without explanation. She used this as a learning experience to refine her mental model of land owners into the categories of “private land owner” who can be unreliable and “preservation trust” which may be more committed and provide her with greater security, and focused on locating preserved farmland for her next lease arrangement:

My first lease experience from a private land owner was not a good arrangement. My business was successful but the land owners decided not to renew the lease with little explanation. I have found a second property which I believe will be a better fit. It is an underutilized farm in a preservation trust. I feel that I learned a lot through my first, unsuccessful lease. I was careful to look for high quality land, landowners who had some understanding of farming and a property that was intended for preservation or available for a longer term lease (Seeker 199).
This farmer learned through experience that she needed to locate land that would allow her long-term access to high-quality soil and a landlord that understood farming. Without communication it is impossible to know the land owner’s reasons, but it is not uncommon for a private land owner to be unhappy with nearby farming activities yet not voice his concerns (Kelsey and Vaserstein 2000). Indeed, it may seem simpler to just end the lease arrangement. This farmer learned to protect herself from potentially fickle land owners by seeking a long term lease on land in a trust.

Some staff people also shared examples of seekers who have more discerning views of owners. For example, Gina relayed how one farmer’s land search was successful in part because the farmer had a clear mental model of the type of land owner she could work with:

She must have talked to at least 30 different land owners. I don’t know how many [properties] she actually went out and looked at, but she’s really smart and really has a good firm understanding of what exactly she needed and what she was looking for in a land owner. She was really particular about what was going to work for her. And so, she spent a long time until she finally found the right place (Gina).

The seeker’s ability to differentiate types of owners and how that affects their ability to meet her farming goals is important in this example.

Owners have a wide range of mental models of who is a farmer, or who an ideal farmer for their property might be. Two key distinctions that owners draw about seekers is whether they have farming experience and commitment, and whether they are financially prepared to farm independently. A seeker’s level of farm experience is an indicator of the seeker’s attractiveness to a land owner. Further, several owners mentioned costs of farming as a potential area of tension between themselves and a seeker. This owner highlighted both aspects, citing specific conflicts over the economics of farming from his experience:

Many proposed farmers either lack the experience or lack the funding or most often both. They have the ideal of farming but little concept of the pay for the land, pay the taxes, pay for the improvements, demands that are massive on the farm. They have a high value on their
labor and want to pay nothing for their accommodation. They have little grasp of how to work to create enough value to pay themselves and seem to have an expectation that the farm owner is rich and can pay for them to experiment with being a hipster farmer before they have to figure out what sells and what will make the enterprise worthwhile (Owner 286).

Mara emphasized the connection between seekers’ experience and their attractiveness to an owner, noting the distinction between farm skills and management experience:

There’s working on a farm and there’s operating a farm. I’ve seen a number of new farmers who want to branch out on their own that have worked on other people’s farms, but they don’t exactly have the credentials as an operator, which the owners are going to want to see in order to say, yeah, you’re credible to lease (Mara).

Nina concurred, saying seekers who can demonstrate management experience will be contacted by owners more often. However, she further qualified this observation by explaining that owners respond more to those who market themselves well through their online description and who provide references, indicating that management experience alone is insufficient, but that the ability to market oneself as a trustworthy farmer is also key.

Generally the ones that are experienced in dairy management will get a lot of phone calls. Again, if you have experience working in an organic growing operation, those will get some phone calls as well. They run such a gamut it’s hard to tell. It’s based on how well they can write their description and advertise themselves in that paragraph. If they say they’re dynamic, energetic, and willing to learn, then they’re going to get a lot of bites, and if they’re willing to provide references that’s even better (Nina).

Gina explained how owners’ perceptions of seekers vary according to seekers’ level of experience. However, she noted that there can be challenges to effectively communicating level of experience in farming both to her and to an owner.

I think experience for sure helps. If people can have a proven track record, it definitely makes them more appealing to land owners. There’s been a few that have a couple years’ experience, but it’s—even what somebody is on paper isn’t necessarily what they are in reality. Someone may look terrible on paper but actually have a lot of experience that they just didn’t articulate to me, that kind of thing. They just didn’t tell me everything and fill out their form very well, and other people may list a million things but, in reality, don’t have any practical experience. They’ve done a lot of research <laughs>. That’s not helpful. The experience is you actually have to do it yourself (Gina).
Several owners said seekers lack an appropriate understanding of the cost of farming. The following two owners illustrate this view:

I have a house to rent, with land and some outbuildings available. However, all the potential farmers could not pay rent, and often had unrealistic expectations and a poor conception of the economics of farming. I will have to rent to someone who is not a farmer, it looks like, unfortunately (Owner 98).

I have had several beginners back out after doing their business plan. The amount of cost for labor and start up for running a farm with a retail store on the property is more than they expect (Owner 99).

Dale also noted this view from owners. He said that he is sometimes contacted by owners expressing frustration that the seekers contacting them are “new entry” farmers who do not know what they want to do, and specifically that they do not know what the cost of farming is:

And I get a little bit of feedback from owners who say that they got a lot of replies to their listing when they first list something. They’ll get back to me and they’ll say, ‘Well I had a lot of replies but a lot of the folks really were new entry farmers who didn’t have a real good idea what they were looking for or what the costs would be.’ So that’s a little bit of a problem (Dale).

As these responses show, owners may perceive that the seekers who want to farm on their land lack an understanding of the costs involved, and at times expect owners to help defray costs. This contrasts with seekers’ views of owners regarding costs to farm, as illustrated in the prior section. Survey results show that seekers and owners come from significantly different economic classes, and differing views of appropriate costs by each party likely reflect this.

Some owners join a land link program specifically to access a pool of seekers who they perceive will have similar types of goals to themselves. Such owners may view land link programs as a way to facilitate farmland purchase for a farmer with goals to actively farm. One owner described her goals for selling her property solely through a land link program:

I chose not to hire a realtor nor to advertise my childhood home/farm for sale other than on the [land link program] site, as I wanted to be very careful to use a venue that would
capture the population of people who 1) clearly wanted to actively farm, and 2) would highly value land that was fully protected by a conservation easement (Owner 208).

This owner expressed a substantive rationality guiding the sale of her property, as the farm she grew up on, and wishes to see it remain in active farming. This perspective contrasts strongly with those of several seekers, who voiced a belief that owners seeking to sell their property are merely greedy and want to cash in on their asset, expressing an instrumental rationality for selling their property.

Finally, Mara perceived a generational difference in mental models of one another between existing farming land owners and seekers in the area. She said there is mistrust among the current farmers in her region toward the new farm generation, and attributed this mistrust to the existence of external differences including a different dialect and a different appearance among new farmers. These new farmers do not look or sound like farmers according to the mental model of the older generation of farmers.

The new farmers, especially these young farmers, they don’t, it’s a different kind of person. It’s not necessarily someone who grew up in [this area]. They might have a different dialect, they might look different. There’s a lot of trust that I think particularly farmers, because it’s kind of a conservative group, they’re a little slow to come forward (Mara).

To summarize, owners expect seekers in land link programs to have farm knowledge, skills and management experience. They respond more positively to those seekers who are able to market themselves well, and express disappointment or frustration when they perceive that seekers do not have a strong grasp on the costs of farming. This latter view contrasts with that of seekers, who view owners as the party unaware about farming and unrealistic about the costs of farming, in addition to being greedy and seeking to “cash in” on their properties. Several seekers expressed the view that land owners ought to be more generous by offering a lower sale or rental price in order to help a farmer, or at least be more competitive with standard real estate listings.
Some seekers hold this view generally, but others indicated that they expect the population of land owners who join land link programs to hold these more noble values. As will be shown in chapter five, several land link program staff people hold a similar view of the ideal owner in their program being someone who is willing to sacrifice some personal gain or has some financial flexibility in their existing farm operation in order to assist a new farmer to get started.

C. Mental Models of Land Access: The Agricultural Ladder

The agricultural ladder historically conceptualized ownership as the top “rung” to which farmers climb. It assumed that full ownership of agricultural land is the ultimate goal for all farmers, who instead may be able to meet their farm goals through leasing or non-traditional land access arrangements over the long term. As shown in prior sections, farmers come from different rungs prior to joining land link programs, some of which have been traditionally identified as rungs on the agricultural ladder, and some of which are new. They also have different goals regarding what rung they envision climbing to. Among 257 seeker survey respondents, the majority stated they are either looking for land to buy now (47 percent), or are looking for land to rent now but plan to buy land in the future (39 percent). In contrast, only eight percent of respondents stated that they want to rent now and have no future plans to purchase land. The remaining six percent of respondents said they are open to either option or have stopped actively looking for land. Seekers typically believe ownership is ideal because it provides them with autonomy and security. Brad noted this relationship between owning land and maintaining control of the farm operation:

People that are farming or want to get into farming ideally want to have as much, you know, if you can own the farm that you’re farming and that’s feasible, then you have ultimate control over everything that happens and that’s kind of the ideal dream or goal to own your own farm for most people (Brad).

In the internet survey open-ended comments, one seeker expressed concern about owners who have specific goals in mind for their land, but want an entrepreneurial farmer to implement
the plan for them through a lease arrangement. Her comment further emphasizes the view that autonomy and security are sometimes lacking in certain lease situations:

   My experience has been that the majority of listings from [the program] are… people with land trying to ‘partner’ with someone to do the work for them. We have not been willing to take the risk or start conversations regarding partnerships as we want to run our own business and can't afford to buy at building lot prices. So we chose to lease locally despite the long term risk to our viability as a farm (Seeker 7).

This seeker’s inclusion of quotation marks around the word ‘partner’ revealed her skepticism toward such arrangements. She viewed such a situation as a risk she is unwilling to take, and as incompatible with her mental model of managing her own farm business and maintaining autonomy in that.

   Several staff people voiced the belief that land ownership may not be attainable for all seekers, indicating that the agricultural ladder may still be an unrealistic model. Lisa saw it as attainable for some, but not all:

   Well, it'd be hard to generalize, but I'd say for many of them it's not unreasonable to imagine if they have a successful farm operation or a farm operation and another source of income that they can generate a down payment and carry a mortgage. I don't think it's unreasonable. It depends on where, how much land they're thinking of, where they are in their farming career, where they want to farm. So there's lots of variables, but there's no reason to imagine that for many young farmers [ownership] couldn't be a reality (Lisa).

Ownership may be particularly challenging given factors such as the location where the seeker wants to farm. Ownership becomes unviable particularly in RUI areas where development drives prices beyond what is affordable to farmers, as both Gina and Rena pointed out:

   I mean, to be honest, the majority of farmers, I would say, would probably prefer to own their own property. The challenge is they just can’t afford it. Between the property taxes and the price of land here, for most farmers it’s just not an option and it’s not going to be an option as long as they continue to be a farmer (Gina).

   I think if someone is looking to purchase, then land costs are a factor. There is an issue of finding the right piece at the right price at the right time. I’ve seen it take years for people to find the right land to purchase (Rena).
While staff cautioned that ownership may not be attainable for all, they also stressed that ownership may not be desirable or necessary in all situations. Several programs educate their participants about the benefits and drawbacks of both leasing and ownership. This helps people accept leasing as a current land access strategy, when many cannot currently afford to purchase land. One program even recruits only land owners seeking to lease their land, rather than both selling and leasing owners, as most programs do. Ultimately, several program staff people said land access security is the most important factor for achieving a farm seeker’s farming goals, which can come from leasing. Lisa emphasized the importance of security of access over ownership:

But the security thing is the most important for the beginning farmers that we're finding. Access is more important than ownership, and that's a really important concept that oftentimes is sort of lost in the mix. So, for, I would say, the majority of seekers, once they understand that a non-ownership situation could get them going and could be a short-term if not a long-term solution, then that opens up a lot of possibilities for them, and they're not necessarily wed to owning their farm...As you know, there are people who have ground leases and are very happy with that (Lisa).

She stressed that leases can be a way for seekers to obtain secure land access, not just ownership.

Another program actively works to change perspectives about ownership versus leasing among seekers in the area through publicizing different land access models. They have witnessed a shift over time in the belief that ownership is essential. Rena observed,

I think four years ago anyone you talked to, everyone felt like you needed to own land in order to farm, they couldn’t start farming until they owned a piece of land. We’ve done a lot of work to talk about models in our region where there are long-standing, thriving farm businesses that are leasing land and we’ve had a couple different panel discussions where we brought in a number of people representing both land trusts and farmers that had bought land and those people that leased. Just to open minds and think about what all the different options are to them (Rena).

Seekers want to own their land for the security and autonomy it brings, but ownership may not be attainable for all. Staff are educating seekers that security can be obtained through leasing, however, leasing does present certain risks over ownership. This is especially evident in
decisions regarding farm infrastructure. When a property is leased, the leasing farmer is at risk of losing his investments in the land if the owner decides to end the lease. Sometimes this involves substantial investments on the part of the farmer, such as building or repairing barns, or installing irrigation. Rena summarized this challenge succinctly: “Ultimately for many of the farms, they probably do need to own especially if anything involves major infrastructure improvements” (Rena). Long-term leases were seen as a way to provide similar benefits to ownership but reduced risks compared with short-term leases. A long-term lease can give the farmer enough time on the land to gain a fair return on his investments in infrastructure and soil health. These two staff people related the importance of lease term to the feasibility of investing in infrastructure and soil improvements:

If you’re a young farmer and you’re going to invest—I guess it would depend on what kind of farming you’re going to get into—but you at least want some certainty that you will be able to stay there for a number of years, rather than invest in bringing the soil back and the soil nutrition and all of those things back to health if it needs to be, and often times it does (Mara).

Talking more seriously about some of these lease considerations, one of the issues that’s coming up for people is around cost-sharing and equity, being able to build up equity while on leased land and if you’re making investments and improving the land, who benefits from the improvements in the long term (Rena).

Despite the benefits, longer-term leases may be challenging to secure compared with shorter-term leases. One program staff person stated, “I don’t know what we will be able to convince properties to do” (Mara) (emphasis added) in regards to the length of lease term they will agree to. Sara noted that a non-profit land preservation group has been more flexible about offering longer-term leases, in contrast to private land owners.

I think so far since I’ve come on, the land owners are just unsure what they want to take on. There’s a non-profit, the Trustees of Reservations, who are giving 3 farmers that they are going to lease land to, and they’re willing to do a 3 year lease but that’s the longest that I’ve seen so far. I think land owners are just unsure… (Sara).
Several programs said they are beginning to recruit more non-traditional land owners, such as public lands managers, hoping to facilitate longer-term land access opportunities for seekers. Others promote long-term leases by educating owners about the relationship between seekers’ infrastructure needs and ability to improve the property, and lease term. Sara explained this:

I do a lot of advising to land owners: ‘The farmer can treat your land and invest more in your land with a longer term lease that they have.’ I also try and advise land owners on the fact that some of the longer term investments, if they don’t have a long term lease should be on the land owner, because the farmer can’t take that investment with them. So then the land owner can try and amortize that cost over time and still get paid back, but without the lease security, it doesn’t make sense for a farmer to install their own water meter, for instance (Sara).

Finally, some seekers may view even long-term leases as too much commitment. Some may prefer short-term leases, at least for an initial trial period to ensure that the owner and property are a good fit for them. For example, a seeker might think she will be able to establish a viable CSA on one acre, but after a few years of running the CSA, she may realize that she needs ten acres to achieve her farming goals. If she had purchased a one-acre property, this parcel could become a liability when selling it. As was also the case in the early twentieth century, “the farmer has less freedom of movement if he has bought a farm than if he is tenant” (Gray et al. 1923, p. 552). Gina noted that this is the case for some seekers:

As much as we recognize the importance of long-term security, the farmers don’t necessarily want that any more the land owners do because both of them have to make sure that it’s the right thing (Gina).

Rena also highlighted this scenario, noting that seekers may need time to develop their business:

I’m finding that [purchase] is almost several years down the road for some of these folks, once they’ve really honed in what their business is and they’ve built their markets and they’ve got confidence and they are able to start to capitalize (Rena).
It is worth remembering, however, that at least some owners indicated that they do not want to participate as a provider of experimental ground for a farmer, indicating that there are contrasting visions of land access between not only seekers and owners, but also program staff people.

In summary, most seekers do want to own land either now or eventually. Staff people are aware of this goal, but expressed concerns that it may not be possible for all people in all locations, especially given the more urbanized nature of the Northeast U.S. and consequent high prices of land. Further, staff people emphasized that security is the most important component of land access for a seeker, and that this can be achieved through long-term leases, not only ownership. Long-term leases appear challenging as well, however, because owners are uncertain about the level of risk and commitment they are able or willing to assume. While staff work to address this hesitation among owners, short-term leases may be the only land access option for many seekers through land link programs.

Ultimately, given most seekers’ desire to own their land and the persistent barriers to achieving this goal, Hope viewed the purpose of her program as providing a means for seekers to gain farm management experience in the shorter-term, so that in the longer-term they will be prepared to purchase farmland in another area of the state where land is more affordable. She described this seeker perspective, saying,

‘I can't buy anything yet, but I want to get started, and I want to get started in an area that I'm at least somewhat familiar with.’ And the idea being that we can match those people on smaller parcels that they can kind of cut their teeth on, and then at some point they're going to kind of launch northward, because they're going to want more land. You know what I mean? So I think it's like you do three acres in [this expensive area], and then in five years or so you wind up on 20 acres in [another, more affordable area] or something like that (Hope). She summarized this strategy, saying “I think that this program is going to be successful long-range if it is treated like a springboard” (Hope). This view reflects the traditional logic of the agricultural ladder, wherein farmers go through a tenancy period prior to ownership, but also
reflects a particular geography related to distance from urban centers. As many land link programs in the Northeast U.S. operate at the RUI, ownership in those areas may remain challenging for many seekers. A “springboard” may be just what seekers need to start farming and prepare for eventual ownership. Land link programs are acting as that springboard by generating new opportunities for land access. They are stimulating interest among non-farming land owners who want to offer their land in support of local food and farmers, and by educating both seekers and owners about long-term leases in an effort to develop these opportunities as viable alternatives to ownership.

**IV. Conclusion**

In this chapter, I described the farmland seekers and owners who join land link programs, characterized the goals, motives and farming experience that contribute to their mental model of farming, and analyzed the mental models that each party has about farming, one another and land access. The data suggest that many owners have mental models of a farm on their property in which their own values and farm preferences figure prominently in selecting not just a farmer, but also a type of farm. Furthermore, the lack of farm experience among many land owners contributes to incomplete or inaccurate mental models about farming and land access. This may make it difficult for owners to evaluate the risk of an arrangement or be able to establish appropriate expectations of a farmer on their land.

Results from this chapter indicate that the top rung of ownership on the agricultural ladder is alive and well as an ideal model, but may be unrealistic or undesirable for many contemporary aspiring and beginning farmers. Rungs to achieving ownership have changed substantially, as fewer seekers grow up on farms, and increasingly look to internships and apprenticeships to gain farming skills and experience. As concerns continue over the potential
inability of this population to afford to purchase land, at least in the short-term, many land link program staff people are working to educate seekers about the potential benefits of leasing to modify their mental model of land access, as well as working to create a stronger culture of long-term lease arrangements among land owners to improve the prospect of leasing as a viable alternative to land ownership. The following chapter considers the ways in which land link programs facilitate more accurate and shared mental models that facilitate stronger partnerships among participants through screening, strengthening and sharing work.
CHAPTER 5

Land Link Programs and Staff People

In this chapter, I characterize the skills that land link program staff people bring to their work, explore their understandings of seekers, owners and land access, and analyze how well programming strategies facilitate development of accurate mental models among participants, and negotiate shared mental models as partnerships are developed. The work carried out by land link program staff people may be important for successful matches primarily when it is work that facilitates greater accuracy and similarity of mental models between seekers and owners. Ingram and Kirwan (2011) emphasized that “research described in both the succession and farmer co-operation literatures suggests that ‘actor’ factors are likely to be just as important as economic factors in determining the outcome of matching” (p. 918). The “actor factors” they referred to include the “differing expectations, goals and motivations of the two parties” (p. 918) involved in the match. To better understand how staff people mediate these “actor factors,” the following three sections consider 1) the skills and backgrounds of land link program staff people that contribute to their ability to do mental model screening, strengthening and sharing work, 2) staff perceptions of farmland seekers and owners, and 3) the specific activities of land link programs and staff people to screen, strengthen and share participants’ mental models.

I. Staff Skills and Backgrounds: Key Program Inputs

The skills and backgrounds of land link program staff are key inputs that shape many of the activities of the programs. The staff people interviewed for this study have primary responsibility for managing and administering their organization’s land link program. In fact, most of the interviewees are often the only person responsible for the program. To understand why land link
programs operate the way they do, it is important to understand the backgrounds and skills that these staff people bring to the program.

Among the sixteen staff people interviewed for this study, nine reported that they have farmed at some time and the other seven have not. Some staff people have also gained their skills and familiarity with farming through university studies or through having worked in farmer support services for many years. For example, one staff person said, “I’ve spent the last five years working with a lot of farmers of all scales so I’ve become much more conversant in what their operations look like and what they need” (Thea). The background each staff person brings may affect the focus and direction of the program, as one person acknowledged, “So my background is in land conservation, which is sort of the angle that we’ve taken this program from, is the kind of land access angle” (Gina). Likewise, if a staff person lacks expertise in a particular type of agriculture, the program may not focus on that area. The staff background and skills that were identified during the interviews fall into three primary categories, namely, familiarity with diverse types of farms, technical skills in farming, and soft skills including listening and mediation.

A. Familiarity with Many Farm Types

Knowledge about and familiarity with diverse types of farm operations was the most commonly mentioned category of staff background. This was seen as important by staff members for two main reasons. First, familiarity with different types of farms enables staff people to help seekers determine what kind of land they need and owners determine what agricultural uses their land might be well-suited for. One program offered an example of a staff person’s farming knowledge that enhances the program’s ability to help farmers identify land that will meet their needs: how to read and interpret a soils map. “It’s basically someone that
true understands how to deal with a soils map, how to get out there, look at the land, have enough experience with the farmer” (Rena). Second, awareness of the different material requirements of the various types of farm operations helps staff people facilitate conversations between seekers and owners in more directed ways, and ensure that both parties understand the risks and realities of a particular farm proposal on a particular property. Two staff members explained how knowledge about diverse types of farms and the necessary resources for those operations informs their work as they provide services to participants. Eric described the need to be able to not only assess the land, but also any buildings on the property, plus “intangibles” such as severed legal interests and neighbors’ attitude toward farming:

The other big piece is knowing what you’re looking at when you’re looking at a farm and being able to assess what its potential uses really are. Looking at the buildings and saying, okay, what are these buildings usable for, looking at all of the certain intangibles that come along with the property, what’s the condition of the septic system, what’s the water source, are there any pre-existing severed legal interests in the property, what’s the neighborhood like, what’s the cropping history been on the farm, all that kind of stuff (Eric).

Alan related basic knowledge about many types of farms to the ability to foresee potential risks to the proposed operation:

So, it’s just a matter of being able to help folks identify the pitfalls in their own situations and, like anything else, how do you manage your risks? The risks for me to go into farming are not going to be the same as the risks for someone with 30 years of experience going into farming. So, you need to understand agriculture; that goes without saying. But I don’t think you have to be an expert in every form of farming. No one’s going to ever be that, but you need to understand commonalities where these pitfalls could happen or how to tease out some of those issues within the management of a farm (Alan).

In this statement, Rena referred to a consultant whom this program contracts with specifically to ensure they are providing diverse farm expertise to their clients:

He has a really long history of farming, a lot of different types of farming that he’s been involved in. He himself has gone through two or three different situations of either leasing or purchasing land, so he fully understands that aspect of it, and has that practical knowledge. He also does business planning for farms and he also has a lot of practical knowledge from dealing with multiple, multiple types of farms to understand where some
of the breaking points might be. Like what are the things that really need to be talked about upfront to avoid problems down the line when you talk about the arrangement between a farmer and a land owner (Rena).

This program contracts with a consultant because the necessary expertise does not exist on their staff, but they realize the importance of providing this service to their participants. She continued her description of the consultant’s skills, again connecting familiarity with many farm types and understanding the potential risks that must be addressed in each operation:

Someone that has been involved with the brokering agreement between a land owner and a farmer and knows what potential pitfalls there can be, helping them think that through and figure that out (Rena).

Knowledge about different types of farming operations by commodity type is only one aspect of the background that staff people need. Familiarity with the farming community in the specific geographical region served by the land link program is another aspect of farming knowledge that was mentioned by Faye:

I would have to say when we brought in [a staff person], one of the criteria that we looked at was familiarity with farming in the region. You know we’re certainly—our terrain and our farming community is not the same as the farming community in [another area], so having that familiarity with our audience was really—was actually one of the criteria (Faye).

Thea mentioned that it is important to be familiar with farms of different scales because farmers have different needs according to the size of their operation:

I’ve spent the last five years working with a lot of farmers of all scales so I’ve become much more conversant in what their operations look like and what they need (Thea).

Not only does familiarity with a diversity of types of farms help program staff people provide services, but a lack of expertise can limit a program’s focus. Hope acknowledged that her lack of familiarity with livestock operations and complex farm financial arrangements has contributed to keeping that program focused primarily on vegetable operations:

It’s something that I’d like to work towards. I was contacted at one point by someone who had a dairy herd and was looking to move downstate more. But in a lot of ways,
that’s something that’s a little bit out of my league. The legality of it all, I think is tricky when you’re dealing with animals in terms of waste and smell and all that kind of stuff, never mind the fact that the amount of acreage necessary to successfully pasture animals I think would be problematic. Also, in terms of just the financial inputs related to that kind of business, it’s more of a business deal than it is a farmland match, I think (Hope).

In summary, knowledge about various farm types according to commodity produced, geographical location and scale are important backgrounds that these staff people bring to the programs they manage. This expertise enables them to guide seekers and owners through identifying and assessing potential risks in their planned operations.

B. Technical Skills

Sometimes the skills that program staff people rely on are very technical. The following statement explains how Cole’s background helps him provide a key piece of information—soil type—to prospective farmers, which is something that many land owners, particularly non-farming land owners, are unable to do.

I have a background in soil science and soil mapping and so I—and soil is often the key piece of information that farmers need, before they even go out to visit a site, the farm seekers always want to know what kind of soils exist and the land—it’s really hard for land owners to describe, especially non-farming land owners to describe the soil types that exist (Cole).

Cole later stressed that having technical farm skills is key not only to help farmers evaluate whether a property will be able to provide all the material resources needed to support their intended operation, but also to maintain a healthy relationship between land owners and farmers on their land:

We talked about the water earlier, helping the farmers assess the water resource. That’s not only critical from a standpoint of helping the farmers understand their own business plan, but it’s also critical from a standpoint of making sure that those farmers aren’t going to run a well dry. Take just an example. If the farmers don’t know how much water they’re going to need for their operation, you could easily have a situation where a lease agreement is signed, the subject was never discussed, the land owners have no clue what using water for a farm operation means, and you have a situation six months down the road where the farmer is just running the land owner’s well dry (Cole).
Other backgrounds and skills that were identified do not relate specifically to agriculture, but are still very technical or specialized. Examples mentioned by program staff included geographic information systems (GIS) experience, knowledge about real estate, legal expertise and familiarity with land planning. Joan even went so far as to state that the program she manages might benefit from hiring a real estate agent or lawyer instead of herself:

But I think in order to set a goal I think realistically that you should also enable that person to do more or be the person that I’m not. Maybe they should be a real estate agent and they should be a lawyer. So I think there would have to be a change in personnel. And I don’t mind having that put in the record because I’ve thought about that too (Joan).

Some program staff highlighted the importance of technical knowledge by stressing their own limitations. Kara’s program lists land opportunities and encourages people to connect, but chooses not to be involved in negotiating lease or purchase contracts because they lack expertise in this area.

For instance, we don’t get involved in how to write a contract or anything like that. It’s just not where our expertise lies and it’s not something we have time for as an advocacy organization (Kara).

The staff person at a larger land link program acknowledged the value of having expanded capacity to hire specialists in multiple areas to help the program succeed. This program purchases farmland outright, places a conservation easement on it, then sells it to a farmer at its agricultural value. These additional program activities make it important to have a diversity of specialized skills on staff.

We’re now a pretty large organization with systems, and we have our own legal team and our own mapping crew and our own fundraising crew so we’re at a capacity and a scale that allows us to grow and expand this portion of our programs (Eric).

C. Soft Skills

Other skills that program staff people saw as important for the work they do include soft skills such as program outreach, networking and interpersonal communication work. Outreach
and networking were seen as important for program establishment and maintenance, as well as for improving the quality of information and referrals provided to participants. The staff person at a newer program described how they recently completed their establishment phase, during which outreach was key. Now that they are moving into a new phase, outreach will continue to be important, but networking is also important for connecting participants to other resources in the region. Faye explained this progression, saying,

Phase one was really focused on establishing the program and getting them up and running and so in terms of developing a web site, obviously communications and promotion and marketing were really, really important… Then there’s, you know, we move into this next phase that I’ve mentioned before of getting out there and doing now more to promote the program. I think networking is going to be a big part of it and then also just, the communications is still a huge part of it because you get information and you’re routing information back and forth but I would say probably the most valuable skills would be in communications and in networking or just outreach (Faye).

Listening and mediation are key interpersonal skills mentioned by several land link program staff people. The ability to listen objectively to both parties during the match process, and guide them toward a more closely shared mental model of farming is important to preparing the partnership for success (Vennix 1999). This requires staff people to understand the mental models of both the seeker and the land owner, as well as understand their own mental models about farming and business (Eckert 2003) that they bring to the table. Alan emphasized the importance of good listening skills during intergenerational transfers, to guide parents and children toward consensus:

Probably the biggest skill to bring to bear on these types of issues is an ear that is willing to listen and just the ability to talk with people, try to give them the opportunity to be heard, to have their viewpoints out there, especially when you’re dealing with transitions or any kind of finances on the farm. There’s a lot of assumptions that parents make about their children and vice-versa and sometimes you need to play mediator and try to get all those viewpoints out on the table and then work towards some kind of consensus. Or, in some instances, acknowledgment and consensus isn’t going to work with folks may be looking at additional properties or something along those lines…It’s a lot of trying to be patient and just working with folks as best you can (Alan).
Mediation skills are important in other types of matches as well. Thea said mediation skills improved her work facilitating lease arrangements:

Really the key thing is that we’re taking the position that we’re here to mediate and so being a good listener, asking the right questions, encouraging candor, some experience in negotiation, all of those things really come into play (Thea).

Finally, Hope underscored the strongly social dimensions of land link programs’ work:

I think the human component is so essential. I mean, I really do think that my job is more social work than anything else. I happen to have a vested interest in sustainable agriculture, and I do have a background in it, so in that way I’m very committed to the success of the program. But it really is about people time, and it’s about responsibly facilitating relationships that are healthy and positive for both parties (Hope).

What was not mentioned in most interviews was the importance of communication and mediation skills to maintaining wider support for farming in the local area (Abdalla and Kelsey 1996). One program is preparing to launch a new campaign that will focus on helping non-farming neighbors understand the benefits of maintaining local agriculture, but most programs focus predominantly on the seekers and owners who are program participants and not on broader neighboring work.

In conclusion, staff bring a diversity of skills and backgrounds to the work they perform at land link programs across the Northeast U.S. Key skills emphasized by these staff people include familiarity with many types of farms in the region, technical skills in farming and business startup, and soft skills including program promotion, networking and mediation. The background that each person brings to his or her work often shapes the specific programming offered through each organization. The following section delves into the mental models that staff people have about participants in their programs, and how this also guides their work.

II. Staff Mental Models of Farmland Owners and Seekers

While most programs allow any seeker or owner to join their programs (as discussed further in the next section), many staff people have ideal types of participants that they view as
most suited to their programs. This section describes what staff people view as ideal characteristics of owners and seekers within their programs. Ideal characteristics that staff people emphasized about land owners appeal to a more substantive rationality, and include proactive effort to find a farmer, willingness to commit to a farmer, and willingness to go beyond a standard sale to offer an opportunity to a young farmer. Kara contrasted owners who passively offer their land with those who proactively “partner in finding that right person:”

You know, land owners are fine. I just really love to have people on there that not only want to offer up their land but really, legitimately want to find a farmer to farm their land. You know, it's one thing to offer. It's another thing to really go out and be a partner in finding that right person. So it's just a lot more outreach we're going to have to do (Kara).

This ideal characteristic does seem to be hard to locate, as almost two-thirds of the owners who responded to the internet survey reported that they have never contacted a seeker.

Hope expressed a desire for more owners to join the program who are willing to make a long-term commitment to a farmer in support of sustainable agriculture.

And in terms of land owners, I'm interested in people who care about or who understand that sustainable agriculture is a form of land stewardship and are not afraid of the demands of a long-range commitment or relationship with a farmer (Hope).

This desire echoes the findings in chapter four about land owners’ mental models of land access, where several staff people noted how difficult it is to secure long-term leases.

Nina viewed owners that offer opportunities for young farmers to build equity as ideal program participants:

We would rather have people that aren’t looking for a 100 percent standard sale. They can use a realtor for that. If they would be more flexible in allowing a young farmer to come on and work over time to gain equity that would broaden their prospective people that would fit that bill. We really just don’t want to be like a sales service. We want to make sure that the farm is going to continue (Nina).
She later expanded her description of an ideal owner by explaining that the exiting farmer would ideally have some financial “slack” in her operation to be able to incorporate a young farmer. She also added that it is important for owners to trust the new farmer on their land:

A couple of things for the farm owners, they need to have equity available in their farm to kind of be able to buffer if the oncoming young person or younger generation say they make a mistake, there has to be some slack there to be able to adjust around and they also have to have trust. They have to be willing to trust somebody else. It’s a huge issue, I mean, our society has become hugely distrustful and farm owners have to be able to take a leap of faith to trust this young person to do the things instructed (Nina).

Staff people also hold mental models of who an ideal seeker is for their programs. These ideal mental models often revolve around seekers having experience in farming. Joan said that she thinks possessing farm experience is key, and that many of the seekers who lack experience when they join her program would fail if they acquired land. However, she also grapples with not wanting to judge these poorly qualified participants:

Now, I want to defend them now, those people with weak qualifications. There are many people in the world who change occupations and become highly successful with little or no training and who I am to judge who is going to succeed. I think it’s very brave of them and very admirable that we have so many people from many age groups, it’s not just young people who want to go into agriculture. It’s really heartening. It’s heartwarming to hear that many people want to get into farming in [this state] (Joan).

Nina explained that ideally, a seeker in her program would continue to gain farm experience while they search for land:

During that time, the farm seeker should be gaining—working on other areas to gain experience or take some education seminars or wherever so that they can learn more skills so that they can have more things to bring to a farm that they want to get into (Nina).

Due to the program’s strategies, Eric emphasized that he will only work with commercial farm operations. He was careful to explain that smaller operations are valuable too, but are not a good fit for his program:

If we’re going to be spending hundreds of thousands of dollars to make a farm affordable, we want it to be so that—the aspiration is that it’s a commercial working farm. And there’s a lot
of small farm operations out there. People growing a quarter acre of vegetables and raising some chickens for eggs and things like that, and it’s not that those aren’t great uses of a property, they are, it’s just if we’re going to bring the magnitude of resources and investment that we bring to a property, we really want it to be for a pretty high level outcome (Eric).

Finally, Thea described her overall stance toward seekers and owners in her program, saying that she is very upfront with land owners about the fact that she will side more with the farmer in negotiations, because she views farmers as needing more support and the primary goals of the program is to facilitate the establishment of more farms.

We have a lot of credibility as being forthright and honest and very pro-farmer, and I’ll tell landowners that our role is to arrive at a deal that’s fair for everyone, but in the case of a tie, we’re going to come down on the side of the farmer, just so they know where we’re coming from, because typically it’s the farmer who needs that extra bit, not the landowner… ‘I just want you to know that’s where I’m going to lean because our goal is to get the farms established’ and like I say, the farmers have many more things to overcome, many more obstacles to overcome than the land owners. They typically have far fewer resources so we’re going to throw a little extra influence in that direction. Having said that, you never make a deal that people don’t feel good about (Thea).

In the open-ended survey comments, a seeker expressed the view that some programs may focus more on helping participants who meet their ideal qualifications, neglecting those who do not. This seeker felt that the program he joined might be ignoring his requests for owners’ contact information because he does not fit into an unspoken program criterion of being “100% organic:”

We’re very frustrated with lack of service received from [the program]. They profile farmers and seem to only cater to those who claim to be 100% organic. We’ve been blown off by them multiple times regarding [the program], despite registering, making a profile, and expressing interest in more than 5 properties (Seeker 124).

The important thing in these cases may be for programs to be very clear in describing who is a good fit for the program. The following section outlines the ways that some programs screen participants.
III. Staff Work to Screen, Strengthen and Share Participant Mental Models

As chapter four illustrates, farmland seekers and owners often join land link programs with very different motives, goals and expectations for wanting to farm or find a farmer, which in turn form and inform each party’s mental models of farming, one another and land access. This thesis argues that the extent to which the two parties in a farmland match relationship are able to establish sufficient and shared mental models is a primary determinant of success for the farmer, owner, and the land link program that serves them (Lim and Klein 2006). Accuracy refers to mental models that have sufficient and correct knowledge of a substantive area. Accurate mental models of farming align with the realities of farming in a particular place. Cole offered a keen example of why accurate mental models of farming are vital:

You could do a number of things to boost your number of matches, but it’s not going to mean anything over time if the relationships go sour. I mean really, the strength of a lease agreement depends on both parties understanding completely what they’re getting into… I’ve witnessed a lot of horror stories and I can save those for later. The fact is that there’s a lot of—there’s a lot that goes into a farm tenure arrangement. For example, we talked about the water earlier, helping the farmers assess the water resource. That’s not only critical from a standpoint of helping the farmers understand their own business plan, but it’s also critical from a standpoint of making sure that those farmers aren’t going to run a well dry. Take just an example. If the farmers don’t know how much water they’re going to need for their operation, you could easily have a situation where a lease agreement is signed, the subject was never discussed, the land owners have no clue what using water for a farm operation means, and you have a situation six months down the road where the farmer is just running the land owner’s well dry (Cole).

In this example, both the farmer and owner must develop an accurate understanding of the amount of water needed to operate a farm on this property. Failure to calculate and know this information can result in negative outcomes.

Mental model sharedness involves each party coming to a more similar understanding of what each partner needs, what is expected of the self and the other party, and what each partner is likely to do in a given situation. Hope related an instance of a match made through her
program in which the staff person had not done the work of building a shared mental model between the farmer and owner. This resulted in mismatched expectations of an acceptable time of day to farm on the property, and how use of the land for farming needed to align with other uses of the property.

In some instances, you’re literally, like you’re looking out your kitchen window, and there’s someone who’s not quite a stranger walking around in your backyard at various times of the day. What I learned, coming into the program, is that those expectations or those realities had not been discussed and had not been managed. So consequently, farmers had broken ground on properties and then been told things like, ‘You can’t farm here after one o’clock, because that’s when I get in my pool’ (Hope).

Coming to shared expectations prior to making an agreement could have averted such a scenario.

The mental model framework is also employed in the literature about entrepreneurship to understand how entrepreneurs, such as farmers, operate. In order to establish a business that did not exist before, the entrepreneur must first develop a mental model (sensemaking), and then convey it convincingly to key stakeholders (sensegiving) (Hill and Levenhagen 1995; p. 1057). One staff person articulated the importance of these two activities well: “Because as I'm sure you'll hear from others, is that the key to a good match, is each partner being very, very clear about what they want, and then communicating that effectively” (Kara). Sensemaking is the work of strengthening mental models and sensegiving is the work of developing shared mental models. This section focuses on the specific activities done by program staff people to screen participants, and facilitate strengthening and sharing work among program participants.

Screening is staff work to limit participation to those they deem prepared and suitable for the program. Strengthening is sensemaking work to guide participants toward more sufficient and accurate mental models of farming and land access. Finally, sharing is sensegiving work to help participants articulate, negotiate and come to consensus on a workable group mental model. The choice regarding which approach(es) to use is often contingent upon funding that in turn
determines staff time available for the program (Hubbard 2006), but is sometimes instead dependent upon staff experience or a realization of the importance of screening, strengthening and sharing work. Thus, some programs focus on just one of these three areas of work, while others work in two or all three. The goal here is not to assess which programs practice what activities, but rather to inventory the range of practices that exist and what purpose they serve, and ultimately identify the aspects of this work that are most crucial to facilitating more and better matches. The following sections outline the specific program strategies used in the work of screening, strengthening and sharing partner mental models.

A. Screening

Screening participants (often called vetting) is a preliminary way for staff people to improve the accuracy of participants’ mental models of farming. There are three situations program staff may use to screen participants: whether to allow someone to join when they apply to the program, whether to provide contact information to the other party during the matching process, and to decide the level of program assistance to extend to a participant. Screening is used to tell seekers that they need to acquire more experience before participating in a land link program, or owners that their land is not suitable for agriculture. It is an activity that some land link programs do, while others are very clear that they do not screen and will not exclude anyone from their program. Still others acknowledge a need to screen participants, but see drawbacks to screening as well. Furthermore, some programs screen seekers but not owners, or vice versa. The following three sub-sections consider each of the three screening scenarios in turn.

i. Screening Applicants

The primary time when screening might occur is during the application process, to tell a land owner that her property is not suitable for agricultural use, or to tell a seeker that he needs to
gain more farming experience or write a business plan before he is ready to look for land to farm. Thus, land that is farmable and farmers prepared to independently manage farmland constitute the core requirements to participate in the land link programs that screen participants.

Hope screens owners, but expressed the dilemma she faces in deciding if and how to screen property owners whose land is not useful for agriculture. This organization is located in an area that is largely residential and has few remaining working farms, so land owners often have no experience with farming or knowledge about what type of land is suitable for farming. Hope described her experience learning to screen properties unsuited to agriculture. She has a limited number of hours to devote to her work (as do the staff people at many land link programs) and cannot devote time to properties poorly suited to agriculture, but she also must be careful not to outright exclude property owners whose land is not useful to the program because it is important to maintain region-wide goodwill toward the organization.

So for me, it was figuring out what’s—I’m only here 20 hours a week—so what’s the best use of my time? This is a very residential area, and there’s enough interest in the idea of local food. I feel like there's enough enthusiasm from the foodie set that I found myself getting a tremendous amount of calls from land owners that were like, ‘Yeah, I want a farmer.’ Then I would take time out of my day and drive there and realize that this is someone who had a half-acre backyard that was over a septic field. How do you maintain different levels of involvement? Not everyone is going to have a farmer, and you don’t want to put someone down or reject anyone. You still want to maintain constituency and support, and we are [an organization] that’s county wide (Hope).

In her case, the motivation to screen is less to reduce the burden on participants to screen out unsuitable properties and more to reduce the burden on her limited time. After this experience, she restructured their screening process to include more questions about the characteristics of the property during a phone conversation with the owner, rather than immediately driving out to evaluate the land in person. Hope explained the evolution of her screening process:

It’s like how do you engage everyone who’s interested and still use your time well? So that was my learning curve. I don’t want to say I wasted time [driving around], because I learned
a lot, but I think now I have a much more rigorous vetting process. So when I get contacted, I have my laundry list of things that I can ask of people straight up (Hope).

Another organization, also located in a more heavily residential area, faces a similar challenge involving land owners who lack understanding of what criteria make land usable for farming. Faye described her process of realizing that some of the land owners who wanted to offer their land through the program might only own a hillside pine patch, making them a poor fit for meeting the land link program goal of increasing access to farmland:

We were experiencing a lot of land owners calling and saying, ‘I want to do this but I don’t know if my property’s good for it,’ and so you know here’s [me] jumping in her car to drive all over [this] county and [that] county and look at people’s property and then finally we said, okay we’ve got to do something to explain to land owners that if their property is on a rocky hillside in a pine patch, their-- beautiful property; we love it, but no one’s going to farm there <laughs>. So you know those were the kind of properties that I was going to, and land owners really—they love their land, they love their land and they just want other people to love it too, which is great, but not as, you know, it’s not for me if I can't farm it... (Faye).

This program is working to address the need to screen owners by proactively facilitating educational workshops with the local Cooperative Extension office, in which extension personnel teach land owners basics of assessing their own properties for agricultural use. Faye hopes it will be a more time-effective strategy for her than individual screening.

Cole allows any owner to join the program, but he focuses his energies on providing additional services to owners of properties with greater agricultural potential:

I have to make a judgment call on what kinds of opportunities would be most attractive to farmers and you know I have to admit I don’t have any one way of measuring the attractiveness of an opportunity. I just sort of have an intuitive sense. I have a farming background myself… So I do screen what kind of opportunities are out there to some extent. And I’m a lot more likely to do the site visit for the forty acres that have water and a cooperative land owner and a long-term lease opportunity or partnership than I am to visit the one acre in a wetland (Cole).

This also illustrates the way in which a staff person’s background influences the way he manages his program. He went on to describe where he tends to draw the line regarding what services he
extends to less suitable properties, and how the need to be discerning with his time is often made easier by owners filtering themselves out when they realize their land is ill-suited to agriculture.

We provide equal opportunity to everyone. If there’s a call that comes in from the land owner of the one acre wetland, yeah, I’ll spend just as much time talking about soils and talking about why farmers might not want to rent the wetland. I’m not going to say, ‘Oh, one acre wetland, I refuse to talk to you.’ But I might not be able to extend assistance to a site visit. In those cases, actually, they filter themselves out. It’s usually those are the cases that don’t garner a lot of interest anyways. So they won’t require a lot of follow up assistance anyways (Cole).

Another program staff person who does not currently screen land owners when they join the program has received complaints from farm seekers that the descriptions listed on the land link program website are not accurate representations of the actual properties. She acknowledged that they now need to send a staff person out to screen current property listings.

Yeah, yeah, that’s one of the goals is to try to get out and have an office staff person visit a lot of the farms in the system and see if they are actually as described. We’ve had some complaints that the description says one thing and you get out there and it’s not as nice (Nina).

She said she does not want to screen people out of the program, but needs to start:

What’s not quite working right now is the matching component where we list the opportunities on the website. We need to do some tweaking there because we have some people that are—I mean I hate to screen people out. It’s so much easier to have an open system and let them kind of find their match, but to make it better, we need to put some kind of screening in effect (Nina).

She sees it as problematic that many seekers have insufficient experience to prepare them to manage their own farm operation, and is considering screening as a solution.

While several programs talked about screening owners whose land may be unsatisfactory for agricultural purposes, one program uses a specific organizational goal as a criterion for screening land owners. This organization seeks to preserve land for agriculture, so they only post farms that are for sale if they are preserved. They want their listing service to benefit farmers, rather than have it be used as a means for developers to locate available land.
The way we set it up is that if somebody wants to advertise a farm that they have for sale, we’re only going to advertise it if it’s a preserved farm because if it’s not a preserved farm or if it’s not—if it’s capable of being developed in some way then the buyer pool is not really going to be farmers. We’re not going to put a listing up for that. But in terms of land for lease, that could be preserved or unpreserved (Brad).

Referencing a programmatic goal, Nina noted that, “Some of the farm owners are just looking for a quick sale. They’re not really appropriate for the program but it’s hard to screen them out because their situation could change” (Nina). She chooses not to screen these owners because they could change their mind and ultimately pursue an alternative access arrangement.

Even among programs that choose not to screen, several acknowledged the problem that not screening can create for other participants. Dale described what sometimes happens to land owners because he does not screen seekers, as well as his justification for continuing to manage the program in this way:

Occasionally, I’ll get an owner who will say, ‘I’ve been absolutely deluged with calls’ but many of them, as I say, were folks who were really not cognizant of what’s involved in running a farm and how much it costs. So occasionally, I’ll get that but as I say I think it’s worth it as a learning experience for both parties. So I continue to do it that way (Dale).

Other programs take a similar approach of intentionally choosing to not screen participants. Gina explained that she did screen people previously, but has since decided that is not her role.

We don't have a screening process. Anybody can be in our program. Like I said, I'll talk to everybody, but I don't make any judgments about anybody in our program, because I sort of made the decision that, once I started doing that, you’re sort of going down this process that you can't stop. So I really leave it up to the individuals to make their own assessments about those things. There definitely are a fair share of farmers who don't have very much experience. But then again, there's a lot of land owners who don't have any experience at all and are okay with that. They just want someone to come and use their land, and if it doesn't work out, it doesn't work out (Gina).

She acknowledged that many participants lack needed experience, but that this is the case for both seekers and owners. Thus, she has decided to take a laissez-faire approach and let participants discern who they will work with for themselves.
Sara has two requirements for seekers to join her program: “The vetting that I do is that the farmer has what seems to be a well thought out business plan, and that they have a few years of experience” (Sara). If a seeker lacks either, then she directs them to other resources where he can gain further support in these areas. Another program refers inexperienced seekers to educational resources on the program’s web page before they join the program:

There’s a lot of people that contact us that are—that want to get started in farming and they are just beginning to think about it and have no idea what they’re doing. And so then I’ll refer them to the website on the page of resources for new and aspiring farmers and suggest that they look into the Exploring the Small Farm Dream course that [a local organization] offers and the beginning farmer guides that are linked on the website that exist in other states that are applicable and other courses that they can take online and go through that as they explore and so forth and give them a little advice. That’s a category of people (Brad).

One program has developed a sophisticated screening method using a proposal process to select a farmer for a property. Because they purchase and preserve farm properties before selling them to a farmer, this organization has full decision-making power regarding who will be given the opportunity to purchase each property, as well as what the appropriate criteria are for making that decision.

I think it’s a little overwhelming in some cases for a land owner to try to figure out who is a good match for their property and so when we step in [and purchase a property] we have the capacity, we have a very standardized system at this point for vetting farm proposals and sort of assessing them and things like that so we also come at it from the perspective of having seen a lot of these proposals and things like that and sort of being able to suss out the details and the small things that someone might say, you know, read it and say, that sounds good, and not really have a basis or understand what they’re looking at (Eric).

In summary, programs screen applicants because the owners’ land is unsuitable for agriculture or the seeker lacks farm experience, either to reduce the burden on participants from approaching unqualified partners, or because staff people have limited time and want to focus on matching more qualified land and participants. Finally, one program screen properties because non-preserved farmland does not fulfill that program’s mission to support farms and farmers.
ii. Screening Matches

The second scenario in which screening might be used is when a seeker requests the contact information of a particular land owner, but the staff person sees that he lacks a key qualification that the land owner expects of the type of farmer she seeks. Joan explained how she informally screens participants during the matching process:

In order to help weed out some of the ones that are just never going to work for one or the other I’d be happy to—say if a farm owner said, ‘I only want farm seekers who have a degree or some kind of agricultural education.’ And then based upon the information that the farm seekers supplied … I can just sort [the database] and say, okay (Joan).

Another program does not screen land owners by barring them from joining the program or telling a seeker not to contact them during the matching process. However, when a seeker expresses interest in contacting a particular owner, the staff person does caution the seeker that he may not want to contact that owner because the owner may be challenging to work with based on previous seekers’ experiences. The seeker is then able to make his own decision about whether or not to follow through with contacting that owner. Sara explained this process, saying,

Sometimes I learn over the years that they seem like they’re [owners] not easy to work with…When a seeker asks for more information about the property then I let them know some of the past experience that we’ve had—that some other seekers have had (Sara).

Another program takes a similar approach. The manager of this program does not tell participants if she thinks a particular person will make a good match for them, but will share any information she knows about someone beyond what the application form and online listing contain.

I don’t ever make any judgment calls about anybody. People will say, ‘Well, are they a good farmer?’ I’ll never go that path. But if I have something like—I’m trying to think—I’ve met them, I’ve been on their farm, or just random tidbits of information, then I’ll give them that (Gina).

The importance of screening seekers was reiterated by a land owner in the open-ended survey comments. This owner lamented the lack of experience of the farmers who have
approached him thus far, and wishes that the land link program he participates in was more proactive about selecting farmers who would better meet his needs and expectations.

I believe that there needs to be some kind of vetting process and a person in charge of trying to put the parties together. [The program] needs to become more active and should look to the [other program] as a model that works and is better than [this program] (Owner 96).

Screening is also sometimes done in a positive way, to connect people who might work well together, rather than only in a negative, reactive way to impede what a staff person might perceive to be a poor fit. The following quotation illustrates this type of situation:

I also will notice what sometimes they don’t notice, that there’s a potential link and so if I see somebody who wants to do something in particular, I would say, ‘Did you happen to notice this property, they may not have posted too well but they’re really interested in leasing,’ and from that they’ll draw attention to it, they’ll make the connection and work things out that way (Mara).

In summary, this section considered screening as a program activity done by some land link programs. Benefits of screening include screening out land that is marginally suitable for agriculture and seekers who have very little farming experience, so that participants are more likely to find a quality match. Screening can help participants save time and frustration from pursuing ultimately unsuitable options, and allow staff people to focus their time on seekers and owners who need less mental model strengthening or assistance, and are more prepared to do mental model sharing work. Interestingly, most staff people do not screen owners themselves, but only their land. A few staff mentioned that some owners can be “difficult to work with” but do not use this as a factor to screen owners out of the program. It is possible that this is because owners tend to join land link programs in much smaller numbers than do seekers.

**B. Strengthening Work**

This section analyzes the activities done by programs to strengthen participants’ mental models of farming. Strengthening work includes the activities that program staff people do to assist participants with developing more accurate and robust mental models of farming, one
another or land access. While accuracy could refer to knowledge about an objective farm need, such as knowing how many gallons of water will be needed to irrigate a one-acre field of tomatoes, it also has a subjective aspect to it, because the mental model is useful to the extent that it meets the needs of the people involved, which may not involve adhering to some set of external “best practices” (Eckert and Bell 2006, p. 3). To put it differently, there may be “multiple equally good yet different mental models” (Mohammed et al. 2010, p. 889) that depend on personal needs and expectations. Thus, accuracy for seekers and owners is evident through their ability to identify what type of farm they want, what resources they need and can provide, and what expectations they have of themselves and of a partnership, and the level of risk each party is comfortable with. Kara stressed that clarity of expectations is key, saying, “As I'm sure you'll hear from others, is that the key to a good match, is each partner being very, very clear about what they want, and then communicating that effectively” (Kara). Brad distinguished the need for mental model strengthening work by type of participant. If program participants are non-farming land owners, education is needed to help them develop accurate understandings of what their land is most suited for.

I think it depends on the area. If there’s a lot of non-farming land owners and they don’t know how to make the land available in the most productive way then that’s the type of person you’ve got to reach out to and do education with (Brad).

The type and amount of work needed to improve accuracy depends on the current mental models that participants have of farming, one another and land access. Knowledge gaps or misconceptions indicate a lack of mental model accuracy. Chi (2008, p. 61) identified three types of inaccurate knowledge, including missing, incomplete and conflicting knowledge. Both seekers and owners may have any of these types of inaccurate knowledge in their mental models. Thus, strengthening work may need to add new knowledge, fill gaps in existing knowledge and correct
flawed knowledge. The realization by staff people that there is a need to facilitate well-developed expectations and understandings among farmers and owners was described in several instances, and different solutions are being explored. Rena described her process of realizing she needed to focus more on strengthening work:

A lot of times, when someone calls us and they’re very hot, we were just posting them right into our blog and I think that’s where we realize it didn’t have a whole lot of value if they really hadn’t thought through what they were doing. When people call about those opportunities, and then you get sort of like a wild goose chase and the farmer’s time is limited, being as limited as it is, it was unproductive to be calling people when the land owners really didn’t have their side of the equation figured out (Rena).

Land link program activities that constitute strengthening work include extensive questions on the application form, a follow-up conversation (usually by phone) after receiving an application, and other educational efforts such as workshops. Some programs design the questions on the application form to facilitate at least rudimentary formation of a usable mental model. Still others make follow-up phone calls to seekers and owners to learn more about what their mental model includes, and guide them further through the strengthening process with follow-up questions. Finally, some programs provide targeted assistance through workshops and one-on-one consultations.

Information posted online is dependent on the questions asked in the application form, which almost all programs use as an intake procedure for owners, and most for seekers as well. This application form serves not only as an intake protocol, but can also facilitate development of more complete mental models if a wide array of questions are included. Several staff people reflected on their use of the application form to help participants think through their goals and expectations. Kara explained how she uses the application form as a way for participants to “hone down” what they want:
That takes them through a very carefully devised, by us, and with a lot of help from [a farmer], just trying to have them hone down what it is that they want. It asks about sustainability, it asks about soil type, it asks about all of these things, and one reason that it asks about those things is, I think originally, we wanted to make all of that available to prospective land—prospective matches. What's ended up happening more, is that we let these people listing, just list themselves and sell themselves in their own way, instead of making all of that information available. So really, all that—from their extensive application, what ends up in the public sphere on a listing is what they've written at the bottom to try and sell themselves. So what goes beforehand is more than anything, a way to hone their mind, and have them pare down exactly what it is they're looking for, finding any deal breakers that might be there. Some people really don't want livestock, and that's, you know, that's good to know (Kara).

In this program, they ask many questions on the application form, but then keep the responses internal to the program rather than posting everything online. This may help the individual begin to think through some of his goals, but it still requires extensive conversations covering these same questions when a seeker and owner contact one another.

Hope shared how she came to the realization that she needs to do more to help land owners develop appropriate expectations about having a farmer use their land, and how this need is dependent on how close the farm site will be to the owner’s house or other uses of the property. She is working to identify ways to streamline this process, which might be done by expanding the application form. The quotation is long, but shows her process of coming to the realization that facilitating a discussion about each person’s expectations, while at first it seemed “stupid” to her, is essential to forming a successful match.

I spend a lot of time managing the expectations of land owners, and that’s something that I really should be streamlining. So to your point, I think it would be easy enough for me to fold in a question that was about privacy and boundaries and that kind of stuff. I mean, everyone’s a little bit different, but there is something intimate about having someone do their work on your land. If it is a more residential property or you have children or whatever, noise, smell, all that stuff has to be spelled out, especially in an area like [this area] where it really is more urban than rural, and there isn’t that sort of legacy of agriculture so that people are kind of saturated in that life; they’re aware of what it entails. I have to sort of make people aware, and I guess I felt kind of weird in the beginning. I felt like these were stupid questions, but they’re not <laughs>. That’s what I’ve learned. They are not stupid questions (Hope).
One program which has previously taken a hands-off approach toward helping participants develop accurate farming mental model is now considering changing its procedures to incorporate more questions in the application to better assist participants. Nina described how they are beginning to address this gap:

We’re just in the preliminary stages of that. I think what we’re going to do is poll the existing membership and see what thoughts they have on it, because they’ve either received or put out a lot of phone calls so they might have figured out what questions they need answered or what would help them in the process (Nina).

Later in the interview, she mentioned another strategy she is considering to facilitate improved clarity of people’s farm mental models. In addition to asking more questions on the application form, she is considering follow up phone calls to further develop participants’ goals.

I’m wondering if that’s one avenue we should go down. I would like to spend more time with people before they put their description up to find out what their real goals are. Sometimes people think that they’re looking for one thing, but in actuality they would be better at something else agricultural wise (Nina).

Other programs already make follow-up phone calls to personally discuss owners’ goals and expectations. Faye makes a follow up phone call after an application has been submitted to assess the completeness of seekers’ mental models of farming. Faye described the type of information she solicits:

I spend time with them figuring out what they’re really looking for, what they’re looking to produce, what they’re looking for, why they’re looking here. Then I try to find the right property for them (Faye).

Cole described the phone conversations he has with many of his participants before listing their opportunity on the land link website:

Yeah for the land owners, exactly; they fill out the information about their property. At that point we usually go back and forth, depending upon the level of detail that the land owner’s provided. I might review their form and say hey, you might want to mention that your property has, you know, you might want to describe water resources or something like that and I’ll—we’ll go back and forth and that gives us an opportunity to have a good
conversation about what farmers are looking for and so on to make their—the information that gets posted eventually online more meaningful and then we’ll post the information online once that’s finalized (Cole).

Lisa described her work with non-farming land owners, in which she helps them develop their mental model for what kind of farm they want to have on their property through one-on-one advising. She then facilitates a systematic search and screening process for a farmer who will suit the owners’ needs. She concluded by acknowledging that this is what a land link program does “in its ultimate form.”

We do work with some land owners to recruit a farmer, and we have a very particular process for that, so that’s our non-farming land owner program, and we will work with a land owner who would like to place a farmer on their property. And so we work with them to help them describe what it is they’re looking for, what their financial, land use, personal, family goals and constraints are and then to describe the offering, and then we have a process for recruiting a farmer: posting it, selecting, interviewing and all of that. And so we facilitate that land owner finding a farmer for their property, which is what you might say a linking program does in its ultimate form, but I don’t think any of the linking programs do it from that angle, the actual recruiting and the amount of detail that goes into the recruiting and selection process (Lisa).

Rena described at length the type of questions she asks land owners during conversations that happen as follow-up to the application form. Her program recently developed a strategy wherein a staff person does the initial mental model strengthening work with a land owner, through activities such as telling the owner how to access a soil map of the property. After this initial work, they then send the owner to a consultant who works with her more intensively one-on-one to further identify her goals and expectations of bringing a farmer onto her land.

On their side of the equation, there is the same amount of work that needs to be done to really refine what they mean by that, like are you talking about animals or vegetables, do you have barn infrastructure available or irrigation, what would be the agreement if someone wanted to put up fencing? They’ve got a lot of work to do to refine that offer so that they are actually prepared to have a conversation with a potential farmer… Then at the point they’re ready, we incentivize them to work with [the consultant] by paying for the first hour of his time but then leaving it to them to follow through and pay for the rest of the service. To the extent that that produces better listings within these databases, like
more realistic and concrete listings that people can respond to, that’s why we felt like it was worth investing in that (Rena).

Education for non-farming land owners is another key area of mental model strengthening work for several programs. For example, Brad shared his perspective on how his program can support better matches among non-farming land owners: “I think part of it is finding the right person but then also more education to inform them more about the realities of agriculture and what farmers are looking for” (Brad).

Some programs have developed workshops as a means to facilitate accurate mental model development. Faye shared how they developed workshops for non-farming land owners through a partnership with cooperative extension:

Last year we did a series of workshops that explained the program and then explained like how to determine if your land is good for farming and we brought in our [university] Cooperative Extension partners to talk about the actual property end of it because, and that was one we were experiencing a lot of land owners calling and saying, ‘I want to do this but I don’t know if my property’s good for it’ … So we had to educate them, just on what to look for in terms of soil and location and what different lands are best for, and that type of thing (Faye).

Another program’s approach to strengthening work involves a farmer mentoring program (modeled after that of another land link program), although this particular area has very few remaining farmers, making this a challenging strategy in this location:

So in my discussions with [a staff person] at [another linking program], she said that in their community they have these older farmers that are retiring, and still they'll talk your face off… And so she has found great success in directing the expertise and energy of some of these older and retiring farmers towards the young people that were really involved in the land matches in [that area]. And I was getting a lot of feedback from our farmers about needing the space and the channels to work out their questions, concerns, issues, whatever. And unfortunately our—well, let me say this: So I added that question into our application, and everyone, land owner and farmer alike, says yes. No one ever is like, ‘I don't want counsel from a knowledgeable person,’ which I think is great. Unfortunately, I don't have the same population that [the other area] has, so I don't really have the old-timers to go out and do face time or phone time answering questions and vetting... (Hope).
This situation illustrates some of the potential challenges to implementing particular strengthening work strategies. With limited staff time available in many programs, finding outside resources such as Cooperative Extension or experienced farmer-mentors is key to doing strengthening work, but such strategies must also reflect the actual resources available within a program’s service area.

Finally, three of the land link programs are very clear that they take a hands-off approach to facilitating matches through strengthening work. They do use an application form and post some printable resources on their websites, but provide no other strengthening services. Even among these programs, interviewees acknowledged a need for accurate mental model development assistance, although they have no plans to develop these elements. At one program that uses a hands-off approach, Brad said that because of this policy, he sometimes receives feedback from owners that seekers who contact them are unprepared to farm. Joan, who also does not do strengthening work, acknowledged that the need to develop accurate mental models exists nonetheless:

And then the farm seekers really need help being educated. The ones who are not presently farming who would like to get into it, they really need our help. Somebody has to embrace that. And that wasn’t the intent of our law to do that function (Joan).

In her case, state legislation limits her work strictly to listing activities, which includes an application form as well as some online downloadable resources.

In summary, a significant theme across interviews is that staff people acknowledged the importance of mental model strengthening work for preparing people to make matches, even programs that face financial constraints that limit their capacity to do this work. Further, among programs which have not previously done any strengthening work because they did not realize how important it is, several staff people said they are currently evaluating strategies that they could use to formalize this service within their programs. At a minimum, most programs use extensive questions in the application form to guide participants toward filling knowledge gaps through
self-reflection. At the other end of the spectrum, four programs provide extensive one-on-one consultation to participants, thereby supporting strong mental model development. The next section analyzes the other primary area of partner mental model building: sharing work.

C. Sharing Work

The degree to which a seeker and owner share the same expectations about what will happen on the property indicates the level of similarity of mental models. “Shared mental models do not imply identical mental models; rather, team members hold compatible models that lead to common expectations” (Klimoski and Mohammed 1994, p. 421). This study did not attempt to measure the degree of mental model sharedness between seekers and owners, but instead to seek to understand what activities land link program staff people do to encourage greater sharedness. Like strengthening work, the degree of need to create shared mental models of farming depends primarily on how frequently the two parties will interact on the property or through the farming operation and management decisions. Shared mental models may not need to be as complex when the farmer and land owner maintain spatial distance between the residence and the farm, or when the land owner does not wish to be involved in the operation in any way. Further, much of the accuracy work described in the previous section contributes to sharedness as well, since it does the work not only of helping people improve their mental model of farming, but also to articulate the details of that mental model in writing or verbally, though not always to the opposite party. Gina described the different levels of need that exist, depending on these contextual factors, illustrating how important sharedness is to successful matches:

You can have one arrangement where there’s a land owner who is totally uninvolved and just wants someone to come and graze their cattle on his land. And they have a one-page lease agreement and it works out great because they don’t bother each other. And he gets his ag assessment and the farmer gets the field and that’s really all you need (Gina).

She continued by contrasting partnerships on the other end of the spectrum, saying,
That’s not really necessarily better or worse than the opposite where you have a land owner who wants to be a partner in the business operation of a vegetable farm and is making investments and structures and infrastructure and things like that, which is obviously a much more complicated arrangement. But it’s not bad if they can figure it out because from the farmer’s perspective they’ve got a funding partner... There’s not really a right way to go. It’s just more a matter, in my opinion, it’s just more a matter of making sure that the two people entering into the agreement are fully on the same page and have the same goals. The problem is when you have a land owner who wants one thing out of the arrangement and a farmer who wants something else. If they’re not closely aligned, I think that’s when you start to have problems (Gina).

Ultimately, shared goals and expectations, even if the goal is for each party to be left alone, are an essential aspect to sustainable partnerships.

Program staff people use a variety of approaches to facilitate the development of a shared mental model between seekers and owners. Some programs use a hands-off approach, in which they are explicit about their role as strictly a listing program, and do not develop programming to help participants develop congruent mental models. Other programs are active facilitators in developing a shared mental model between potential partners. Active facilitation usually involves the land link staff person going to the property to either assess the property’s suitability for meeting everyone’s goals or to be part of a kitchen table meeting to discuss everyone’s goals and expectations, and ultimately help everyone arrive at a workable arrangement. This is not an easy process, as Nina illustrated:

The process is highly dependent on personality. It can take years or it can be a fairly quick process depending on if you find a farm and a farm owner that you mesh personality wise with or you have the same goals or you’re willing to work together. You kind of have to kiss some toads before you find the right situation (Nina).

Several staff people reflected on this role they serve as a facilitator or mediator between the two parties. Thea described how she sees her role in facilitating shared mental models:

We really had to work through their aspirations, what was practical, possible, and available, and what the land owners were willing to consider. So as in most negotiations that are successful, everybody gives up something, and we feel like our job is to do our best to ensure that the things the people are giving up are not the core principles for them.
or the fundament of their business but are things on the nice but not necessary list... So it’s just that process of helping people to think through the implications, short, mid-range, and longer-range for their aspirations and focus on what’s possible (Thea).

She went on to describe how sharing work is not only about facilitating compromise between a seeker and owner, but also about bringing up potentially uncomfortable topics or topics that an inexperienced owner might not even think to bring up:

Our role is really to ask the hard questions that might be uncomfortable for a farmer to ask and on the flip-side to ask the questions of the farmer that might not occur to the land owner or be uncomfortable for them to ask (Thea).

Hope, while unable to be at every kitchen table meeting, tries to join the seeker and owner for their negotiation if the seeker asks her to be there or if previous feedback indicates the owner has an inaccurate mental model of farming. She described this work, saying,

A farmer will just straight up say, ‘Can you be there?’ If I feel like this person is either not—I have reason to believe that they’re not a hundred percent educated on what it means to have a farmer on their property, I will try and be there, because I really want to fill in those gaps (Hope).

Because many land owners are non-farming land owners, and have very little experience with farming, one program has initiated the use of an external set of sustainable production standards from the Food Alliance as a way to facilitate shared expectations between a farmer and owner. She said this is helpful to both the owners and the farmers in coming to a shared understanding of what practices will be used on the land:

We particularly felt it was important for the land owners’ side to be able to provide them with a level of assurance that they weren’t going to have to worry about practices or products that were being used on their farm... So we felt if we introduced the Food Alliance standards, they’re very clear and we can share that with, certainly conservation groups, with individual land owners, and say you don’t have to worry that any practices that you would find questionable are going to be used because we’re going to hold the farmers to these standards. So it relieves that whole ‘what are they spraying, what are they this, what are they that?’ No. It’s a handshake agreement, we don’t send anybody out to monitor, but what we’re trying to do is establish clear expectations of the land owner’s right to preserve and protect their property and the farmer’s commitment to a sustainable set of practices. And on the farmer’s side, they’re relieved because it’s like
“now I don’t have to explain everything I’m doing to the land owner, and I have a clear set of expectations (Thea).

Finally, a strategy that three programs identified as a means to facilitate sharing of goals and expectations is to require seekers to provide a business plan and resume to owners. Through these written documents, a seeker can more effectively communicate his own experience, goals and expectations to a land owner, thereby establishing a foundation for verbal negotiations. One program also asks seekers to provide references. Mara described her work to incorporate business plans and resumes into the land link model:

One of the things we’ve been pushing for is that they have farm business plans in place and that they have a resume that would actually show that they do have some responsibilities. They may not have been the sole operator of an operation but that the owner has entrusted them with managing a certain aspect or all of the farm operation (Mara).

This new approach points to the rationalization of farm startups, which could become more important for seekers in the future, particularly if pursuing lease agreements with non-farming land owners. Effectively communicating one’s farm skill in a manner that may be more familiar to non-farming land owners, in addition to being more standardized, through resumes and business plans may be an important aspect of sharedness.

As this section demonstrates, land link program sharing work takes three primary forms. This includes kitchen table negotiations, use of external standards to establish expectations for both parties, and facilitation of business plans and resumes as communication tools.

IV. Conclusion

In conclusion, this chapter discussed study results about land link program work in the Northeast U.S. Drawing primarily on key informant staff interviews and to a lesser extent upon open-ended comments made by seekers and owners in the internet survey, this chapter described the key backgrounds and skills that staff members bring to their work at land link programs,
described their mental models of farmers, owners and land access, and outlined the specific processes undertaken by programs to do screening, sharing and strengthening work among participants.

Staff members draw on familiarity with many types of farms, technical skills such as real estate and GIS abilities, and the soft skills of listening and negotiation. Because most are the sole staff person implementing the program at each organization, these attributes strongly shape the direction and focus of many of the programs, and represent both potential constraints and opportunities for participants. Staff members who lack any familiarity with livestock are hesitant to work with farmers who are proposing such arrangements, while those with skills in GIS mapping are using their ability to proactively identify land in the region that is most suitable for agriculture.

Northeast land link program staff members also have diverse mental models of farming, as would be expected given their range of backgrounds and personal experiences with farming. Staff people emphasized several characteristics they see as ideal about land owners. These ideal owner attributes include making proactive effort to find a farmer, willingness to commit to a farmer, and ability (and willingness) to go beyond a standard sale to offer an opportunity to a young farmer. The primary characteristic they see in ideal farmland seekers is more farm management experience.

Finally, program staff people work in a variety of ways to screen, strengthen and share participants’ mental models. Based on limited staff time and in some cases, limited experience with facilitating land access, some programs do very limited screening, strengthening or sharing work and instead focus more on administrative activities such as website maintenance. This chapter outlined a variety of strategies that programs employ to do this work. Screening is done with applicants and matches to improve the quality of opportunities and to determine staff time investment in a given opportunity. Strengthening work is done by staff members through asking
probing and often less-than-obvious questions about what is expected and acceptable for a seeker or owner. Tools including an application form, follow-up conversations (usually by phone), personal consultations and workshops are used to do strengthening work. Sharing work is done by either facilitating conversations between parties, verbally or in writing, or by providing external production standards for the partnership to each agree to.

Content of staff people’s own mental models of farming and experience as facilitators influences their work to build team mental models. Several staff people talked about the evolution of their own understanding of the importance of clarifying goals, establishing expectations and building relationships. The final chapter draws from the two results chapters to discuss promising practices for building more accurate and shared mental models among participants, thereby facilitating more and better farmland matches.
CHAPTER 6

Discussion and Areas for Future Research

Interviews with sixteen key Northeast land link program staff people and surveys of seekers and owners in ten Northeast land link programs revealed similarities and differences in participants’ mental models of farming, land access and one another, and also suggested the importance of accurate and shared mental models to establishing good land access partnerships. This final chapter provides further discussion and conclusions from the research, considers some limitations of the research, offers implications for practice and policy and outlines directions for possible future research about land access and land link programs.

I. Discussion of Key Findings

Because so little research exists about who is looking for and offering land through land link programs, one basic finding of this study is a better characterization of these populations. Prior research about beginning farmers (both within and beyond the Northeast region) indicates that many are motivated to enter farming by opportunities in local and sustainable food production and sales, along with lifestyle goals (Shute 2011; Johnson et al. 2001; Ross 2005). The findings about land seekers from this research support the findings of these prior studies. A noteworthy finding from this research is that a considerable portion of the land owners who join land link programs in the Northeast U.S. are non-farmers. In fact, many of them have no prior experience in or connection to agriculture. Further, interviews with the land link key staff people indicated that this is a relatively new phenomenon. However, private land owners—and particularly non-farming farmland owners—who make their land available to farmers are not well understood because they have received much less attention in the literature. The existing
literature about these land owners has primarily focused on their motives for rural living (e.g. Gill et al. 2009), their use of conservation practices on their land (e.g. Petrzelka et al. 2013) and their conflict with farming neighbors over farm nuisance issues (e.g. Sharp and Smith 2004). This study expands our understanding about owners of farmland who have never farmed to include their motives for offering their land to be farmed, and what types of farms they want on their land. Findings indicate that owners who join land link programs are motivated by a desire to see their land put to good use. Support for local and sustainable food and farming is also strong, and they desire to have sustainable production practices on their land. Furthermore, this is true not only of land owners who have never farmed, but also of farming land owners and non-private land owners. This desire to support local food production by land owners is a valuable opportunity for more agricultural land to be made available for farming across the Northeast and especially in RUI areas.

Despite a desire to support local food and farmers through offering access to their land, this study also demonstrates that the potential for conflict between non-farming land owners and nearby farmers is a salient issue for land link program participants, and may be even more acute than the situations illustrated by the literature about farm neighboring. Land owners frequently have incomplete or even inaccurate mental models of what a farm on their property (which is at times very close to their residence) will look like and how it might affect their other uses of the property. Instead of conflict between two land-owning neighbors, one of whom farms and the other not, the conflicts discussed by land link staff members throughout the interviews are instead between a land owner and a tenant farmer. This has potential implications for tenure security, as the land owner retains control of his property through ownership of the property rights. If a non-farmer owner is bothered by farming activities on his land, it is easier to remove
that farmer than it is to stop the activities of a bothersome farm neighbor who is better positioned to protect her own private property rights. Awareness of this challenge, along with the time and ability to address it, among land link program staff people is essential to not just make matches, but to ensure that the parties in a match are prepared for a partnership that provides appropriate tenure security.

This research builds on the mental models framework that is employed by researchers to highlight the importance of service providers’ recognition and incorporation of the knowledge, values, experience and perspectives of farmers into their programming strategies (Eckert and Bell 2006; Baynes et al. 2011; Krauss et al. 2009). Furthermore, it expands on research about farmer mental models by exploring two key components of collective mental models: accuracy and sharedness (Mohammed et al. 2010). The existing team mental model framework has been applied predominantly within the workplace, to consider the coworker or boss-employee relationship. This research extends prior work on team mental models by considering the incidence and development of accuracy and sharedness in a different kind of relationship: the landlord-tenant partnership. A key finding from this research is that seekers and owners hold many different (and often contrasting) mental models about what farming looks like and involves on a particular property, what type of land access arrangement is appropriate to each person’s needs, and what seekers and owners think about each other. Some components of both seekers’ and owners’ mental models are either inaccurate or incomplete. However, in these relationships the degree of sharedness needed to facilitate a successful partnership is mediated by several factors. One factor is whether the owner and seeker connect in a meaningful way, as in the example of the match made between a biodynamic farmer and a land owner who is supportive of biodynamic farming through his work as a wine importer. Another factor is how close the farm is
to the residence. Greater distance decreases the likelihood of conflict over such farm phenomena as odor or flies. Yet another is whether the land owner has her primary, secondary or no residence on the property, because this influences how frequently the farmer and land owner are more likely to directly interact. Finally, the data point to owners having a range of interest in being involved with the farm operation on their property. Some owners want to partner with the farmer by offering financing, marketing assistance or some other type of direct farm business partnership. Others simply want to offer land to a farmer but remain uninvolved in any other aspect of the operation. A more complex partnership arrangement may be necessary with an owner who seeks to be more involved with the operation, necessitating more mental model sharing work between the partners.

The results also identify many ways that land link program staff people work to screen participants, support more accurate mental models among participants, and facilitate more shared mental models across potential land access partners. This work is important for preparing seekers and owners to enter land access arrangements with clear expectations and understandings of what each party is responsible for. While analogies have been drawn between the work of land link programs and online dating services (Hubbard 2006), the findings from this study show that land link relationships can be even more complex. Staff members shared numerous examples of owners who are unsure or unclear about what they are signing up for: being unable to evaluate whether their land is suitable for agriculture, not knowing the key questions to ask of seekers when considering a match, incomplete understanding of the potential effects on them of having a farm on their property, and how to form compatible expectations with a farmer partner. The risks involved if relationships go bad may also be substantial. If a farmer invests considerable time or money into a property but then loses access to the land, that farmer’s ability to continue farming
can be jeopardized. A land owner’s negative experience with a farmer could cause him to not offer their land again, and potentially even dissuade other land owners in the area from offering their land to a farmer.

Many strategies are used by land link programs to mediate land access relationships and promote development of good partnerships. The work identified through this study falls into the categories of mental model screening work, strengthening work and sharing work. In some instances, this work is a core component of a land link program’s strategy, but in others, staff people have gradually come to realize the importance of this work by observing less-than-ideal matches through on-the-job experience. Screening is done by some programs to ensure that seekers who join the program have experience in farming and that owners who join have land that is suitable for agriculture. Strengthening work includes targeted questions on the application form to encourage the clarification of goals and expectations on paper, follow up conversations to further clarify a participant’s mental model through dialogue, and educational workshops or one-on-one consultation. Sharing work involves site visits and kitchen table consultations with the parties of a potential match, as well as more formal approaches such as business plans.

Because very little research has looked at land link programs or the match relationship specifically, the goal of this study has been to develop a theoretically-informed understanding about the land link programs in the Northeast U.S. and their participants’ relationships. Thus, it is not intended to be statistically generalizable to other regions, although it may be used for “naturalistic generalization” (Stake and Trumbull 1982) to other cases that share a similar context. For example, the potential for conflict between farmers and non-farming neighbors at the RUI is a theme that can be found in RUI counties around the U.S., not only in the Northeast.
region. Further, the need for some degree of shared mental models within the landlord-tenant partnership is likely a theme that would apply to other such partnerships around the country.

II. Project Limitations

This study contributes several important insights about the land access partner relationship through land link programs, as well as the many strategies that land link programs employ to better this relationship, but it is also important to acknowledge the limitations of the research.

One limitation to this research is the survey sample. In order to gain access to land link program participants, I had to rely on staff cooperation to send recruitment emails to their participants, and only ten of the nineteen programs were able or willing to do this. Reasons for this included programs not having a clearly defined participant frame, insufficient time to contribute to this research, concern about over-burdening participants with emails and (in the case of one program) not maintaining a digitally-available list of participants’ email contact information. However, four programs that do have an application process but did not send the recruitment emails were named in the survey. Twenty respondents selected one of these four programs as the program they participated most in.

Programs that did send the recruitment emails do not substantially differ from those which did not in any known ways. Two of three state government programs, four of eight non-profit programs, four of five land trusts and zero of one university program cooperated on survey recruitment. One notable difference is that the two programs that focus predominantly on farm succession facilitation (rather than land access generally) did not participate in the online survey. Thus, farming land owners and their potential successors are likely under-represented in the survey.
Another survey limitation is internet coverage and the overall response rate. The Pew Research Center’s most recent survey indicates that 85 percent of all American adults use the internet. Usage rates are negatively associated with age and rurality, and positively associated with education and income (Pew 2013). Because land link programs conduct much of their programming online, most participants do have internet access, but conversations with staff members indicate that a small portion of participants do not use the internet, and were thus excluded from the survey. The response rate for this survey (adjusted for duplicate emails to participants in multiple programs) is 23.8 percent. Cook et al. (2000) compared the response rates of 68 online surveys in 49 published studies, and found that the average response rate was 39.6 percent (SD 19.6 percent). In a meta-analysis of 45 published studies, Manfreda et al. (2008) determined that web surveys have a response rate that is, on average, 11 percent lower than response rates from other modes of distribution, with web survey response rates ranging from 11 percent to 82 percent. While somewhat low in absolute terms, based on these reviews, the 24 percent response rate for the present online survey is fairly reasonable. The survey response rate would likely have been higher if standalone recruitment emails had been sent by all programs (rather than buried in a larger e-newsletter), and if all programs had sent three total recruitment emails, according to the protocol (four program staff people only sent the emails twice, and one program sent the email one time). These are limitations of the need to rely on staff cooperation for survey distribution.

This study relied on key informant interviews and an online survey of participants to better understand participants’ mental models in the relevant domains. While expert interviews provide access to “aggregated and specific knowledge” (Otto-Banaszak et al. 2011, p. 220) about program participants, the study would have benefited from interviews with a sample of program
participants. This research method would have enabled greater distinctions to be made between mental models held by the diversity of seekers and owners who participate in land link programs.

**III. Implications for Practice and Policy**

As emphasized by the findings from this study as well as prior research about beginning farmer land access and research about farmer to non-farmer neighboring, the social aspects of land access are an essential area of focus for land link programs and other service providers if land access arrangements are to be successful over the long term (Ingram and Kirwan 2011; Abdalla and Kelsey 1996). Staff people at land link programs need to be aware of the underlying goals, perceptions and knowledge that both land seekers and owners bring to the table during negotiation of a potential partnership if they seek to foster consensus and cooperative partnerships. Furthermore, staff people should seek to be reflexive about their own mental models of land access, seekers and owners to remain aware of any potential biases they might bring to the negotiation table. Openness about their own potential goals and perspectives with participants can also be a way to encourage candor among participants.

The growing numbers of non-farming land owners who are motivated by the local and sustainable food movement and excited about offering their land to a local farmer represent an opportunity for more beginning farmers to access land in the Northeast U.S. Alongside these opportunities, this study has also illustrated many areas of potential misunderstanding and difference among and between farmland seekers and owners in the region, which in turn demonstrates the need for education and mediation for both parties. However, the time-intensive nature of these services coupled with program budgets that often restrict staffing to one part-time staff person can present challenges to providing adequate services. If program staff people desire to facilitate more and better matches, they should seek funding to increase staffing, or strategic
partnerships, to build capacity for serving a larger educational and mediation role. More broadly, training for staff people in how to best carry out this work is an important objective. An example of this type of “train the trainer” initiative is the Farmland Advisors Training Program, led by the American Farmland Trust. This initiative began in late 2012 with the goal of training professionals who work with farmers and land owners in the areas of farm succession planning, tenure strategies, financing and facilitating matches (AFT 2012). Given the often competitive nature of funding sources, programs should also seek additional resources through community partners such as Cooperative Extension, existing farmers or other land link programs, as some are already doing.

This study’s finding that land owners are primarily motivated by a desire to support local and sustainable food production, and less by financial incentives also has policy implications. Survey results show that land owners who have found a farmer to use their land are significantly more motivated by tax incentives than owners who have not found a match. More land owners could be incentivized to find a match if the tax benefits were greater for signing a lease with a farmer producing food. Currently, most states have tax policy called current use or use value, which calculates differential property taxes for land being used for agricultural production versus residential or commercial use. Eligibility is typically based on parcel size or the gross sales of agricultural products from the land. In many states, eligibility can be maintained if the owner simply mows and sells hay from the property. Use of this land for local food production could be encouraged by either narrowing the definition of a farm for eligibility, or by offering additional tax incentives for more intensive use of the land. Eligibility could also be tied to a minimum lease term with the farmer to encourage longer-term leases. For example, eligibility for a use value appraisal in Vermont can be obtained through proof of a three-year minimum lease term.
with a farmer (Vermont Dept. Forestry 2010). Such policies also have potential to improve affordability of land access for farmers. They also have potential to address and encourage other farm benefits, such as ecosystem services through greater support for sustainable or organic production. The findings from this study indicate that both seekers and owners in Northeast land link programs already support sustainable farming methods, but policy support could encourage even more farmers and land owners to consider more environmentally-sensitive practices.

Many land trusts focus not just on land preservation but also on maintaining working landscapes (AFT 2013). A land link program’s focus on facilitating farmer access to land is thus a compatible programmatic goal for many land trusts, which has also been linked to the local food movement through such initiatives as the American Farmland Trust “No Farms, No Food®” campaign. AFT conducted a national survey of land trusts, and among 275 respondents, found that 47 offer succession planning assistance; 30 purchase farmland, preserve it through an easement and sell it to a farmer; 22 offer technical assistance to land seekers and 21 provide a land listing service (AFT 2013). These linkages between land preservation and environmental protection, and maintenance of farming landscapes with sustainable farmers on the land should be encouraged through policies that promote farmland preservation and a focus on easement language that facilitates rather than hinders farming (such as allowing the building of structures to be used for marketing farm products on-farm).

**IV. Possible Directions for Future Research**

While this research focused on the land link programs located in the Northeast region, approximately thirty additional land link programs exist in other parts of the U.S, and these programs also merit study. For example, research focused on the Midwest should study effects of the agricultural and policy context found in that region. Agriculture in the Midwest has historically
been larger scale and concentrated primarily around commodity production, as compared with the Northeast where farms have historically been smaller and have a lower concentration of commodity producers. Furthermore, RUI areas compose a smaller proportion of counties in the Midwest, where cropland represents over fifty percent of land use (Nickerson et al. 2011). Thus, it is likely that higher proportions of land owners who join land link programs in the Midwest are farming land owners and as such, may have unique farm succession planning needs, and this population should be studied further.

Future research should focus more on characterizing and understanding farmland owners, and on clarifying any distinctions being made in research between types of non-farming land owners and the potential effects of those differences on land access opportunities and barriers. Areas of focus about land owners that were not addressed in this study but should be incorporated into future research include length of time they have owned and/or lived on their land, primary occupation, total property size owned, other actual and intended uses of the property, and non-farming owners’ desire to farm (directly or by proxy). The latter aspect was an unexpected theme emerging from this research; as chapter four illustrated, many land owners in land link programs have particular ideas about what type of production they want on their land and at times want to partner with the farmer in managing the farm operation. This topic warrants future study.

The present study demonstrates the growth in land being made available for farming by local food movement supporters who own land suitable to agriculture. While this study focuses on the challenges to developing strong partnerships between seekers and owners, other challenges to land access also merit attention. One major area for future research is in financing strategies for farmers to access land through lease or purchase, and an evaluation of the sustainability of such financing to farm operations. Further research could examine opportunities
in food movement-generated “social finance” to overcome barriers to capital faced by beginning farmers. An example of this type of work is New Spirit Farmland Partnerships, based in Milwaukee, Wisconsin. The mission statement of this organization is “to facilitate a flow of capital to farmers while fostering the kind of land stewardship and social ethic that will protect and nourish the earth for future generations” (New Spirit 2012). The organization works with farmers in need of land to connect them with a social investor who purchases land and then provides it to the farmer through a long-term lease, and often with the option to purchase in the future. Research on these arrangements should identify why investors participate in these programs, as well as what type of farmer benefits or does not benefit from such programs, and in what ways.

Finally, the incidence of land trusts establishing land link programs, along with other local food movement-related programming, is an area deserving more research. The growth of land link programs being managed by land trusts indicates that these organizations may represent another avenue of support for sustainable agriculture and local food production. Mariola (2005) traced the historical discourse surrounding farmland preservation, and ultimately questioned its future salience if it does not incorporate a focus on farmers and farming, rather than merely farmland. The emergence of land link programs being managed by land trusts indicates some have heard this call, but more needs to be learned about the underlying motives driving land trusts into this arena, what specific scripts are being used by land trusts, and with what effects on the local and sustainable food movement. Are new “master frames” (Mooney and Hunt 1996) being deployed by land trusts, and with what effect for both the sustainable food movement and rates of farm entry, as well as for environmental protection and land preservation?
V. Conclusion

This research considered the often contrasting mental models of farming, each other and land access held by farmland seekers and owners participating in land link programs in the Northeast U.S. It analyzed the screening, strengthening and sharing work that these land link programs do to facilitate collective mental models and matches that meet the needs of both parties. Both seekers and owners are motivated by opportunities in the local and sustainable food movement, and want to support sustainable agriculture, but the many differing expectations, knowledge and perceptions about farming and land access needs held by the two parties can hinder their ability to develop good partnerships. This research demonstrated that focusing land link programming on mediating these relationships is an important aspect of the work to facilitate land access and viable partnerships among farmland seekers and owners, and this focus should be a core component of land link programs’ strategy.
REFERENCES


Huang, Ronggui. 2012. “RQDA: R-Based Qualitative Data Analysis.” R package version 0.2-3. (http://rqda.r-forge.r-project.org/).


APPENDIX A

Key Informant Interview Guide

A. Land Linking Program Establishment and Development

1. Tell me about how your land linking program got started and has evolved since then.

2. Can you give an example or two of how the services within your program relate to (support) land matching within your organization?

3. Can you describe to me step-by-step how a land [seeker, owner] joins your program and then what they, and you, do from there to find a match? Maybe describe the most recent match, or one that stands out to you.

4. After the match has been made, what kind of follow-up support do you provide land [seekers, owners], and why does your organization do this? Please give an example to illustrate this.

5. What trends in staffing or division of activities for the program have you witnessed, or are you aware of, since the program’s inception, and how has this affected the program? What changes, if any, have occurred in the program’s budget sources and size since it began? Is it sufficient?

6. What is your background, and how does this influence your role in the program?

7. As coordinator for your land linking program, what activities are you responsible for? What occupies the most of your time? What is it like running a LL program?

8. What aspects of your linking program do you consider to be functioning really well, and what do you think could function better?

9. What are the primary barriers your program faces to finding matches for people?

10. Are there any partnerships or collaborations—maybe with other non-profits, or with government or businesses—that your program has established which support or benefit the land linking program and mission? Please give an example of the role these partners play.

B. Program Participants

11. In your program, what sort of land [seekers, owners]—either about themselves or about what they’re [seeking, offering]—are most likely to finding a match? Can you share a few examples of this?

12. What are the primary barriers to land access or land transfer that your program’s [seekers, owners] face?
13. Do you try to actively recruit the type of land [seekers, owners] who are more likely to find a match, maybe through targeted outreach, establishing requirements for participating, or recommending an alternate program to people, or do you keep it open?

C. Results/Outcomes

14. What do you see as the most meaningful or valuable ways to track and understand your program’s activities and outcomes?

15. Can you describe one of your program’s matches for me that you would consider a “poster child”? What made it such a successful match?

16. How many matches per year is your program’s goal and how has this goal been determined or modified over time?

17. What other kinds of outcomes has your program had in your community, region or state?

18. What are the future plans for your land linking program and addressing farm transfer and tenure needs in your area?

D. Farmland Transfer

19. What are the most promising farmland transfer arrangements you’ve seen, not necessarily within your program, and why do you see them as promising?

20. What current private or public programs and policies are helping facilitate farmland transfer? What could non-profits or government do better?

21. Is there anything else we haven’t covered that you think is important for work in farmland transfer that you would like to share?
APPENDIX B

Northeast Land Link Programs Survey

Q2 Which of the following land linking programs are you completing this survey for? Please select the ONE program in which you have been the most active. If you have been equally active in more than one program, please select the one you joined first.

- Catskills FarmLink (1)
- Columbia Land Conservancy Farmer Landowner Match (2)
- Connecticut Farm Link (3)
- Land Link Montgomery (4)
- Land Link Vermont (5)
- Maine FarmLink (6)
- Maryland FarmLINK (7)
- New England Land Link (8)
- New Jersey Farm Link (9)
- NY FarmLink (10)
- PASA Farm Lease Connections (11)
- Pennsylvania Farm Link (12)
- New Entry Farmland Matching Service (13)
- VT Land Trust Farmland Access Program (14)
- Westchester Land Trust Farmland Match (15)

Q3 Did you join in order to find land to farm or to offer land to be farmed?

- Find land to farm (1)
- Offer land to be farmed (2)

If Offer land to be farmed Is Selected, Then Skip To End of Block

Q4 During your growing up years (age 18 or younger), did you ever live on a working farm?

- Yes (1)
- No (2)

Q5 Counting only your adult years (over age 18), how many years of farming experience do you have?

Q6 Which of the following have you done to gain farming experience? Select ALL that apply.

- I have owned a farm business. (1)
- I have worked as a farm intern or apprentice. (2)
- I have worked as a farm manager. (3)
- I have worked as a paid farm worker (other than an intern or apprentice). (4)
- I have volunteered on a farm. (5)
- I got a university or technical degree in an agricultural field. (6)
- I have participated in an incubator farm program. (7)
- I have no previous farming experience. (8)
- Other (please specify) (9) ____________________
Q7 Why do you want to be a farmer? Rate the importance of each of the following reasons in your decision to become a farmer, from not at all important to extremely important.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all an important reason (1)</th>
<th>A slightly important reason (2)</th>
<th>A moderately important reason (3)</th>
<th>A very important reason (4)</th>
<th>An extremely important reason (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like the quality of life in farming. (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want my children to grow up on a farm. (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I think farming will be a profitable career. (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I think farming gives me a sense of security. (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to be my own boss. (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I like being outdoors. (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to maintain my family’s tradition in farming. (7)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to address environmental concerns through farming. (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to help feed the world by farming. (9)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to produce quality food for my family. (10)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I want to produce quality food for my community. (11)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (please specify) (12)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q8 Have you looked for farmland through ${q://QID2/ChoiceGroup/SelectedChoices} to expand a current farm business, or to start a new farm business?
☐ Expand a current farm business (1)
☐ Start a new farm business (2)

Q9 Have you looked for farmland to buy or to rent through ${q://QID2/ChoiceGroup/SelectedChoices}? Select the ONE category that best fits you.
☐ To buy now (1)
☐ To rent now, with the long-term goal of buying (2)
☐ To rent now, with no plans to buy in the future (3)
☐ Other (please specify) (4) ____________________
Q10 How do you intend to or did you fund your farm start up, including funding for both land and farming resources (tools, storage, transportation, etc.)? Rate the importance of the contribution of each of the following funding sources for your farm start up, from not at all important to extremely important.

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Not at all important funding source (1)</th>
<th>Slightly important funding source (2)</th>
<th>Moderately important funding source (3)</th>
<th>Very important funding source (4)</th>
<th>Extremely important funding source (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal savings (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Credit card (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Family loan (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Family gift (including inheritance) (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Farm Service Agency (FSA) loan (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Bank loan (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other (please specify) (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q11 When did you begin looking for farmland?

Q12 When did you join ${q://QID2/ChoiceGroup/SelectedChoices}?

Q13 In what geographical location are you searching or did you search for farmland? Select the ONE category that best fits you.
- The general area around where I live right now (1)
- My county and adjacent counties (2)
- My state (3)
- My state and adjacent states (4)
- Across the Northeast US (5)
- Across the entire US (6)
- Other (please specify) (7) ____________________

Q14 In addition to access to farmland, what resources do you want the land owner to provide or to be available on the property? This includes things they might offer you for free or for an additional cost. Select ALL that apply.
- Equipment (1)
- Building(s) (2)
- Financing (3)
- Fencing (4)
- Electricity (5)
- Water (6)
- Housing (7)
- Mentoring (8)
- None (9)
- Other (please specify) (10) ____________________
Q15 Approximately how many different land owners have you contacted through ${q://QID2/ChoiceGroup/SelectedChoices} since you joined? Please type a whole number. If none, please enter '0'. (Contact means the first contact made, by either email, phone, mail or in-person.)

Q16 Approximately how many different land owners have contacted you through ${q://QID2/ChoiceGroup/SelectedChoices} since you joined? Please type a whole number. If none, please enter '0'. (Contact means the first contact made, by either email, phone, mail or in-person.)

Q17 Have you secured farmland yet, and if so, did you find the land through ${q://QID2/ChoiceGroup/SelectedChoices} or through some other means?
- I have not secured land yet. (1)
- I secured land through ${q://QID2/ChoiceGroup/SelectedChoices}. (2)
- I secured land through some other means. (Please specify how.) (3) ____________________

If I secured land through [LL ... Is Selected, Then Skip To What farmland access arrangement di...If I secured land through some... Is Selected, Then Skip To What farmland access arrangement di...]

Q18 Why do you think you have not yet secured farmland? Rate the importance to you of each of the following potential reasons for not yet securing land, from not at all important to extremely important.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all an important reason (1)</th>
<th>A slightly important reason (2)</th>
<th>A moderately important reason (3)</th>
<th>A very important reason (4)</th>
<th>An extremely important reason (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can’t locate any land in the geographical area I’m looking in. (1)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>Land is too expensive. (2)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t get a loan. (3)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find the right sized property. (4)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find land with the right soil type. (5)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find land with appropriate water quality and/or quantity. (6)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find land with available housing. (7)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find land with affordable housing. (8)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I want to rent land but can’t secure a long enough lease. (9)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I can’t find a suitable land owner to work with. (10)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>I have decided to delay my search for land. (11)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
<tr>
<td>Other (please specify) (12)</td>
<td>✔</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
<td>♫</td>
</tr>
</tbody>
</table>
Q19 Do you have ideas on what farm enterprise(s) you want to start?
- Yes (1)
- No (2)

Answer If Do you have ideas on what farm enterprise(s) you want to ... Yes Is Selected

Q20 What farm enterprises do you want to start? (What do you want to raise or produce?)

Q21 Where do you intend to sell your farm’s products? Select ALL that apply.
- Farmers’ market(s) (1)
- Community Supported Agriculture (2)
- Food Hub What’s this? A food hub is a business or organization that actively manages aggregation, distribution and marketing of foods primarily from local or regional producers to strengthen their ability to satisfy wholesale, retail and institutional demand. (3)
- Farm stand (4)
- Auction (5)
- Direct to restaurant(s) (6)
- Direct to grocery store(s) (7)
- Direct to other institution(s) (school, hospital, etc.) (8)
- Contract with processor (cannery, ethanol plant, winery, etc.) (9)
- Direct to processor (cannery, ethanol plant, winery, etc.) (10)
- Local grain elevator (11)
- For personal or family consumption (12)
- Other (please specify) (13) ____________________

Q22 How many acres of farmland are you looking for?
- Less than 1 acre (1)
- 1 to 5 acres (2)
- 6 to 10 acres (3)
- 11 to 20 acres (4)
- 21 to 40 acres (5)
- 41 to 100 acres (6)
- More than 100 acres (7)

If Less than 1 acre Is Selected, Then Skip To Listed below are six pairs of contras...If Less than 1 acre Is Not Selected, Then Skip To Listed below are six pairs of contras...

Q23 What farmland access arrangement did you secure?
- Lease (1)
- Purchase (2)
- Other (please specify) (3) ____________________

Q95 When did you find farmland?

Q30 How many acres of farmland did you secure?
- Less than 1 acre (1)
- 1 to 5 acres (2)
- 6 to 10 acres (3)
- 11 to 20 acres (4)
- 21 to 40 acres (5)
- 41 to 100 acres (6)
- More than 100 acres (7)
Q24 What kind of purchase did you arrange? Select the ONE category that best fits you.
   □ Standard purchase (1)
   □ Owner-financed purchase (2)
   □ Purchase after sale of easement (3)
   □ Other purchase (please specify) (4) ____________________

Q96 Do you have a written contract for your lease?
   □ Yes (1)
   □ No (2)

Q25 What kind of lease did you arrange?
   □ Cash lease (1)
   □ Share lease (2)
   □ In-kind lease (trading labor or farm goods) (3)
   □ Other lease (please specify) (4) ____________________

Q26 How long is your lease term?
   □ Short-term lease (3 years or less) (1)
   □ Long-term lease (more than 3 years) (2)
   □ Lease to own (3)
   □ Other (please specify) (4) ____________________

Q27 Overall, how satisfied or dissatisfied are you with the land access arrangement you established?
   □ Very satisfied (1)
   □ Somewhat satisfied (2)
   □ Neither satisfied nor dissatisfied (3)
   □ Somewhat dissatisfied (4)
   □ Very dissatisfied (5)

Q28 What farm enterprises do you have on your farm?
Q29 Where does your farm sell its products? Select ALL that apply.
- Farmers’ market(s) (1)
- Community Supported Agriculture (2)
- Food Hub What's this? A food hub is a business or organization that actively manages aggregation, distribution and marketing of foods primarily from local or regional producers to strengthen their ability to satisfy wholesale, retail and institutional demand. (3)
- Farm stand (4)
- Auction (5)
- Direct to restaurant(s) (6)
- Direct to grocery store(s) (7)
- Direct to other institution(s) (school, hospital, etc.) (8)
- Contract with processor (cannery, ethanol plant, winery, etc.) (9)
- Direct to processor (cannery, ethanol plant, winery, etc.) (10)
- Local grain elevator (11)
- For personal or family consumption (12)
- Other (please specify) (13) ____________________

Q31 Approximately how much were your gross agricultural sales in 2012?
- $0-$999 (1)
- $1,000-$9,999 (2)
- $10,000-$49,999 (3)
- $50,000-$99,999 (4)
- $100,000-$249,999 (5)
- $250,000-$499,999 (6)
- $500,000 or more (7)
- I haven’t started making sales yet. (8)

Q32 Do you live on any of the land you farm?
- Yes (1)
- No (2)
Q33  Listed below are six pairs of contrasting views regarding agriculture in the United States. For each pair of statements, indicate which one of the two views you most agree with: the one in the left-hand column or the one in the right-hand column. Select the far left button if you strongly agree with the view on the left, the second button if you mildly agree with the view on the left, the middle button if you are undecided, the fourth button if you mildly agree with the view on the right, and the far right button if you strongly agree with the view on the right.

<table>
<thead>
<tr>
<th>View 1</th>
<th>View 2</th>
<th>Agree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers should use primarily natural fertilizers and production methods such as manure, crop rotations, compost and biological pest control.</td>
<td>Farmers should use primarily synthetic fertilizers and pesticides in order to maintain adequate levels of production.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The primary goal of farmers should be to maximize the productivity, efficiency and profitability of their farm.</td>
<td>The primary goal of farmers should be to improve the quality of their products and to enhance the long term conditions of their farm.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The future success of American agriculture will NOT be affected if rural communities continue to decline.</td>
<td>Healthy rural communities are absolutely essential for American agriculture’s future success.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farming is first and foremost a business like any other.</td>
<td>Farming is first of all a way of life and second a business.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farms should be specialized in one or at most a few crops.</td>
<td>Farms should be diversified and include a large variety of crops.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production, processing and marketing of agricultural products is best done at local and regional levels.</td>
<td>Production, processing and marketing of agricultural products is best done at national and international levels.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q34 Aside from joining $\text{SelectedChoices}$, what other methods have you used to find farmland? Select ALL that you have used.

- [ ] Joined other land linking programs (1)
- [ ] Looked in newspaper classifieds (2)
- [ ] Looked in farm publications (3)
- [ ] Searched real estate websites (4)
- [ ] Sent letters or emails directly to landowners (5)
- [ ] Drove around the countryside looking for available land (6)
- [ ] Only searched through $\text{SelectedChoices}$ (7)
- [ ] Other (please specify) (8) ____________________

If Only searched through $\text{SelectedChoices}$ Is Selected, Then Skip To Please indicate whether you have or h...
Q35 Compared to the other methods you have used to find farmland, how effective do you feel \$\{q://QID2/ChoiceGroup/SelectedChoices\} has been at helping you find land?
- Much more effective (1)
- Somewhat more effective (2)
- Neither more nor less effective (3)
- Somewhat less effective (4)
- Much less effective (5)

Q36 Please indicate whether you have or have not received each of the following land access services from \$\{q://QID2/ChoiceGroup/SelectedChoices\}, or if it is not offered by them.

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes (1)</th>
<th>No (2)</th>
<th>I don't think it's offered (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listing of my land need (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Access to a list of available land (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Potential match recommendation (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Personal advising (10)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Access to print resources about land access (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Networking to other resource providers (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Negotiation of land access terms (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Workshop or class instruction about land access (7)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Meet and greet with landowners (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Site assessment (9)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Direct financing (11)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Advisory team building support (legal, financial, other) (12)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (please specify) (13)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q37 Please rate the helpfulness of each service you received from \$\{q://QID2/ChoiceGroup/SelectedChoices\} at preparing you to access farmland.

<table>
<thead>
<tr>
<th>Service</th>
<th>Not at all helpful (1)</th>
<th>Slightly helpful (2)</th>
<th>Moderately helpful (3)</th>
<th>Very helpful (4)</th>
<th>Extremely helpful (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listing of my land need (x1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to a list of available land (x2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential match recommendation (x3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal advising (x10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to print resources about land access (x4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking to other resource providers (x5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation of land access terms (x6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshop or class instruction about land access (x7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet and greet with landowners (x8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site assessment (x9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct financing (x11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory team building support (legal, financial, other) (x12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify) (x13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q38 Which of the following services do you believe you would use if \$\{q://QID2/ChoiceGroup/SelectedChoices\} offered them? Select ALL you believe you would use in the future if they were offered.

- Listing of my land need (1)
- Access to a list of available land (2)
- Potential match recommendation (3)
- Personal advising (4)
- Access to print resources about land access (5)
- Networking to other resource providers (6)
- Negotiation of land access terms (7)
- Workshop or class instruction about land access (8)
- Meet and greet with landowners (9)
- Site assessment (10)
- Direct financing (11)
- Advisory team building support (legal, financial, other) (12)
- Other (please specify) (13) ______________________
Q39 Overall, how satisfied or dissatisfied are you with the services you have received from \(q://QID2/ChoiceGroup/SelectedChoices\)?
- Very satisfied (1)
- Somewhat satisfied (2)
- Neither satisfied nor dissatisfied (3)
- Somewhat dissatisfied (4)
- Very dissatisfied (5)

Q40 Please indicate how much you agree or disagree with each of the following statements. Because of the services I received from \(q://QID2/ChoiceGroup/SelectedChoices\) I am...

<table>
<thead>
<tr>
<th>...prepared to make good land access decisions. (1)</th>
<th>Strongly disagree (1)</th>
<th>Disagree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Agree (4)</th>
<th>Strongly agree (5)</th>
<th>Not applicable (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...able to communicate what kind of farm operation I am seeking. (2)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...able to communicate what kind of land access arrangement I am seeking. (3)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...networked in my local farm community. (4)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...aware of the land available for farming in my area. (5)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...prepared to be successful in my farm operation. (6)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...prepared to write a farm business plan. (7)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...aware of where to find information about land access when I need it. (8)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...prepared to secure funding for farmland. (9)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...likely to use conservation measures on my land in the future. (10)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...aware of the legal issues involved in land access. (11)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>...glad I joined (q://QID2/ChoiceGroup/SelectedChoices). (12)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Q41 Many of the people looking for farmland today are beginning farmers. How strongly do you agree or disagree that \(q://QID2/ChoiceGroup/SelectedChoices\) is serving the needs of beginning farmers?
- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)
- Don’t know (6)
Q42 Demographic Information
An important aspect for understanding farmland access is knowing something about the people who are looking for farmland. Therefore, we would like to ask just a few questions about you and your household.

Q43 Are you male or female?
- Male (1)
- Female (2)

Q44 What year were you born?

Q45 Which of these categories represents your racial or ethnic background? Select ALL that apply.
- African-American or Black (non-Hispanic) (1)
- Asian or Pacific Islanders (2)
- Caucasian or White (non-Hispanic) (3)
- Latino/a or Hispanic (4)
- Native American or Aleut (5)
- Other (please specify) (6) ____________________

Q46 What zip code do you currently reside in?

Q47 In which of the following categories does your 2012 household income (minus business expenses but before taxes) fall?
- $0-$24,999 (1)
- $25,000-$49,999 (2)
- $50,000-$74,999 (3)
- $75,000-$99,999 (4)
- $100,000-$124,999 (5)
- $125,000-$149,999 (6)
- $150,000-$174,999 (7)
- $175,000-$199,999 (8)
- $200,000 or more (9)

Q48 Approximately what portion of your household's income comes from your farm operation?
- All (1)
- More than three-quarters but not all (2)
- Between half and three-quarters (3)
- Between one-quarter and half (4)
- Less than one-quarter but more than none (5)
- None (6)

Q49 What is the highest level of formal education you have completed?
- Less than high school (1)
- Graduated from high school (2)
- Some college (3)
- 2-year college degree (4)
- 4-year college degree (5)
- Some graduate school (6)
- Completed graduate school (7)

Q50 You have reached the end of the survey. Thank you for your time and your thoughtful responses. Every farmer and farm is unique. Please use space to describe your experiences looking for land, the
challenges and opportunities you see to accessing farmland, and share any additional feedback about your experience with ${q://QID2/ChoiceGroup/SelectedChoices} in your own words.
Q51 Do you currently live on the land you listed through ${q://QID2/ChoiceGroup/SelectedChoices}?
Select the ONE category that fits you best.
- Yes, my primary residence is on this land. (1)
- Yes, I have a second home on this land. (2)
- No, I do not live on this land. (3)

Q52 Have you or other members of your household ever farmed any of the land you listed through
${q://QID2/ChoiceGroup/SelectedChoices}?
Select the ONE category that fits you best.
- Currently farm on it (1)
- Previously farmed on it (2)
- Never farmed on it (3)

Q53 Which statement best characterizes your role on the land you listed through
${q://QID2/ChoiceGroup/SelectedChoices}?
Select the ONE category that fits you best.
- I am a private land owner. (1)
- I represent a family or private land trust/estate. (2)
- I represent an institutional land trust/estate. (3)
- I am a public lands manager. (4)
- Other (please specify) (5) ________________

Q54 What is your previous experience with farming? Select ALL that apply.
- I grew up on a farm (1)
- I have owned a farm business. (2)
- I have worked as a farm intern or apprentice. (3)
- I have worked as a farm manager. (4)
- I have worked as a paid farm worker (other than an intern or apprentice). (5)
- I have volunteered on a farm. (6)
- I got a university or technical degree in an agricultural field. (7)
- I have participated in an incubator farm program. (8)
- I have no previous farming experience. (9)
- Other (please specify) (10) ________________

Q55 Why are or were you looking for a farmer for your land? Rate the importance of each of the
following statements to your decision to list your land, from not at all important to extremely important.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all important reason (1)</th>
<th>A slightly important reason (2)</th>
<th>A moderately important reason (3)</th>
<th>A very important reason (4)</th>
<th>An extremely important reason (5)</th>
<th>Not applicable (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to sell my land. (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to sell my farm business. (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I need more help on my active farm. (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I need or want rental income. (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want my land to be put to good use. (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to support local farmers. (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q56 In addition to land, what resources have you made available to a farm seeker? This includes things you have offered for free or for a cost. Select ALL that apply.

- Equipment (1)
- Building(s) (2)
- Financing (3)
- Fencing (4)
- Electricity (5)
- Water (6)
- Housing (7)
- Mentoring (8)
- None (9)
- Other (please specify) (10) ____________________

Q57 When did you join ${q://QID2/ChoiceGroup/SelectedChoices}?

Q58 Approximately how many different farmers have you contacted through ${q://QID2/ChoiceGroup/SelectedChoices} since you joined? Please type a whole number. If none, please enter '0'. (Contact means the first contact made, by either email, phone, mail or in-person.)

Q59 Approximately how many different farmers have contacted you through ${q://QID2/ChoiceGroup/SelectedChoices} since you joined? Please type a whole number. If none, please enter '0'. (Contact means the first contact made, by either email, phone, mail or in-person.)

Q60 Have you found a farmer for your land, and if so, did you find the farmer through ${q://QID2/ChoiceGroup/SelectedChoices} or through some other means?

- No, I have not found a farmer yet. (1)
- Yes, I found a farmer through ${q://QID2/ChoiceGroup/SelectedChoices}. (2)
- Yes, I found a farmer through some other means. (Please specify how.) (3) ____________________

If No, I have not found a farm... Is Selected, Then Skip To  Are you offering land for rent or for purchase?

Q61 Are you offering your farmland for rent or for purchase?

- Rent (1)
- Purchase (2)
Q92 What type of sale are you offering? Select the ONE category that fits you best.
- Standard sale (1)
- Owner-financed sale (2)
- Sale with easement (3)
- Other sale (please specify) (4) ____________________

Q93 What kind of lease are you offering?
- Cash lease (1)
- Share lease (2)
- In-kind lease (trading labor or farm goods) (3)
- Other lease (please specify) (4) ____________________

Q94 What length of lease are you offering?
- Short-term lease (3 years or less) (1)
- Long-term lease (more than 3 years) (2)
- Rent to own (3)
- Other lease term (please specify) (4) ____________________
Q62 Why do you think you have not yet found a farmer for your land? Rate the importance to you of each of the following potential reasons for not yet finding a farmer, from not at all important to extremely important.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all an important reason (1)</th>
<th>A slightly important reason (2)</th>
<th>A moderately important reason (3)</th>
<th>A very important reason (4)</th>
<th>An extremely important reason (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nobody has expressed interest in my land. (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The farmers who are interested don’t have enough experience. (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The farmers who are interested can’t afford to</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The farmers who are interested want a lease for too long. (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My land is geographically remote from urban areas. (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can’t offer on-farm housing. (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can’t offer irrigation. (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My land has poor drainage. (8)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My land has poor soils. (9)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The amount of land I have available is either too little or too much. (10)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The farmers who are interested want animals on my land but I don’t. (11)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I need to learn more about what my land would be good for. (12)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I have decided to delay my search for a farmer. (13)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Other (please specify) (14)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q63 What is your land currently used for? Select ALL that apply.

- Crops (1)
- Pasture (2)
- Mowed (3)
- Fallow or unused (4)
- Other (please specify) (5) ___________________

Q64 How many acres of land are you offering through ${q://QID2/ChoiceGroup/SelectedChoices}?

- Less than 1 acre (1)
- 1 to 5 acres (2)
- 6 to 10 acres (3)
- 11 to 20 acres (4)
- 21 to 40 acres (5)
- 41 to 100 acres (6)
- More than 100 acres (7)

If Less than 1 acre Is Selected, Then Skip To Listed below are six pairs of contras...If Less than 1 acre Is Not Selected, Then Skip To Listed below are six pairs of contras...

Q65 Did you sell or rent your land to a farmer?

- Sold (1)
- Rented (2)

Answer If Did you sell or rent your land to a farmer? Sold Is Selected

Q66 What type of sale did you secure? Select the ONE category that best fits you.

- Standard sale (1)
- Owner-financed sale (2)
- Sale with easement (3)
- Other sale (please specify) (4) ___________________

Answer If Did you sell or rent your land to a farmer? Rented Is Selected

Q91 What kind of lease did you arrange?

- Cash lease (1)
- Share lease (2)
- In-kind lease (trading labor or farm goods) (3)
- Other lease (please specify) (4) ___________________

Answer If Did you sell or rent your land to a farmer? Rented Is Selected

Q67 What length of lease did you secure?

- Short-term lease (3 years or less) (1)
- Long-term lease (more than 3 years) (2)
- Rent to own (3)
- Other (please specify) (4) ___________________

Q68 Overall, how satisfied or dissatisfied are you with the land access arrangement you secured?

- Very satisfied (1)
- Somewhat satisfied (2)
- Neither satisfied nor dissatisfied (3)
- Somewhat dissatisfied (4)
- Very dissatisfied (5)
Q69 What was your land used for immediately prior to finding a farmer? Select ALL that apply.

- Cropped (1)
- Pasture (2)
- Mowed (3)
- Fallow or unused (4)
- Other (please specify) (5) ____________________

Q70 How many acres did you sell or rent to a farmer?

- Less than 1 acre (1)
- 1 to 5 acres (2)
- 6 to 10 acres (3)
- 11 to 20 acres (4)
- 21 to 40 acres (5)
- 41 to 100 acres (6)
- More than 100 acres (7)

Q71 Listed below are six pairs of contrasting views regarding agriculture in the United States. For each pair of statements, indicate which one of the two views you most agree with: the one in the left-hand column or the one in the right-hand column. Select the far left button if you strongly agree with the view on the left, the second button if you mildly agree with the view on the left, the middle button if you are undecided, the fourth button if you mildly agree with the view on the right, and the far right button if you strongly agree with the view on the right.

<table>
<thead>
<tr>
<th>Farmers should use primarily natural fertilizers and production methods such as manure, crop rotations, compost and biological pest control.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers should use primarily synthetic fertilizers and pesticides in order to maintain adequate levels of production.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The primary goal of farmers should be to maximize the productivity, efficiency and profitability of their farm.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The primary goal of farmers should be to improve the quality of their products and to enhance the long term conditions of their farm.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The future success of American agriculture will NOT be affected if rural communities continue to decline.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy rural communities are absolutely essential for American agriculture’s future success.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Farming is first and foremost a business like any other.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming is first of all a way of life and second a business.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Farms should be specialized in one or at most a few crops.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms should be diversified and include a large variety of crops.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production, processing and marketing of agricultural products is best done at local and regional levels.</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production, processing and marketing of agricultural products is best done at national and international levels.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q72 Aside from joining ${q://QID2/ChoiceGroup/SelectedChoices}, what other methods have you used to find a farmer for your land? Select ALL that apply.

- Joined other land linking programs (1)
- Advertised in newspaper classifieds (2)
- Advertised in farm publications (3)
- Advertised through a real estate company (4)
- Sent letters or emails to farmers (5)
- Only searched through ${q://QID2/ChoiceGroup/SelectedChoices} (6)
- Other (please specify) (7) ____________________

If Only searched through ${q://QID2/ChoiceGroup/SelectedChoices} Is Selected, Then Skip To Please indicate whether you have or h...

Q73 Compared to the other methods you have used to find a farmer or successor, how effective do you feel ${q://QID2/ChoiceGroup/SelectedChoices} has been at helping you find a farmer or successor for your land?

- Much more effective (1)
- Somewhat more effective (2)
- Neither more nor less effective (3)
- Somewhat less effective (4)
- Much less effective (5)

Q74 Please indicate whether you have or have not received each of the following land access services from ${q://QID2/ChoiceGroup/SelectedChoices}, or if it is not offered.

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes (1)</th>
<th>No (2)</th>
<th>I don't think it's offered (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listing of my land (1)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Access to a list of farmers needing land (2)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Potential match recommendation (3)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Access to print resources about land access (4)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Networking to other resource providers (5)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Negotiation of land access terms (6)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Mediation during farm transfer (7)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Workshop or class instruction about land access (8)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Meet and greet with farmers (9)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Site assessment (10)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Personal advising (11)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Direct financing (12)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Advisory team building support (legal, financial, etc.) (13)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Other (please specify) (14)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
Please rate the helpfulness of each service you received from \${q://QID2/ChoiceGroup/SelectedChoices} at preparing you to find a farmer for your land.

<table>
<thead>
<tr>
<th>Service</th>
<th>Not at all helpful (1)</th>
<th>Slightly helpful (2)</th>
<th>Moderately helpful (3)</th>
<th>Very helpful (4)</th>
<th>Extremely helpful (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listing of my land (x1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to a list of farmers needing land (x2)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Potential match recommendation (x3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to print resources about land access (x4)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Networking to other resource providers (x5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation of land access terms (x6)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mediation during farm transfer (x7)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshop or class instruction about land access (x8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet and greet with farmers (x9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site assessment (x10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal advising (x11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct financing (x12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory team building support (legal, financial, etc.) (x13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify) (x14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q76 Which of the following services do you believe you would use if
${q://QID2/ChoiceGroup/SelectedChoices} offered them? Select ALL you believe you would use in the future if they were offered.
- Listing of my land (1)
- Access to a list of farmers needing land (2)
- Potential match recommendation (3)
- Access to print resources about land access (4)
- Networking to other resource providers (5)
- Negotiation of land access terms (6)
- Mediation during farm transfer (7)
- Workshop or class instruction about land access (8)
- Meet and greet with farmers (9)
- Site assessment (10)
- Personal advising (11)
- Direct financing (12)
- Advisory team building support (legal, financial, etc.) (13)
- Other (please specify) (14) ____________________

Q77 Overall, how satisfied or dissatisfied are you with the services you have received from
${q://QID2/ChoiceGroup/SelectedChoices}? 
- Very satisfied (1)
- Somewhat satisfied (2)
- Neither satisfied nor dissatisfied (3)
- Somewhat dissatisfied (4)
- Very dissatisfied (5)
Q78 Please indicate how much you agree or disagree with each of the following statements. Because of the services I received from ${q://QID2/ChoiceGroup/SelectedChoices} I am...

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree (1)</th>
<th>Disagree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Agree (4)</th>
<th>Strongly agree (5)</th>
<th>Not applicable (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...prepared to make good decisions about my land. (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...networked in my local farm community. (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...aware of where to find information about land access when I need it. (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...able to communicate what kind of farmer I want on my land. (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...able to communicate my expectations about having a farmer and farm on my land. (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...prepared to select an appropriate farmer for my needs on my land. (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...knowledgeable about how to interact with a farmer on my land in an appropriate way. (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...satisfied with my transfer plan. (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...likely to use conservation measures on my land in the future. (9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...aware of the legal issues involved in land access. (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...glad I joined ${q://QID2/ChoiceGroup/SelectedChoices}. (11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q79 Demographic Information
An important aspect for understanding farmland access is knowing something about the people who own farmland. Therefore, we would like to ask a few questions about you and your household.

Q80 Are you male or female?
- Male (1)
- Female (2)

Q81 What year were you born?

Q82 Which of these categories represents your racial or ethnic background? Select ALL that apply.
- African-American or Black (non-Hispanic) (1)
- Asian or Pacific Islanders (2)
- Caucasian or White (non-Hispanic) (3)
- Latino/a or Hispanic (4)
- Native American or Aleut (5)
- Other (please specify) (6) ____________________

Q83 What zip code do you currently reside in?
Q84 In which of the following categories does your 2012 household income (minus business expenses but before taxes) fall?
○ $0-$24,999 (1)
○ $25,000-$49,999 (2)
○ $50,000-$74,999 (3)
○ $75,000-$99,999 (4)
○ $100,000-$124,999 (5)
○ $125,000-$149,999 (6)
○ $150,000-$174,999 (7)
○ $175,000-$199,999 (8)
○ $200,000 or more (9)

Q85 What is the highest level of formal education you have completed?
○ Less than high school (1)
○ Graduated from high school (2)
○ Some college (3)
○ 2-year college degree (4)
○ 4-year college degree (5)
○ Some graduate school (6)
○ Completed graduate school (7)

Q86 You have reached the end of the survey. Thank you for your time and your thoughtful responses. Every land owner and property is unique. Please use this space to tell us about your experiences looking for a farmer for your land, the challenges and opportunities you see to making your land available, and share any additional feedback about your experience with ${q://QID2/ChoiceGroup/SelectedChoices}.