Land Use Policy 86 (2019) 438–447

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Fostering farm transfers from farm owners to unrelated, new farmers: A qualitative assessment of farm link services

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ARTICLE INFO

Keywords:
Farm transfer
Farm succession
Beginning farmer
Land access
Farm policy
Program evaluation

ABSTRACT

The transition of farms and ranches to the next generation has generated considerable attention and concern. Over the past 30 years, public and private institutions across the U.S. have introduced policies and programs to help farms without identified family successors achieve successful transfers by connecting them with new farmers through "farm link" services. However, the effectiveness of these services is unclear and assessment is needed. This primarily qualitative study used interviews with program leaders and their responses to a questionnaire to assess the 30 active and closed farm link programs of the 12 states of the U.S. Midwest and Central Plains, resulting in a collection of best practice recommendations. Broadly, these programs target differing audiences and offer various services not limited to the function of linking farm/ranch owners with potential non-family successors. Most programs are located in NGO's (63%), with the others hosted by state departments of agriculture and land grant university extension systems. Program leaders agree that linking is needed to augment seekers' and owners' personal networks. They recommend that farm link services focus on medium-term outcomes, and provide a list of metrics. Program leaders also recommend other, complementary services to support and advance non-family transitions to new farmers, primarily: (1) state-level beginning farmer tax credits; (2) educating farm owners' advisors, such as lenders and tax preparers, about their clients' opportunities to transfer to an incoming farmer; (3) case management to facilitate transfers between unrelated parties; and (4) providing discussion spaces online and on social media to build farmer/rancher networks and relations between farm seekers and farm owners.

"For us it's important to give a beginning farmer a chance, and not just make a big farmer bigger. It's really a joy to help someone get started."

- Farm Owner (Nebraska Department of Agriculture, 2015)

1. Introduction

New farmers seeking to enter agriculture and farm owners preparing to transfer their farms to the next generation face some barriers that affect both access to land and passing it on. As Parsons et al. observed, "Barriers to both farm entry and farm exit are in play. If older farm owners can't easily exit, their land can't become available to entering farmers" (2010, 10). As we introduce in 1.1, compelling policies and economic logics lead U.S. farm and ranch owners to avoid or delay in transferring agricultural assets to the next generation (Hamilton, 2010). This pattern contributes to the widespread difficulty new and aspiring farmers report in accessing farmland (Ackoff et al., 2017; Freedgood and Dempsey, 2014; Paine and Sullivan, 2014). (Hereafter we use "farmers" and "farms" to encompass ranchers and ranches).

Strategies to bridge the interests of farm owners and farm seekers are found in the farm link services we examine here. Farm link services came about in the early 1990s to connect farm owners who do not have a successor, or a family member to take over the family farm, to farm seekers. Linking services aim to help farm seekers secure an opportunity by extending the reach of seekers' and owners' personal networks, to facilitate an introduction between them (Ruhf, 2013). The initial – and continuing - impetus for linking services was a dramatic pattern of farm

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https://doi.org/10.1016/j.landusepol.2019.05.004
Received 17 September 2018; Received in revised form 29 April 2019; Accepted 2 May 2019
Available online 31 May 2019

closures following the farm financial crisis of the 1980s, the rising cost of entry to farming as a profession, fewer young people getting into farming, the consolidation of small and medium farms into larger ones, and shifting land uses from agriculture and forestry (Markowski-Lindsay et al., 2017) to commercial and residential development (Remble et al., 2012). Providing unrelated parties with a way to meet aims to support owners in finding alternatives to liquidating their farms or selling on the free market (Grubbström and Eriksson, 2018). Theoretically, these initiatives help farm owners to transition their farms with a sense of security and legacy, while keeping land in farming and recruiting younger generations into the industry.

Linking programs have expanded to a range of purposes, designs and beneficiaries, now catering to various categories of farm owners, including operators, retired operators, non-operators, non-farming heirs, and public land holders. They offer a range of support to owners and seekers in forming working agreements that lead to secure tenure for the seeker, which could include long-term leasing, arrangements to build equity, and/or transfer of ownership of the business, equipment, facilities, and/or land, depending on the situation.

Some linking services aim to serve owners who wish to transfer the farm to a new or "beginning" farmer. What often matters most for this subset of owners (Opheim, 2016) is to help a new farmer, build their rural community, keep a farming operation going as an entity, and/or to secure a particular future for the land (Beginning Farmer Center, 2018; Goeller, 2017). For some programs, another impetus is to alter the longstanding unequal access to participation in agriculture by fostering opportunity for a diversity of farmers. This includes diversity by gender (Luhrs, 2016), race/ethnicity, and/or agricultural product mix (Katchova and Ahearn, 2016). Helping U.S. agriculture to become more inclusive is an emerging focus (Baxter, 2017; Wittman et al., 2017), in which farm "transition represents an opportunity to shape how the agricultural labor force will look in the future" (Meuleners, 2013, 237).

In this context, linking programs aim to introduce unrelated owners and new farmers to foster a transition between them. However, recent studies observe a dearth of information about the effectiveness of linking services, and note a need to better understand their contributions, to inform policy priorities and programmatic investments to support smooth farm transfers (Carolan, 2018; Freedgood and Dempsey, 2014; Hamilton, 2017; Horst and Gwin, 2018; Jackson-Smith and Petrzelka, 2014; National Sustainable Agriculture Coalition, 2017; Parsons et al., 2010; Schilling et al., 2015). Responding to this gap, this paper collects and examines the experiences of the leaders of the U.S. North Central Region's entire set of farm link services, including both active and closed programs. The research question we explore is, what do farm link program leaders view as best practices in serving the needs of farm seekers and farm owners who do not have a family successor, and what do their recommendations suggest for investment and policy going forward?

1.1. Overview: Non-family farm transfers and their major barriers

U.S. agriculture is a distinctive industry for its concentration of labor and ownership in the hands of older people. More than a quarter of primary farm operators are 65 or over, whereas in non-agricultural U.S. businesses, only 14% of self-employed workers are in this age group (Bigelow et al., 2016). For every one farmer under 35, there are four farmers who are 65 and over (USDA-NASS, 2019). This 65 and over age group is the fastest growing in U.S. agriculture (Freedgood, 2014). Farmers over 65 operate 32% of U.S. farmland, and farmers over 55 operate 64% of farmland (USDA-NASS, 2012). Land ownership follows the same pattern; half of farm owners (both farming and non-farming) are 65 and over (Mishra et al., 2005). A clear economic factor concentrating farming in the hands of older owners and operators is farmland's rapid appreciation (Key and Burns, 2018). Rising prices have favored established owners and operators in competitive bids to operate and purchase land, at the expense of new farmers (Burns et al., 2018). Many categories of programmatic and policy intervention aim to support new farmers' access and their prospects for success by focusing on such economic factors as financing, credit, agricultural productivity, and business management. Our focus is on a service niche that complements and interacts with these others, as we present in 1.2.

Compelling reasons lead farm owners to retain ownership and delay in transferring the operation and the land. Financially, land ownership serves as a savings account during life and a gift to one's heirs after death (Leonard et al., 2017). Further, a sale of land during the owner's life would incur taxes on appreciated gains, whereas heirs can sell inherited property without paying tax on realized gains, thus avoiding capital gains tax (Bigelow et al., 2016; Mishra and Chang, 2011). The U.S. tax code therefore disincentivizes land sales, to an extent that recommendations to support agricultural transfer to entering farmers call for revisions to federal tax code (Advisory Committee on Beginning Farmers and Ranchers, 2015; USDA-National Commission on Small Farms, 1998). Additionally, the emotional and relational work that must go into a deliberate farm transfer can be daunting (Opheim, 2016) and is the deserving subject of research and services to address how farm-owning families plan for and undertake intra-family succession or inter-family transfer of the farm (Duesberg et al., 2017; Lobley and Baker, 2012).

Traditionally, farmers were followed by their descendants. However by 1988, most agricultural land in the U.S. was purchased from a non-relative (Ahearn, 2013; Rogers and Wunderlich, 1993). The U.S. Department of Agriculture (USDA) forecasts that one in ten agricultural acres will change ownership between 2015 and 2019, with a quarter of these transfers taking place between non-relatives (USDA-NASS, 2015). In the 12-state North Central Region (NCR) of the Midwest and Central Plains, non-family transfers during this time period will affect 7.8 million acres (3.2 million hectares). Despite the estimate that a quarter of the farm transfers underway at any one time take place between non-relatives, new farmers' difficulty acquiring land suggests a disconnect between new farmers seeking a farm and farm owners seeking to transfer a farm. Most new farmers do not inherit farmland (Katchova and Ahearn, 2016); their difficulty in accessing land suggests that personal networks alone fail to lead them to the opportunity they seek.

1.2. Overview: Institutional support for non-family farm transfers

There are a broad range of programmatic approaches to help older farm owners plan for farm transfer (Ruhf et al., 2012; Ruhf, 2015). Linking is just one category of service, and programs often provide a suite of services. Farm transfers can require extensive and lengthy assistance. It can take two years or more to complete a succession plan, and a decade or more to implement it, during which time the transfer planning evolves (Parsons et al., 2010). Service providers might provide information and education about transfer options, tax consequences, entity formation, land conservation, individual legal and financial technical assistance, professional facilitation around family dynamics and management transfer, and/or support on-farm mentoring. Some programs also offer education for farm seekers. Underpinning these efforts are public policies that support (or impede) smooth and beneficial transfers.

For this study, we posit three categories of services to support farm and ranch transfer between unrelated parties. One is the "linking" function. The two others are farmer-to-farmer mentoring support and farm transfer education and technical assistance. There is variation in how programs self-identify, and overlap among the types (Ruhf, 2013). A so-called "linking program" might also provide these other services. Many target all farm seekers, including established and expanding producers, not just new farmers. Farm transfer assistance programs help intra-family as well as non-family transfers; some assume that the transaction will be intra-family. This study focuses on how linking, mentoring and farm transfer assistance services support farms without family successors.

Listing, Linking, Matching
Listing: A managed online list of available farm properties; may also list seekers. No services beyond posting properties (and in some cases, seekers). Similar to a residential real estate listing service.
Linking: Program provides contact information to seekers and owners, typically pre-sorted or pre-screened for potential compatibility. No further interaction.
Matching: Program facilitates a specific transaction between a seeker and a farmer/owner. After screening, may include: introduction; meeting facilitation; technical support; document preparation; and transaction assistance.
Tax credit for owners of agricultural assets (land, equipment, breeding livestock) who sell assets to, or commit to a multiple-year agreement with, a qualifying "beginning" farm/ranch seeker
Mentoring: Facilitating formal connections between learners (who may be farm/ranch seekers) and mentors who are farm/ranch owners for advice and/or training
Ancillary Services may include: general business planning, new farmer training, transfer and estate planning for farmers and non-operator landowners, and land use planning/conservation.

Fig. 1. Typology of Services to Support Farm Transfers between Unrelated Parties.
(after Land For Good, 2011)

Since farm link programs don't perform the same way, we use Fig. 1 to parse their particular functions (Land For Good, 2011). The first service - listing - entails postings of available properties and opportunities. Often, a list of seekers is also maintained. These lists are typically offered online, and are either public or secured. In the "linking" function, staff screen or sort for compatibility and share names with potential matches. The third function - matching - entails facilitating conversations and transactions between "matched" owners and seekers. Some programs employ a case management approach to facilitate owner-seeker relationships. Certain programs serve a particular type of farm, for example dairy, pasture-based, vegetable, direct marketing, or certified organic (Franzluebbers et al., 2012). Fig. 1 also displays related types of programs that support transfers between unrelated parties, beyond the listing, linking and matching functions. In this category we identify mentoring programs, ancillary services such as estate planning and land tenure education, and tax policies that foster farm transfers.

These programs and services are supported in various ways including user fees, private foundations, and public (local, state and/or federal) funding. One source of public funds for some of these programs has been the USDA Beginning Farmer and Rancher Development Program (BFRDP). BFRDP has funded a range of beginning farmer education, training and support services – more than 250 of them since its launch in 2009, at an investment of over $126 million (Auburn et al., 2016). The projects funded through BFRDP seek to address gaps in education and training for beginning farmers. However, one analysis of BFRDP's annual calls for proposals and funded proposals finds that while the enabling statute lists "innovative land transfer strategies" and "assisting beginning farmers … in acquiring land from retiring [owners]," with very few exceptions, funded projects do not substantively address the pervasive problem of land access (Calo, 2018).

Two studies have assessed groups of farm link programs. One looked nationally, using phone and email to interview leaders of a dozen programs across the U.S. (Hersey and Adams, 2017). The other was regional, interviewing and surveying leaders of 17 programs in the Northeast U.S. (Pillen and Hinrichs, 2014). Both found a common challenge to be that seeker participants far outnumbered owners (Ruhf et al., 2012). Hersey and Adams examined the premise of the farm linking model by questioning its implicit assumptions (2017). They found farm linking to be too simplistic relative to the complexity of transfer, and recommended that policies and programs invest elsewhere to effectuate a greater number of transfers. Pillen and Hinrichs, on the other hand, found that program leaders and their clients appreciate farm link services (2014). Program leaders in their study noted that a gap in knowledge and practice is the identification and monitoring of medium-term outcomes, which is needed for programs to clearly track progress toward their long-term objective. Two other assessments have examined individual linking programs, one in California (Calo and De Master, 2016) and the other in the U.K (Ingram and Kirwan, 2011). The study in the U.K. suggested that programmatic investments may be most effective when they support relationships that owners and seekers make on their own, through personal networks, in contrast to matching parties who do not know each other (Ingram and Kirwan, 2011).

One state policy mechanism we include in our analysis aims to financially incentivize "beginning farmer" seekers and farm owners to develop relationships on their own. Economic incentives have been shown to have some success in supporting farm owners in choosing an unrelated "beginning farmer" as their operator or successor, as opposed to an established farmer (Girardi, 2015; Williamson and Girardi, 2016; Williamson and Katchova, 2013). Some states offer beginning farmer tax credits as a policy mechanism to entice owners of land and other agricultural assets, such as machinery and breeding livestock, to choose a qualifying beginning farmer as their operator and/or to transfer assets to them (Cox, 2012). Two states, Nebraska and Iowa, have offered tax credits since 1999 and 2007, respectively (Girardi, 2015). Minnesota joined them in 2018, and Wisconsin had a related program for three years, 2011 – 2013. These state tax credit programs award an income tax credit to farm owners who commit to a working agreement with a qualifying beginning farmer/rancher. Nebraska further incentivizes beginners' participation by providing them with a property tax exemption on agricultural assets (Beck et al., 2018). Most of the programs require the agreement to be longer-term, two to five years. Several types of agreements qualify, including cash leases, crop share, herd share, and custom farming services. Minnesota's tax credit is distinctive at the state level for also incentivizing sale of land and other agricultural assets to a qualifying beginner. Minnesota's is also the only program to require agreements between non-relatives, however the states that do not share this requirement report that most pairings are non-relatives – 82% in Nebraska (Bahm, 2018) and 60% in Iowa (Ferguson, 2018). An advisory group to the USDA recommended scaling the state programs to the federal level (Advisory Committee on Beginning Farmers and Ranchers, 2015). One assessment of the effects of the state tax credits determined that since 2003, states that offer a beginning farmer tax credit have experienced less of a decline in beginning farms than states with no such program (Williamson and Girardi, 2016). Financial incentives offered by the federal government for landowners to transition to an unrelated beginner (Mailfert, 2007) include a Beginning Farm Bond (Williamson and Katchova, 2013). This federal tax exemption on the income earned from interest on sales agreements with qualifying beginners is presently an option in only half the states of the NCR (National Council of State Agricultural Finance Programs, 2017) and is used by banks more than by individual landowners. The Conservation Reserve Program-Transition Incentives Program (CRP-TIP) can also financially assist a landowning CRP participant in transitioning to an unrelated beginner. The program provides two additional years of CRP income to owners who recruit a beginning farmer to operate or buy their ground that is cycling into production following CRP enrollment (USDA-FSA, 2019).

We recognize that this explanation begs a definition of the terms we use – beginning, entering, incoming, new, first-time, and so forth – to represent farm seekers. The USDA defines a beginning farmer as a principal operator with ten years or fewer leading an operation, and a beginning farm one where all operators meet this definition (USDA-ERS, 2017). The state tax credit programs apply their own definitions, typically combining a farmer's duration of experience with net worth and full-time status as a farmer. Non-governmental organization (NGO) champions of entering farmers, for example the National Young Farmers Coalition, define "young" farmers by age (sub-35 or -40). Since these programs together are dedicated to one's prospects of getting started as a farmer, we use the term farm "seeker" to reflect farmers who are not established farmers. This is consistent with the assessed programs, some of which define participation according to strict definitions, however the listing and linking services that are our greatest focus are not exclusionary. This assessment focuses on listing, linking,

and matching services and mentoring programs. We also examine beginning farmer tax credit programs because they foster connections between owners and entering farmers by incentivizing owners to contract with a new farmer as opposed to an established farmer, to foster non-family succession to new farmers.

2. Methods

This primarily qualitative assessment aimed to learn from leaders of the NCR's past and current linking programs, to describe a program's reasons for discontinuing services or for keeping them going. A purposeful strategy aimed to select every farm link service that operates in these states (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin), or that did in the past (Patton, 2002). Forty-two programs met one or both criteria for inclusion. One condition was that the program be listed as a farm listing/linking service in the NCR by a major web resource as of October 2016. These sites were the Center for Rural Affairs "Linking Farmers with Land" page and/or the National Young Farmers Coalition Midwest Regional Listings (www.cfra.org/resources/beginning_farmer/linking_programs and www.youngfarmers.org/land-and-jobs/#Midwest). The second condition was that the program appear in a search for the terms "transfer" and/or "mentoring" in reports of projects funded by North Central Region-Sustainable Agriculture Research and Education (NCR-SARE), which is one division of USDA (USDA-NIFA-SARE, 2018).

Our decision to include mentoring programs reflects an assumption, which some program leaders later reinforced, that senior-junior work pairings, such as mentoring relationships, internships with a preceptor, or apprenticeships, may initiate a potential transition relationship, whether this aspect of the pairing is implicit or explicit (Grubbström and Eriksson, 2018). Therefore, the assessment includes some of the region's beginning farmer mentoring/apprenticeship programs. Since our larger research project has a focus on the state of Indiana (Farmer and Valliant, 2016), and Indiana has had no CRP-TIP participants since the program began in 2008, nor does Indiana offer the federal Beginning Farm Bond, our methods did not include these two initiatives. Our methods also do not encompass some other policy mechanisms and program innovations intended to preserve farmland and facilitate access for incoming farmers. These include conservation easements (Farmer et al., 2011), options to purchase at agricultural value (Plotkin and Hassanein, 2017), credit and financing for beginning farmers, gifts of farmland to new farmers (Willoughby, 2018), and other approaches. Instead we focus on policies and services that make, or financially incentivize, a link between unrelated parties to foster a potential transfer agreement between them.

In January 2017, leaders of the 42 programs received an email invitation to an online questionnaire (see Supplementary Material) about their programs via the secure survey service Qualtrics (www.qualtrics.com). Between then and March 2017, non-respondents received up to four emailed and/or phoned reminders. In cases where the point of contact for a program had moved on from that institution, we used phone calls and internet searches to locate that person or the successor. Between February and April 2017, two researchers conducted phone interviews with 30 program leaders who had completed the questionnaire. The objective of the interviews was to ask leaders to describe their program's best practices and lessons learned – what works, what doesn't – and to pose follow-up questions about some of the leader's questionnaire responses. During the interview phase, the two interviewers met regularly to discuss the narratives emerging in the interviews to identify themes deserving focused questions in subsequent interviews. As such, qualitative data collection and analysis followed an iterative process of progressive focusing in which researchers adapted questions and, later, codes, to content emerging over the course of data collection (Schutt, 2006). Interviews were audio recorded and transcribed verbatim. Transcripts were read and thematically coded by hand by one of the interviewers to organize patterns of convergence and divergence in the narratives (Creswell, 2013; Patton, 2002). Since the number of respondents was small, quantitative data from the questionnaire were not exposed to statistical analysis, and rather underwent simple analysis in the form of tallies, proportions, medians and averages using Microsoft Excel. When triangulated with qualitative interview data, these quantitative data help to illustrate certain patterns.

3. Results

3.1. Basic characteristics of assessed programs

Of the 42 programs that received the online questionnaire, 30 leaders filled it out and participated in an interview, a response rate of 71%. We believe we reached the entire population of linking programs that were active in the NCR in October 2016 as well as some closed programs. Some programs have dropped certain services over the years and added others, such that 80% of respondents represented active programs and 20% represented closed programs. (As an example, one program used to invest much more in linking than it now does. Here we count this program as active, whereas programs that were strictly grant-bound with no related activities offered afterwards, or programs that have exited the linking realm entirely we count as closed). All non-respondents were closed programs we had identified through the search of SARE reports. In addition to being inactive, according to our correspondence with the original program leaders, their successors, and/or the non-respondent projects' final reports, any focus these programs once had on farm transitions was marginal to their main focus. Lastly, non-respondent programs started longer ago than the respondents' programs, so institutional memory was more difficult for their points of contact to locate (median start year of 2002 versus 2006 for respondents). These and other descriptive characteristics of the respondent programs appear in Table 1. Based on the survey responses, the 30 assessed programs serve a total of 6300 owners and seekers. This divides between active programs (3200 seekers / 2300 owners) and

Table 1
Descriptive characteristics of assessed programs.

Start year (median and range)	2006 (1990-2017)
Program duration (median and range)	10 years (0 to 27 years)
Status of linking services	80% active / 20% closed
Types of programs' home institutions	NGO – 63% / 19
	Extension system / land grant university – 17% / 5
	State department of agriculture - 10% / 3 – 10% / 3
	Community college – 7% / 2
	Farm Bureau – 3% / 1
Programs' service area	50% of programs serve one state
	25% serve a multi-state region
	16% of programs serve a multi-county region within a state
	9% of leaders describe their programs as national
Operator versus non-operator status of owner-participants	Owners participating in these programs are 3 times more likely to be operators than non-operators

ended programs (700 seekers / 100 owners). Respondents included 11 past NCR-SARE projects ($960,000 invested) and eight BFRDP projects ($2.8 million invested, including leads and subcontractors). Table 1 displays the range of scales at which programs operate, as indicated by participation numbers and the types of services that program leaders reported in the questionnaire (information which we did not verify). Twenty programs (67%) report offering one of the categories of service of most interest to this assessment – those being a listing, linking, matching, and/or tax credit service to foster connections between unrelated seekers and owners. The other third of programs do not offer these categories of service, but do offer a general mentoring service and/or a service ancillary to farm/ranch transfer assistance.

The programs have a median of ten years' experience, ranging from one being new in 2017 to some that began in 1990. Most of the programs assessed are located within NGO's (63%). Seventeen percent are located within an extension program at a land grant university, and another 10% within state departments of agriculture.

We estimate that eleven of the programs assessed (38%) principally serve commodity producers – those who produce staples for the undifferentiated globally traded market, such as wheat, feed-grade soybeans, corn for feed or biofuel, fluid milk, or beef cattle. The same number of programs mainly serves non-commodity producers, who may produce, for example, fruit, vegetables, food-grade soybeans, value-added products such as jam or cheese, or differentiated products such as certified organic wheat or milk. About 25% of programs aim to serve both commodity and non-commodity producers (see the Supplementary Material for a description of these types of programs).

3.2. Program leaders on the value of the linking model: defining effectiveness, monitoring indicators in use, and recommended alternative program formats

Program leaders recommend that farm linking continue as a priority program investment. At the same time, they deliver a critique of the linking model, suggesting improvements as well as alternative program formats that may be more effective. According to program leaders, the number one obstacle to non-family transfer is the basic problem of unrelated owners and seekers finding each other. Leaders also say that helping people find one another is what their programs do best.

Even though leaders rank their listing services as the specific category of service they value the most, they also critique listing services and suggest that other formats may be more efficacious than an online classifieds. Leaders expressed some frustration with their listing services, in large part because several of these programs offer, or offered, listing, linking, and/or matching services despite having neither dedicated funding nor staffing to run them. Programs with such scarce resources typically do not track outcome metrics. Leaders that conduct no monitoring or evaluation are specifically frustrated by the lack of outcome metrics and thereby little evidence of effectiveness or success, which is often compounded by low demand for services from owners as opposed to high demand from seekers, as we explore in 3.3. Some of these programs have ended or reduced to bare minimum the staff effort dedicated to the service. Given that the ultimate objective of all farm transfer programs is long-term, leaders of linking programs express more satisfaction when they are tracking some shorter-term outcome metrics, which we refer to as "medium-term." Coordinators whose programs have a monitoring protocol express a sense of effectiveness: "I feel like we're on the right track with getting people starting to think about, and talk about, and educated about, options that they have, and in networking with other people." One contribution this assessment makes is in collecting the medium-term outcome metrics that some linking programs use (see Table 2). Three methods elicited these metrics from program leaders: an item in the online questionnaire, an interview question, and review of the written evaluation materials provided by two programs that conduct monitoring.

How do some programs manage to conduct monitoring despite a small budget? One way is by monitoring these metrics among seekers only, and not seekers *and* owners. As for their methods, some are ad hoc. The more systematic approach is to attempt to survey all seeker participants every few years. Other programs are deliberate about asking how their seeker-participants are faring through an annual newsletter or at regular gatherings. Leaders noted the need for funds for such monitoring and evaluation.

Table 2
Catalogue of metrics: Medium-term outcome indicators in use by linking programs to track progress toward a long-term goal of successful non-family farm transfer.

% of seekers who
• are farming
• are farming as their main profession
• have paired with an owner
• say their operation is more stable
• say their operation has grown
• say they are likely to acquire ground
• have acquired ground
• are still working the same ground
• are employed on someone else's farm/ranch
• have developed a new enterprise on an existing farm
• have developed a new farm
• are renting/leasing assets from an owner
• are sharing crops, livestock, equipment, etc. with an owner
• are purchasing assets from an owner
• are in ownership positions

Even though program leaders appreciate their listing services, some leaders advocate for alternative program formats that they find to be easier to maintain and also effective in introducing seekers and owners. Programs that administer an online discussion forum (such as a listserv or social media group) instead of, or in addition to, a classifieds-style listing value the discussion format because it allows seekers and owners to build relationships on their own, with minimal need for staff oversight. Presenting in-person, low-input networking events also helps to bring owners and seekers together, presented either as stand-alone events or attached to an annual meeting.

Thus we found that programs appreciate their own listing services, and at the same time advocate for alternate program models, especially for smaller, lower budget organizations. Leaders whose programs monitor some medium-term outcomes, usually just among seekers, indicated higher satisfaction with their programs' effectiveness.

3.3. Responses to patterns of low landowner participation

> "We were not getting the hundreds of beginners on the ground every year that we wanted. I don't know how that happens, but that should be the goal. I think that landowners are a bottleneck in getting that to happen." – Leader of one closed program

Reflecting on the perspectives of farm/ranch owners, program leaders were sympathetic to the risk inherent to choosing a newer farmer as operator or successor, compared to an established one. Leaders recognize that a minority of farm owners will prioritize a collaboration with a less established next generation seeker. Even so, program leaders still saw a potential for much higher owner involvement in their programs, and suggested strategies to recruit owners. Their recommendations to increase owner involvement always included dedicated budget and time for program publicity and marketing, a constant need. Having a monitoring and evaluation routine may further reinforce a program's ability to attract owners: more evidence of effectiveness may convince them to participate.

One critique of linking programs we expected to hear is that seeker demand for linking services is far higher than that of owners. Certain programs assessed do suffer from a wide imbalance between seeker and owner participation, with one ratio as high as 20 to 1, and others 15 to 1, 10 to 1, and 5 to 1. This imbalance caused one program to go on

Table 3
Linking programs' owner and seeker participation levels according to service type and category of farm seeker served.

	Proportion of programs offering (n = 30)	Seeker participation (range and median)	Owner participation (range and median)	Seeker : owner participation (median ratio)
Type of land link service provided				
Listing, linking, matching and/or tax credit service	67% / 20	3-1,000 (68)	3-500 (38)	1.8 : 1
Listing	47% / 14	10-1,000 (78)	3-500 (35)	2.2 : 1
Linking	33% / 10	3-650 (75)	3-500 (12)	6.3 : 1
Matching	17% / 5	10-100 (46)	10-500 (43)	1.1 : 1
Tax credit	7% / 2	140-450 (295)	185-475 (330)	.9
All mentoring	53% / 16	6-1,000 (41)	4-500 (39)	1.1 : 1
Mentoring *without* listing, linking, or matching	23% / 7	6-100 (30)	4-300 (20)	1.5 : 1
Category of farm seeker served				
Commodity producers	38% / 11	6-650 (78)	3-500 (39)	2 : 1
Non-commodity producers	38% / 11	3-100 (33)	4-300 (25)	1.3 : 1
Mixed producer types	24% / 7	35-1,000 (78)	12-200 (38)	2.1 : 1
Programs stratified according to seeker participation numbers (n = 28)				
	14% / 4	1-10 (6)	4-10 (7)	.9
	39% / 11	11-50 (30)	3-50 (20)	1.5 : 1
	29% / 8	51-100 (100)	5-500 (80)	1.3 : 1
	18% / 5	101-1,000 (600)	40-475 (185)	3.2 : 1

hiatus in order to re-strategize. Its leader recalls, "We were getting a couple hundred seekers per year, and one or two owners." However, taken as a group, the seeker-to-owner ratio among these programs is about 2 to 1. To look for patterns in their participation ratios, we stratified the programs according to some of their characteristics. Table 3 divides programs according to the types of service they deliver, the category of beginning farmer they serve, and their levels of participation among seekers. Every one of these subcategories of programs shares a similar participation ratio except for two of the subcategories. Those with higher ratios are those that provide a linking service and those with the highest number of seeker participants. These ratios are 6.3 to 1 and 3.2 to 1, respectively. The high ratio among programs with the most seekers is explained by including the two largest listing services, national in scope, and one matching program whose leader was unconcerned with the program's 10 to 1 ratio. This leader even framed the high proportion of seekers as basically necessary to the process of finding a match for a farm owner, explaining, "Of ten applicants, two are strong enough in expertise, experience, and desire to be part of that, that the older generation says, 'Okay, why don't you come out for a farm visit and we'll go over things?'" The high ratio among programs that actually link participants by stepping in to filter, vet, and introduce seekers and owners may reflect the presence among this group of some services that closed due to low landowner participation, and some that are ongoing but whose participation levels justify more staff time. Nevertheless, even a ratio of two seekers for every one owner could still stand to double the number of owners participating.

3.3.1. Matching: facilitation and case management services

A few programs go beyond listing and linking by providing tailored, individual assistance to facilitating relationships between owners and seekers. Coordinators offered a range of opinions on the feasibility and incremental value of providing these matching services but a majority agreed that owners and seekers can use a lot of assistance "in all the phases" of developing a farm transfer. The question program leaders face is in deciding which services and which needs can be met. States vary in their availability and types of succession planning services which are not limited to linking programs. Most states do offer some educational programming, online tools, and technical assistance for farm owners considering transfer of operations and/or real estate and other assets. The one program assessed that dedicates permanent, full-time personnel to a matching service for non-family transfers has already been singled out as a model for replication by other states or even the federal level: the Iowa State University Beginning Farmer Center AgLink, part of the extension system (Slack, 2013).

The issue raised in this assessment is not whether succession planning assistance is needed. It's rather about where such assistance is located and how it is supported. Some program leaders suggest that merely facilitating a single conversation for a landowning family considering transition is an effective service in itself. The aim of that conversation would be to "catalyze," "nudge," or "push the family to actually do something." The person facilitating "has got to be someone who can get the feelings out on the table instead of just the facts. This facilitator has to be able to bridge the emotional and financial." It is worth noting that the program leaders recommending this course of action tended to be facilitators themselves who were trained in Holistic Planned Management (https://holisticmanagement.org/). Other leaders find it necessary to provide more than a single facilitation conversation. "The facilitator is not just a one-meeting kind of thing. You have to keep with it. You have to have it evolve. You have to bring in the experts when needed." However, linking program coordinators widely viewed the high level of need for this type of case management as an impossible goal to meet within their program mandate and resources.

3.3.2. Indirect approach: educating networks of farm owners' professional advisors

An alternate approach some suggested was to target programming to, coordinate with, and refer to farm owners' professional advisors rather than owners directly. Some leaders recommend this indirect strategy as more practicable than trying to serve landowners individually. The logic is that owners without a family successor are largely unaware of their options for transfer beyond selling/renting assets on the free market. Program leaders further observe that the professional advisors whom farm owners consult regularly are often similarly unaware of an owner's options. Thus teaching owners' advisors about opportunities to transition to a next-generation seeker will get this information to many farm owners. Due to the frequency of conversation owners have with these categories of advisors, leaders listed as highest priority lenders, tax preparers, and other accountants or financial planners. Lawyers, while not in as frequent contact with farm owners, need similar exposure. A related concept is to cross-train agricultural advisors, for example extension educators, in non-family transfer opportunities. (Certainly other categories of effective advisors, for example agricultural input vendors, could be considered, although leaders of assessed programs did not mention them.) The purpose of these educational programs would be to teach owners' advisors about

transfer alternatives that can create an opportunity for a new farmer and pass along a meaningful legacy for the farm owner. Because educating advisors was a recommendation of previous research (Schwartz et al., 2004), we asked whether programs deliver educational outreach to owners' advisors about opportunities for farm transfer. Only five of the 12 programs that responded to this item offer events for advisors (17% of all programs assessed). They sometimes provide continuing education credits to the various professions. This is an area for programs to further develop, with the main finding being transition planning ideally involves a team. Linking unrelated parties is one part. Expert advice from advisors, and ongoing facilitation, are also part of the team approach.

3.4. Beginning farmer state tax credit programs: worthy of evaluation, replication, and scale-up

> "Anything you can do to make it work financially alleviates the deviation between financial and other values." - Program leader

Three states in this region offer tax credits to owners to entice them to select a qualifying beginning farmer as their operator and/or buyer, presumably instead of an established operator. Beginning farmer tax credits are longstanding in Nebraska and Iowa, and Minnesota joined them in 2018. According to numbers shared by the Nebraska and Iowa programs, over 3000 asset owners have utilized the tax credit to bring on a beginning farmer/rancher. (Nebraska's numbers go back to 2001, Iowa's to 2008). This works out to about 175 asset owners participating in the tax credit per year per state. One program leader observed, "State tax credit programs are a great incentive because there's a big chunk of money involved." They attract numerous landowners to make a long-term agreement with a qualifying beginner, or to sell to one, typically by providing a credit on state income tax.

Some push-back leaders offered on the tax incentives is that they are no substitute for good planning; they're not a starting place. Rather, family goals, or "what matters most" is the first thing for farm owners to clarify (Opheim, 2016). Potential tax credits then "become very important, but those might be step three or step eight." One program leader in a state that has a beginning farmer tax credit finds that "The tax credits get people's attention. If they have the strings attached to do planning, then they can get people moving in that direction." The programs do have strings attached - requirements of owners and beginners alike, such as taking a financial management course for college credit, attending succession trainings, and/or preparing a written, legally binding succession plan.

According to the people who run them, the state tax credits effectively precipitate an agreement with a farm seeker: "The tax credit gave the owners that extra buffer to help those beginners." Following up with its beginning farmer participants showed the Nebraska tax credit program that 85% of its graduates are still farming the same ground on which they entered the program. In other words, the owners and beginners renewed the 3-year lease that satisfied the program. Nebraska's self-evaluation found a consensus among beginning farmer/rancher participants in the tax credit of, "Had it not been for the requirement of the three-year lease, I wouldn't have been still farming today because that gave me the opportunity to get stable or to grow my operation." Program leaders also observe that owners sometimes charge lower rents, knowing they will make up the difference in tax credit.

Lastly, leaders in this assessment observe the tax credits having value for reasons beyond financial. Because these programs deliver a tangible support for beginning farmers and their importance to the state, these policies convey a widerendorsement of incoming farmers. The existence of the tax credits, and the marketing of the tax credits, reinforce the value of bringing on a new generation of farmers and ranchers. "They send a message to landowners that this is something the state encourages. And they send a message to beginners that they are valued by the state and are encouraged to get into farming. The publicity end of that is at least as important as the actual cash that changes hands."

4. Discussion

In 2015, the Center for Rural Affairs farm link program (CFRA, Nebraska) - one of the longest standing and highest profile farm link programs - was terminated. CFRA determined that the low return on staff efforts was not worth continued investment (Fraas, 2015). Its closing was one motivation for our assessment of farm link programs. Our initial exploratory research collected critiques of the land link model from CFRA staff and leaders of smaller programs that have also chosen to end or restructure their efforts (Farmer and Valliant, 2016). Their insights revealed the need for an assessment of best practices among the NCR's linking programs as a group, with respect to connecting unrelated parties to a potential transfer.

In addition to responding to a knowledge gap, this assessment speaks to a need for services we observed firsthand when, during the course of the research, five additional institutions in the NCR contacted our research group to learn the findings. Each of these was either starting their own linking service, considering it, or applying for funding to do so. They represented NGO's and land grant university extension. Interest in non-family farm transfer connections is high among organizations serving people in agriculture due to the interest they observe among farm owners and seekers. This assessment collects 30 experts' points of view to clarify their criteria for successful programs and identify alternatives worthy of wider uptake.

Program leaders describe qualified support for farm link models. These leaders value their listing services more than any other type of service they provide, especially when certain conditions are in place. They observe that online classifieds fill a need, providing a place where seekers and owners can find one another, whether specifically for a non-family transfer or toward other objectives. This general appreciation among staffers agrees with what Pillen and Hinrichs found among 17 farm link programs in the U.S. Northeast (2014), which was that not only program leaders but their clients appreciate having a listing service. Thus, even a basic service which can bring owners and seekers together, even with limited staffing, facilitation or follow up, can provide a needed resource. At the same time, the leaders in our assessment make firm suggestions for improving listing services, and they suggest alternative formats that other programs, funders, and policymakers may want to implement before creating a listing service. They also suggest complementary programmatic strategies to support farm transfers between unrelated parties - both because they find them to be effective and because they can be done on a small budget, which is particularly germane to the 63% of programs we studied that are housed in NGO's.

One consensus emerges around the need for effective, streamlined monitoring of program effectiveness. Farm seekers and farm owners need a place to go for information, and to find one another. The question becomes the role of linking programs in the overall landscape of farm succession planning assistance. The outcomes of providing such assistance are challenging to measure, given that a farm transition can take several years. These leaders estimate only seeing a median of two completed farm transfers per year from within their program participants, which may be respectable given that few linking programs are set up to provide the necessary suite of services to ensure a competed transfer (Held, 2019). One simplification is that programs in this assessment that are monitoring medium-term outcomes typically do so among seekers only.

Leaders whose programs are conducting no monitoring often expressed despair about the value of their service, whereas leaders whose programs are monitoring some medium-term metrics expressed more comfort with the effects of their work and return on investment. For this reason, our findings urge program leaders to institute a system for regularly monitoring medium-term outcomes, even if it is every few

years. We urge funders and policymakers to require this and to fund the corresponding time commitment. A recent assessment of the BFRDP makes the same recommendation (National Sustainable Agriculture Coalition, 2017), as do the other aforementioned assessments of farm link programs (Hersey and Adams, 2017; Pillen and Hinrichs, 2014). A list of suggested metrics is provided in Table 2. The indicators in Table 2 also provide needed markers of beginning farmer success (Jablonski et al., 2017). Suggesting a menu of medium-term outcomes fills a previous gap in knowledge, providing more clarity about expected, reasonable outcomes.

4.1. Best practice recommendations for connecting unrelated parties for potential farm transfer

Despite their shortcomings, the various types of farm link programs address a gap by providing one of few ways for farm owners and potential non-family successors to find each other, beyond their personal networks. At minimum, a listing service helps get the word out about farm opportunities.

Alternative or additional strategies such as online discussion forums, where seekers and owners can build their own conversations and relationships using a listserv or social media group, with minimal need for staff oversight, can add value or even, some leaders assert, do away with the need for a listing service. A second benefit of this strategy is building a farmer network in a geographic area. Another strategy is in-person mixer events. These can be presented within a conference, winter meeting, or farm tour. Or they can be stand-alone events that combine education with socializing or simply as informal networking functions.

A full—and fully funded—suite of farm succession planning assistance services should be available to all farm owners on a permanent basis, incorporating a focus on those without identified successors. Land grant extension systems are a place these program leaders recommend building permanent funding lines for farm transfer facilitators (or case managers). Financial advisors, attorneys, mediators, land use planners, appraisers, and other team members beyond what is typically available within mission-specific NGOs, educational institutions and state agencies, need to be identified and networked. Studies state the need for a substantial personnel resource to assist farm owners with farm transfers and farm seekers with gaining access to secure land tenure (Advisory Committee on Beginning Farmers and Ranchers, 2015; Michel, 2014; Slack, 2013); generally these recommend USDA-Farm Service Agency (FSA) or state departments of agriculture as the best home for a navigator or case management service. One analysis suggests a mechanism already established within USDA would allow the federal agency to channel support to states' land link programs by providing grant or matching funds (Hamilton, 2010, 544). This would resemble debt mediation efforts developed during the 1980s farm crisis, still funded in part through USDA-FSA.

Service providers who regularly consult with or educate farm owners should be trained in the basics of farm succession and land access (Schilling et al., 2015). Their roles may range from building awareness about succession among their clientele to subject expertise such as tax preparation and legal matters. Discipline-specific as well as cross-training events can increase both professional capacity and networking. Offering continuing education credits at these trainings is best practice.

Mentoring programs offer promise for fostering non-family transitions. We learned that some mentoring programs, like most farm link programs, serve farms of all types and scales. Other mentoring programs are specific to product (dairy, beef, tree fruits, vegetables, commodity grains), production method (ranching, grazing, organic), or marketing method (community-supported agriculture). These programs are more precise in their aims to support the continuation of a particular type of farm. They may start by linking an established farmer with an aspiring one, but go beyond an introduction by setting up mentor-mentee relationships or internships, apprenticeships, or employment. This strategy seems to be productive according to our interviews, and is worthy of continued and greater investment. In one such program, the state of Wisconsin Department of Workforce Development credentialed the Dairy Grazing Apprenticeship curriculum as a formal apprenticeship of the state. The U.S. Department of Labor later awarded the program the same credential. These actions provide precedent for considering agricultural production and management to be a skilled trade, deserving of certain institutional support.

Lastly, this assessment agrees with others on the necessity of economic incentives to catalyze sales and multi-year land tenure agreements between farm owners and incoming farmers/ranchers unrelated to them (Advisory Committee on Beginning Farmers and Ranchers, 2015; Calo and Petersen-Rockney, 2018; Carolan, 2018; Hamilton, 2010; Meuleners, 2013; Sorensen et al., 2018). Thus the North Central Region's state tax credit programs deserve replication by other states and/or the federal government. Hamilton's analysis lays out the tax credits' financial pros and cons: "The potential public cost is the loss of taxes, but if land is not going to come on the market for decades - or be passed through an estate with limited tax exposure - the real costs may be minimal. However, the effect could be significant if it induces more transactions, including inter-family transfers, in which new and beginning farmers (and younger landowners) have access to land" (2010, 543). Meuleners refers to these programs as "the best tool for state development goals" (2013, 236). Hundreds of landowners participate in these programs, per year, per state, surmounting a pattern of low landowner participation that plagues other program models (Girardi, 2015).

4.2. Limitations

This study encounters limitations in the gray areas around how various program functions are defined, described and executed, and that our methods relied on the program leaders' self-report. We sought to cast a wide net among programs and learn from leaders' own assessments of how the work is faring. Alternate approaches could have aimed to draw a smaller, more homogeneous sample and to verify some of the information leaders provided (for example numbers of seeker and owner participants). We also could have adjusted the sampling scheme by including the federal program, CRP-TIP, and its listing website CRP-TIP Net, whose aim is to financially incentivize an owner to collaborate with a new farmer. We did not incorporate CRP-TIP after learning that Indiana, the main focus of the larger project (Farmer and Valliant, 2016), has had no participants in CRP-TIP (in contrast to other states, for example Minnesota, which has 243 CRP-TIP projects) (USDA-FSA, 2018). It appears that an assessment of CRP-TIP is missing from the literature and is warranted, especially because policy reviews find potential in the infrastructure CRP-TIP can potentially provide for assisting with farm/ranch transfer (Advisory Committee on Beginning Farmers and Ranchers, 2015) and the 2018 Farm Bill increased funding to CRP-TIP (National Sustainable Agriculture Coalition, 2018).

5. Conclusion

The thirty farm link programs we have assessed deliver various services in the effort to perpetuate not only agricultural land uses and rural communities, but also to foster a future of innovation and diversity for U.S. agriculture by supporting new farmer entry. In collecting their experiences and observations, we suggest priorities for funders and policymakers to support these outcomes. This study agrees with previous findings about the value of institutions making long-term investments in farm linking, especially when monitoring of medium-term outcomes is in place. At the same time, program leaders have high appreciation for alternative formats whose uptake we recommend. The findings suggest that next best investments will replicate beginning farmer state tax credits, require and fund monitoring of medium-term

metrics, and support some specific programmatic elements: permanent support for farm transfer educators, education of networks of farm owners' advisors, and spaces for online discussion among seekers and owners.

Valuable follow-on research will assess the effects and the quality of implementation of some policy mechanisms in this area, specifically CRP-TIP and the state-level beginning farmer tax credits, including the feasibility of these tax credits' uptake by more states or the federal level. Broader inquiries and actions going forward will expand on our focus on how policy and investment can assist in fostering successful farm transfers between unrelated parties. This would bring a cascade of positive effects, among them farm owners experiencing a secure and meaningful legacy, and next generation farmers experiencing a secure and meaningful future.

Competing interests statement

The authors declare no conflict of interest.

Data statement

Personally identifiable interview transcripts provided most of the data for this study, thus these remain confidential in line with Indiana University's IRB protocol 1610832420.

Funding source

This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2016-38640-25381 through the North Central Region SARE program under project number LNC16-377. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.

Acknowledgements

The authors wish to acknowledge the leaders of programs who participated in this assessment for generously sharing their experience and insights. A team of national advisors helped to guide this research; particular thanks to Mary Fund, Wyatt Fraas, and Maria Marshall. Many thanks as well to Robert Bauer, Karla Bahm, Steve Ferguson, and David Baker for reviewing elements of the manuscript in draft form.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.landusepol.2019.05.004.

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