



## Programmatic and Personal Factors influencing Quality of Life of farmers with Disabilities

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## Background

- Farmers and ranchers experience a high rate of injury and disability due to agricultural accidents (Deboy, et al., 2008).
- Since they are such an integral part of our economy, the United States Department of Agriculture (USDA) National Institute on Food and Agricultural (NIFA) has the AgrAbility project to help them cope with disabilities and resulting functional limitations,
- One of the most important goals of AgrAbility is to enhance and protect the quality of life of farmers with disabilities and to enable them to continue their engagement in production agriculture.
- State AgrAbility teams provide education, information, networking and services including on-site face-to-face or virtual visits in the workplace and home so as to observe and understand the individual and families' goals and needs.



## Background

- Quality of Life is generally defined in the literature as a multidimensional construct of one's overall physical, emotional, social, financial and spiritual wellbeing (Cummins, 1997; Windon, Jepsen, & Scheer, 2016).
- The quality of life of farmers and ranchers with disabilities is closely related to their ability to live and work independently.
- Independent Living and Working (ILW) refers to an agricultural producer's ability to regain control, independence and hope in their farm tasks. ILW is embedded in self-determination theory which has a crucial impact on the farmers's personal development and well-being (Ryan, 2009).
- Several quantitative studies have been conducted to assess the influence of AgrAbility Project activities on participants.



## Purpose

- The purpose of this study was to take the next step and conduct in-depth qualitative phone interviews with farmers and ranchers with disabilities, who were part of the AgrAbility project, to explore and understand the key programmatic as well as personal factors that contributed to significant changes in quantitative pre-post scores in Quality of Life (QOL) levels and Independent Living and Working (ILW) levels.



## Method

- Clients' change scores from pretest to posttest on QOL and ILW scales were calculated by computing posttest-minus-pretest difference scores on both the QOL and ILW measures. These change scores were then rank ordered from high to low.
- A final pool of 26 clients included 13 who improved the most plus 13 who improved the least was drawn. Our goal was to interview 10 high scores and compare their answers to those of 10 low scorers.
- Researchers first contacted the state project, who in turn contacted the clients, to share information about the study and ask for their permission. Once clients consented, then the researchers contacted them.
- Phone interviews were conducted with nine past clients to the project who either had the highest or lowest combined change score on the Quality of Life and Independent Living and Working (ILW) measures (posttest minus pretest).



## Method

- We encountered serious hurdles especially with interviewing low scorers. Problems included high rates of deceased, hospice, and otherwise unreachable clients plus lack of cooperation from a number of state projects.
- After overcoming enormous difficulties, we successfully interviewed a total of nine clients which included seven clients who improved the most plus two who improved the least from a pool drawn from 12 states (AR, CO, KS, ME, MO, NC, NE, OK, PA, TX, WI, and WV).
- Clients in the study were from four different states with one state having the majority of the high scorers.
- A semi-structured interview guide with imbedded probes was utilized to facilitate discussion during the interview.

## Method

- ▶ Clients had been with the AgrAbility Project for average of eight months between 2013 through 2017 (Range = 4-23 months, median = 8 months).
- ▶ Current age ranged from 46 to 85 years (Mean = 64.6; Median = 65.5)
- ▶ The primary disabilities reported by clients included
  - ▶ leg amputation above the knee (2); leg amputation below the knee (1); back injury (1); joint injury (1); multiple sclerosis (1); peripheral neuropathies (1); arthritis (2).
  - ▶ Secondary injuries that people reported included COPD, arthritis, joint injury, and orthopedic injury.
  - ▶ Tertiary disabilities reported by clients included arthritis, diabetes, and back injury.
  - ▶ Majority of farmers were engaged in field crops or grains (5) followed by livestock (2), dairy (1), and vegetables (1).

<b>Participant Characteristics</b>	<b>N</b>
<b>Current age</b>	
Mean	64.6 years
Median	65.5 years
Minimum	46 years
Maximum	85 years
<b>Sex</b>	
Male	7
Female	2
<b>Ethnicity/race:</b>	
White	5
<b>Income</b>	
\$60,001-\$120,000	5
<b>Primary disability</b>	
leg amp above knee	2
leg amp below knee	1
back injury	1
joint injury	1
multiple sclerosis	1
peripheral neuropathies	1
Arthritis	2



## Data Analysis

- Grounded theory approach (Glaser and Strauss, 1967) was used to collect and analyze data simultaneously using the constant comparative method until themes reached a point of saturation. Key themes emerging from the data and resulting inferences have been presented here.



## Discussion

Clients who improved the most had

1. Perceived Social Support from project
2. Received Assistive Technology and other supports from Vocational Rehabilitation or other agencies
3. Had high Intrinsic Mastery Motivation
4. High level of Family Support

- Clients who improved the least

## Clients who improved the most

### Perceived Social Support from project

- Positive experiences with project staff. Staff visited their farm to do a comprehensive assessment, listened to them, which made them feel understood
- Staff discussed and/or observed daily tasks that they perform on their farm and provided information and recommendations such as those related to assistive technology modifications or safety, to make tasks easier and safer for them.
- Regular communication from project staff and development of a trusting relationship
- Regular follow up and timely services from AgrAbility as well as VR, without delays

*"...the project staff member has **always been in my corner** and I really appreciated that they **cared about the people**...They understood what I was going through... they'd call me every so often to make sure I was doing okay. The staff member is one of a kind. I just wish they had more people like them."*

57-year-old male with leg amputation above the knee

## Clients who improved the most

### Perceived Social Support from project

- Clients feel supported because AgrAbility staff normalize the functional limitations that clients have. Clients may feel less isolated and more connected with other farmers and ranchers with disabilities.
- Reduced stress and improved mental health of clients.
- Perceived social supports has been moderately linked to improved management of chronic health conditions (Gallant, 2003).
- Clients report a positive impact on their physical health, independent functioning as well as behavioral health (Fetsch & Collins, 2018).
- It is well known that farming is not a vocation, but a way of life. When clients are able to accomplish tasks and continue farming, in spite of their limitations, it gives them a sense of meaning and engagement in life and makes them feel empowered.

## Clients who improved the most

### Assistive Technology, Supports from Vocational Rehabilitation

- Clients who improved the most received significant tangible benefits from the project related to assistive technology devices, recommendations, modifications, new equipment or equipment modifications needed to make farm work easier and safer for them.
- Farmers reported receiving anywhere from \$1000 - \$45,000+ in funding from vocational rehabilitation or other agencies.
- Received equipment and modifications like ATV or UTV, bobcat, tractor steps, lifts, implements either through vocational rehabilitation agency, other agencies or self-funding.
- Past research shows that receiving assistive technology reduces the dependence of individual's with disabilities on others for personal care; and significantly increases their quality of life (Freedman, Agree, Martin & Corman, 2006).

## Clients who improved the most

### Client's Intrinsic Mastery Motivation

- Clients who improved the most reported having high intrinsic motivation to proactively initiate or implement assistive technology recommendations from AgrAbility, compared to those that improved the least.
- Mastery motivation refers to an individual's persistent attempts to overcome obstacles or limitations (Morgan, Jozsa & Liao, 2017).
- Farmers and ranchers who have high intrinsic mastery motivation are more likely to seek and use available supports and resources like AgrAbility, which would increase the likelihood of them being able to continue farming and living and working independently on the farm.
- Fetsch, Leathers, & Morgan (2020) identified mastery motivation as a reason why some AgrAbility clients may benefit more from the program than others.

*"...the other thing is that I did fairly recently and you start to **realize your own strength**. I have a loader tractor that has the steps. That was my first tractor **I put steps on**. But then I also have purchased a little skid steer loader and I used it a lot for lifting things that normally I would have lifted myself..."*

52 year old male with joint injuries

## Clients who improved the most

### Family Support

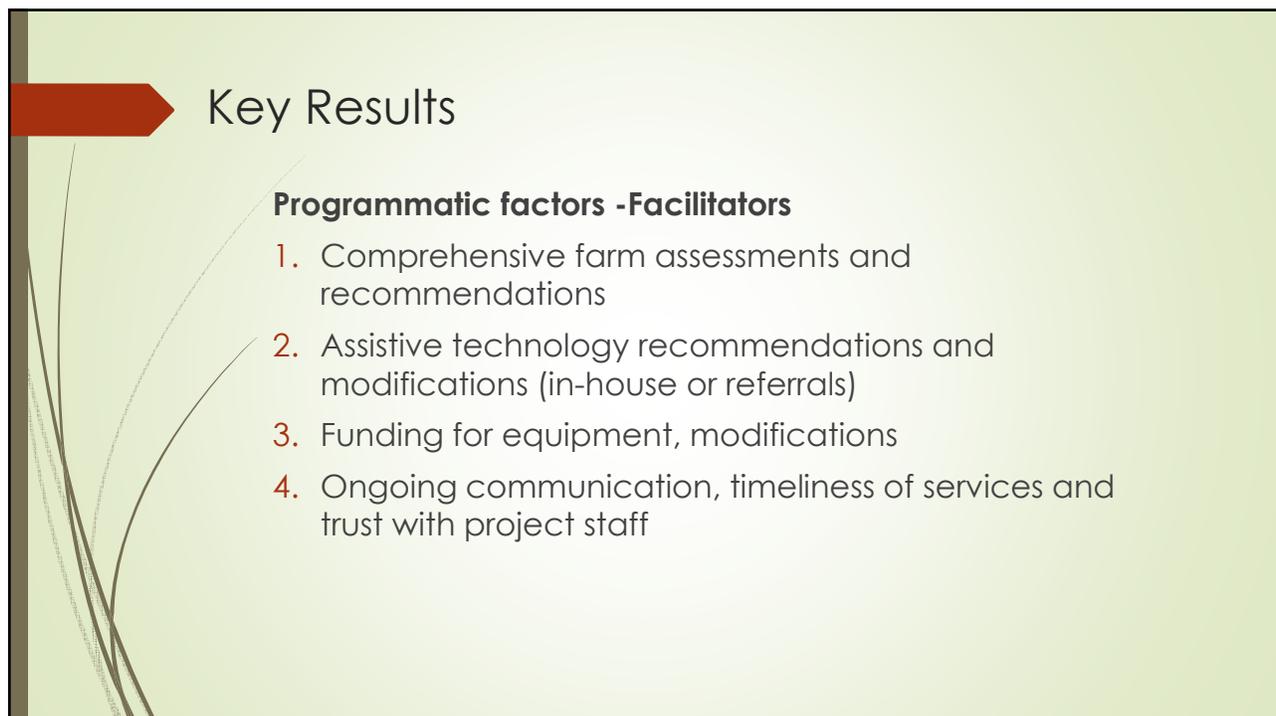
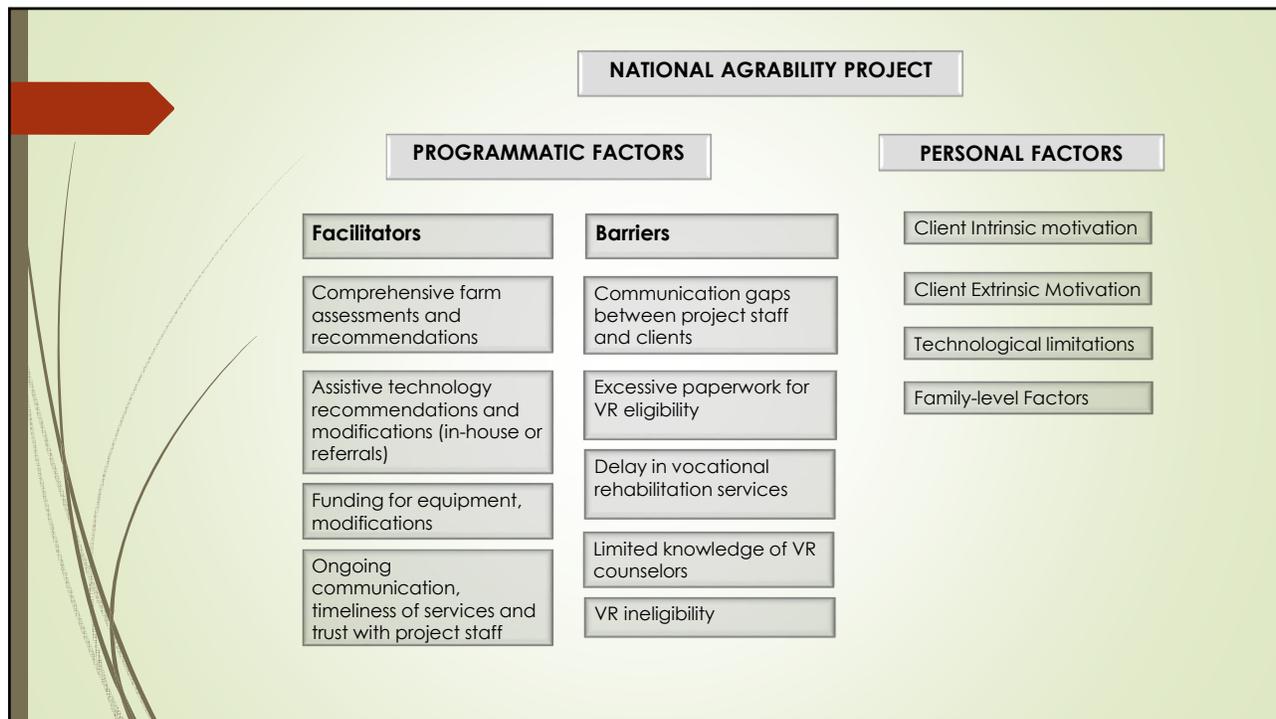
- Clients who improved the most on QOL and ILW indicated having perceived social support from family members to participate in AgrAbility and to adopt new changes as needed.
- Families showed their support by encouraging clients to adopt or continue safe, efficient practices for e.g. by reminding them about the importance of doing things safely to prevent secondary injuries.
- Conversely, when family factors were not as conducive to participation in AgrAbility, farmers did not continue with the project. For example, when another member of the family had a health issue that needed a lot of attention and support, clients were less likely to have the energy, time and resources to feel engaged with the AgrAbility project.

*"...we have 100 percent change. Sometimes **my husband would have to remind me** to not do things the old way. So my **family was a very integral** part in making changes. AgrAbility is a big part. AgrAbility would probably be half of the reason why because they just simply recommended things being different. The other half would be split evenly between myself and my family reminding me to do things the right. I had my family's support to say, hey, don't do it that way...why don't you use the cultivating machine instead of pulling those weeds by hand? So I'd have to stop and go get the machine. It took me some time to adjust."*

40-year-old female client with arthritis

## Clients who improved the least

- Clients who improved the least on QOL and ILW measures likely experienced barriers to participation and engagement
  - Communication gaps between clients and project staff or vocational rehabilitation,
  - Vocational Rehabilitation (VR)
    - Excessive paperwork
    - VR ineligibility
    - Delay in obtaining VR services
    - VR counselors lack of knowledge about farming and farm tasks,
  - Technological - older and had a difficult time adapting to new technology.
  - Lack of Specialized Expertise in Sensory Impairment (Vision)



## Key Results

### Programmatic factors -Facilitators

#### 1. Comprehensive Farm Assessments and Recommendations

Clients were very happy with the fact that the AgrAbility staff took the time to **listen to them**, heard their needs related to farming, **discussed and/or observed the daily tasks** that they performed and provided information and recommendations such as those related to assistive technology modifications o make tasks **easier and safer**.

*"they did an assessment and then helped me with strategies.... we went over things that would help me on the farm... And that's what we went off of to get the hopper openers and the tarp and then getting me the combine cab..."*

A 41-year-old client with Multiple Sclerosis

## Key Results

### Programmatic factors -Facilitators

#### 2. Assistive Technology Recommendations and Modifications

Clients who improved the most received significant tangible benefits from the project related to assistive technology devices, recommendations, modifications, new equipment or equipment modifications needed to make farm work easier and safer for them.

*"...there was information that I got from them about **exercises** and things like, **think before you lift**, look at ways to minimize injuries... one of the other things we did was started using **gloves** that running impact tools and stuff like that would protect your hands."*

52-year-old male with joint injuries

## Key Results

### Programmatic factors –Facilitators

#### 3. Funding for Equipment, Modifications

- Clients who improved the most reported receiving anywhere from \$1000 - \$45,000+ in funding
- Either through VR, other agencies or self-funding.
- Received equipment and modifications like ATV, UTV, bobcat, tractor steps, lifts, implements

*"Some of those changes we provided funding for and we did on our own as per recommendations. Some of the other changes were assisted funding through VR....I believe it was like (some amount >\$40,000) for farm equipment that was AT to help us keep in operation without further causing damage to my body.... that's including the **ATV** and there were some other **tractor attachments and implements**....there was a tractor implement specifically for **weed cultivation**. There was also another tractor piece that was to help with **harvesting** so that I didn't have to bend over and pick and pull as much."*

40-year-old female client with arthritis

## Key Results

### Programmatic factors -Facilitators

#### 4. Ongoing Communication, timeliness of Services and trust

Clients who improved the most talked about the *frequent communication and check-ins from project staff. Building a relationship of trust leads to increased engagement and satisfaction of farmers.*

*"...the AgrAbility Project probably is one of the **best things** as far as keeping farmers on the farm and keep them active....A lot of it is from the AgrAbility people, the **project people themselves**. They have done some different things, and you are always invited to come to it if they have a speaker come talk about stuff or anything like that..."*

*... they were very easy to work with. A lot of it was one-on-one, person-to-person. A lot of it was phone calls. A lot of it was actually emails to stay in touch...probably **at least once a month to start with, and then they still check up on you even after years**...and have done a really excellent job with it."*

52-year-old male with joint injuries



## Key Results

### **Programmatic factors – barriers**

1. Communication Gaps between Project Staff and Clients
2. Excessive Paperwork for VR Eligibility
3. Delay in VR Services
4. Limited Farm Knowledge of VR Counselors
5. VR Ineligibility
6. Lack of Specialized Expertise in Sensory Impairment (Vision)



## Key Results

### **Client Personal Factors**

- Client Intrinsic Motivation, Skills
- Client Extrinsic Motivation
- Technological Limitations
- Family-Level Factors



## Limitations

- Findings are based on a nonrandom, purposive, and relatively small sample of past AgrAbility clients within a particular time frame.
- For confidentiality reasons, the researchers first contacted the state project staff who in turn contacted the clients. This posed some barriers in participation. Researchers found it challenging to get the project staff to make the initial phone calls to clients for study participation. Even when the staff called, they had a difficult time reaching the clients due to many reasons including the lapse in time since their project exit.
- Sample included more high scorers than low scorers. As expected, clients with high scores were more likely to respond to researchers' phone calls and participate in the study. This was probably because these clients had a more positive experience with the project and were therefore more likely to share their experience. Low scoring clients either did not respond to project staff and researcher's calls or declined to participate in the study.
- Future research can address these limitations by exploring clients' experiences and outcomes from the project using a larger sample. Findings from this small qualitative study need to be further built and validated using quantitative survey measures with larger samples of AgrAbility clients.



## Implications

- Staff-client relationship: AgrAbility staff make changes in the way they connect and work well with clients.
- Family engagement: Discuss and adopt practices to involve all the major stakeholders of each client's family to identify needs and goals.
- Relationship with VR: Work with VR to respond in a timely fashion and meet clients' needs for assistive technology.
- Avoid the pitfalls identified by low scorers.
- Enhance their programmatic factors, avoid the barriers, and look for and encourage those personal factors that enhance farmers' and ranchers QOL and ILW levels.