Exploring equipment sharing models in the rural Appalachian landscape of southern West Virginia

Final report for ONE16-273

Project Type: Partnership
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Projected End Date: 04/15/2017
Grant Recipient: Downstream Strategies
Region: Northeast
State: West Virginia
Project Leader:

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Downstream Strategies

Project Information

Summary:

This project was made possible thanks to a NE SARE Equipment Sharing Partnership Grant that was received by Downstream Strategies in 2016. The purpose of this project was to explore farm equipment sharing models and to run a pilot program and assess feasibility of farm equipment sharing in the Greenbrier Valley for integration into future projects.

A 2014 survey of small farms in a four county region of southern West Virginia found that 12 out of 22 respondents said that access to large equipment was an expansion constraint that either limited them a lot or somewhat limited their ability to expand production (New Appalachian Farm and Research Center Producer Survey, 2014) . There are some equipment resources available through the Greenbrier Valley Conservation District but these are larger infrastructure equipment pieces for restoring grassland or implements that are too large for small farms to easily access..

In order to address this issue, this project was developed to explore sourcing rental equipment from the area farms. This project also borrowed from lessons learned and some of the techniques and resources used by past equipment sharing projects (for example: annual enrollment fees, equipment workshops, purchasing decisions, transportation options) and combine them with creative solutions for linking rental equipment to farms in the same regions or counties, along with a plan for maintenance and transportation.

Four Greenbrier Valley farms and the Downstream Strategies(DS) team developed a farmer handbook & plan for a pilot a farm equipment sharing program. The team developed this plan and framework based on participant feedback to ensuring the safety, efficacy, and fair distribution of shared resources among participants that includes strategies for acquiring new implements. Around the same time as this project pilot, an area non-profit received significant funding to develop a farm training and resource center, Sprouting Farms. This project shares many of the

same goals as the original equipment sharing project and has been able to dedicate a staff person to continue the equipment sharing project in the future.

The NE SARE Pilot Project was implemented Summer 2016, however, due to late start and some severe flooding in the region there was limited implementation, Equipment Sharing has continued in 2017 growing season and is currently on-going with eight farmers on the sharing list.

Introduction:

Scale and product appropriate equipment, such as bed shapers, can drastically decrease the production costs and time for small farms by cutting field prep time required for shaping beds, from day's work by hand to a 30 minute activity with the correct implement. Scale-appropriate equipment can also help producers with seeding, weeding, and more efficient and safe harvest, which can increase productivity and food safety. For example the Quick Cut Greens Harvester, or small scale corn harvesters, can reduce hand harvesting time significantly and safely collect harvested product to minimize contamination from soil and hands. These resources can dramatically affect the sustainability of a small farm and gives them the capacity to reach larger buyers, explore food safety certifications, and improve the profitability of their farm. Even with the potential costs associated with renting the equipment, the time and money commitment is far less than the capital expenditure of purchasing, storing and maintaining equipment and brings these resources within reach of many small farms.

Much work has been done across the country on equipment sharing and rental in the past. Many extension services offer resources for shared ownership and many companies and projects own equipment that they lease out to farms. This project built from these different models to create a combined leasing/sharing resource model that will work for small farms and that will work in such a rural context.

One shared-ownership/cooperative model runs out of the Intervale center in VT. They have a shared equipment cooperative among their participants that is an interesting way to share the ownership and risk. The cooperative model could be effective here, however, their program is only available to on-site farms and transportation and scheduling are much less complicated.

There are larger MachineryLink projects and companies across the country that are focused on large-scale farms in the Midwest that share and lease equipment on a chain model. This model does show that it is possible to share and maintain equipment but due to the vast differences in scale and equipment needs, does not provide a workable model for this project area.

The Maine Farmland Trust and Main Organic Farmers and Gardeners Association have a new Shared-use Equipment Project that is similar to this project's goals and that this project will be partially modeled after. This project does not include equipment from participating farmers but instead stores them all at one location.

An identified challenge was that farms require the same type or same equipment at or around the same time of year. This presents a challenge for sourcing the equipment from participating farmers, however, through planning and scheduling, this program will identify what is needed and determine if the project would require separate equipment purchases to supplement the existing equipment resources in the Greenbrier Valley. As part of the planning process, it was decided that not all equipment is worth sharing due to difficulty transporting, investment in equipment, and potential for breakdown. This project will not focus on heavy groundbreaking or clearing equipment. Additionally, due to cost and scheduling this grant program did not look at sharing tractors or hay equipment.

Project Objectives:

(Objective 1) establish a network/partnership between existing farms to determine the most effective model for this region;

- This objective has been completed. Four farms participated in the planning process and are part of the Resource Sharing Network currently. Model was developed with their input and with additional research. Most of these farms are still currently participating in the equipment Sharing project.

(Objective 2) implement the program in the 2016 growing season and modify framework as needed to adjust to unforeseen challenges;

- This objective has been completed. In 2016 A coordinator was hired and he maintained the list of available equipment and serves to connect farms to other farms with needed equipment. Significant challenges were identified with insurance liability issues and him hauling equipment. Additionally, due to project delays in hiring and some unforeseen disasters around the WV flooding the project missed the key timeframe of ground preparation and set up for the project.
- In 2017 the equipment sharing project was integrated into an existing non-profit which provides general liability & equipment sharing coverage through the farm policy that was not available when the project was run as an informal association. The Framework has been modified where the Sprouting Farms staff person in charge of equipment is now responsible for the transport of equipment through the project
- An additional challenge & modification is the need for stringent cleaning rules between farms to prevent bio-contamination. The Equipment manager at Sprouting Farms now also includes the responsibility for cleaning and bleaching equipment as needed.

(Objective 3) record and track the costs and benefits of the project to participating farms. Objective three will make sure that the available resources make a difference for the partner farms and that the project creates value;

- In the Fall Survey, only 4 producers participated limiting the scope of the data. However, the producers that did respond indicated that the process developed for listing their equipment to share was simple. Additionally, a producer that used the equipment indicated that the process to schedule and use equipment was easy and did not run into any problems. Producers did indicate that they were interested in bulk purchasing with other producers. There was some concern from producers who who didn't have their own equipment to share that they were not being reciprocal enough and that they might not feel right about it. One producer indicated they were not fully aware of the resources available.
- In a Spring 2017 survey to identify interest in this year, out of 6 responses, 3 indicated that the use of equipment they do not currently have on farm would equal $200-$800 of time/labor for them on their farms. 2 indicated over $800 and 1 $50-100.
- Most producers were interested in an equipment cooperative model but were all equally as interested in rent/lease options, a lending library model, and informal sharing. There was some concern about equipment liability, and the issue of needing equipment at the same time of year was brought up as well. Four

producers were interested in using the program as is without any questions and one was interested in more information, one declined to participate since their equipment is hay and livestock focused.

(Objective 4) create publicly available resources for equipment sharing in other Appalachian regions.

- Partially completed. Handbook and Final Model/Lessons learned will be shared.

Cooperators

- Luke Bair

  Redwing Farm

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  Sinks Grove,, WV 24976

- Kent Gilkerson

  Sunset Berry Farm

  Rt 1 Box 336A
  Alderson, WV 24910

- Natan Harel

  Standing Stone Farm

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  Alderson, WV 24910

- Dirk McCormick

  Byrnside Branch Farm

  170 BYRNSIDE BRANCH ROAD
  UNION,, WV 24983

Research

Materials and methods:

This project had several key roles and players. Downstream Strategies (DS) provided guidance, grant management and reporting, and was in charge of hiring the part-time equipment sharing manager. The Core Partner Farms (CPF) were involved with the planning process in February and March 2016. The Pilot Partner Farms(PPF) were involved in the 2016 pilot program and we able to participate. These farms had access before the project is opened up to the general population.

Timeline of Project activities:

February 17, 2016	Award notice
March 3, 2016	Started work
March 10, 2016	First producer meeting
March 23, 2016	Producer survey
March 28, 2016	Job description released, begin interviews
March 31, 2016	Second producer meeting
May 4, 2016	Coordinator hired
May 5, 2016	Third producer meeting
May 16, 2016	Project officially launched – Farms were invited to sign up.
May 27, 2016	Resource email
June 6, 2016	Resource email
June 23, 2016	*Flooding and state of emergency, Equipment Sharing project paused during clean up and recovery period.*
July 13, 2106	Resource email
July 25, 2016	Resource email
August 2, 2016	Resource email
August 1, 2016	Delivered box blade
August 16, 2016	Resource email
August 26, 2016	Delivered bush hog, picked up and returned box blade.
	Resource email
	Survey Sent out
September 2016	Producer Surveys collected
February 2017	Presentation at WV Small Farms Conference.
February 2017	2017 Producer interest surveys sent out
March 2017	Hired 2017 Equipment Manager (Partnership with Sprouting Farms
March-April 2017	Outreach to producers, maintaining/fixing donated equipment, updates to current model
April 2017	2017 list of producers and equipment finalized and sent out regularly to all participating producers.

Producer Meetings March-May 2016

The project team was organized during the grant application process and four farms participated in the planning process once DS received the grant funding. The project team met 3 times over the course of planning March- May 2016) to develop these ideas and plans outlined below. Farms were reimbursed for time spent and

travel. These meetings covered topics including interest, needed equipment, concerns, brainstorming on efficient scheduling and sharing. The results were written into the Handbook developed and shared.

Research on existing resources March-May 2016

The project team worked with local farms to develop a list of needed equipment and what equipment was available to share. This was done through a producer survey and through researching available equipment in the area. The project team identified the equipment that is available for rental from the local conservation district.

The top equipment needs from the producer survey were as follows:

- Transplanter
- one row green bean harvester
- sweet corn picker
- Portable fencing, portable watering stations
- Planting and harvesting
- washing salad greens

Hired Coordinator May 2016

The project paid an Equipment Sharing Coordinator who's role was to coordinate farmers, advertise what equipment is available, and be main contact point. The coordinator also had responsibility for helping farms facilitate transportation for shared equipment.

Participating Farms are required to hold Farm Liability Insurance and this project recommends that participating farms contact their insurance providers to ensure that their policies cover their equipment and/or borrowed equipment (more info below).

September 2016 - closed out 2016 season

Producer survey was distributed and sent out, manager made sure all equipment was back home.

February 12, 2017

Project partner farm Brynside Branch Farm, Dirk McCormick & DS staff Annie Stroud presented the equipment sharing project at the West Virginia Small Farms Conference. Participants were interested in replicating some or all of the project in their respective regions. Insurance and finding a host organization willing to help cover those costs was a key subject of discussion during the question and answer period. All attendees were given copies of the handbook.

February - March 2017 - Prep for 2017 season

Equipment Sharing project was picked up by the Sprouting Farms non-profit, manager sent out producer survey/interest form in February. New manager hired and started in March. This position focused on maintaining and fixing donated equipment, transporting equipment, and signing up new producers. The NESARE

funded position ended in April but Sprouting Farms has hired the manager on as a part-time resource manager to continue the project.

Research results and discussion:

Program Model

Below is an overview of the program model developed by the planning team before the project started. Actual activities varied as indicated as the project developed.

MODEL

To be successful, this program required compatibility between member farms on a variety of levels. These include: skill level and ability to safely operate equipment, types of production and equipment types needed, terrain of member farms, personalities, and geographic area, due to the potential distances needed to transport.

SIGN UP/INTAKE

The first step for participation in the Small Farm Equipment Share program is for potential producers should fill out the Equipment Sharing Survey, this Survey was hosted on Google Forms for easy access by team members and Equipment Manager

Once potential producers have responded the team and/or Equipment Share manager reviewed their needs and interests and develop a list of equipment farms indicated they could share.

Next, each farm was be contacted by the team and/or Manager to confirm interest, officially sign them up, and begin the process of confirming insurance and collecting equipment sheets and schedules. The manager will work with farms to identify the equipment most useful to share based on identified needs from the equipment sharing survey.

***Note that this process sometimes took place informally and not through the online survey. Many producers still prefer telephone communication*

EQUIPMENT SHARING/SCHEDULING

Once equipment sheets, schedules have been collected, the manager emailed the list of available implements to all members on a regular schedule

Each piece of equipment has a calendar where farms can sign up to use the equipment. Owners blocked out their estimated usage times first before other producers are allowed to sign up for each piece.

Other farms who want to use a piece of equipment can sign up for specific days on a calendar. Initially farms can sign up at a meeting at the beginning of the season, after that, they will call coordinator to inquire about the availability.

Coordinator kept track and remind people of when they’re set for using and returning equipment. Additionally, there was an email and contact list with all project farms. Coordinator also helped farms schedule based on timing and location.

COST, MAINTENANCE, AND LIABILITY

There are no rental costs associated with the program, however, to help cover the

costs of repair or maintenance, each time farms use a piece of equipment, they will pay into the maintenance fund for that piece of equipment. Cost breakdown as follows:

- $20 – small equipment , low maintenance
- $30 – middle range equipment, regular maintenance
- $50 – equipment with high wear/tear and maintenance costs, expensive equipment

Farms are required to hold Farm Liability Insurance and this project recommends that participating farms contact their insurance providers to check if their policies cover their equipment and/or borrowed equipment.

**A major setback for this program was the liability of equipment DURING transport. Due to the fact that the NE SARE manager was an independent contractor, that position was not covered by the recipients insurance policies. Because the farms involved are not an independent cooperative they were not able to purchase a policy to cover his time. This is a major barrier for duplication unless a producer cooperative or other structure is developed, or unless a partner organization agrees to manage he project like what has happened here with the Sprouting Farms project.

TRANSPORTATION

Transportation was arranged by the Manager among the farms. The Manager will work with member farms and others with hauling equipment/trailers to arrange for the safe transport of equipment to borrowing farms. This may include assisting directly with the transportation of the equipment depending on the Manager's availability.

MAINTENANCE

The Manager is responsible for working with each farm to ensure that equipment is in operating order before transporting. The Manager is required to travel to each farm to inspect equipment, check off on any maintenance performed, and do any repair/upkeep necessary to keep it running after each use.

- Regular maintenance: Regular maintenance is responsibility of the equipment user – ie. Oil, cleaning after use, etc.
- For all Repairs: Farm using the equipment should contact the owner and the coordinator. Repairs will be paid for/partially paid for from the equipment maintenance fund for each piece of equipment (* up until fund for that equipment is emptied)
    - *Small Repairs:* Depending on the owner's wishes, borrowing farms may make small repairs and be reimbursed up to $50.00
    - *Large repairs:* Depending on the owner's wishes, if an issue is identified, the Manager will work with the farm owner, and DS to facilitate and pay for repairs.

Breakdown cause: for large repairs the Manager will work to identify the cause of breakdown.

Additional maintenance/safety actions that were added for 2017 include a thorough cleaning of the equipment between farms to ensure there is no bio-contamination and to preserve any organic or other certifications at participating farms. No issues had been identified but this is a preventative measure taken.

BAD WEATHER/EMERGENCIES

In case of an emergency or bad weather preventing the use of equipment during the scheduled time, the following steps will be taken:

- Work with the next scheduled farm(s) and farm who's turn has passed to reschedule/compromise
- If this is unsuccessful, then the equipment will be moved to the farm who is scheduled to use it and the original farm may reschedule for available days.

RECORDS

The Manager kept track of all of the scheduling/equipment profile information as well as equipment logbook and maintenance records. Additionally the manager worked with DS staff to conduct grant bookkeeping.

EXITING THE PROGRAM.

Farmers can extract themselves and their equipment from the program at any time. If they wish to remove equipment from rotation they can contact the Manager and request that it be taken off.

If equipment is already scheduled, the farmer should contact the Manager and the scheduled farms in advance so the scheduled farmer can make adequate preparations. Preferably with a 2-week courtesy notice.

If a farmer pulls equipment from the program, they can choose to receive the equipment maintenance fees at the time that they leave, or can choose to leave it in the project account to cover unexpected costs on future equipment. This can be discussed as a group when/if this occurs.

FUTURE OPPORTUNITIES

The project also indicated that if multiple farms had similar needs that the manager can help farms coordinate to receive bulk buying savings. As of Spring 2017 this has not occurred yet though it has been advertised

Additionally, If many farmers see a need for a specific piece of equipment, DS and the Coordinator can help coordinate the purchase and shared agreements.

OTHER CONSIDERATIONS

A list of other things to consider that producer brought up during the project period included included:

- Forming a cooperative
- Merging with another organization such as MFM or Sprouting Farms
- Reaching out the WVCA to help coordinate
- Replacement fund
- Depreciation
- Financing or leasing payments

- “Trial use” Things farmers would buy for themselves if they were able to rent or try one out first. (Ie Mulch Puller)
- Bulk Purchasing for the supplies needed for the equipment (potential for project to purchase bulk and sell at cost?)
- Rental Model - working with Conservation District
- Labor is something else that everyone needs/wants – future option?

Development of Tools (forms, tracking etc.)

SURVEY/INTAKE TOOLS

The project utilized google forms to host the intake survey, collect basic equipment needs and assets, and to collect contact information of interested farms.

COMMUNICATION AND INFORMATION

An email and contact list with all project farms was developed and hosted on Google Drive in an spreadsheet. This master contact list of each participating farm and team member, their email, phone, and cell, and an emergency contact that will be shared with all members in case of emergency.

Additionally, all project forms, files and logbook information was to be stored online on google drive, and also at the manger’s files as needed.

PROJECT FORMS AND DOCUMENTS

- Participation Agreement/Contract: This document outlines and defines the scope of services provided by the project, outlines farm responsibilities, fees, repairs, scheduling and insurance requirements and liability. All farms participating are required to sign this contract.
- Equipment Profile Sheet: This includes equipment type, name, Farm/owner contact information, equipment specifications, condition, value, power/equipment needed to operate and/or move, storage requirements, supplies needed for operation, repair preferences, maintenance fee level and any other notes.
- Preventative Maintenance Schedule: Each piece of equipment has the option to develop a preventative maintenance schedule. These are kept with the profile sheet
- Use and Maintenance Log: Each piece of equipment has a use/maintenance log that the coordinator will fill out after each use with the farms.
- Handbook: A handbook was developed with information about the model, background, details on project requirements, and contact information for manager and project team.

Research conclusions:

The project planning process went smoothly and input from the farmers helped shape the way the project was implemented. 2-4 farmers were at each planning meeting as expected. Producer survey outreach took longer than anticipated but

was completed by Mid April of 2016. The model was finalized in April. Hiring a part-time manager was a larger challenge than expected, eventually the project was able to find someone to start in May 2016. Manager and the core partner farms were able to start relationship and the equipment for the 2016 sharing project was prepared.

Unfortunately, this project was unable to completely test out the model due to some severe set backs. On June 23, 2016 Southern West Virginia experienced Major flooding and state of emergency and the Equipment Sharing project paused during he clean up and recovery period. The Manager was able to start up again July 13th, 2016 however, most of the equipment needs & availability were focused around early season bed preparation and planting equipment. There were two successful sharing of bushhogs and a front angle blade later in the season.

Dirk McCormick & Annie Stroud presented the equipment sharing model at the West Virginia Small Farms Conference in February. Participants at the session were interested in duplicating parts of the project in their home areas and were provided with the handbook created through the NE SARE project.

The project is going to run again this year (supported by the Sprouting Farms non-profit) and the team hopes to collect better data and usage. Factors helping the project this year include the manager's position start in March, and the absence of a natural disaster. Farms are still interested in the idea and we hoe that smoother implementation will increase access for the farms that were unable to use this resource last year.

Participation Summary

8 Farmers participating in research

Education & Outreach Activities and Participation Summary

1 Curricula, factsheets or educational tools

1 Published press articles, newsletters

1 Webinars / talks / presentations

PARTICIPATION SUMMARY:

20 Farmers

3 Number of agricultural educator or service providers reached through education and outreach activities

Education/outreach description:

The project team developed an equipment sharing handout & handbook. Both of these were distributed to farmers in the region and at the West Virginia Small Farms Conference.

There was a press release about the project published spring of 2016 announcing the availability of the equipment sharing resources.

A project farm and project lead presented a session at the West Virginia Small

Farms Conference in February of 2017. Farmers, service providers and agricultural educators were in attendance.

Learning Outcomes

20 Farmers reported changes in knowledge, attitudes, skills and/or awareness as a result of their participation

Key areas in which farmers reported changes in knowledge, attitude, skills and/or awareness:

About how to safely/legally share equipment between farms. About insurance and risk liabilities that are important to consider when sharing equipment off of your own farm.

Project Outcomes

8 Farmers changed or adopted a practice

1 Grant applied for that built upon this project

2 Grants received that built upon this project

$1,500,000.00 Dollar amount of grants received that built upon this project

10 New working collaborations

Project outcomes:

At present, there are 8 farmers on the equipment share list.

Impacts

What worked well

Other conversations

While some farmers directly responded to the list, The coordinator did find farms occasionally requested equipment that was not on the list directly. The coordinator would then send an email out to participating farms to see if anyone had acquired one or was willing to share one that had not been previously listed.

Research on existing resources

The project team worked with local farms to develop a list of needed equipment and what equipment was available to share. Additionally the project team identified the equipment that is available for rental from the local conservation district.

The top equipment needs were as follows:

- Transplanter
- one row green bean harvester
- sweet corn picker
- Portable fencing, portable watering stations

- Planting and harvesting
- washing salad greens

Producer Input:

The project did have good input from farmers but the delay in launching the project meant that most of the available equipment was no longer needed by the time it was officially launched.

Producers that used the equipment were thankful and agreed to the model set up and fee. One had to drop out because they do not carry farm insurance.

Project Model & Resources

A system for managing the sharing was developed. Includes Fees, maintenance, recordkeeping, liability, etc. Resources including Equipment Profile sheets, Preventative maintenance schedules, user and maintenance logs, and a farm handbook have been developed.

Assessment of Project Approach and Areas of Further Study:

The approach was sound however timing and delays in funding & and filling key positions limited the effectiveness of this particular project. For this year, the manager was hired earlier and outreach began in March instead of mid-April.

I believe we partially answered the questions we set out to study. We determined that there is interest in this project and came up with a model to try and operate it. However, due to lack of data on usage for the reasons outlined below, the final effectiveness of this particular model has not been proven.

Challenge #1 Timing

The project team had hoped to complete producer meetings in March and April and hire a coordinator in March in order to make equipment available for the spring season. However, several delays pushed back the timeline. First, a delay following the award pushed the first producer meeting to mid-March which set the timeline back, Second, identifying and hiring a coordinator took longer than expected and additionally set the timeline back.

By the time the equipment sharing list was ready and launched (first inventory email May 27th) most of the producers had already finished prepping their fields and did not need to use most of the available equipment.

The Flooding disaster also dramatically impacted the project by halting the project until recover was completed

CHALLENGE #2 INSURANCE

A large challenge identified was the insurance requirements for those hauling other's equipment. Because of the status of the manager as an independent contractor. His auto insurance did not cover the equipment or trailer he was using to transport it since he was being paid. Additionally, because he was not an employee of the host organization, their policies were unable to cover him while hauling. Clearing up the insurance liabilities took a lot of time and effort on the part of the manager himself with his insurance, with the project staff, and with local insurance agents who helped identify the problem. To address this issue, a local non-

profit Sprouting Farms, has agreed to take on the project and provide insurance through their programming for equipment transportation.

Additional work needed

The team will continue to work on this project through Sprouting Farms and looks to see if forming a formal equipment sharing cooperative would be a good way to increase ownership over the project. There are a few things farmers were interested in, collaborative buying of new equipment, bulk buying etc. that will need to be explored more fully.

Small farms in any rural areas would likely benefit from exploring this type of collaboration.

Information Products

- Equipment Sharing Handbook (Book/Handbook)