



EXPANDING STEWARDSHIP: AGRICULTURE AS CONSERVATION

An analysis of agriculture in
Washtenaw County prepared for
The Stewardship Network

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Table of Contents

Abstract	1
Acronym List	2
Chapter 1: Introduction	3
Project Purpose	6
Methodology.....	7
Overview.....	9
Chapter 2: Background	11
A Brief History of Modern Agriculture.....	13
Underserved Farmers.....	14
Environmental Impacts of Industrial Agriculture.....	15
Conservation Agriculture	17
Agriculture in Michigan and Washtenaw County.....	21
Chapter 3: The Nature of the Agricultural Community in Washtenaw County	27
The Farmer Spectrum.....	30
Defining Conservation Agriculture.....	32
Small-Scale Diversified Farmers.....	36
Large-Scale Commodity Farmers.....	37
Underserved Farming Community.....	39
Division in the Farming Community	40
Trust	42
Conclusion.....	44
Chapter 4: Motivations and Barriers to Participating in Conservation Agriculture	47
Farmer Motivations.....	50

Barriers to Conservation Agriculture	57
Conclusion.....	61
Chapter 5: Farmer Resource Organizations	63
Strategies	66
Key Farmer Resource Organizations.....	67
1. Michigan State University Extension	68
2. Natural Resources Conservation Service, Conservation District, and Michigan Agriculture Environmental Assurance Program.....	70
3. Crop Production Services	73
4. Michigan Farm Bureau.....	74
5. Michigan Food and Farming Systems.....	76
6. Ann Arbor Farmers Market and Argus Farm Stop	79
7. Local Food Summit.....	82
8. Farmer Social (a.k.a. Farmer Beer Night).....	84
Barriers to Accessing Government Resources.....	86
Barriers Specific To Underserved Farmers	88
The FRO Network Map.....	89
Conclusion.....	92
Chapter 6: Farmer Networking Organizations.....	97
Green Lands Blue Waters	100
Practical Farmers of Iowa.....	102
Conclusion.....	105
Chapter 7: Gap Analysis	107
Recommendations.....	115
Chapter 8: Conclusion and Recommendations.....	117
Recommendations.....	122
Strategic Considerations	122
Organizational Considerations	125
Challenges.....	125
Opportunities	126
Initial Steps for The Stewardship Network.....	127
Conclusion.....	130
Acknowledgements	131

Appendix	132
Appendix A: Interview Guide for Farmers	133
Appendix B: Interview Guide for Farmer Resource Organizations	135
Appendix C: Interview Guide for Farmer Networking Organizations	137
Appendix D: Farmer Resource Organizations that Serve Washtenaw County	139
Appendix E: Farmer Networking Organizations	145
Appendix F: Census of Agriculture Highlights for Washtenaw County, 2012	146
Appendix G: Census of Agriculture Demographic Highlights for Michigan, 2012	147
Appendix H: Census of Agriculture Highlights for Black Farmers, 2012	148
References	14

Abstract

Rapid changes in the agriculture industry over the last century due to the innovations of the Green Revolution have led to a host of environmental impacts from soil degradation to compromised water quality. Farmers, researchers, and industry professionals are developing and implementing solutions to these environmental impacts locally, nationally, and globally, though substantial and complex barriers exist that limit their adoption at higher rates. The Stewardship Network (TSN), a conservation-focused nonprofit organization based in Ann Arbor, Michigan, is exploring the possibility of incorporating agricultural lands and stakeholders into its network-building work. This study identifies key considerations for TSN as it considers expanding its mission into agriculture. The social and professional organization of the farming community in Washtenaw County and the available resources for conservation agriculture were assessed through a series of semi-structured interviews with farmers and farmer resource organizations, as well as observations at events and meetings.

The farming community in Washtenaw County can be divided along a spectrum from small-scale diversified to large-scale commodity farmers. Underserved farmers largely operate small-scale diversified farms and participate in that community, though they face particular needs and barriers due to a legacy of discrimination. Farmers in Washtenaw County expressed a variety of definitions and perspectives on conservation agriculture, which can also be organized along a spectrum from perceiving conservation as intrinsic to farming to perceiving it as an addition to farming. The farmers on either end of these spectra operate mostly independently, both socially and professionally. These divisions are reiterated at the institutional level, which has implications for resource accessibility. Over 50 farmer resource organizations support farmers in Washtenaw County at the intersection of agriculture and conservation. A network analysis revealed that these organizations can be divided into three communities based on the primary recipients of their resources. Despite the broad array of resources, gaps persist between farmer needs and available resources. These gaps reveal several opportunities for TSN including connecting farmers to research and helping farmers share equipment and labor. Insights from organizations similar to TSN indicate the importance of trust building, the challenge of working with farmers as an environmental organization, and the need to honor existing work in the field. It is important for The Stewardship Network to consider strategic dimensions associated with moving into agriculture, including audience and impact; and organizational dimensions such as staffing and capacity.

Acronym List

Acronym	Organization
CPS	Crop Production Service
CRFS	Center for Regional Food Systems
CSP	Conservation Stewardship Program
DBCFSN	Detroit Black Community Food Security Network
EQIP	Environmental Quality Incentives Program
FFA	Future Farmers of America
FNO	Farmer Networking Organization
FRO	Farmer Resource Organization
FSA	Farm Service Agency
GLBW	Green Lands Blue Waters
HRWC	Huron River Watershed Council
LFS	Local Food Summit
MAEAP	Michigan Agriculture Environmental Assurance Progra
MCGA	Michigan Corn Growers Association
MDARD	Michigan Department of Agriculture
MEC	Michigan Environmental Council
MIFFS	Michigan Food and Farming Systems
MIFMA	Michigan Farmers Market Association
MOFFA	Michigan Organic Food and Farm Alliance
MSU	Michigan State University
NRCS	Natural Resource Conservation Service
NSAC	National Sustainable Agriculture Coalition
PFI	Practical Farmers of Iowa
SARE	Sustainable Agriculture Research and Education
SBAM	Small Business Association of Michigan
SEMPA	Southeast Michigan Producers Association
TSN	The Stewardship Network



1

A scenic view of a river with yellow autumn leaves on the banks and floating in the water. The leaves are vibrant yellow and green, contrasting with the dark water. The text "INTRODUCTION" is overlaid in white, bold, sans-serif font across the middle of the image.

INTRODUCTION

1

The way food is grown has undergone massive changes in the past century. Agriculture has shifted drastically: from many diverse, manual and animal labor-oriented operations to far fewer large, highly mechanized farms growing just one or two crops. While producing significantly higher yields per acre, the practices associated with industrial-scale agriculture have led to detrimental impacts on land and water resources. Maintaining current agricultural practices in light of our depleted natural resource base will prove untenable.

A wide array of individuals and organizations are working to develop and implement solutions to restore land and water health on the local, national, and international level (Carr & Wilkinson, 2005). These solutions are part of the sustainable agriculture movement. According to the Food and Agriculture Organization of the United Nations (FAO), sustainable agriculture is:

The management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development... conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.

The Stewardship Network (TSN, 2018) is an organization focused on protecting land and water in Michigan and the Great Lakes region through building collaborative networks. Based in Ann Arbor, Michigan, TSN is interested in supporting the innovative, problem-solving work of the sustainable agriculture movement by applying its successful conservation efforts to the agricultural sector.

TSN's mission is to "connect, equip, and mobilize people and organizations to care for land and water in their communities" (TSN, 2018). Its networking model, which it has replicated throughout the Great Lakes region and into New England, involves connecting local and regional stewardship initiatives and facilitating a transdisciplinary approach to solving environmental problems. TSN involves community members, stakeholders, research institutions, and other organizations in these networks, or clusters, to increase communication and resource-sharing.

Project Purpose

This project sought to answer the question “What might The Stewardship Network consider in determining how it could expand the scope of its work to include agricultural lands and stakeholders?” This question was explored by examining the agricultural community in Washtenaw County, Michigan, and opportunities for conservation agriculture (see Figure 1.1). We use conservation agriculture as a synonym for sustainable agriculture--a broad term that incorporates a variety of approaches and practices that seek to mitigate the negative environmental impacts of agriculture and improve ecosystem outcomes.



Figure 1.1: Washtenaw County, Michigan. Source: Mapsof.net.

The purpose of this project was to help TSN determine what role it might play in creating opportunities for conservation agriculture in Michigan, and whether its collaborative efforts might be beneficial in the agricultural sector. We explored six questions:

- What is the nature of the agricultural community in Washtenaw County?
- What are the motivations and barriers farmers experience in participating in conservation agriculture?
- What is the nature of the Black farming community in Washtenaw County, and what are their particular needs?
- What organizations are already working at the intersection between agriculture and conservation and what resources and services do they provide?
- What perspective and insights can organizations similar to The Stewardship Network provide?
- Given the farmer needs and resources available, where needs are still not being met?

This report answers these questions and provides specific recommendations to TSN for what it should consider in deciding whether and how it might move forward to engage with agricultural lands and stakeholders.

Methodology

This qualitative research study draws from semi-structured interviews with farmers, farmer resource organizations (FROs), and farmer networking organizations (FNOs), observations and conversations at farmer-oriented events and conferences, and a review of the relevant literature. Interviewees were selected through snowball sampling--we depended on existing connections between our interviewees to connect with others. Each group (i.e. farmers, FROs, and FNOs) was interviewed using a different interview guide. Those interview guides can be found in Appendix A, B, and C.

Farmers

The farmers interviewed have operations in Washtenaw County, or largely sell to customers in Washtenaw County and have knowledge and influence in the area. One farmer interviewed operates just west of Washtenaw County, in Jackson County. All farmers run their farm as a business, not as a nonprofit, though nonprofit farms are considered part of the farming community as well. We prioritized speaking to primary decision makers, though we spoke to one non-primary operator who we thought could provide useful perspective. We spoke to 10 farmers who represent a mix of crop and livestock farmers, and some who do both. Five are small-scale diversified farmers. Three are large-scale commodity or livestock farmers. We interviewed two farmers of color; one is a small-scale farmer, and one is a livestock farmer. All farmers interviewed were either already practicing or expressed some interest in practicing conservation agriculture. We were also interested in understanding the challenges specific to underserved farmers in the region. Though the USDA defines underserved farmers as farmers of color and female farmers, our study focused on Black farmers.

Farmer Resource Organizations

Nineteen interviews were conducted with representatives from farmer resource organizations (FROs) that serve farmers in Washtenaw County. These organizations are public, private, and nonprofit, and serve at the county or regional level, the state level, and the federal level. Of the vast array of FROs working in the food system and with farmers, we chose to interview only those that both directly serve farmers and provide resources for practicing conservation agriculture, even if conservation agriculture is not central to their mission. A complete list of FROs mentioned by interviewees is included in Appendix D. It is important to note that many of the FRO practitioners interviewed are also farmers themselves, so their interviews reflect their organization's perspective and their experience as a farmer. However, the questions asked were aimed primarily at understanding how their organizations support farmers.

Network Map

Using interviews with farmers and FRO representatives and information found on organization websites, we developed a network map detailing the connections between institutions that serve farmers in conservation

agriculture. We created a matrix table using binary values to indicate connections between organizations. Two organizations were considered connected if they exhibited at least one of the following relationships:

- High level funding and sponsorship relationships.
- Shared board and staff leadership, such as staff, steering committee, or board overlap.
- Market-based connections.
- Event co-hosting and collaboration.
- Leadership as a keynote speaker at another organization's event.
- Shared service on a committee.
- Oversight and regulation and simple attendance at another organization's event were not considered connections.

This matrix was then used to create a network map using the *igraph* package in R statistical software. A cluster analysis was performed to distinguish between groups within the the network that shared the most connections.

Farmer Networking Organizations

Two farmer networking organizations (FNOs) were selected for analysis. Of the 18 FNOs discovered through our research (see Appendix C), we determined that Practical Farmers of Iowa (PFI) and Green Lands Blue Waters (GLBW) in Minnesota would have the most relevant and useful insights for The Stewardship Network. This assessment was based on the organizations' Midwestern regional scope and their comparable but different strategies for supporting conservation agriculture through network-building. It is worth noting that Michigan Food and Farming Systems (MIFFS), a non-profit organization that networks beginning and underserved farmers, also stood out as a relevant FNO for The Stewardship Network. However, we determined that MIFFS's close ties to our study region made it more useful to interview as an FRO rather than an FNO.

A total of 31 interviews were recorded both in person and on the phone, transcribed, and coded with NVivo (a qualitative analysis software). Using an inductive approach, we developed themes and hypotheses based on observed patterns. We then used these observations and findings to assess answers to the project's central questions.

Farmer-Oriented Conferences and Events

To provide further context for our recorded interviews, we attended two Farmer Beer Night Events, two Local Food Summit conferences, the Michigan Farm Bureau Annual Meeting, a Washtenaw County Farm Bureau Board meeting, and the MIFFS Annual Conference. At these events, we observed the structures and interactions of community members and spoke with attendees about their experiences in order to better understand the ecosystem of organizations and relationships that operate in the Washtenaw County agriculture community.

A literature review provided a foundation for developing our research questions, interview protocols, and context for our findings.

Overview

This report provides background and context for the research, discusses and analyzes project findings, and provides recommendations to The Stewardship Network.

Chapter 2 provides context for The Stewardship Network's interest in conservation agriculture by describing the history and current state of modern agriculture, including the particular history of underserved farmers (women farmers and farmers of color) and the environmental impacts of the post-Green Revolution agricultural system. The chapter also outlines alternatives and solutions for addressing these environmental impacts that are currently being pursued. The chapter concludes with an overview of agriculture in Michigan and Washtenaw County.

Chapters 3-6 provide an in-depth review of our findings, and their implications for The Stewardship Network. Chapter 3 discusses the agricultural sector in Washtenaw County, including the spectrum of farmers growing in the area and their varying approaches to conservation agriculture. It reviews the divisions in the agricultural community and the importance of trust and relationships.

Chapter 4 describes the factors that motivate farmers to participate in conservation agriculture and the different barriers faced by small-scale diversified and large-scale commodity farmers in adopting conservation agriculture practices. Chapter 5 provides an overview of the types of resources available to farmers to help them overcome the barriers discussed in Chapter 4, and provides an in-depth analysis of thirteen of the most important farmer resource organizations (FROs) operating in our study region and the strategies they employ to support farmers. We examine the complex connections between FROs and how they affect resource accessibility for farmers.

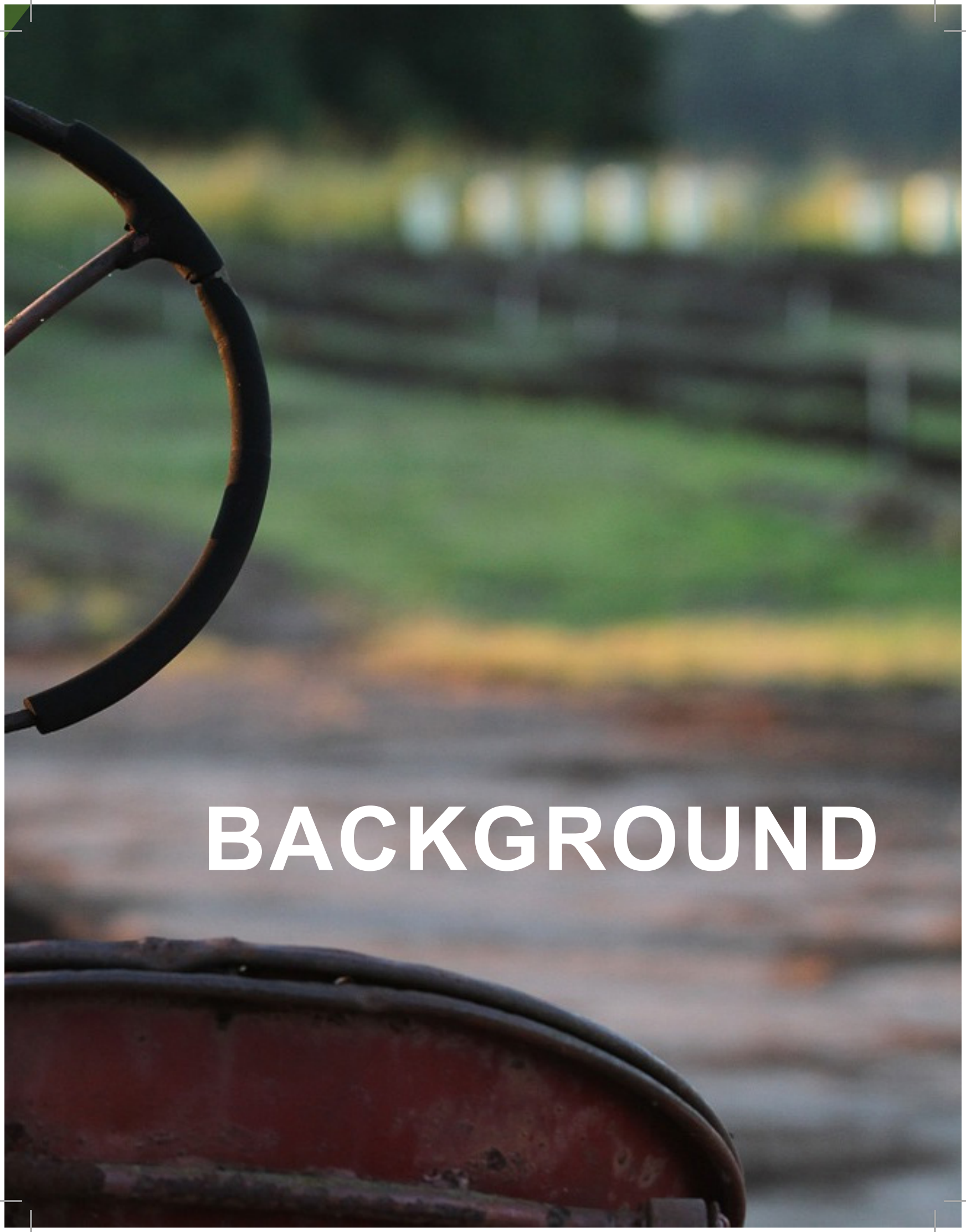
Chapter 6 discusses the organizational structure and objectives of two farmer networking organizations (FNOs), Practical Farmers of Iowa (PFI) and Green Lands Blue Waters (GLBW), and their key insights for The Stewardship Network as it considers its next steps. In particular, this chapter highlights the challenges encountered by these organizations, the strategies they employ, and the advice they offered for TSN.

Chapter 7 synthesizes what farmers need in order to participate in conservation agriculture, the resources available to meet those needs, and the gaps that still remain between farmer needs and resources. It notes gaps related to available conservation-specific research and avenues for dissemination; land, labor and equipment access and affordability; financial assistance; and conservation agriculture knowledge and expertise.

Chapter 8 synthesizes our findings, and provides recommendations for what The Stewardship Network should consider in determining if and how it should expand its scope to include agricultural lands and stakeholders. It details strategic and organizational considerations that warrant attention, and highlights challenges and opportunities that TSN should recognize. It also identifies key initial steps for TSN, should it decide to venture into the realm of conservation agriculture.

2





BACKGROUND

2

To provide background and context for this project, this chapter discusses the history of modern agriculture, the social and environmental impacts of industrial agriculture, and the various conservation agriculture practices that seek to address these issues. It explains the social, political, and economic dynamics of the past century that have created today's industrial agriculture model. It describes the ways scientists, farmers, and practitioners are responding to the environmental impacts of current agricultural practices, and concludes with a discussion of the current state of agriculture in Michigan, and in particular, Washtenaw County.

A Brief History of Modern Agriculture

Over the last century, agriculture has experienced rapid change. Growing global markets and new agricultural technologies have increased farmer adoption of industrial agriculture practices (Manning, 2003). Industrial agriculture, or highly mechanized and intensified commercial food production, is characterized by the intense use of agrochemicals such as pesticides, herbicides, and fertilizers, mechanization through tractor and combine use, and single crop and livestock production. The suite of innovation that made this style of agriculture possible is known as the Green Revolution (Green Revolution, 2018).

Now traded on the global marketplace, commodity prices are dependent on international production. Low market prices pressure farmers to maintain high crop yields by investing heavily in commodity crop specialization, agrochemical use, and other expensive tools and technologies. High yields keep global commodity prices low, requiring farmers to adopt the next new technology, whether machinery, chemicals, or computers, that promises to increase yields once again (Röling, 2009). Farmers incur increasing levels of debt to pay for this new technology, further incentivizing the pursuit of farm expansion and high yields (Bell, 2010; Vasavi, 2012). The combination of the social, political, and economic pressures of this cycle of investment is known as the technological treadmill (Röling, 2009). Only those that can keep up can stay in business.

The United States government's history of crop subsidies and policy incentives for maximizing land use and production have been part of the push toward our current industrial agriculture system. Crop subsidies were

originally established to keep food cheap, keep farmers on their land, and diversify the crop base during the Great Depression of the 1930s. While crop subsidies have succeeded in keeping food cheap, despite that intention, they have also succeeded in homogenizing and consolidating the agricultural landscape (Cronon, 2003). Monoculture farms of primarily corn, soy, and wheat have replaced diversified cropping systems, and small-scale farms have been mostly replaced by thousand-acre farms, the only profitable size in this system.

By understanding the ways in which the agricultural system reinforces itself, The Stewardship Network will be better prepared to understand why farmers have the needs that they do, and what interventions could be most effective.

Underserved Farmers

The history of oppression and discrimination in the United States has greatly impacted racial and gender diversity within the farming community. Before White settlers colonized Michigan, Indigenous groups including the Anishenabek, Iroquois, Odawa, and Potawatomi maintained the land with fire regimes and cultivated modest plots of corn, beans, peas, squash, and pumpkins (Schaetzl, n.d.). As White settlement spread, the federal government managed the forced removal of Native Americans from their land. Today, most indigenous farms are very small or have been lost altogether (Williams & Holt-Gimenez, 2017). This history of federally supported oppression has been tied to the degradation and homogenization of the landscape, as well as the homogenization of the farming community (Holleman, 2016).

Farmers in the United States are 98.5 percent White and a majority are over 65 years old and male (Census of Agriculture, 2012). The United States Department of Agriculture (USDA) defines underserved farmers as “a group whose members have been subjected to racial, ethnic or gender prejudice because of their identity as members of the group without regard to their individual qualities,” specifically farmers of color and women (USDA, 2016). Other groups name immigrants and veterans as underserved, as well (MIFFS, 2018). Beginning and new farmers are also underrepresented, as they face additional challenges to both entry into the field and maintaining their operations that are distinct from those that have inherited capital and agricultural knowledge from previous generations. Notably, these groups often overlap; many beginning farmers are also farmers of color or women.

Black farmers in particular have seen significant land dispossession and reduction in their numbers. Black farmers owned 15 million acres of farmland in 1920, but only owned 3.6 million acres in 2012 (Banks, 1986; USDA Black Farmers, 2012). Currently, of the 2.2 million farms in the United States, only 1.5% are owned and operated by Black farmers (Cowan & Feder, 2013). Much of this loss of farmland by Black farmers is due to discriminatory practices within federal agricultural agencies. Already at a social and financial disadvantage due to the previous 100 years of slavery and oppression (Gilbert, Sharp, & Sindy Fezin, 2002), the USDA had a practice of forcing Black farmers to wait longer for loan approval than White farmers, or denying their loan applications outright (Cowan & Feder, 2013). Since the ability to acquire a loan could make or break a farming operation, many Black farmers faced foreclosure and financial ruin. From 1920 to 1975, nearly 15

million acres of Black-owned land were lost.

In 1997, 400 black farmers won a class-action lawsuit, *Pigford v. Glickman*, alleging the USDA had denied them loans based on racial discrimination. Native American and Latinx farmers were awarded similar settlements in later cases (Thomas, 2015). The National Black Farmers Association continues to advocate for equal access to credit and all USDA programs (NBFA, 2018).

Land accessibility is one of the greatest barriers to entry for Black farmers and other underserved groups, due to cost (Williams & Holt-Gimenez, 2017). For women, historical patriarchal norms of marriage and land ownership have made women-owned farmland a rarity. Even today, women often cede land ownership and primary farm operator status to their husbands with marriage. (Williams & Holt-Gimenez, 2017). The women that do operate their own farms often face exclusion and isolation from social networks and federal support opportunities (Hassanein, 1997).

Creating a sustainable agricultural system requires supporting underserved and beginning farmers. Both groups have been disconnected from their traditional agricultural knowledge systems and have limited access to land and social capital within the agricultural sector. Often, these farmers bring a diversity of socio-cultural approaches to agriculture, such as traditional indigenous knowledge and community agriculture practices, that are underrepresented and under-supported by federal programs. This knowledge is an important component of the suite of solutions needed to address the environmental impacts of industrial agriculture. By addressing the barriers faced by underserved and beginning farmers, we are addressing larger systemic issues of industrial agriculture that are socially and environmentally problematic.

Environmental Impacts of Industrial Agriculture

The increased quantity of food produced per acre achieved by industrial agriculture has largely been achieved by replacing human and animal labor with fossil fuel-driven machinery and synthetic inputs (Bruce and Som Castellano, 2016). This shift has created substantial environmental impacts. Heavy tilling, fertilizers, and pesticides have created impacts that are varied, complex, and interconnected, and include ecosystem disruption, human health concerns, and environmental degradation at the farm and landscape scale.

Impacts of Heavy Tilling

Regular, intensive tilling with heavy machinery such as tractors and combines leads to soil compaction and erosion, which degrades topsoil and decreases soil organic matter levels. Soil organic matter is important for nutrient cycling, maintaining soil structure, water holding capacity, and preventing erosion and nutrient loss (Matson et al., 1997). With decreased soil organic matter, soil sediment erodes into waterways, damaging reservoirs and dams and reducing net primary productivity in water bodies (MacDonald and Reitmeier, 2017). These depleted, eroded soils exhibit decreased fertility, requiring that they be replenished with more synthetic nutrient inputs. Those nutrient inputs, generally nitrogen and phosphorus, are derived industrially--nitrogen is produced through a synthetic process and phosphorus is mined. Additionally, industrial agriculture

is a carbon-intensive endeavor. The fossil-fuel intensive processes required to produce synthetic nutrients, combined with the fossil fuel consumption of the heavy machinery make industrial farming a significant contributor to climate change (Matson et al., 1997; MacDonald and Reitmeier, 2017).

Impacts of Fertilizers

The liberal application of nitrogen and phosphorous causes excess nutrients to run off in eroding soils (Manning, 2003). Runoff disrupts saltwater and freshwater ecosystems by causing eutrophication, an overgrowth of plants and algae that block light for other photosynthesizing plants (MacDonald and Reitmeier, 2017). Eutrophication leads to hypoxia or anoxia--low oxygen conditions which can be deadly to fish and shellfish (Carpenter, 1998). These low oxygen conditions impact both the fish species themselves as well as human food sources and economic activity--there is currently a hypoxic “dead zone” in the Gulf of Mexico that affects 85% of the Gulf’s estuaries (Manning, 2004). Eutrophication in freshwater systems can result in harmful algal blooms, which can be dangerous to both humans and wildlife. A particularly serious harmful algal bloom in Lake Erie in the summer of 2014 caused the city of Toledo, Ohio to be unable to use its tap water for three days due to toxicity (Ho, 2015). Nitrate presence in major rivers in the United States has been climbing since the 1900s, due in part to the increase in fertilizer use (Matson, 1997). The US Environmental Protection Agency (EPA) found that 48% of river miles considered “impaired” in the United States were impaired due to agricultural pollution (EPA, 2002; Stuart et al., 2014).

Other impacts of fertilizer runoff in waterways includes nutrient-loading in wetlands, which can impact plant communities and disrupt ecosystem function. Excessive nutrients have been linked to the aggressive colonization of invasive species such as *Phragmites australis* and *Typha x glauca*, which respond to excess nutrients with rapid growth, allowing them to out compete native wetland plants (Hansson et al., 2005; Woo and Sedler, 2002).

The environmental impacts of excess nitrogen go beyond water contamination. Nitrous oxide (N₂O), a greenhouse gas with a global warming potential almost 300 times that of carbon dioxide, is a byproduct of the nitrogen cycle in soil. According to the EPA, agricultural soil management is the single biggest contributor of N₂O to the atmosphere in the United States (EPA, 2002).

Humans have been increasing the amount of biologically available nitrogen through synthetic production at such a rate that we are more than doubling the amount of biologically available nitrogen on Earth (Manning, 2004). Almost twice as much nitrogen now flows to the world’s oceans via surface water than did in 1860 (Howarth, 2008). According to science writer Richard Manning, “Human beings now contribute more nitrogen to the global cycle than do all natural terrestrial sources. This scale threatens consequences equal to those caused by human disruption of the carbon cycle” (Manning, 2004).

Impacts of Pesticides

Research shows that the use of fertilizers can actually increase pathogen and pest populations in an agricultural system, which creates the need for more pesticides (Matson, 1997). About five million tons of pesticide are

applied annually to crops worldwide (Matson, 1997). Like fertilizers, pesticides do not remain within the boundaries of the farm on which they were applied. Pesticides and herbicides spread to non-agricultural systems by aerial drift or leaching into soils and groundwater, and can impact ecosystem function and human health. Some pesticides like DDT can persist for decades, and can cause increased risk of cancer, while others are hormone mimics and immunosuppressants which carry other public health concerns (Matson, 1997). As pesticides enter non-agricultural ecosystems, they can cause disruptions such as acidification, eutrophication, shifts in species diversity, effects on predator and parasite systems, impacts on diversity and abundance of species, interrupted food webs and ecosystem function (Matson, 1997).

Landscape-Level Disruption

Industrialization has also led to the conversion of biologically diverse habitats into monocultures, or fields of a singular species (largely corn, wheat, and soy in the United States) (2016 Agricultural Statistics Annual). This homogenization leads to habitat fragmentation, reducing food, water, and nesting resources for wildlife, beneficial insects, and pollinators. Agricultural land conversion destroys ecosystems such as forests, an important sink for atmospheric carbon, and wetlands, which provide flood water control and water quality functions (Matson, 1997).

Monocultures also tend to have higher insect herbivory than more diverse cropping systems, due to the immense availability of a favored food source and limited, if any, alternative habitat for potential predators of the pest insect. Biodiversity facilitates a more intact food web by providing more opportunities for predators to control insects that threaten crop plants with herbivory or viruses (Matson, 1997).

Conservation Agriculture

Though the structure of the agriculture system reinforces industrial agriculture and its environmental impacts, forward thinking farmers, practitioners, and scientists in all sectors recognize the impacts and are working to provide solutions that better-manage industrial agriculture processes and provide alternatives to the conventional system. A majority of these solutions come in the form of on-farm practices and principles that seek to minimize the environmental impact of farming on the environment. In some cases, these practices may conserve or even restore natural resources and ecological interactions both on and off the farm. Common conservation agriculture practices include:

- No till, cover cropping, and mulching
- Perennial agriculture
- Vegetated buffer strips and the 4Rs Nutrient Stewardship Program
- Polycultures and crop rotation
- Biodynamic farming and permaculture

No Till, Cover Cropping, and Mulching

Reduced tillage, or no till, include practices that involve minimal or zero soil disturbance, in which crop residues are left on the surface of the soil at the end of the season. Cover-cropping is the process of planting

legumes, such as clover, soy, alfalfa, and vetch in the fall or spring, after crop harvest or before seeding the fields. This practice helps to build soil organic matter, increase soil nitrogen levels, and cover the soil to prevent erosion by wind and water. While cover-cropping provides a cover that can then be incorporated into the soil as nutrient-rich fertilizer, mulching is the application of wood chips or straw to the soil surface that is left unincorporated. This plant material helps to retain soil moisture, suppress weeds, and provide habitat to beneficial insects.

Perennial Agriculture

Perennial agriculture is a system of planting crops that have multi-year life vegetative and reproductive cycles that continue post-harvest, such as fruit and nut producing trees and perennial vegetables like asparagus. In contrast, annual cropping systems, the majority of modern agriculture, utilize yearly tilling, reseeding, and crop residue removal which affect soil nutrient cycling and soil structure. Perennial systems reduce soil disturbance and subsequent soil organic matter loss while providing a harvestable crop to the farmer (Asbjornsen et al., 2014; Hobbs, Sayre, & Gupta, 2008).

Vegetated Buffer Strips and the 4Rs Nutrient Stewardship Program

Some conservation agriculture practices focus on mitigating environmental impacts of conventional agriculture by reducing fertilizer application rates or providing water filtration and soil retention services. Such practices include vegetated buffer strips and the 4R Nutrient Stewardship Program. Grass and forest buffer strips on the edge of farm fields and along riparian zones, known as vegetated buffer strips (VBS), dilute, incorporate, or concentrate soil particles and excess nutrients in and around plant tissues (Osborne & Kovacic, 1993). The 4R Nutrient Stewardship Certification Program promotes a set of practices that reduce fertilizer application on farm fields. Farmers match nutrient applications rates with crop nutrient demands by applying fertilizer using the 4R concept -- “right fertilizer source at the right rate, at the right time, and in the right place” (Nutrient Stewardship, 2017). This fertilizer application rate program can be used in conjunction with other conservation practices, such as no till and cover-cropping.

Polycultures and Crop Rotation

Today, especially for larger operations, planting a single crop per field in the same field year after year is a common practice. Intercropping and crop rotations are alternative cropping strategies that create opportunities for on-farm spatial and temporal variability to assist in pest and disease management. Intercropping is defined by the spatial integration of multiple crops. Though the distance between crops and crop types grown differ operation by operation, usually rows of one crop are alternated with a row of another crop. Intercropping assists with weed suppression, efficient water and nutrient use, and decreased pest and disease outbreaks. The practice of crop rotation, in contrast, focuses on temporal variation in cropping schemes that rotates the crops grown in field on a yearly or multi-year basis. For example, a farmer will plant soybeans in a field in year one, wheat in that field in year two, and corn in that field in year three (Wezel et al., 2013).

Biodynamic Farming and Permaculture

While the aforementioned strategies for natural resource conservation are independent practices that may

be implemented individually or in combination, both biodynamic farming and permaculture are farm-scale approaches. Each approach provides a set of principles and ethical guidelines that determine appropriate practices and management strategies (many of which are listed above) (Hathaway, 2016). Biodynamic farming seeks to integrate science and spirituality through incorporating rituals into farming. Common practices include the incorporation of livestock into the farming operation, cover cropping, and crop rotations (Biodynamic Association, 2018). Permaculture is “an ethical framework and principles that serve as a basis for discerning actions that enable the design of diverse, sustainable systems suited to a wide variety of cultural and ecological contexts” (Hathaway, 2016). Permaculture encourages applying its guidelines to off-farm situations, as well.

Conservation Agriculture Frameworks

Different conservation agriculture frameworks have evolved to address concerns related to environmental sustainability within agriculture, each with its own approach. The practices mentioned above are implemented at a variety of scales and intensities (high vs. low yielding) and each conservation framework applies them differently. These frameworks fall into three categories: industrial conservation, agroecological conservation, and organic agriculture. Each type of system approaches sustainable agriculture with a different objective. Industrial conservation seeks to mitigate the environmental impacts of conventional agriculture by working within and alongside the industrial agriculture framework. Agroecological conservation promotes diversified farming systems as an alternative to the industrial system. Organic agriculture is a conservation focused on the health of soils, people, and ecosystems through input reduction that functions in both industrial and alternative farming systems.

Industrial Conservation

Industrial conservation is an approach to conservation agriculture that focuses on input reduction and input substitution to mitigate the environmental impacts of large-scale conventional farming operations. This approach promotes conservation practices that do not require a fundamental reconfiguration of the farm operation. Instead, a conventional farmer can incorporate practices that conserve soil and water resources, such as no-till, cover-cropping, and vegetation buffer strips and maintain essentially the same operation. These practices function well at a large scale and can still be implemented with machinery rather than manual labor (Altieri & Rosset, 1996; Rosset & Altieri, 1997).

Agroecological conservation

While industrial conservation practices provide crucial input reduction and excess runoff mitigation, that approach does not necessarily address biodiversity conservation. Agroecological conservation practices approach agricultural systems as ecosystems that involve complex interactions between living and nonliving things. These interactions function at both the farm and landscape scale.

Understanding agriculture as part of a landscape level matrix is a key part of agroecology. Perfecto and Vandermeer (2007) use the concept of “nature’s matrix” to describe the ecological interactions that occur between different natural areas at the landscape level. For example, forests in non-agricultural fields provide important habitat and floral resources to pollinators throughout the season. The proximity of these ecosystems to agroecosystems

help to maintain pollinator abundance for successful on-farm pollination (NRCS, 2018). This inclusion of landscape biodiversity and its impact on agro-ecosystem health into the conservation agriculture framework is a significant departure from a conservation approach oriented toward mitigating environmental impacts of industrial-scale agriculture (Vandermeer & Perfecto, 2007).

Agroecological conservation entails a fully integrated and whole system approach where practices are implemented in tandem and sequentially and at a relatively small scale. This approach to conservation requires a significant departure from the practices of industrial agriculture.

Organic Agriculture

Organic agriculture is a production system focused on the health of soils, people, and ecosystems. While there are several understandings and approaches to organic agriculture, the main objective, according to the FAO, is to create:

...a system that relies on ecosystem management rather than external agricultural inputs. It is a system that begins to consider potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives, additives and irradiation. These are replaced with site-specific management practices that maintain and increase long-term soil fertility and prevent pest and diseases (FAO, 2018).

The organic movement was founded on the principle of maintaining ecological and biophysical processes through practices such as no till, cover cropping, and crop rotation to reduce pest and disease outbreaks and increase soil fertility. This approach enables farmers to reduce and even eliminate the use of synthetic chemical additions such as fertilizer and pesticides on their farms. Organic agriculture began as an alternative to industrial agriculture but, over time has been adopted and adapted for an industrial system (De Wit & Verhoog, 2007). From 1979 to 1990, there was a rapid increase in organic production and a growing national recognition of the legitimacy of organic practices (Greene, 2015). In 1990, the United States Congress passed the Federal Organic Food Production Act, which standardized on-farm practices, created uniform marketing avenues, and facilitated interstate trade opportunities for organic practices. Official U.S. Department of Agriculture (USDA) rules that defined organic farming standards were unveiled in 2002 (Heckman et al., 2006).

Researchers argue that the policy's focus on standardizing inputs rather than organic processes based in agroecology shifted the objective of organic agriculture from maintaining ecological systems to input substitution and chemical use reduction. For example, instead of focusing on practices to improve biodiversity to manage pests and disease to eliminate the need for chemical inputs, there has been a substantial increase in the use of non-chemical inputs such as microbial and plant-based pesticides and fertilizers on organic farms. Such a shift has implications for the effectiveness of these practices in conserving beneficial insect biodiversity, soil health, and water quality (Rosset & Altieri, 1997).

The popularity of organic certification now allows farmers to sell organically certified crops at a premium. However, the USDA certification process mandated by the policy is complex and expensive, requiring a

significant investment in time, money, and in-depth record keeping--an untenable burden for many small operations. As a result, many small-scale farmers forgo organic certification, and instead commit to the organic practices that their local community supports (Smith, 2018). Due to its emphasis on input substitution, utilization by large-scale monoculture operations, and subsequent disintegration from agroecological principles, USDA Organic agriculture is largely an industrial conservation approach. It may be part of an agroecological approach to conservation, depending on the level of integration of practices into the whole farm system and the desired conservation outcomes.

The agriculture industry has had substantial impacts on land, water, wildlife and human health in its efforts to increase yields through mechanization, synthetic inputs, and monoculture production. The social, political, and economic changes that have brought modern agriculture to where it is today, while technologically innovative and high yielding, have cascading effects on environmental health, and subsequently farmer livelihoods. Understanding the ways practices and management approaches are used in particular frameworks is essential for understanding the theoretical, ethical, and systems-based foundation of conservation agriculture, and the implications of these foundations for on-farm management decisions.

Agriculture in Michigan and Washtenaw County

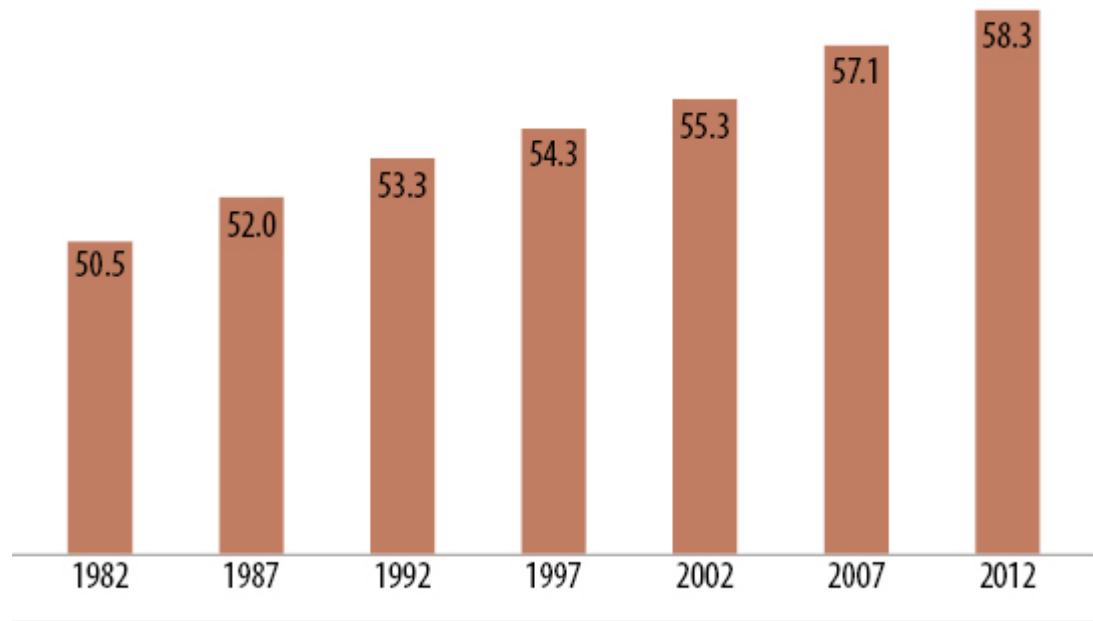
To provide context for the qualitative research highlighted in this report, it is useful to understand the overall picture of agriculture in Washtenaw County, and in Michigan as a whole.

The USDA conducts a Census of Agriculture once every five years to obtain a complete count of all farms and ranches operating in the United States. Both rural and urban farms as small as \$1000 in annual sales are counted. The 2017 Census of Agriculture results were not available at the time of writing, so the following description of the state of Michigan agriculture comes from the 2012 Census. (See Appendix F, G, and H for additional information on agriculture in Michigan and Washtenaw County.)

There are thousands of farms in the state of Michigan, but only a small percent of the state's agriculture land is located in Washtenaw County. According to the 2012 Census of Agriculture, there were 78,948 farmers operating 52,194 farms in Michigan. Only 1,236 of those farms are in Washtenaw County, which is down 5% from 2007. Much has been made of the rising average age of farmers in the country (see Figure 2.1), and indeed the average age of farmers in Michigan was 57.6 years. However, 24% of farmers are under the age of 44. Similarly, the average age of farmers in Washtenaw County is 58.7 years.

Historically, farming has been a male-dominated profession, and that is still largely true--only 9% of female farmers are the principal operators of their farms, though 30.5% of farmers in Michigan overall are female. Female farmers are less likely to be primary operators, and often farm in partnership. The average value of products sold on farms operated by women is much lower than the state average, \$31,345 to \$166,265 respectively. Washtenaw County does have more female-operated farms than the state average, about 19.4%.

Average Age of Principal Operator, 1982 - 2012



Source: USDA NASS, 2012 Census of Agriculture.

Figure 2.1: Figure 1: Average Age of Principal Farm Operators in the United States

Source: USDA Census of Agriculture 2012.

While these numbers are low, it is possible that the USDA Census of Agriculture was not able to fully capture the presence of women in the field. For example, when families farm together, often the senior male family member is listed as the principal operator, regardless of whether that person continues to actively farm. Similarly, when a couple farms together, the male partner may be listed as principal, even if operations are shared equally. The 2017 Census of Agriculture was updated in an effort to better capture women in the field (Counting All Farmers, 2016).

The vast majority of farmers in Michigan are White--98.4%. There were only 216 Black farmers, 54 Asian farmers, 204 indigenous farmers, 16 Native Hawaiian or Pacific Islander farmers, 652 Latinx farmers, and 165 multiracial farmers, as recorded by the 2012 Census of Agriculture. The same holds true for Washtenaw County. Only 4.6% of all farmers, not just primary operators, are farmers of color, totaling only 84 farmers. However, due to a history of discrimination against people of color and a longstanding distrust of the USDA and other government agencies, many farmers of color do not participate in the Census (Harvey, 2016). The 2012 Census of Agriculture showed an increase in Black farmers in particular, but that might be due to these farmers being willing to participate in the Census for the first time after changes within the USDA and targeted outreach to those farmers. However, one estimate claims 50-60% of Black farmers still refuse to complete the census out of fear of negative consequences (Harvey, 2016).

Despite the steep increase in the consolidation of farms in the United States resulting in bigger farms and fewer farmers, most farms in Michigan are small farms. 44% of Michigan farms are under 49 acres, and 78% are

under 180 acres. The average farm size in Michigan is 191 acres. Similarly, Washtenaw County is dominated by small farms--80% of farms make less than \$50,000 in annual sales, 80% are smaller than 180 acres, and 57% (or 700 farms) are under 50 acres (see Figure 2.2). The average farm is 138 acres. Small family farms account for 88% of all farms in the United States, but only 48% of all farmland, and only 5% of net farm income (Small Farms, 2016). Consequently, while there are more small farmers in Washtenaw, they may not represent the majority of the farm income in the County.

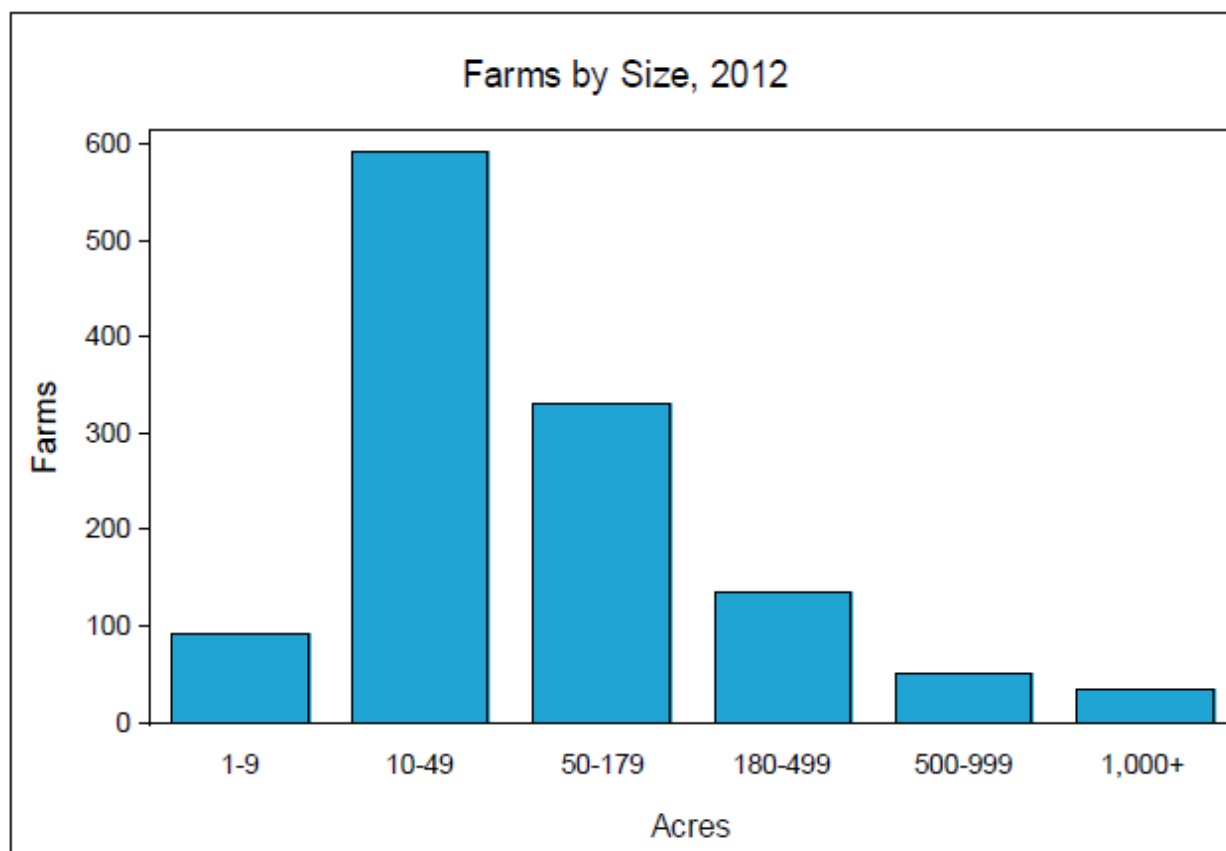


Figure 2.2: Number of farms by size in Washtenaw County.
Source: USDA Census of Agriculture 2012.

As the second most agriculturally diverse state in the country, Michigan farmers produce a variety of crops. Leading agricultural products include apples, beef and dairy, corn, eggs, greenhouse and nursery products, pork, soybeans, sugar beets, and wheat. Washtenaw County's biggest agricultural products are soybeans, corn, livestock forage, and wheat. Agriculture accounts for 170,154 acres of Washtenaw County, 133,455 (78.4%) of which are in crops. Washtenaw County's cropland is largely commodity crops, as detailed in Figure 2.3: corn accounts for 35% of cropland acres, soy covers 34%, forage covers 13%, and wheat covers 9.6%. Only 1.4% of acres are in vegetables and less than 0.2% are orchards. It is interesting to note that 109 farms grow those 1.4% of vegetable acres (1,819 acres), which accounts for 8.8% of farms in the County.

Crop	Percent
Corn	35%
Soy	34%
Forage	13%
Wheat	9.6%
Vegetables	1.4%
Orchards	0.2%

Figure 2.3: Percent of acres in Washtenaw County by crop type.
Source: USDA Census of Agriculture 2012.

Washtenaw County

Washtenaw County is somewhat unique within Michigan, largely because of Ann Arbor and the University of Michigan. The wealthy, highly-educated population of this college town has allowed for the growth of a strong local food market in the area. This development is part of the national and international local food movement—a convergence of political and social activism supporting food access and health, food justice, environment, food sovereignty, and racial equity. This movement is working toward a food system that is healthy, sustainable, fair, and affordable (Pirog et al., 2014).

Though it is more developed and has a smaller agricultural sector than other counties in Michigan, Washtenaw County is able to support a relatively large number of small-scale diversified farmers. Ironically, the nature of its urban identity is both why it can support this type of agriculture, and makes it difficult for these farmers to afford land due to the development pressure of this desirable urban center.

Though Washtenaw County is somewhat unique in Michigan in terms of amount and type of agriculture being practiced, the findings about agriculture as a sector are in many ways applicable to the broader region. Many of the organizations represented in the county also operate at the regional, state, and national level. Further, the County’s unique characteristics are in fact shared with other urban centers and college towns. Many of our findings about the social and professional organization of farmers in Washtenaw County have been found in other parts of the country. Finally, although the particular ecosystem of relationships and organizations we describe here is unique to Washtenaw County, any area explored will have its own specific nuances.

Applications Beyond Washtenaw County

Washtenaw County-based findings cannot necessarily be applied to the entire state of Michigan or the Great Lakes region more broadly (the geographic area TSN currently serves). The agricultural community’s social hub surrounding the greater Ann Arbor area only provides a snapshot of the complex interactions and self-organization of farmers, businesses, and other local institutions. However, it is important to note that while the specific entities and personalities present in Washtenaw County are unique, the ways in which the agriculture community organizes itself is more broadly applicable. For example, many of the organizations that are part

of Washtenaw County's network, have regional, state, and national reach and connect with other institutions throughout the country.

We hope what we have provided is an accurate representation of the community and provides insight into and lessons on the ways people work with each other in the area of conservation agriculture.



3

A close-up photograph of a lush green plant, likely a leafy vegetable like kale or chard, with prominent purple stems. The leaves are covered in numerous small, clear water droplets, suggesting a recent rain or irrigation. The background is slightly blurred, focusing attention on the texture and color of the plant.

**THE NATURE
OF THE
AGRICULTURAL
COMMUNITY IN
WASHTENAW
COUNTY**

3

“I think we need to have a broader discussion about sustainability. It involves not only the practices but it involves the internal procedures within the group that’s doing the farming so that it can continue to do it for longevity. That includes being economically sustainable and it includes being sustainable in terms of people.”

-Black Farmer and Community Leader

In reviewing the modern agricultural system and its environmental impacts, it is clear that support for conservation agriculture is needed. To determine what kind of support is needed and how The Stewardship Network might best plug in, it is necessary to understand the context in which the agricultural community operates. This study focused specifically on the farmers and organizations that operate in Washtenaw County, Michigan. This chapter discusses the spectrum of farmers that operate in Washtenaw County and how these farmers organize themselves. We then review the variety of approaches to conservation agriculture that these farmers expressed, and how those approaches can be organized into a parallel spectrum. Finally, we examine the divisions within the agricultural community, and the importance of trust and relationships.

In order to understand the nature of the agricultural community in Southeast Michigan, we asked farmers to tell us about themselves and their farms by asking questions including:

- Can you tell me about the layout of your farm?
- What do you grow?
- Where do you sell your products?
- How did you come to use the farming and soil management practices that you use?

- What are the advantages and disadvantages of these practices?

We were also interested in learning about farmers' understanding of their community in the region, including social hubs and venues for information sharing, and their place in it. We asked questions such as:

- Where have you gone to learn new information about farming in general?
- How would you describe the farming community in this area?
- What kinds of social and educational activities do farmers engage in? Do you engage in?

We also wanted to learn about the role played by farmer resource organizations (FROs) that serve farmers and their insights about the farming community. We asked FRO representatives these questions:

- Who are the main recipients of the resources you provide? What are their demographics, types of crops, farm size, and markets?
- How would you describe the farming community in Southeast Michigan and the relationship between community members?
- Is there collaboration? Tension?
- Are there central hubs (social or professional)?
- How do farmers connect to each other outside of your organization in general? Specifically around conservation issues?

This chapter details what we learned about the nature of the farming community in Washtenaw County. In particular, we discuss the types of farmers growing in the area, their nuanced definitions of conservation agriculture, and a model for understanding those definitions. We will discuss how these distinctions in the agricultural community permeate all aspects of farming, including decision-making, trust, needs, challenges, and opportunities.

The Farmer Spectrum

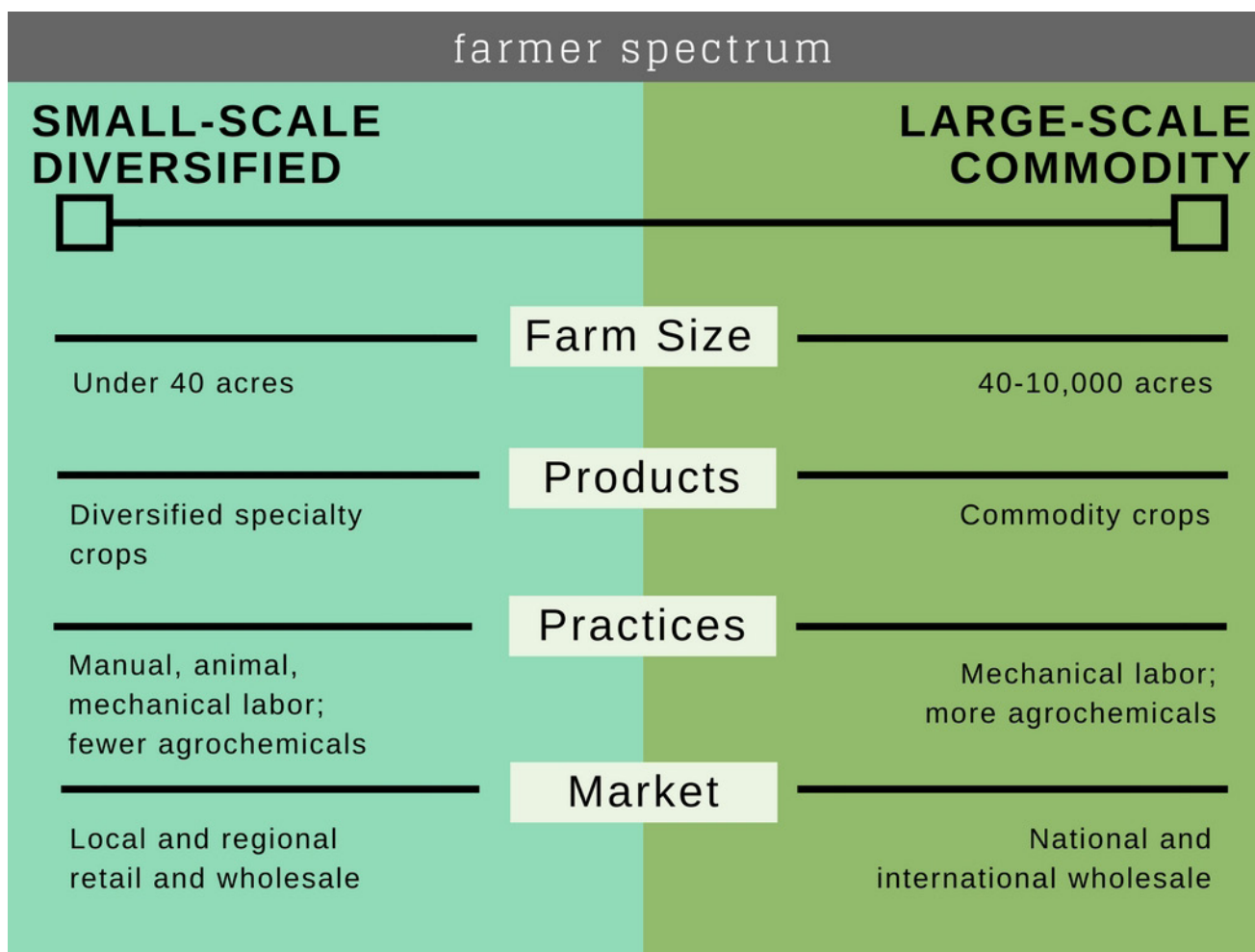
Through the interviews described above, as well as informal discussions and observations at farmer events and conferences, it became apparent that farmers in the region can be divided into groups that fall along a spectrum defined by farm size, type of product grown, practices employed, and market (see Figure 3.1). These distinctions play an important role in understanding the farming community and farmers' relationship to conservation agriculture.

On one end of the spectrum are small-scale diversified farmers who generally farm less than 40 acres and may farm under one acre. The farms are generally defined by their production diversity, mostly in the category of specialty crops. The USDA defines specialty crops as “fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)” (USDA, n.d.). These farms may also include livestock as a product (meat, dairy, eggs), or for other farm purposes (labor, nutrients). These farmers often use manual labor, or a combination of manual and mechanical labor. They are less likely to use chemical or synthesized inputs such as fertilizers or pesticides, and tend to value a reduction in their use. Their markets are usually local to regional-

-farmers markets, locally-distributed community supported agriculture (CSA) shares, local retail, restaurants, and some wholesale. While we use the term “small-scale diversified” for the purpose of this project, other terms we heard were “truck farm” and “market garden.”

On the other end of the spectrum are large-scale commodity farmers who cultivate hundreds, thousands, or tens of thousands of acres. They often produce grains and oil seed crops such as corn, wheat, and soy. Washtenaw County also produces a lot of beef and dairy. These farmers grow their products in large quantities, consolidated in one area, known as a monoculture. These farmers necessarily use tractors and other large-scale machinery, due to the size of their farms. They generally use synthetic inputs to control pests, weeds, and soil fertility. These crops are sold wholesale nationally and internationally.

Figure 3.1: The Farmer Spectrum



Farmers in Washtenaw County can be organized along a spectrum from small-scale diversified to large-scale commodity, determined by farm size, type of product grown, practices employed, and market.

These distinctions are a reflection of our data, but farmers would also locate themselves in one of these categories, and would probably not find the distinctions controversial. One farmer explains, “Larger commodity farmers compared to smaller farmers definitely have different needs, they’re kinda going after different things, and they’ve got different capitals and different supports. Their fears are different.”

Within these groups and between them, there is of course variation; farming encompasses a wide range of operations and products. Within Washtenaw County, there are farmers with 200-300 acres of specialty crops, large-scale grain growers who use mostly or completely organic practices, as well as small-scale growers who use tractors and chemicals. The spectrum merely provides a model for understanding and navigating the community.

Defining Conservation Agriculture

During interviews with farmers and FRO representatives, interviewees were asked to provide their own definitions of conservation agriculture. Their definitions were wide-ranging. Some interviewees had never heard the term, and substituted a word they understood as equivalent and gave that definition. For example, a representative from Green Lands Blue Waters, a farmer networking organization, said:

I don't think I've ever seen anywhere where we've written the words "conservation agriculture." The language we use is "continuous living cover."...Mostly we look at it through the different continuous living cover strategies that we are structured around as an organization, which is agroforestry, biomass, perennial grains, perennial forage and cover crops.

Other organizations used the term "organic" or "sustainable" interchangeably with "conservation agriculture." Most definitions included some reference to generally protecting the environment. One MSU Extension educator commented,

To me the definition of conservation agriculture is producing food in a way that's conscious about its impact on the land and water and environmental resources. So that consciousness is the key word.

Another explained simply, "I think MSU views sustainability and SARE views sustainability as anything that farmers are doing that helps protect the environment." A Michigan Farm Bureau representative similarly explained that they understood "...conservation agriculture as being good stewards of the land." A representative from an agricultural chemical company gave this definition: "Conservation agriculture is...always making sure we're doing the right thing from an environmental standpoint."

Some definitions focused on particular practices or approaches, such as biodynamic, permaculture, hugelkultur, organic, cover crops, buffer strips, and no-till farming. Some focused specifically on the reduction of chemical inputs. A representative from the Argus Farm Stop team commented that farmers who practice conservation agriculture are "people who only treat their crops as necessary and also use techniques that enrich their soil that are not chemically motivated, chemically driven." Some organizations and farmers referred to conservation agriculture as employing "the Four Rs," which refers to applying fertilizers, herbicides, and chemicals at the right time, in the right place, with the right amount, and in the right way. This is also known as precision agriculture, where chemical and fertilizer needs are precisely calculated using GIS technology, and applied accordingly (Precision Agriculture, 2007).

Many interviewees spoke to the importance of balancing environmental sustainability with economic

sustainability. For example, an agricultural chemical company representative said, “Conservation agriculture would be having a profitable business but making sure that we are trying to leave as small of a footprint as possible.” An MSU Extension educator explained that conservation agriculture would “...help [the environment], but also supports their economic sustainability, and hopefully is good for society as a whole...” In a conversation at the Michigan Food and Farming Systems Conference in February 2018, a farmer with the Michigan Farmers’ Union said, “Sustainability? If they can’t afford to stay in business, it’s not sustainable.”

A representative from the Michigan Corn Growers Association (MCGA) explained the economic/environmental balance this way:

Our goal is to really help farmers to be economically viable for the long-term. I see that as they have to be mindful of conservation in order to continue to be a viable farm... They have to be thinking of that future, as well.

A leader in the black urban farming community in Detroit expanded that definition even further:

Listen, I think we [need to] have a broader discussion about sustainability. It involves not only the practices but it involves the internal procedures within the group that’s doing the farming so that it can continue to do it for longevity. That includes being economically sustainable and it includes being sustainable in terms of people. I would look at it in terms of those three aspects.

While most definitions refer to a concern for the environment, some definitions are more focused on environmental impacts within the farm’s borders. As an NRCS representative put it: “Conservation agriculture is basically just minimizing or addressing your resource concerns that you have on your farm.” This is also a priority of the Farm Service Agency (FSA). They provide resources to conserve “highly erodible land” and wetlands that exist on farm property.

Other definitions offered by interviewees included an interest in improving the health of the whole ecosystem, beyond the boundaries of the farm. A member of the leadership team for the Local Food Summit, an annual Washtenaw County conference, described conservation agriculture as “...agriculture that doesn’t degrade the environment and provides opportunities for conserving nature.” Many interviewees talked about conservation agriculture as aligning agricultural practices with the patterns of natural systems. A Local Food Summit leader explained it in this way: “I think I see conservation agriculture more as agriculture that has adapted appropriately to the ecosystem it exists in and that uses ecosystem strategies to benefit humans, essentially, as a crop.”

Another farmer put it this way:

...the goal of that [farming] is an extremely biodiverse landscape, where throughout the seasons there are different things that could be extracted from nature without really killing the nature. So, we are trying to mimic nature in its own sense and see what it can give us.

These definitions of conservation agriculture can be organized into another spectrum, one representing this variety of attitudes toward conservation agriculture (see Figure 3.2). On one end is an understanding of

conservation as intrinsic to farming. These farmers often take an agroecological approach to farming, which recognizes the farm as part of a larger ecological system that includes interactions between soil health, water quality, and pest management. Farmers that understand conservation as intrinsic to farming often understand that their on-farm management practices have implications on the landscape level. As one FRO representative explains, “Conservation agriculture is really a full-system approach to growing on land, and to ensuring that all systems there are benefiting from it.” Another farmer talks about “farmers as ecologists. You know trying to farm in a way that mimics nature, instead of destroying it.” Conservation is inherent to the way the farming system is designed. A farmer’s attitude toward conservation informs the practices that they employ. For example, a farmer with an “intrinsic to” attitude will take a farm-scale approach to conservation, such as by designing the farm with permaculture principles, focusing on diversified perennial crops, or protecting nearby woodlands and natural areas to promote biological pest control.

On the other end of the spectrum are those that see conservation as something that is done in addition to farming. With this perspective, conservation agriculture is understood as a set of highly specialized and compartmentalized practices that address specific environmental and natural resource impacts on the farm. These practices function within and alongside the industrial agriculture system, and seek to mitigate its harmful environmental impacts. A Conservation District representative explains how they see conservation agriculture:

Agriculture, in its most basic form, has been going on for thousands and thousands of years, and much of the proof is in the pudding. It’s just a matter of, how do we manage the industrial processes we’ve also put into place.

With this attitude toward conservation, these industrial processes are managed through specific practices that target particular environmental concerns, such as cover crops and buffer strips, that are separate from production, pest management, and yield.

This spectrum is reflective of the conservation agriculture frameworks discussed in Chapter 2. Organic agriculture is an approach that can be adapted to either the “intrinsic to” or the “in addition to” attitude toward conservation.

This attitude spectrum runs parallel to, and is imperfectly aligned with, the small-scale diversified to large-scale commodity spectrum. A farmer’s view of conservation will influence the rest of their work, from scale to market to lifestyle, and especially the farming practices chosen. Small-scale farmers tend to approach conservation as intrinsic to the work of farming, and conventional farmers approach conservation as a practice or set of practices to adopt or not adopt. It should be clarified that one’s attitude toward conservation is not the same as one’s interest in conservation. A large-scale commodity farmer can be highly motivated to pursue a full suite of conservation practices, but still not have an intrinsic approach to conservation agriculture. Conversely, a small-scale farmer may grow conventionally, despite their size and market, and may not see conservation as intrinsic to their work at all.

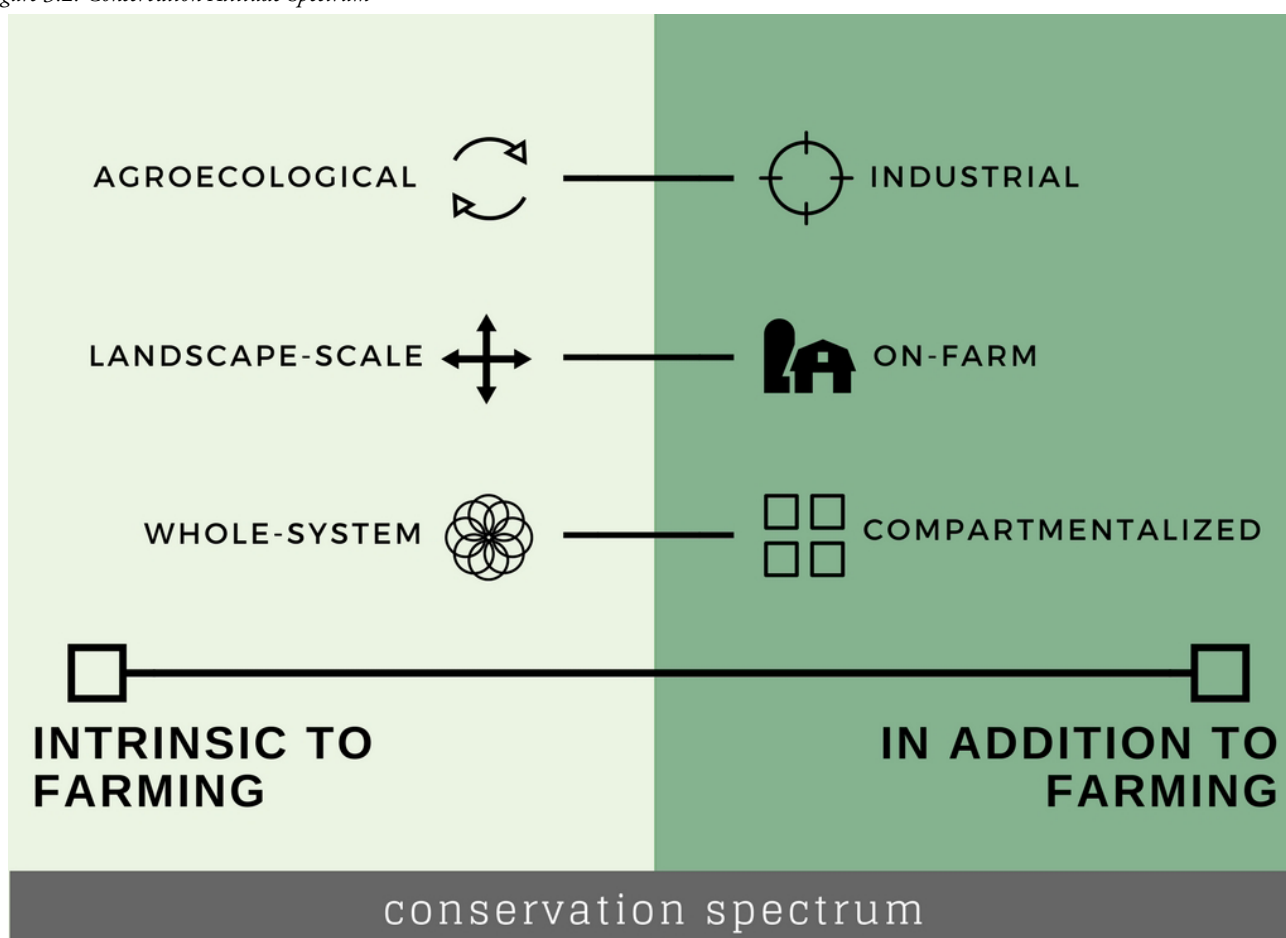
An example of how these two spectra interact can be seen in the way FROs provide education. For example, MSU Extension, which mainly serves large-scale commodity farmers, employs educators to support

farmers. These educators have a variety of highly specialized roles, including sustainable agriculture, nutrient management, and water quality. These educators provide separate programming and support from those that focus on production and disease management. Those educators with a production focus do not think about conservation as part of their work. As one Extension educator explained:

It's not like they [production educators] are out there actively pushing for [conservation], it's not their job, if you understand what I mean. Their job is big enough as it is, they don't need that, that's not their focus area, that's not where they do their--it's not where they have their comfort level.

By providing resources in this way, it is clear that MSU Extension understands conservation as something independent from production, as opposed to intrinsic to it.

Figure 3.2: Conservation Attitude Spectrum



A range of attitudes toward conservation were expressed by interviewees in Washtenaw County. They can be arranged along a spectrum from seeing conservation as intrinsic to farming to seeing conservation as additional to farming.

Similarly, a representative from the Michigan Corn Growers Association, which also serves industrial-scale corn growers, commented,

If they get rid of conservation completely and just try and just ... Well, they want to maximize everything, but if they just try and not really worry about conservation in the long-term, then they're not going to be viable for the long-term.

While supportive of thinking about conservation and taking the long-view, this representative still sees conservation as something that can be removed from farming. If it is possible to “not really worry about conservation,” then it is possible to practice farming without conservation.

Small-Scale Diversified Farmers

The small-scale diversified farming community in Washtenaw County is on average younger than other farmers in the county. The average age of Washtenaw County farmers is 58.7 years (Census of Agriculture, 2012). Though the average age of farmers in Michigan is 57.6 years (Census of Agriculture, 2012), we encountered many farmers in their 20s and 30s, parents with young children, including infants. This observation was verified by FRO representatives familiar with the community.

One farmer explained that while there is a shortage of farmers in the United States as a whole, they did not think that was the case in Washtenaw County, because of the proliferation of young farmers: “[The shortage is] not specifically in this area, it’s pretty good per capita. A lot of young farmers.”

Another Extension representative said, “There is a lot more diversity of [farmers] in Washtenaw County where you see a lot of young farmers, young entrepreneurs coming back to start smaller scale, direct marketing kinds of operations.”

We also encountered a few older farmers who came to farming as a second career later in life, or that were turning a part-time passion into a full-time job.

One FRO representative described some division around age: “I think it’s more the beginning farmers are a united front. Some of the old timers are with us [young organic farmers]. Some of the old timers also work against us.”

Regardless of age, small-scale diversified farmers tend to be beginning farmers--farming for less than ten years. They are generally first-generation farmers, and often do not come from farming families. They are often well-educated, with at least four-year college degrees.

These farmers are largely a product of, and dependent on, the local food movement, which is very strong in Washtenaw County. Farmers recognize the importance of the local food movement and informed consumers who are interested in buying local products. As one farmer said about growing the large variety of crops that their farm produces, “Without the local food movement, we wouldn’t be able to do it.”

Another farmer reflected that view: “I wouldn’t still be going without that level of relationship, and level of food culture that Washtenaw County has... I think Washtenaw is very unique in that way. Culturally and economically.”

Many interviewees involved in the local food scene in Washtenaw County expressed appreciation for the strong community. An FRO representative said:

It's a very different and very diverse community... But a very rewarding community. I mean, it's got soul... What I'm saying is the human connection is so much deeper and more rewarding when you get into food and agriculture.

From a farmer:

I think it's a real treasure to be able to grow with some of the people that we have here. I can't think of anyone that I've met that wouldn't help me out with a problem from just their advice to as far as loading equipment or going in on a purchase to save on shipping. I think we've got a great community of growers here, I think it's a real treasure. It's the difference between this being any fun or not.

According to another farmer:

...the young, the farming community here right around Ann Arbor is really great... They are mostly vegetable farmers, but there is still a really nice community.

As another farmer explained:

What's interesting to me is I feel like there's a great community of organic farmers. Mostly, it's because a lot of us know each other, but everyone is willing to help each other out.

Another defining feature of the small-scale farming community is that these farmers often have off-farm jobs. Given the structure of the agriculture industry, it can be hard to make a living off of farming alone at a small scale. As an NRCS representative explained,

The producers normally have a regular job, as far as working maybe like a day time job, and then maybe they will farm on the side. I haven't met many full-time farmers, so a lot of people work two jobs, I would say. Because you would have to be farming several hundred acres to you know, to really survive off farming.

The small-scale diversified community is largely organized around their primary markets--the farmers markets and Argus Farm Stop--where farmers sell their products but also connect socially and exchange information. These farmers also connect at Farmer Beer Night, an informal monthly gathering organized by two farmers in the area. The entire community comes together at the Local Food Summit, an annual conference aimed at connecting food system practitioners in Washtenaw County. These events are explained in more detail in Chapter 5. These farmers largely depend on these gatherings and other informal social connections for farming information and resources. They also access online sources and one-off workshops and trainings.

Large-Scale Commodity Farmers

Large-scale commodity farmers in Washtenaw County are largely multi-generational, coming from farming families. These farmers tend to be closer to the average age of farmers in the state, and there is concern about

the aging population of farmers as their children are not returning to the farm. One farmer explained why children are not following in their parents' footsteps: "Why do I wanna be like Dad? Work my butt off every day, and not have any money, when I can go to college and go be an engineer and start at \$70 grand or whatever?"

Still, Washtenaw County boasts a thriving Young Farmers Chapter, a Michigan Farm Bureau group aimed at building community for young farmers, largely in the large-scale community. A member of this group commented:

There was about 30 active young farmers in Washtenaw County that... I know well. I have a lot of good friends, actually most of my good friends are farmers, are young farmers... I probably know over 100 young farmers in Southeast Michigan that are back on the farm, or have started their own farms.

This community socializes separately from the small-scale diversified community, though they find their community to be just as strong. A conventional dairy farmer shared their story with us:

It's a strong community... Like, for example in 2010, so it's been quite a few years, we actually had a barn fire, and we had our barn that stores straw catch on fire... We had lots of farmers, neighbors, come by to help... Like, for example, our one neighbor down the road brought his excavator down because, to put the straw out, we had to break it all up because there was so much smoldering, so he was helping the fire department to move this all around... Just to watch the whole agriculture community just come to help in the crisis like that, I mean, that... It seems like every time there's a crisis, that happens.

The single most important hub in the large-scale commodity community is the Michigan Farm Bureau. One farmer encountered at the 2017 Michigan Farm Bureau Annual Meeting described it this way:

...this is kind of a family reunion with 600 of your closest friends... I can literally go, as practically everybody in this building can say, I can go anywhere in this state and find refuge if I need it. I don't care if it's from Iron Mountain to Monroe, I know somebody somewhere I can call upon and say, "I need help."

There is some overlap in these communities, however. One farmer who participates in the small-scale diversified community describes themselves as between these two communities:

Growing up, our farming community was a lot of the neighbors... It was a very conventional community... I feel like we kind of walk the line between the alternative ag movement and the conventional ag movement. Because like I grew up in the conventional ag movement and kind of went away from it, but those people are still a big part of my life. And it's a really good thing to just be able to appreciate people even [if] they're not doing exactly what you think they should do, but to understand their stories and why they do those things.

Another young, small-scale diversified farmer is deeply involved in the Farm Bureau community and does not socialize with the majority of the small-scale diversified farmers in the region. Large-scale farmers access information regarding farming practices and conservation agriculture in particular through a variety of government agencies, as well as MSU Cooperative Extension and agrochemical company salespeople.

Underserved Farming Community

Though underserved farmers are part of the larger farming communities discussed above, they are underrepresented in Washtenaw County and have experiences and needs unique to them. Underserved farmers are women farmers and farmers of color, though Michigan Food and Farming Systems (MIFFS), a nonprofit that supports underserved farmers, also includes veterans and Spanish-speakers. This study focused on the experience and needs of Black farmers in Washtenaw County.

Black farmers grow in Washtenaw County at much lower rates than White farmers. Less than 1% of farmers are Black (Census of Agriculture, 2012). Though not the rule, many underserved farmers, especially beginning farmers of color, are small-scale and understand conservation as intrinsic to farming. One FRO representative who provides workshops to that community explained how these farmers' choices are motivated by the limitations of their financial resources, access to capital, and access to family land:

I've found that although I don't go seeking farmers who do conservation practices, more than likely many underserved farmers are using conservation... Many underserved farmers do not have the financial resources to grow on an industrial level, and so by default, they are, quote unquote, sustainably growing. Because they can't afford the pesticides and they can't afford the seed inputs that would be considered unsustainable or not in line with conservation practices... it's [also] connected to their ancestry, like their ancestral production methods.

An FRO representative who works with underserved farmers shared a similar sentiment:

I think it's probably fair to say most Black farmers and most farmers in general in Detroit are using non-chemical practices and using what can be considered sustainable practices. They're not using huge amounts of petroleum... Most aren't using any kind of chemical fertilizer. In that sense, environmentally, I think that most of them are using sustainable practices.

These farmers are also motivated by their family's historical growing methods. One Black farmer shared with us how they learned to use conservation practices from their family:

My grandmother would say, you've got to give back to the earth what you take out. This is how it shows you thank you. Then you give back and it keeps happening so you always give back to the earth, what you take away... My father's side of the family have always been outdoors people, fishermen and hunters. They've always been land stewards... They wanted to foster the land so they could continue to do this, and live off of the land. Live with the land.

Some Black farmers participate in the small-scale diversified farmer community in Washtenaw County. However, due to their low numbers and shared experience of historical discrimination, Black farmers have also built a strong regional and statewide community through which they connect socially and professionally. There is an especially strong locus of the Black farming community in Detroit. MIFFS provides spaces, or supports groups that provide spaces, for these communities to connect across the state, including their yearly conference. The Detroit Black Community Food Security Network is an example of a group that MIFFS supports to build community among Black farmers.

Division in the Farming Community

While not every farmer fits neatly into the small-scale and large-scale categories, these categories represent two distinct communities that see themselves as different from each other. The methods a farmer chooses are not just a business choice, they reflect values and identity. A presenter at the 2017 Michigan Farm Bureau Annual Meeting explained, “Practices are an illustration of values in action.” Farmers generally feel strongly that the way they are farming is “the right way.” While they may express a vague respect for all farmers, small-scale diversified farmers who see conservation as intrinsic to farming and large-scale conventional farmers who see conservation as an addition to farming understand themselves as doing different work, needing different resources, and having different values.

These groups largely operate in separate circles, both socially and professionally. A large-scale conventional dairy farmer explained,

The Fuseliers [a small-scale diversified farming family] are probably one of the only people that I talk to that are doing something like that. Really, my network is mostly within dairy farmers, except for the people that I’ve connected through Farm Bureau. He [Travis Fusilier] is probably actually one of the few people that I know that’s doing something like that. Which, it’s actually really common, it’s just not somebody that I’m talking to on a day-to-day basis, or even a weekly or monthly basis.

Small-scale and large-scale farmers also view each other with an “us vs. them” mentality. One FRO representative who works closely with farmers who sell to regional markets said specifically that it “feels really divided.” They continued:

...I think that there is a stereotype with local food that it is something sustainably grown, organic. So when I approach those [conventional] farmers they see someone who comes from that world. And I think in our culture there’s a lot of battles happening with that stuff, and conflict... I think there is some prejudice with the local food scene being sustainable. So if you are a farmer who grows GMOs and you spray stuff and you believe in that then you see this local food thing as like a conflict. They are “the other.”

The choices farmers make are very personal. One FRO representative explained that while they are supposed to serve all farmers, it can be challenging to work with farmers whose practices they do not agree with because “I don’t agree with it in my heart.”

The two groups view each other with a range from respectfully separate (“we do our thing, they do their thing”) to skepticism, to derision and blame. One trope mentioned by large-scale conventional farmers is that small-scale farmers are “hobby farmers,” a slightly dismissive term that is in opposition to how they see themselves, as “feeding the world.” Small-scale farmers often blame large-scale farmers for growing in a way that is environmentally destructive. From an FRO representative: “I really don’t think that [chemicals] is the way because we’re not really improving soil health.”

The values represented by farming choices also translate into political identities. Small-scale sustainable farmers

tend to be politically liberal. Many interviewees pointed to the liberal nature of Ann Arbor as a highly-educated college town as a reason that the local food movement and thus the small-scale farming community can exist. Small-scale farmers and those that support them expressed liberal political views unrelated to farming, such as a support for universal healthcare. One FRO representative refused to work with a company that would not provide birth control for its employees for religious reasons. There was an assumption implicit in many of the comments made in these interviews that this community is politically liberal, though not necessarily politically active or members of the Democratic Party (or any political party). As one FRO representative said, “It’s who watches certain news stations and who doesn’t. Know what I mean?”

Large-scale farmers and the large-scale farming industry more broadly are deeply intertwined with the Republican Party in American politics. This connection was exceptionally clear at the 2017 Michigan Farm Bureau Annual Meeting held in Grand Rapids, Michigan. The current Republican Governor of Michigan, Rick Snyder, and former Republican Governor John Engler, were keynote speakers at the event. Former Governor Jennifer Granholm, a Democrat, was not present, and was not spoken of highly. Such conservative mainstay topics such as deregulation, dislike of the US Environmental Protection Agency (EPA), and lowering taxes were mentioned by former Governor Engler to great applause.

As the Michigan Farm Bureau is primarily an advocacy organization, it is deeply involved in state politics. It has a practice of endorsing policy positions, which are chronicled in the Michigan Farm Bureau Policy Book—a list of policy recommendations for the State of Michigan. Delegate sessions at the Annual Meeting allow elected representatives from each county in the state to propose and vote on amendments to the policies in the Policy Book. Both specific to agriculture and general, these policies align with conservative values and the Republican Party platform from gun rights, to taxation, to limiting environmental regulation. For example, the Michigan Farm Bureau Policy Book states, “We oppose further restrictions to firearm rights and fully support Second Amendment rights,” a policy position unrelated to agriculture. In his plenary speech at the Annual Meeting, Governor Snyder commented that he carries the Michigan Farm Bureau Policy Book with him as a guide for how he should legislate. The Farm Bureau also supports a political PAC (political action committee that raises money for political campaigns) that supports Republican candidates. In the 2016 election cycle, the Farm Bureau PAC gave \$20,992 to Grand River Strategies, a Republican political strategy firm that supported Republican candidates’ campaigns in Michigan (OpenSecrets.com, 2018).

These political values are also reflected in farmers’ views toward conservation. Because environmentalism has become highly politicized in this country, those farmers who identify as politically liberal are more receptive to environmental regulation, and are more interested in conservation practices. Farmers that identify strongly with the Farm Bureau community tend to be more politically conservative, and are less interested in addressing the environmental impacts of conventional agriculture.

Compounding this connection between political affiliation and interest in conservation agriculture, large-scale conventional farmers as a community feel under attack by environmental groups. As one Extension educator put it, “To be honest a lot of these farmers feel persecuted, that these [conservation] organizations

basically are blaming them...particularly like the Sierra Club. Those guys just love to beat up farmers.” There is a sense among this community of farmers that they are being blamed for big environmental problems such as eutrophication and algal blooms in Lake Erie.

This attitude was reflected in the delegate session at the Michigan Farm Bureau Annual Meeting. In response to a proposal for tighter regulations on egg production, one farmer said, “They are destroying our way of life.”

Accompanying this perception is the idea that environmentalists, consumers, and the public just do not understand how farming works. A representative from the Michigan Farm Bureau explained, “I think consumer misinformation and lack of communication between farmers and consumers is another issue.” An agricultural chemical company representative said, “I think there’s a lack of education out there, and it’s partially our fault as farmers. Or us in the agricultural industry. We haven’t done a good job of educating the public about why we do certain things.” The perception is that the public, and environmental groups, are blaming farmers for environmental problems because they do not understand farming.

The political division present between small-scale diversified and large-scale conventional farmers, and this perception of misunderstanding from the large-scale conventional community, is also connected to a division between the urban and rural communities in this country. Urban residents, who are more often liberal, are many generations removed from the farm, or are perceived to be. Rural residents, who are more often conservative, either are farmers or socialize with farmers. A Michigan Farm Bureau representative explained their understanding of this issue:

I think there is a dire need for it [connecting consumers to farmers] because, like I said, people are three, four generations removed from the farm. People don’t understand where their food comes from. They don’t understand what it takes to run an agricultural operation.

The values and identity attached to farm group affiliation have created significant divisions in the agricultural community. Group affiliation is maintained and reinforced by strong in-group relationships, making trust building an essential component to working within this sector.

Trust

A major theme that became apparent throughout these conversations was the importance of trust: trust between farmers, trust between farmers and the FROs that serve them, trust with consumers, and trust between FROs.

One Extension educator described a bad experience they had with an environmental organization in the past that made them skeptical about working with environmental organizations, especially those with no background in farming. The environmental organization spoke to farmers in a way that made them feel blamed. The educator shared their experience:

Sometimes it feels like these [conservation] organizations are looking for another way that they can get money to keep their program going. And they go, “Oh, farmers! Let’s jump on that

bandwagon. I can get somebody to give me money so I can pay my people and keep my organization going.” And they really don’t have the trust or the desire to really understand that area.

These organizations then come to people like myself and say we want to partner with you. Well what you’re really saying is “I want you to do all my work for me. You have the relationship with the farmers, I want you to incorporate me into your program and let me talk.” And then you’ll get up in front of my farmers and piss them off. Because of the things you say. And then here I’m stuck looking like a schmuck. Because I had their trust. I brought you in and you just stuck it to me. And here I have to rebuild my trust again. You know. And it all just goes back to why should I trust any new conservation organization. They haven’t proved themselves to me, either.

It is worth noting that the questions asked were related to conservation. The people we interviewed, including this Extension educator, draw no distinction between environmental and conservation organizations.

An Extension educator also explained the importance of building trust when trying to provide farmers with resources:

You’ve got to have a certain amount of trust if you’re gonna start dealing in changing somebody’s business, changing their cash flow. You know, getting into their finances, scrutinizing what they’re doing. And that’s not--you have to develop that trust over time.

Building trust with government programs can be particularly challenging. A representative from a Michigan state agency that supports conservation agriculture explained that challenge: “You have about three minutes by the time you hop out of the car to prove it’s not your first time on a farm and you’re not a jerk, you know, from Lansing. That’s the constant struggle... I think that trust is a hard thing to get.”

The Extension educator describes how farmers feel when offered government resources for conservation agriculture:

You know, if someone wheeled into your place and said, “Hey I want you sign up for all of this stuff, and it’s going to be wonderful, you’re going to save the environment. And it’s going to cost you some money.” Are you just going to jump on board and go “whoo hoo yeah!”?

Trust is built between individuals, as well as on the reputation of organizations. A MAEAP representative commented, “Some counties have great USDA offices where people are very trusting of those too. Again it just depends on where the trust falls in that area.” The individual experiences farmers have with specific government representatives in particular offices impacts their willingness to participate in those programs. Farmers respond both to the reputation of and trust in the organization as a whole, as well as to the quality of their relationships with the individuals in that organization.

Conclusions

Central to understanding the agricultural community in Washtenaw County is a consideration of the way in which the community organizes itself. With this understanding, The Stewardship Network can reflect on its own strengths and determine how and where to connect. Through interviews with farmers and farmer resource organizations in Washtenaw County and observations at agricultural events, we found that the farming community in Washtenaw County can be divided along a spectrum from small-scale diversified farmers to large-scale commodity farmers. This division is based on farm size, type of product grown, practices employed, and market. While imperfect, this spectrum provides a useful model for understanding and navigating the farming community.

Our research exposed a variety of definitions and perspectives on conservation agriculture. These can also be organized into a spectrum, from seeing conservation as intrinsic to farming to seeing it as additional to farming. This spectrum reflects the approaches to conservation described in Chapter 2. Farmers who view conservation as intrinsic often take an agroecological approach to farming, which recognizes the farm as part of a larger ecological system that includes interactions between soil health, water quality, and pest management. Farmers who view conservation as additional to farming understand conservation agriculture as a set of specialized and compartmentalized practices that address specific environmental impacts and on-farm resources concerns. These practices function within and alongside the industrial agriculture system, and seek to mitigate its harmful environmental impacts. Both conservation perspectives incorporate organic agriculture practices, and adapt them to their particular approach. This spectrum reflects another distinction noted in the literature:

Incremental change—greater adoption of a single practice, for example—was facilitated by fitting soil health practices into farmers’ existing agronomic systems, economic operations, and mental models. Transformative change typically involved a rupture of farmers’ mental models... which led farmers to reject previously held common sense and systemically redesign both their farming system and their economic operation (Carlisle, 2016).

The goal of industrial conservation and industrial-scale organic agriculture is incremental change, while transformative change is more aligned with agroecological conservation and organic agriculture as an alternative to industrial agriculture. Farmers that see conservation as additional to farming are interested in incremental change, and farmers that see conservation as intrinsic to farming are interested in transformative change.

The conservation attitude spectrum runs parallel to, and is imperfectly aligned with, the small-scale diversified to large-scale commodity spectrum. Small-scale farmers tend to approach conservation as intrinsic to the work of farming, and conventional farmers approach conservation as a practice or set of practices to adopt or not adopt.

These two groups of farmers operate mostly independently, both socially and professionally. The small-scale diversified community is younger and comprised of more beginning farmers than the large-scale farming community. This community is organized around farmers markets and Argus Farm Stop. They also connect

at Farmer Beer Night and the annual Local Food Summit. They are a product of, and dependent on, the vibrant local food movement in Ann Arbor for their economic sustainability. Their main source of resources and information is through informal social connections, online sources, and one-off workshops and trainings.

Large-scale commodity farmers in Washtenaw County are largely multi-generational and tend to be closer to the average age of farmers in the state, 57 years. There is concern about the rising average age of these farmers, though there is a thriving Young Farmers network in the county. The single most important social and professional hub in the large-scale commodity community is the Michigan Farm Bureau. These farmers access resources and information through MSU Extension and agrochemical company salespeople.

Underserved farmers--women farmers and farmers of color--grow in Washtenaw County at lower rates than White male farmers. In Washtenaw County, 19.4% of primary farm operators are women and 4.6% of all farmers are farmers of color (Census of Agriculture, 2012). Black farmers make up less than 1% of farmers in Washtenaw County (Census of Agriculture, 2012). Though not the rule, many Black farmers operate small-scale diversified farms and understand conservation as intrinsic to farming, and participate in the small-scale diversified farming community. However, due to their low numbers and shared experience of historical discrimination, Black farmers have also built a strong regional and statewide community through which they connect socially and professionally. Michigan Food and Farming Systems (MIFFS) provides spaces, or supports groups that provide spaces, for these communities to connect across the state, including their yearly conference.

While not every farmer fits neatly into the small-scale and large-scale categories, these categories represent two distinct communities who see themselves as different from each other. The methods a farmer chooses are not just a business choice, they reflect values and identity, and often political affiliation. These groups largely do not socialize together, and often view each other with an “us vs. them” mentality.

These farming communities are built on strong relationships and deep trust: trust between farmers, trust between farmers and the FROs that serve them, trust with consumers, trust between FROs. There is a lack of trust between the two farming communities, and between environmental organizations and FROs that serve large-scale commodity farmers. Trust and relationships determine how resources are disseminated and accessed. One study that examined the history of sustainable agriculture noted the importance of trust between parties in determining what information is believed. The author notes, “We often find truth in those social relations we trust” (Carolan, 2005).

4



A close-up photograph of a branch with several bright green leaves. The leaves are in sharp focus, showing their veins and texture. The background is a soft, out-of-focus blue sky with some blurred green foliage. The overall lighting is bright and natural, suggesting a sunny day.

MOTIVATIONS AND BARRIERS

4

“I’m always surprised at somebody that’s been farming for 20 or 30 years, some of the things that maybe they don’t understand about why they’re applying nutrients... I’m always blown away how willing they are to learn from us... They’ve taken initiative. They’ve said, ‘No this isn’t a good idea anymore.’ They’ve done that, they’ve made that change.”

-Michigan Agriculture Environmental Assurance Program Representative

Understanding the agricultural community in Washtenaw County and how it organizes itself is a useful foundation for understanding the variety of motivations and barriers farmers experience in participating in conservation agriculture. Not all farmers are interested in practicing conservation agriculture. We found that those that are interested are motivated by a few different factors. They may see conservation as a value. Or, they may be motivated by their knowledge of the need for conservation or of the practices and resources available for conservation agriculture. Farmers were also motivated by external pressure, including market incentives, regulatory incentives, and social pressure.

Farmers who are motivated to participate in conservation agriculture still face barriers to participation. The two groups of farmers discussed in Chapter 3 face different barriers. Small-scale diversified farmers largely face barriers related to staying in business. These include access to land, access to capital, and access to markets. Large-scale commodity farmers face barriers related to changing their operations. These barriers include the small-profit margins they receive, the cost of adopting new practices, and the adaptability of the practices. Both types of farmers struggle with a lack of conservation agriculture research.

Farmer Motivations

To help TSN understand how they might support conservation agriculture, we sought to understand farmers' motivations for participating in conservation agriculture. To understand their motivations, we asked farmers questions such as:

- Reflecting on practices you've chosen to adopt with conservation in mind, what motivated you to adopt these practices?
- What are your thoughts about these practices so far? Advantages, disadvantages?
- Did you discuss these conservation practices with other farmers?
- What management outcomes do you hope to have in the future?

We asked farmer resource organization (FRO) representatives questions such as:

- What challenges or barriers to adopting conservation practices have farmers mentioned to you or that you have observed?

An analysis of the responses to these questions revealed that farmers are motivated to participate in conservation agriculture for a variety of reasons, which can be summarized into three categories: conservation as a value, knowledge, and external pressure.

Conservation as a Value

Through this research, we found that many farmers who participate in conservation agriculture do so because they believe it is “the right thing to do.” They are concerned about water quality, pollution, and soil health, and are driven to adjust their practices to manage for those concerns. A representative from the Michigan Agricultural Environmental Assurance Program (MAEAP) said, “A lot of people, they just want to do the good, the right thing.” For those motivated in this way, environmental impact concerns are aligned with their values.

A representative from an agricultural chemical company echoed this sentiment:

A lot of these farmers wanna show that they're doing the right thing. That they're applying the right products. They've got buffer strips. They're not over-applying fertilizer, and so they may not be using these programs from NRCS [Natural Resources Conservation Service], but they're implementing some of these things on their own farm... Just because they believe it's the right thing to do.

We found that farmers across our spectra, from small-scale diversified to large-scale commodity, and from conservation-as-intrinsic to conservation-as-additional, can be motivated by a belief in conservation, and perceiving conservation to be aligned with their values. While most farmers view themselves as stewards of the land regardless of practice, farmers who see conservation as a value actively pursue ways to mediate negative environmental impacts on the land. These farmers often self-identify: “...I am the type of farmer that wants to build soil and leave it better than I found it.”

When conservation is a value, conservation practices are seen as common sense. As one farmer put it:

We don't have organic certifications, but all are organic practices and all of our inputs are 100% organic. My grandmother, she just intuitively knew that. This is way before any organic standards anywhere. It was just common sense to her. You don't put anything in your soil, that you don't plan on eating somehow. It's going to be in your body at some point.

Knowledge of Need, Practices, and Resources

Farmers are also motivated to participate in conservation practices when they have knowledge of the need for conservation, the range of conservation practices being practiced, and the resources available to support these practices.

When a farmer is aware of and understands the impacts of particular farming practices on the environment, especially when they can see the direct result of the impact on their own farm, they are often motivated to farm in a particular way that mitigates those impacts.

One conventional farmer explained:

One-third mile to the west of us is the beginning of the Kalamazoo River and a half mile to the south are the headwaters of the Grand River which is right out front... As a result of that we have kind of a sandy, loam dirt which can be a little bit arid but we've irrigated since 1975. So one of the things that we actually concentrate on is water as a resource, as an irrigation system setup type thing. Because we're there, it's just a case of that's our resource to keep our farm going...in order for us to continue to move forward and be profitable we need water. That's what we watch out for.

We found that as individuals who work on the land and make their living from it, regardless of their interest in conservation, farmers are usually proud of and love the land they farm. When they made the connection between particular farming practices and the health of the land they feel connected to, and the long-term sustainability of their business, they were motivated to move toward conservation practices.

The same conventional farmer mentioned above explained their feelings about the quality of the natural resources in their area:

We practice what they call the Four R's... We've done that for many years and we soil test aggressively. We're conscious about nitrates and phosphates in the water, especially being at the headwaters... The thing that I'm the proudest of is the fact that there are three or four farms between the origin and the city. Our numbers, complete water quality numbers, are the best...

Farmers who understand the need for conservation agriculture were also motivated by the knowledge of what conservation options exist. Farming background and education influenced farmers' knowledge-base. We found that farmers who come from farming backgrounds are influenced by the type of farming they grew up in--if that did not include conservation practices, they may not be aware of alternatives to the way they farm. Further, different agricultural degrees and training programs have different foci and emphases on conservation

agriculture.

The types of conservation options available also depend largely on the scale and product type being grown. A farmer growing 10 acres of vegetable crops, for example, will have more options for farm-scale conservation practices, such as permaculture. A farmer growing 10,000 acres of corn and soy, on the other hand, will have more options for practice-based conservation practices, such as filter strips, and fewer farm-scale conservation options.

A MAEAP technician spoke about conventional farmers who were open to new information about conservation practices offered through the MAEAP program:

I'm always surprised at somebody that's been farming for 20 or 30 years, some of the things that maybe they don't understand about why they're applying nutrients... I'm always blown away how willing they are to learn from us... They've taken initiative. They've said, "No this isn't a good idea anymore." They've done that, they've made that change.

Assuming a farmer understands the need for conservation and the options for implementing the practices, we also found that another motivating factor is an awareness of the resources that can help farmers implement and pay for these practices. Many organizations provide on-the-ground technical assistance, planning support, educational workshops and resources, and loans and grants. Those that know of these resources are more able to access them, and then are able to pursue the associated practices.

External Motivations

Farmers are also motivated to participate in conservation agriculture practices by external factors, specifically: market incentives, regulatory incentives, and social pressure.

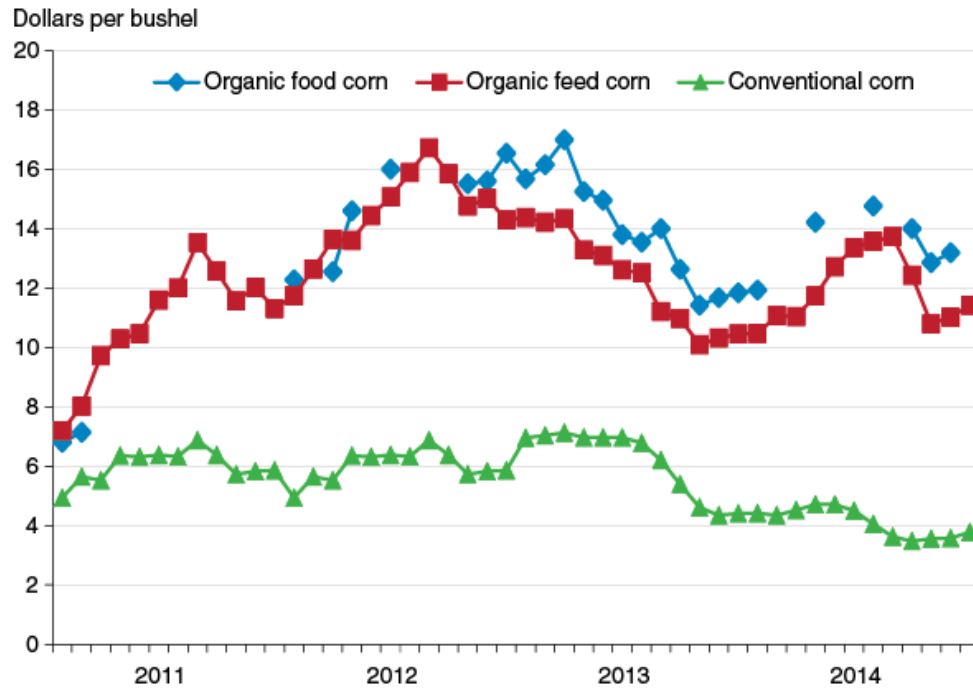
Market incentives

Conventional commodity crop growers can get a premium price for organically certified product, so may be motivated to grow organically by the promise of higher returns. Figure 4 shows a price comparison between conventional and organic corn.

Commodity farmers may also be motivated by the promise of increased yields from improving soil health. One Extension educator who provides resources on conservation practices told us how they explain the benefits of soil health to farmers:

OK, so the stuff we're talking about, about soil health and better soils, you know, there's evidence within the state that if you have better soils you can increase your productivity, so let's talk about how you can improve your soils; your soils are limiting you. You have access to the same genetics, to the same precision agriculture, to the same equipment, the same herbicides and pesticides, and they are out-yielding you on average by 40 bushels per acre. You have room to improve your soils and profit from it.

The monthly average price received for organic feed-grade corn was \$6.82 higher than for conventional corn during 2011-2014



Source: USDA, Economic Research Service calculations from USDA, Agricultural Marketing Service organic price data and USDA, National Agricultural Statistics Service conventional price data.

Figure 4.1: Price comparison between conventional and organic corn.
Source: McBride and Greene, 2015

The market provides a different incentive for farmers who are in some way associated with their products, such as branding on a store shelf, in face-to-face interaction with customers at a farmers market, or in selling directly to restaurants. These farmers feel accountable to their community, so community opinions influence their decisions. Increasingly, especially in highly educated environments such as Ann Arbor, informed consumers will ask about practices at farmers markets or when visiting local farms (a practice encouraged in the local food movement), and make purchasing decisions accordingly. In order to compete, farmers may feel motivated to use particular practices. A representative from the Argus Farm Stop team noted the unique nature of Ann Arbor’s informed customer base: “We happen to live in an area that absolutely the customers, they want to know. They care. Because it’s Ann Arbor.”

One farmer, who sells largely to the local retail market, explained why they do not use chemicals on their farm: “...people like to see more-- less use of chemicals, more of an organic kind of system... It’s just, if you don’t have to, you don’t need to and people like it. They’ll ask if you’re organic and I’ll say no, but...I’m not certified but I do all this stuff.”

This representative also described what one of the farmers who sells at Argus told them about their practices: “I don’t want to use chemicals. First of all, they’re expensive. Second of all, my customers don’t want them.”

Regulatory Incentives

Farmers also choose particular practices because of state and federal regulation. In Michigan, these regulations are largely defined by the Michigan Right to Farm Act, passed in 1981, which “authorizes the Michigan Commission of Agriculture and Rural Development (Commission) to identify and adopt Generally Accepted Agricultural and Management Practices (GAAMPs), and requires the Commission to review each set of GAAMPs annually” (citation). GAAMPs are voluntary guidelines that provide “uniform, science-based standards” for best agricultural practices in the State of Michigan with the intention of promoting environmental stewardship (SEMCOG, 2000). GAAMPs cover eight categories:

- Manure Management and Utilization
- Pesticide Utilization/Pest Control
- Nutrient Utilization
- Care of Farm Animals
- Cranberry Production
- Site Selection and Odor Control for New and Expanding Livestock Facilities
- Irrigation Water Use
- Farm Markets

While these standards are voluntary, farmers must adhere to them in order to be legally protected from a nuisance claim under the Right to Farm Act, citizen complaints to the Michigan Department of Agriculture, and compliance enforcement through the Michigan Department of Environmental Quality (SEMCOG, 2000). Assuming they are informed of the standards, farmers are motivated to ensure their practices adhere to state GAAMPs.

It is unclear how aware of GAAMPs the farming community in Southeast Michigan is based on our research. While they have been in place since 1981 and are updated yearly, they were only mentioned by one FRO practitioner, and they were not mentioned by name at any of the conferences we attended. It is clear, however, that farmers are concerned about regulation, their ability to stay in compliance, and the impact of regulations on markets and profitability.

Social Pressure

Social pressure and community norms influence farmers’ decisions regarding participating in conservation agriculture. Like most instances of social change, someone needs to be the first. For conventional farmers, an early adopter in a community is necessary to spark community-wide change. Those early adopters of new practices are often community leaders in other aspects of their lives. An MSU Extension educator described how adoption happens:

Part of it is self-confidence. I mean you find these lead farmers, they tend to be part of farmer organizations, they are on the Wheat Board, they are on the Corn Board, they’re on the Farm Bureau board, you know, they are serving as county commissioners. It comes out in more than just their farming. It’s just the type of person they are. They are leaders. And those are the ones that are going to try the practices first. And we lean on those people to help convince the next group, you know, when they start seeing them do something, they take note.

“Ah, who’s doing that, maybe I ought to take a look at that.”

This observation is confirmed by an early adopter himself, “I think like a lot of the first adopters, I was pretty engaged in some of the state ag organizations.” Confident community leaders are more likely to take the risks necessary to try a new practice.

For large-scale commodity farmers, there is also social pressure to defend how their fields look to other farmers. Farmers often feel hesitant to do something that will make their field look different than is expected due to a conservation practice. An Extension educator described this challenge:

Farming is kind of a lonely business. You’re doing it out in front of everybody, you don’t want to have that crappy-looking field. So there’s peer pressure... They need to have not only the confidence to do it [adopt a new practice], but they need to be able to explain why they’re doing it in the coffee shop. You know when they go to the coffee shop and the guy goes, “What the hell are you doing on that field on 40th Street there?” You know, you go “I’m doing this, and this is why I’m doing it.” And that they have a good reason for doing it.

It takes confidence for a farmer to counter community norms and be an early adopter, and knowledge of the practices they are taking on.

Education and family play important roles in creating the social norms that dictate what type of farming practices an individual will adopt. To illustrate, hypothetical Farmer #1 grew up on a conventional commodity crop farm, participated in youth education programs through 4H and FFA with other children of conventional farmers, received a degree in agronomy from MSU, and now socializes with conventional farmers at Farm Bureau events. Farmer #1 grows conventional commodity crops and looks to other conventional commodity crop farmers to indicate the social and cultural norms of their group. If those farmers in Farmer #1’s network participate in conservation practices, Farmer #1 will find those practices socially acceptable and politically palatable, and may be motivated to adopt them.

Hypothetical Farmer #2 did not grow up farming or around farmers. As a child, instead of 4H and FFA, Farmer #2 participated in an outdoor education program such as Agrarian Adventure, which focuses on school gardens and sustainable agriculture. Farmer #2 went to the University of Michigan and studied agroecology, and then participated in the MSU Organic Farmer Training Program. Farmer #2 started farming at Tilian Incubator Farm, and now socializes at the Local Food Summit and Farmer Beer Night. Farmer #2 is a small-scale diversified farmer who is surrounded by social norms that dictate that conservation is inherent to farming, and that conventional commodity farming is inherently unsustainable.

These cultural norms are a powerful force in determining the type of farming and the perception of conservation that a farmer will likely have.

Other Factors

The factors motivating farmers to participate in conservation agriculture are varied and complex. As a MAEAP

technician explained, regarding the adoption of MAEAP verification and the interest in conservation practices:

They see that you get an influential farmer that gets a [MAEAP] sign, all of a sudden another one of his friends gets a sign, so then everybody starts sort of falling like dominoes. That happens in places, and sometimes that happens because we get a technician that's very good... and other areas that may not be happening... I don't really see any other broad trends in terms of acceptance... This is a higher standard of stewardship, and that's not going to be something that we're ever going to have 100% on. I think that's pretty clear as well.

Some individuals who work with farmers expressed that age may play a factor. Younger farmers are more open to new ideas, and are more willing to experiment with new practices. A young farmer who is farming with their parents expressed their enthusiasm for experimentation: "We're always trying something new, as well. Last year, we raised purple beans. We always try something. I enjoy that."

Counter Motivations

While plenty of farmers may not be motivated by the aforementioned practices, some farmers are actively motivated to avoid conservation agriculture practices. These are largely the converse of the motivations discussed above, but are worth mentioning as they are distinct from the barriers that prevent motivated farmers from participating in conservation. We only interviewed farmers who already had some interest in conservation agriculture, so this analysis is an interpretation of reports from FROs on their understanding of why farmers do not participate in conservation agriculture.

Some farmers are actively opposed to conservation agriculture. These farmers either do not agree that certain agricultural practices have negative environmental impacts, or are not interested or concerned about those impacts. They and their community are not thinking about the connection between environmental impacts and agricultural practices.

These farmers may see that the way they are farming is working and believe it will continue working, so see no need for any change or alternative. These farmers understand that they are farming "the right way," the way their parents and grandparents farmed, and have no need to change those practices. Some farmers see conservation agriculture as incompatible with the long-term economic viability of their farms.

Proposed conservation practices may also feel threatening to some farmers. They see changes to the way they farm, and especially regulations that require these changes, as threatening to their way of life. Similarly, due to their political values and identity, conservation may seem unaligned with their politics, and therefore unappealing. Farmers, like all people, are influenced by their group's norms. Farmers whose community does not see the need for conservation practices and does not see them as valuable will reflect that perception in their choice of practices.

Barriers to Conservation Agriculture

While interest in conservation agriculture is growing as the environmental impacts become better understood, farmers and FROs shared many barriers that prevent farmers from being able to implement conservation practices. These barriers are complex and interdependent, and vary by farm type.

Barriers for Small-Scale Diversified Farmers

As many small-scale diversified farmers are already practicing conservation agriculture, their biggest challenge is staying in business. The major barriers to staying in business for these farmers are access to land, access to capital, and access to markets.

Access to Land

The most common way the farmers we interviewed to get access to land is through family land ownership. Several farmers mentioned that their land came from their family, and those that did not have land access from family connections discussed the challenge of finding land to farm. Land in Washtenaw County is especially scarce and expensive due to development pressure from Ann Arbor. Formally renting land is an option, though the nature of farming is that it is relatively immobile and requires long-term investment in things like infrastructure and soil health. This requirement for long-term investment is especially true for many conservation practices. The lack of stability associated with renting makes it a less appealing option. Organizations working to support farmers in accessing land include the Ann Arbor Greenbelt program, land conservancies such as the Legacy Land Trust, and the farm incubator program Tilian Farms, a project of MIFFS.

An FRO representative who works with underserved farmers commented:

One of the major barriers is just having access to land to farm on. That's what I'm hearing time and time and time again. You can have an idea, you can have the skills, but you actually need to have some land that you can farm on and hopefully do it for the long term because the greatest investment in farming is the health of the soil. If you're just there for the year and you have to move, then that doesn't really make sense. You need some kind of long-term security.

An FRO practitioner spoke to this challenge specifically in Washtenaw County:

I will say Washtenaw County is incredibly expensive in terms of land... I would foresee there's not going to be that many people able to stay that close to this area...the biggest stumbling block for beginning farmers is land access.

Access to Capital

Funding farming enterprises is often a challenge. It requires significant start-up capital, with low expected return on investment. Farmers require year round expenditures to operate, but only receive seasonal income in places with deep winters like Michigan. Many farmers mentioned the cost of infrastructure such as packing and storage facilities and transportation as a barrier to running their business. Many lenders, even agriculture-

specific lenders, are skeptical of the small-scale diversified farming model and are hesitant to give loans to this type of operation. Government lenders are supposed to fill this gap, but barriers exist to accessing government resources, detailed in Chapter 5. One small-scale diversified farmer shared their experience trying to get a government loan to fund their CSA farm:

I went [to] some other federal offices to ask about loans... [They] just didn't think it was feasible. Like that one [the CSA model] to me is pretty proven... I didn't get laughed out of the office, but it didn't feel very comfortable... That didn't make me feel like I could use any of their financing programs.

Access to Markets

The market for locally grown produce, especially produce grown sustainably, is growing thanks in large part to the local food movement. Ann Arbor is a hub for the local food movement which drives demand for products grown by small-scale diversified farmers. However, supply and demand must grow in tandem. A growing demand has allowed more farmers to get into the industry, but they are hesitant to expand their operations unless they can be guaranteed a market. The demand needs to grow before a farmer can invest in increasing production to meet that demand, but it is challenging to grow demand before there is the supply.

Currently, most local food is sold directly to consumers through farmers markets, CSAs, and farm stands. Some FROs in Washtenaw County predict that the consumers in the county who want to buy this kind of food have already been reached. In order to improve business outcomes, farmers could benefit from expanding their markets to include wholesale and restaurant customers. These markets have different expectations than the direct-to-consumer markets to which these farmers are accustomed. For example, a farmer brings whatever they have to a farmers market each week. If there are a few pounds fewer of carrots one week, they will just sell fewer carrots. A restaurant, however, needs to have a certain amount of carrots to ensure they can fill all of their orders for the week. Other differences between restaurant and wholesale markets and direct-to-consumer markets are price point (higher at the farmers market), presentation (different cleanliness and packaging expectations for wholesale), and volume (wholesale distributes in bulk).

It can be challenging for farmers to adjust to the demands of wholesale and restaurant markets, or to find those markets to begin with. Washtenaw County currently provides funding for a position through MSU Extension to expand markets for local farmers. This position has been developing these markets in the region since 2016.

Lack of Relevant Research

While small-scale diversified farmers' primary challenge is staying in business, they also face barriers in improving their conservation practices and adopting new ones. One barrier is a lack of research specific to the scale and practices of small-scale diversified farmers, and formalized networks for distributing that information. Farmers lack information about conservation practices that are particular to their needs, especially farmers that are experimenting with alternative growing methods such as food forests, perennials, and permaculture. Most agricultural research is conducted at research institutions such as land grant universities like Michigan State, which emphasize support for industrial-scale farmers. The research and resources available through that system

are not geared to the scale and methods of small-scale diversified farming, meaning these farmers lack both sufficient research to support their decisions, and the technical support to implement conservation practices. A representative on the planning committee for the Local Food Summit, an annual Washtenaw County food systems conference, described the ways in which small-scale diversified farmers use social networking events and gatherings to exchange knowledge on particular practices:

So the challenge and beauty of, I think, the type of agriculture that we want to move towards is that there are some rules that apply generally...but generally speaking as a field, there's a recognition that the farmers desperately need more research, and they're making do the best they can, and most of the time they're doing many experiments on their own farms, just trying to figure it out, and they need ... the more ways that they have to share information with each other, the more opportunities they will have to move forward as science tries to catch up.

An Extension educator explained the lack of relevant research produced by MSU for small-scale diversified farmers:

I think that especially at MSU a lot of the research is still tied to big ag because that's who they're funded by. So they're doing variety trials and they're using exactly the same type of practice to plant and do all these things. And there's not a lot of research, there's some, there's some. But there's not a lot on soil health and beneficial insects and maintaining hedgerows and planting plants to attract beneficial [insects]... The way that small agriculture is working now is not a perfect solution but we're getting there. The more research we can put into that the better I think.

An ecologist who has done research with farmers explained the need for more research and more systems for distributing research for small-scale farmers:

For many of the farmers doing this work, they did not get information about that type of work from a parent or a grandparent who passed down land. They got that information from some connection that they made with some other crazy person who was doing something that they were doing, or read a lot about it and then just started trying it, and they're always talking to each other.

I've heard them say, 'I need other farmers to talk to. I just need someone to talk to.' I don't think that they know whether or not that's a researcher or another farmer, but the gratitude that they have for the research that we do on their farm is incredible...

Because there just is not information out there. If they want to grow organic corn, there's a pretty good amount of information out there for you, but if you want to do permaculture or inter-cropping or no till, these are things people are really just starting to figure out.

Barriers for Large-Scale Commodity Farmers

For large-scale commodity farmers to participate in conservation agriculture, they must make a change to their existing system. These farmers face various challenges in making changes to their system, including:

- Small and volatile profit margins earned with commodity crops.
- The cost of making a change, including equipment, labor, and potential reduction in production.
- Adaptability of proposed changes, including equipment and labor, learning curve, and risks associated with the change.

Small Profit Margins

One of the major issues discussed by large-scale commodity farmers is the price of commodities. Commodity crops such as corn, wheat, and soy are sold on the global commodity market, meaning that prices are volatile and dependent on global market supply and demand. Despite Farm Bill subsidies and crop insurance, commodity farmers are constantly worried about the price of their crops. Farmers are first and foremost running a business, and at the end of the day, the economics of their decisions must translate into a viable income.

A dairy farmer explained:

We get paid the same base price, but that base price fluctuates a lot on the market as a whole, the whole US market, and really, it's huge... The international market, too, affects it a lot... Like in 2014, we saw record high prices, but then by, it was 2015, you're barely able to make ends meet.

When farmers feel the crunch of low commodity prices, they do not have extra capital to invest in making changes to their farming practices. They also feel less safe in taking a risk on a new practice. An Extension educator described farmers' thinking:

They are concerned about prices and markets. Prices are down. You know, they don't have much in that budget to spare. So if you're asking them to do something that costs money you're wasting your breath because they haven't got the money. When you're looking at \$3-\$3.50 bushel corn, you know, there's not much room in that once you get their production costs out of there.

A commodity farmer explains their hesitation in adopting a more complex crop rotation: "I'd like to do a bigger rotation. But I guess it's where you sit financially and what you're comfortable in doing."

Cost of Adoption of Conservation Practices

Adjusting a conventional commodity farming system to include conservation practices may require new equipment or additional labor, costs a farmer is not always willing or able to incur. All new practices and their potential benefits are weighed against the potential cost of their implementation.

An administrator for MSU Extension explained how farmers decide which conservation practices to implement:

It's that balance of cost of implementation versus benefits of conservation. So, for example, filter strips and proper tile drainage in-field may be the [recommended] practice--versus using a cover crop in some areas, or fall till versus no till versus spring till...[the practices] get evaluated based on the profitability and nutrient retention, and some of those sorts of things.

A farmer described their thinking when considering the cost of implementing a new conservation practice:

I mean, it might be a good idea. It's not that we're against conservation, but I'm a small farmer.

Am I gonna have to go out and spend fifty, one hundred thousand dollars to buy this machine to fix my fields the way to make them what you wanna do?

Adaptability of Practices

New practices must also be able to be adapted into a farmer's system. If a new practice causes too big of a disruption, a farmer will not be able to adopt it. For example, incorporating cover crops into a crop rotation could cause a farmer to miss a seasonal rotation, which would impact production and therefore sales. Each farm is different, from micro-climates, to soil type, to moisture. Farmers need the practices they adopt to work with their particular conditions.

In reflecting on these challenges, a representative from the MAEAP program said, "If conservation was easier we wouldn't have a problem."

Many farmers mentioned site-specific concerns and weather when discussing the adaptability of conservation practices. The unpredictability of weather makes any type of farming challenging, but makes adopting new practices even more daunting. A representative from an ag chemical company said, "Weather seems to be our biggest problem. Either too dry or too wet." Climate change will increase unpredictability, making farming even more challenging. One Extension educator discussed concerns related to climate change:

I mean certainly climate change is a big topic because of the different weather, and weather impacts farming so much... I think just the timing [of planting] is getting really screwy because of climate change and the rainfall is really different. The combination of the timing and the drainage pressures with heavier rainfalls are creating soils [that are] wetter for longer.

The next chapter discusses the wide variety of government resources available to help overcome these barriers. However, additional barriers exist that prevent these resources from accomplishing their stated goals, which are discussed in Chapter 5.

Conclusions

Though the environmental impacts of conventional agriculture are well-documented and existing conservation practices can provide environmental and economic benefits, studies find a low rate of adoption of conservation practices by farmers. Barriers remain that make it difficult for farmers to adopt or maintain conservation practices (Carlisle, 2016).

This study found that the primary factors motivating farmers to participate in conservation agriculture were seeing conservation as a value, knowledge of the need for conservation and the practices and resources available, and external pressure (including market incentives, regulatory incentives and social pressure). Farmers interested in adopting conservation practices faced different barriers to doing so, depending on farm type. Small-scale diversified farmers, who are often doing conservation already, face barriers related to staying in business, including access to land, access to capital, and access to markets. They also struggle with the lack of research

on conservation practices specific to the context of their farms, and the lack of dissemination channels for accessing that research. For large-scale commodity farmers, adopting conservation practices requires making a change, and the barriers they face are related to challenges in changing their systems. These barriers include small profit margins, the cost of making a change, and the adaptability of the changes. The impacts of these barriers are amplified for underserved farmers, who are largely small-scale, due to the historical loss of land, structural and institutional barriers to capital accumulation, and exclusion from White-dominated networks and social circles.

Other studies have found many of the same factors to be important to farmer participation in conservation agriculture that this study found. They also note that the geographic, economic, and social context in which farmers operate impacts their decisions (Carlisle, 2016). The factors influencing behavior are complex, and have been modeled by various researchers. They have sought to capture what motivates farmers to adopt conservation practices by looking at the characteristics of the farm and farmer, and the larger context of the farm, such as commodity prices and availability of government funds, and further work has been done to incorporate an understanding of beliefs, attitudes and norms, per the Theory of Planned Behavior and the Reasoned Action Approach to understanding behavior change (Reimer, Weinkauff, & Prokopy, 2012). The corroboration of our findings with other studies will prove important if The Stewardship Network decides to apply these findings outside of Washtenaw County.

Carlisle (2016) also draws an important distinction between early adopters, potential adopters, and non-interested non-adopters of conservation agriculture, and the barriers and motivations they might experience. Our study focused primarily on early adopters. The Stewardship Network should consider this distinction in determining which farmers to focus its attention on, and how.

5





**FARMER
RESOURCE
ORGANIZATIONS**

5

“The government resources are getting harder to use... our budget’s been reduced by every budget season. Then the USDA programs get reduced a lot. The government resources are becoming less and less and less. A lot more resources and funding have gone to private industry, just because the government just isn’t getting paid with financial needs to operate the programs.”

- Farmer Resource Organization Representative

As detailed in the previous chapter, farmers face a variety of barriers in the adoption of conservation agriculture practices. There are many organizations in Washtenaw County and the state of Michigan overall that work with farmers to help them overcome these barriers. For The Stewardship Network (TSN) to know what role it may have in conservation agriculture, it is important for it to understand the types of organizations and resources that currently assist farmers.

Interviews with farmers and FROs revealed that there are over 50 organizations that work at the interface of agriculture and conservation to support farmers in the adoption or maintenance of conservation farming practices in Southeast Michigan and throughout the state. A complete list of these organizations and basic information about each can be found in Appendix D. An in-depth description of the 13 most important FROs is provided later in this chapter. The institution types include federal and state agencies, markets and distribution centers, land grant universities, farmer-focused nonprofits, conservation-focused nonprofits, and conferences and gatherings.

The mission and values of many of these organizations center around developing an economically and environmentally sustainable agriculture and food system. In Washtenaw County in particular, organizations are

focused on supporting a local food system that is both sustainable and just. Though all of these organizations in some capacity support conservation practices, the extent to which supporting conservation agriculture is their primary focus, varies. Twenty-six out of the fifty organizations primarily focus on conservation. Conservation agriculture is secondary to the mission of the remaining organizations, and they provide more limited resources for that purpose.

Strategies

The strategies these organizations employ to support farmers and/or conservation agriculture can be divided into eight categories: advocacy, financial support, social networking, research, education, consulting and technical assistance, markets, distribution and economic development, and community development. Many of the organizations we investigated use more than one strategy.

Advocacy

Advocacy organizations forward policy recommendations to lawmakers and advocate for policy change on the local, state, and federal levels. They generally provide opportunities for individual farmers or grass-roots organizations to advocate collectively on issues related to farming in general, or conservation agriculture more specifically.

Financial Support

Substantial financial support opportunities for farmers are available through federal and state agencies to help address issues of land accessibility and the implementation costs of conservation practices. Grants and loans are available to farmers through various conservation programs.

Social Networking

Some organizations focus primarily on social networking for farmers and other agribusiness professionals, while other organizations provide social networking opportunities in addition to their other main organizational focus such as advocacy, education, or community development. Social networking provides opportunities for farmers to exchange knowledge and resources with each other, and build greater community cohesion. These opportunities are often provided in the form of annual conferences or monthly gatherings at both the state and county level.

Research

Some institutions have programs that focus specifically on conducting and providing research on conservation agriculture practices. Such research may focus on practices for particular crops and farm sizes, with an emphasis on increasing yields and managing pests while providing additional environmental and human health benefits.

Education

Education is the focus of many organizations involved in agriculture. Education-focused programming includes conferences, workshops, newsletters, and Extension educators. The target audience for this programming ranges from consumers to farmers to other agribusiness professionals.

Consulting and Technical Assistance

Private and public institutions both offer consultation and technical assistance. Resources offered by these organizations provide one-on-one, on-farm support and additional services such as on-farm environmental surveys and assessments, conservation planning, habitat and wildlife management consulting, and fertilizer application rate recommendations.

Markets, Distribution, and Economic Development

A number of organizations focus on supporting farmers by providing access to markets, product distribution opportunities, and other forms of economic development.

Community Development

For some organizations, community development is the primary strategy for supporting conservation agriculture practices. Community self-sufficiency and empowerment are a key focus of these organizations, which means that creating and supporting agricultural systems that rely on fewer agrochemical inputs and conserve soil and water resources for the long-term utilization is critical to their missions.

Key Farmer Resource Organizations

The above categories are a useful framework for understanding the types of resources provided by farmer resource organizations (FROs) in Washtenaw County. In this section, we describe in detail the 13 key organizations that are central to the farming community in Washtenaw County. Those organizations are:

1. Michigan State University Extension
2. Natural Resources Conservation Service (NRCS), Conservation District, and Michigan Agriculture Environmental Assurance Program (MAEAP)
3. Crop Production Services
4. Michigan Farm Bureau
5. Michigan Food and Farming Systems (MIFFS)
6. Ann Arbor Farmers Market and Argus Farm Stop
7. Local Food Summit
8. Farmer Social (a.k.a. Farmer Beer Night)

Each organization's importance was determined by how often it was mentioned and its relative importance to the farming community. We explain the role each organization has in the agricultural community, the strategies employed and resources provided for conservation agriculture in particular, the main recipients of those resources, and the connections each has to other FROs. Further, we discuss some limitations the organizations face, as well as potential opportunities available for The Stewardship Network to connect with these FROs.

To understand these FROs and how they interact in the community, we reviewed their websites, interviewed

organization representatives, attended conferences, and distilled perceptions of these organizations through interviews with farmers.

1. Michigan State University Extension

Role, Strategy, Audience

Michigan State University Extension, a land grant university program based in Lansing, Michigan, offers services and programming to individuals, communities, and businesses in the areas of agriculture, business and community, and food and health. Extension disseminates research and information produced by Michigan State University (MSU) to the community. Its mission is to “help people improve their lives through an educational process that applies knowledge to critical issues, needs and opportunities” (MSU, 2015). The strategies MSU Extension employs are education and consulting and technical assistance.

Extension educators in the area of agriculture work with farmers throughout the state to provide advice and direction on a variety of topics, including soil health, production, and particular practices such as cover crops. Each Extension educator has a particular focus. An educator described what production-focused Extension educators do: “You know, helping the soybean growers grow soybeans and solve their problems, and what diseases are going around, and what pests are going around.”

This same educator mentioned that while each Extension educator has their particular area of expertise, there is a lot of collaboration between educators to assist in providing the appropriate resources to farmers, depending on their needs and interests. The regional coverage of each Extension educator also varies; some educators represent one or more counties, while others serve farmers across the state.

Resources, Programs, and Tactics for Conservation Agriculture

Extension offers workshops and presentations on the topic of conservation agriculture, though it is not the primary focus of the organization. Farmers often attend these conservation-oriented events because they are interested in learning more about something they have read, or they received a suggestion to attend from another organization that they trust. One educator sees that it is a genuine interest in learning about conservation agriculture practices that brings farmers to seek out information from educators.

Connections and Reputation

MSU Extension collaborates with the Natural Resources Conservation Services (NRCS) to connect farmers to programs such as the Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), and Michigan Agriculture Environmental Assurance Program (MAEAP), which are all voluntary conservation programs or grants. NRCS is a USDA agency that provides financial and technical assistance to farmers and ranchers interested in implementing conservation practices (USDA, 2018). The Conservation Districts, a state agency that provides technical assistance for conservation agriculture, are particularly important for connecting farmers to Extension programming.

Extension is not a singular entity; it is comprised of many educators that specialize in a diversity of topics from farm management to water quality education. The reputation of each of these educators in the farming community varies, but many educators said they do their best to provide for the farmers they work with and build strong relationships. For example, one educator offers their phone number to farmers and tries to understand each farmer's individual needs and situation before recommending particular practices.

Based on conversations with farmers involved with the Farm Bureau, conventional farmers find MSU Extension resources incredibly useful for improving farming outcomes, and important for the rural community in general. A dairy farmer, who went to MSU for school before returning to farming, described the ways they work with Extension:

We've also utilized Extension agents in several different aspects, whether it being part of a research project where we can help with... if we think it's important information. Or, finding new employees, we've used the University [MSU] as a resource. The University has put on different seminars and workshops about lots and lots and lots of different things, whether it be about animal health, profitability... Pretty much anything you can think of, they've put on workshops about.

Another farmer described how they rely on Extension for pest management assistance in their vegetable operation:

We rely a lot on Michigan State Extension, which really helps out. There's a lady who comes out and scouts our fields...weekly during the summer for pest problems, or potential pest problems. She puts traps up. We rely on [MSU] for a lot [of our] vegetable crops.

Limitations

Extension educators face challenges in supporting conservation agriculture. One challenge is that farming is variable operation to operation. An Extension educator admitted that farmers, as individual business owners,

...have their own systems, their own processes, their own equipment. It's a unique environment. And you have some people who, you know, embrace those types of things. And you have other people who will tell you that they support it and like that but you know, the adoption is not there.

Further, educators have a limited capacity to both provide production assistance and sustainable practice recommendations. Educators that focus on production do not provide information on conservation practices. One educator explained that for educators who do not focus on conservation, "their job is big enough as it is, they don't need that, you know, that's not their focus area, that's not where they do their, it's not where they have their comfort level." These educators rely on other educators to lead workshops and give talks about conservation practices such as cover cropping or no-till.

A limitation for small-scale diversified farmers is that Extension does not offer resources that are helpful for those operations. According to one educator:

The problem there is that they go to our normal programs, [but] the scale is just way outside of their operation. You're talking farmers that have big equipment, you know, large numbers of acres. Lot of these people, you know, don't even have a tractor. They're doing a lot of stuff by hand. So they have trouble translating the materials into things that they can do.

Educators also struggle to reach out to farmers of color. An educator admitted that although they would like to attract farmers of color, Extension is not specifically targeting these farmers to provide services because of their low numbers and geographic spread. Farmers of color are difficult to access and “most of them are just struggling to maintain let alone get into some of these programs.” As one Extension educator put it:

I mean unfortunately, everybody talks about diversity and all of that type of stuff but to be brutally honest, the programs are designed around people that have money, people that have resources... MSU sends all this stuff out about diversity and inclusion and all that kind of stuff. And I just shake my head I go, yeah you can pay lip service to it, but you won't change your practices to actually, you know, accommodate those groups.

2. Natural Resources Conservation Service, Conservation District, and Michigan Agriculture Environmental Assurance Program

Role, Strategy, and Audience

The Natural Resources Conservation Service (NRCS), a USDA agency, is tightly integrated with the Conservation Districts and the Michigan Agriculture Environmental Assurance Program (MAEAP). Through a coordinated inter-agency framework, these organizations employ the following strategies to support farmers in the adoption of conservation agriculture practices: financial assistance, technical and consultation services, and educational programming.

Conservation Districts are state agencies that assist landowners in their conservation efforts. Every county in the state of Michigan has a Conservation District office (Conservation District, 2018). MAEAP is a state program made up of environmental groups, agriculture groups, and universities that created a set of standards that indicate when a farmer should receive acknowledgment for their environmental stewardship efforts, in order to increase the adoption of conservation agriculture practices. There are over 50 technicians throughout the state with five third-party verifiers that cover particular regions and make sure the farms meet the MAEAP standards. The organization works in three phases; education, on-farm risk assessment, and third-party verification (MAEAP, 2018).

In Washtenaw County, all three agencies share the same office and partner with each other to achieve the goal of getting “conservation on the ground.” This on-the-ground work involves working with farmers to address and minimize on-farm resource concerns (which includes water quality, and soil health concerns).

Resources, Programs, and Tactics for Conservation Agriculture

Conservation agriculture is the primary focus of all three organizations and their programming is implemented through a coordinated effort, which begins with an assessment by a Conservation District specialist. The

specialist investigates whether a farmer is complying with state and federal regulations, and then designs a conservation plan with management suggestions for both the farm and the surrounding habitat. A conservation plan is a comprehensive assessment of a farmer's conservation management concerns paired with the appropriate management practices to address these concerns. The specialist will also outline the additional changes that need to occur in order to get MAEAP verified.

Based on the recommendations made in the plan, NRCS connects farmers to grant programs such as EQIP and CSP that provide financial support and incentives for implementing conservation practices on the farm. Though not all farmers are able to secure funding, some try to implement the most cost-effective management options provided by the conservation plan.

Finally, a MAEAP technician farm performs an on-site risk assessment at the farm and determines if the changes made meet the requirements for verification. If they do, the farm becomes verified and the farmer receives a large sign for their farm that says "This farm is environmentally verified," (see Figure 5.1). The process is voluntary and confidential to allay fears farmers might have of "getting called out" or penalized for violating regulations. For many farmers, this sign instills a sense of pride and accomplishment.



Figure 5.1: MAEAP Verification sign on a Michigan farm.

Source: Trophy Class Real Estate

Connections and Reputation

NRCS partners with Michigan Food and Farming Systems (MIFFS) through the USDA Beginning Farmer and Rancher program to provide outreach and assistance to underserved and beginning farmers. In addition, MAEAP has verified both of MIFFS' farm development centers, including Tilian Farms in Washtenaw

County. It also has close ties to the Michigan Farm Bureau, an advocacy organization discussed later in this chapter. MAEAP seems to be an important connecting organization for conservation agriculture because of its partnerships with other FROs.

Because these programs are voluntary, a MAEAP representative notes that,

...someone doesn't feel afraid of telling you things or asking something that maybe they had always wondered about. It's really, really a good situation and we're able to work progressively to address problems that exist and to recognize people for doing good things they already are doing.

MAEAP is constantly recruiting more farmers to participate in the program. The strategy of providing a sign when a farmer gets verified is useful for recruiting new participants. One technician described:

A farmer that get[s] a sign, [and] all of a sudden another one of his friends gets a sign, so then everybody starts sort of falling like dominoes. Sometimes that happens because we get a technician that's very good, or who just starts tobuild trust in an area and the program just starts to fly.

This domino effect is amplified when an area is staffed by strong technicians that have built trust with the farming community.

Limitations

All three organizations say they help all farmers, from small-scale diversified farmers to large-scale commodity farmers. However, this belief was contradicted in our conversations with small-scale diversified farmers, who rarely access Conservation District and NRCS resources, for reasons discussed at the end of this chapter. One small-scale farmer in Washtenaw County discussed why small-scale farmers seem to fall through the cracks:

I went to some other federal offices to ask about loans [for a year round CSA model] and [they] just didn't think it was feasible. I didn't get laughed out of the office, but it didn't feel very comfortable [and it] didn't make me feel like I could use any of their financing programs.

Small-scale farmers generally do not talk about MAEAP, and do not see the practices supported by the program as relevant to them. Tilian Farms, the farm incubator run by MIFFS, is the only small-scale diversified farm we encountered that is MAEAP verified.

Each Conservation District technician undergoes training and it can take years of working with producers to become a seasoned technician. An NRCS technician mentioned that high turnover rates and low staffing make it difficult to keep qualified staff at NRCS, which limits the organization's capacity to reach farmers. For the last two years there has only been one technician in Washtenaw County, and only recently have additional staff been hired.

Unlike NRCS, MAEAP does not have the financial resources to directly assist farmers with implementing certain practices, which limits their impact. According to one MAEAP technician, research funding has been cut and "a lot of recommendations [for conservation practices] are getting old." Inadequate access to new

research makes it difficult for MAEAP to provide accurate information to farmers.

3. Crop Production Services

Role, Strategy, and Audience

Crop Production Services (CPS) is one of many private technical and consulting companies that produce and sell agricultural chemical inputs such as fertilizers and pesticides to farmers, and provide technical and consultation services about best practices and use of the products. In interviews with farmers and FROs, it became clear that private agricultural consulting companies, like CPS, have become an important information resource for large-scale commodity crop growers, and a primary source for information about soil nutrients. CPS is a subsidiary of a large, private corporation called Nutrien. Nutrien is the world's largest fertilizer producer, and controls three other business units: Nitrogen, Phosphate, and Potash and Retail (CPS, 2015). Constant mergers and buyouts between agrochemical companies mean that the variety of companies represented in the complex network of agribusiness industries are actually owned by three or four parent companies.

CPS works both domestically and internationally, selling both directly to farmers and wholesale. A CPS crop consultant described their role in the company:

I'm in sales... I have a clientele of farmers that I go and visit on a biweekly basis, see how their crops are growing, and I scout walk their fields, make recommendations for what's gotta be applied to their fields. In off-season, we soil sample in the fall to figure out what needs to be put out in the spring. We come up with crop plans and we help figure out what needs to be applied where, what type of herbicides, insecticides and fungicides to use on the crop.

Resources, Programs, and Tactics for Conservation Agriculture

CPS prides itself on its commitment to conservation agriculture and protecting the environment. A crop consultant described practices used to meet conservation goals:

We are 4R certified, which is a new certification process where we are independently audited, and it just shows that any recommendation we make when it comes to fertilizer, we're making sure that we're using the right product at the right time, the right rate.

The 4R Stewardship Program is a voluntary certification program created by agriculture industries, state and federal organizations, and the Nature Conservancy, to work with input suppliers, like CPS, in Michigan, Indiana, and Ohio to help farmers limit fertilizer use. The certification program focuses on these states in particular because of the impacts excess fertilizer runoff has had on the Lake Erie Watershed Basin (Nutrient Stewardship, 2018).

In addition, CPS also has a new program called CPS Cares. A crop production consultant described:

We're gonna start getting farmers certified underneath the CPS Cares nomenclature to show that they are doing conservation agriculture when it comes to the products they use and when they do things.

Connections and Reputation

Both farmers and FRO representatives mentioned the ways in which private entities like CPS are taking over the role Extension traditionally provided to farmers. A vegetable farmer described how budget cuts to government programs, such as Extension, are making it more difficult to access resources. One farmer noticed private industry stepping in to fill the gaps:

The government resources are getting harder to use, because there's been a reducing study in ag, and our budget's been reduced by every budget season. Then the USDA ones [programs] get reduced a lot. The government resources are becoming less and less and less. A lot more of it [resources and funding] has gone to private industry, just because the government just isn't getting paid with financial needs to operate the programs.

Another farmer described how they rely on agrochemical specialists to provide insight on what other farmers are doing on their fields:

If we have a question on something for Field Work, the company that we buy our fertilizer from, we might ask, "Hey, what have you seen people doing?" Or, if we have a problem with a certain weed or a certain bug, we can ask, "Hey, is this a problem everywhere this year? Are we the only ones seeing it?" Just because they come in contact with a lot more other farmers than we do, they'll usually, I guess, have better information.

Limitations

The major challenge mentioned by CPS was related to competition in the agricultural input field. A CPS crop consultant described the difficulty in recruiting farmers due to the cost of the products:

I think one of the negatives though is they [farmers] look at us and they notice that we are maybe just a little bit more expensive when it comes to our products, but it's because we do offer this service that really we feel nobody else does.

4. Michigan Farm Bureau

Role, Audience, and Strategy

The Michigan Farm Bureau is a nonprofit membership organization that calls itself a grassroots organization because of its emphasis on member-led leadership. At the county level of every state in the country, state Farm Bureau members come together to draft policy recommendations for state and national policy initiatives. The strategies employed by the Michigan Farm Bureau are advocacy, social networking, and education.

Members include farmers as well as other agriculture professionals such as seed and fertilizer salespeople. Those involved with the Farm Bureau often discuss the inclusivity of membership and the breadth of resources they provide to every type of farmer. According to a Washtenaw County Farm Bureau representative, membership qualifications vary county by county and Washtenaw County is particularly unique because,

They're pretty inclusive of who they see as fit as an agricultural member... for example, if you

own three acres, you know, you're selling eggs, you have a couple goats, you know, if you're involved within the agricultural sector and selling those agricultural products they will include you as an agricultural member.

Members vote on a county board and state board of directors, and help draft policy recommendations for the state. In Michigan, there is an annual meeting where county board members provide recommendations for new policy for the Farm Bureau Policy Book. The Policy Book is a list of policy recommendations endorsed by the Michigan Farm Bureau, which they give to government officials and legislators as an advocacy tool (Michigan Farm Bureau, 2012).

A Farm Bureau employee described this process with pride and excitement:

So as a state, [the] Michigan Farm Bureau decides what its best policy is and that's passed up to our legislative council and that's what they go to bat for in Lansing and DC every year. So, it's very grassroots... it's a room of 12 board of directors that are dictating policy for the rest of the organization. So Farm Bureau is all grassroots and it's a really cool process.

In addition to their advocacy role, the Farm Bureau is a social networking organization. The organization has partnerships with youth leadership development organizations such as Future Farmers of America (FFA) and 4H. The Farm Bureau uses its relationships with MAEAP, industry experts, NRCS, and the Farm Service Agency (FSA) to connect farmers to resources. The organization prides itself in providing leadership opportunities to youth and young farmers through their Young Farmers Program by helping aspiring farmers build the skills to support the agriculture industry through debates and other career development opportunities. All of the Farm Bureau members interviewed mentioned the organization as integral to their sense of community. One farmer encountered at the Michigan Farm Bureau Annual Meeting commented:

You've probably noticed this is kind of a family reunion..with 600 of your closest friends. But many of us here are able to go up to Jamie Adam's, the Director of the Department of Ag [Michigan Department of Agriculture and Rural Development (MDARD)] "Jamie, give me a hug." It develops those relations personally and professionally so if I have an issue with something and a staff person either can't quite figure it out or whatnot, I know I can call her, or I can call the state senator, or state representative ...that's what Farm Bureau has provided, the ability to communicate with the appropriate people at the appropriate time.

Resources, Programs, and Tactics for Conservation Agriculture

Farm Bureau provides few resources for conservation agriculture. The Farm Bureau's conservation-related resources are limited to being a "firm and proud supporter of MAEAP." They speak of the program as if it were their own, though it is a separate program run by state agencies. At the Michigan Farm Bureau Annual Meeting, MAEAP-verified farmers sport miniature MAEAP banners on their name tags--a symbol of pride for what they do and how they do it.

Limitations

Despite the variety of types of people and professions that count themselves among the Farm Bureau's

membership, the representation of small-scale diversified farmers is limited. For a small-scale vegetable farmer in Washtenaw County, going to the Farm Bureau meeting would seem completely out of the norm. One small-scale farmer discussed with surprise how they recently met a fellow small-scale farmer that attends Farm Bureau meetings:

He [the other small scale diversified farmer] has been going to Farm Bureau meetings. I have not done that just because the Farm Bureau [has] set up their priorities and goals, to me, feels a lot more grain farm-focused. But he is a small seed farm and produce farm and he has been going. And he said that he was trying to help change them by just being present and that is very great. So, I guess I would hope that things like that could become better resources and/or I guess we could get some of the small, more produce or diversified fruit and vegetable farms to start being a part of those types of groups because they are so big and they have [a] powerful lobbying voice. But I haven't necessarily gone to any of those networks.

In general, small-scale diversified farmers feel excluded from the Farm Bureau, and understand the power and resources it provides to other farmers. The lobbying and networking resources the organization provides do not always represent the needs and interests of the entire farming community.

The Farm Bureau mission statement expresses its desire to “enhance and strengthen the lives of rural americans and build strong, prosperous agricultural communities” (America Farm Bureau Federation, 2018). As described in Chapter 3, the division between those who are represented by the Farm Bureau and those who are not appear to fall along the same political division that separates urban from rural communities and liberals from conservatives. It is apparent that the Farm Bureau is politically aligned with the Republican party and its conservative values, which feels exclusionary to those with a different political affiliation.

5. Michigan Food and Farming Systems

Role, Strategy, and Audience

Michigan Food and Farming Systems (MIFFS) is a nonprofit organization that works with historically underserved farmers and beginning farmers to ensure these producers have the capacity to succeed in the agricultural industry. MIFFS defines underserved farmers as farmers of color, veteran farmers, women farmers, and Spanish-speaking farmers. Though they are based out of Lansing, Michigan, their reach is state-wide. The organization serves farmers that live in both rural and urban areas, grow a diversity of crops, and farm individually or cooperatively (MIFFS, 2014). MIFFS' primary strategies for supporting farmers are social networking and education.

One of MIFFS' major projects is to create farm development centers that provide land and farm infrastructure for beginning farmers. MIFFS collaboratively runs three farm development centers throughout the state, including Lansing Roots Incubator Farm, Women in Agriculture Farm Development Center of Genesee County, and Tilian Farm, which MIFFS supports in collaboration with other local organizations. MIFFS also develops networks that connect farmers to each other and to federal and state resources and organizations. It

has three networks: The Women in Agriculture Network based in the Genesee County area, The Multicultural Farmer Network primarily based in southwest Michigan, and the Veterans in Agriculture Network based in Battle Creek, Michigan. These networks target underserved farmers who represent both crop and cultural diversity.

For each of these networks, MIFFS asks the community of farmers what they need in order to maintain their operations and their livelihoods. In addition, they strive to make sure that farmers are aware of required federal and state regulations. A representative of MIFFS described their community-based approach to serving farmers:

We go through our networks and to our farmers and ask essentially what they are looking for. That is one of our methods. And then obviously you know, through food safety and these types of things, a lot of them are requirements. So just ensuring that they are aware of them and that they know of them is a really big priority for us. So yes, some of it is going to them and saying “Hey what do you want?” and some of it is “Hey this is what is necessary for ag and we want you to know that these are some of the things that, you know, you should be aware of.”

In addition, MIFFS acts as an intermediary organization between farmers and government services. They walk farmers through the process of applying for USDA Farm Bill programs, including NRCS grants and FSA loans. For many farmers, the bureaucracy associated with filing paperwork is a significant deterrent to accessing government resources, especially for farmers of color that have dealt with USDA discrimination in the past and veterans that may need additional assistance. A representative of MIFFS described this process:

We have contractors and people that work for us in different parts of the state. They will actually take a veteran into the office and go through the entire process with them of filling out the paperwork, to conversing with their field agents and their service centers. So that has been a huge, huge success for us, and for the farmers in the state, just being able to, you know we will literally walk them in, into programs.

Tilian Farm is an incubator farm based in Ann Arbor, Michigan. It provides land, farm infrastructure, and tools to beginning farmers that are interested in starting an operation but do not have the initial capital. Many of the farmers who get started at Tilian are recent graduates of the MSU Student Organic Farm Training Program. Tilian launched with financial assistance from the USDA’s Beginning Farmer and Rancher Development Program, which is a cost share program for land grant, private, and Hispanic-serving institutions (BFRDP, 2018). MSU’s Center for Regional Food Systems, the MSU Student Organic Farm, and MIFFS collaborate through this grant to provide financial and educational opportunities, like Tilian Farm, to beginning farmers.

In addition to its networks and farm development centers, MIFFS also hosts an annual conference where 400 to 500 underserved farmers from across the state gather to network and share resources. This conference provides networking and education opportunities for farmers through workshops, exhibits, and talks. Throughout the conference, MIFFS representatives encourage farmers to register their farm with the Farm Service Agency (FSA), which had a booth at the conference. Farm registration is a prerequisite to applying for EQIP and CSP grants, and FSA’s presence enables an immediate and tangible connection between farmers and conservation agriculture resources.

Resources, Programs, and Tactics for Conservation Agriculture

MIFFS focuses on connecting farmers to NRCS's conservation programs, such as EQIP, to help them secure funding for high tunnels, a type of season-extension farming infrastructure. After farmers acquire high tunnels, the organization supports them in adopting other conservation programs, such as integrated pest management and organic nutrient management. MIFFS' objective is to "help them get to those places that they would like to be in conservation practices and then help them with the education around growing those practices and those businesses."

When asked how MIFFS defines conservation agriculture, a representative detailed the importance of food safety in their conservation work:

We put conservation into almost all of our work and everything that we do. Much of the time we come at it from a food safety angle or food safety lens and ensuring that our farmers that are on our incubator farms and the ones that we are supporting throughout the state have a really good knowledge of what food safety requirements are throughout the state. So, that is a method at which we kind of hone in on, a lens at which we come from. It's not the only lens, but it is a big focus for us in the organization.

Conservation agriculture practices are also valued and implemented by MIFFS development centers. Tilian is MAEAP certified and recently applied for NRCS, CSP and EQIP funding. For one farmer associated with Tilian, conservation is an integral part of the Tilian operation:

I guess for me, conservation agriculture is about making a healthy habitat. For me, some people look at my fields and think, oh, what a weedy mess, but I do all of that for the pollinators. We had an integrated pest management workshop here about a month ago, and they put a bunch of sticky traps in my field and that was really great to see that my methods are working.

Connections and Reputation

MIFFS is highly integrated with other agricultural organizations due to the nature of its work. A key component of its approach to supporting farmers is the organizational use and reliance on pre-existing technical support provided by Extension and other agencies. The organization also works with contractors throughout the state to work with its various agriculture networks. Connections with the Michigan Food Safety Working Group gives MIFFS insight into the ways food safety can overlap with conservation. As described by a MIFFS representative:

Our field director is on the Michigan Food Safety Working Group and they are really looking to identify practices in Michigan food safety in the risk assessment that will overlap with the on-farm conservation, and hopefully be eligible for the NRCS cost share program.

MIFFS also connects with its target community through other annual conferences. MIFFS hosts "Meet the Buyers" at the Great Lakes Fruit and Vegetable Expo's (EXPO), an opportunity for fruit and vegetable producers to connect to regional buyers and markets.. The EXPO is an annual gathering where producers, agricultural institutions, and businesses network with each other (EXPO, year). Through EXPO, Word of mouth is also an important avenue for reaching farmers. A MIFFS representative describes the importance of

personal recommendations within their networks:

Michigan is on some level a very close network. So we get a lot of people who tell other people about us. We have a vet that we work with, and they're telling their 10 friends or 10 vets that they work with. And so a lot of it is by word of mouth and just one person turning it over to another.

When asked about organizations that MIFFS does not work with, a representative discussed how much the organization values the importance of including a diversity of voices:

The great thing about MIFFS which I really enjoy is, we're really not focused or paired to one type of farming or one type of farmer. We really believe that all voices in this ag world are really important because we have so much to learn from everyone.

Even with the networks and partnerships MIFFS has created for itself and the farmers it serves, a MIFFS representative still values connecting with other organizations:

I mean, if another organization can make someone aware of some of the services that we're doing then great, let's work together on this. Absolutely.

Farmers and other farmer resource organizations also recognize the work that MIFFS is doing for underserved farmers. A farmer and board member of MIFFS described how important MIFFS had been for connecting with other farmers of color:

I'm definitely not physically located in an area where I can do a lot of face to face interaction and help with POC [People of Color] farmers in my near vicinity... I looked at MIFFS as a good avenue for more possibilities for that to happen, and it has.

Other organizations tend to rely on MIFFS for underserved farmer outreach. A representative of Michigan Organic Food and Farming Alliance (MOFFA) admits that "they [MIFFS] do a lot better than we do as far as focusing on underserved populations." MIFFS plays an important role in the agricultural community and is highly valued by both the farmers they serve and the institutions they work with.

Limitations

Though MIFFS feels their reach in Michigan is extensive and effective, the organization admits that it still needs to reach the Upper Peninsula's farming community.

6. Ann Arbor Farmers Market and Argus Farm Stop

Role, Strategy, and Audience

The Ann Arbor Farmers Market and, more recently, Argus Farm Stop, provide market and social networking opportunities for small-scale diversified farmers. The Ann Arbor Farmers Market is a gathering place for over 100 producers and businesses that sell a variety of fruits and vegetables, cheese and baked goods, coffee, and artisanal crafts (City of Ann Arbor, 2018). In interviews with farmers, it became clear that the Ann Arbor

Farmers Market provided both financial and social capital. A farmer, when discussing how they do not have time for any social activities, mentioned the social nature of the farmers market and the role it plays in their life as a space to sell “seeds, seedlings, and produce if I have it.” Another farmer, when asked what opportunities there are in the community for socializing, mentioned how they “often stop by the farmers market on Saturdays mostly just to talk people.”

An alternative to the farmers market is Argus Farm Stop, an L3C (low profit limited liability) grocery store based in Ann Arbor. The business supports local farmers and food producers through its unique profit sharing model. For each product sold, 80% of the product goes back to the farmer, with the remaining 20% going to Argus. Argus sells a diversity of local products, ranging from vegetables, meat, and eggs, to prepared meals and baked goods. Most of the store’s profits are made through their in- house coffee shop, which keeps the store running and capable of supporting the local farming community (Argus Farm Stop, 2018).

Argus provides an alternative model to farmers markets. Argus is a farmers market that is open 7 days, several hours a day, and is able to provide a more consistent source of income to farmers. In a tour of Argus, the staff described how when people cannot make it to the farmers market, Argus provides a grocery store-style alternative that supports the local food economy.

Argus staff talked about the ways in which the business provides a space for consumers to meet the farmers from whom they buy produce. Farmers regularly come to the store to drop off produce, and customers have the opportunity to interact with the farmer that is producing their food. In addition, with each arrangement of produce, there is a sign with the name of the farm that produced it. This unique method of identifying the origin of the food helps farmers feel accountable for their products and allows customers to support a particular farm, perhaps because they like that farm’s products or they have a relationship with the producer. Currently, Argus serves about 200 farmers with about 50 or 60 on the waitlist.

The types of farmers that are selling through Argus range from small-scale farmers that grow “boutique produce,” which are small amounts of unique vegetable varieties, to what a staff person described as “foundation farmers,”

...Who are the people who have been here from the very beginning, and we knew we needed them from the get go. Like the Tandre and the Goetz’s. They’re big enough, and they’ve got an ongoing supply that’s robust enough that we can count on them to always be in our cooler. Always. They’re the ones that if we’re low on something, we know we can ping them. They’re coming into town regularly because they’re already serving restaurants

Though their business model was created as a way to support local farmers, the customers play an integral role in sustaining the business. As one staff person commented: “Our customers want things that were grown with good practices and without residues, so that’s what we have to commit to them.”

Consumer education is also a primary goal for Argus. The store and the signs with the names of local farms, the appealing displays of locally produced food, all become a learning platform for customers that are new to the profit-sharing model.

Resources, Programs, and Tactics for Conservation Agriculture

A staff person described the way in which Argus works with farmers in the area of conservation agriculture, and the familiarity and knowledge they have of each farm:

We prefer the farmers who are farming sustainably, and we don't have anybody in here who's just overtly a conventional farmer....So we visit our farms. We talk to the farmers. We know how they feel. We know who's in farms that are ... a farm in the middle of a big conventional area, because you'd have [pesticide] drift.

In addition to physically visiting the farm, Argus also has an application process that farmers must go through in order to sell their produce to ensure that farmers are not using pesticides. Though Argus does work with a farmer that uses some pesticides, an Argus representative discussed the way in which they navigated the relationship:

We have one guy who sprays. We won't take any of the stuff that he sprays. I said to him, "Listen. We love your produce, but you have to tell us which stuff you treat sustainably." So he said, "Oh, my sweet potatoes, my root vegetables. I don't do anything to those." Okay, I can take those, but I'm not taking your corn. I'm not taking the other stuff that I know that you're [growing conventionally]. He understand that, and it actually makes the point to him. He could sell more if you stop doing it.

Connections and Reputation

According to the staff, Argus has built strong relationships and trust with its customers, regarding the quality and environmental friendliness of the products that they sell. This trust has been essential for the business and encourages customers, farmers, and the Argus staff to work collaboratively to develop a local and sustainable food economy. Argus is well known among small scale diversified farmers and many others involved in the local food movement in Washtenaw County.

Limitations

According to an Argus representative, despite the huge growth of farmers markets in recent years, the popularity and utility of farmers markets for farmers and consumers, has declined. They noted that farmers have realized that they cannot sustain their operation with the farmers market alone:

So farmers markets were growing really fast until a couple years ago, then they hit a peak, and now they're leveling off...And so people who got into farming who thought, "Oh, I can do a farmer's market. Yeah, I'll sell." Okay. I can't exist on 27 Saturdays a year.

A day at the farmers market requires early and long days, with no guarantee of return in the invested time and labor. An Argus representative described the costs associated with relying on the farmers market for income:

You learn that there are costs... you need to get up at two in the morning to load your truck and then to be there by 5:30. Now, you're standing from 5:30 to 7 because now you've got the spot you want, but there's not customers 'til seven. Then there's barely any customers 'til eight, and then it starts to pour. Then it's a crappy day. Think about this.

Though there is still a waitlist for the Ann Arbor Farmers Market, its length has shortened and older farmers that have been at the market for years are looking for alternatives that are more economically stable and less physically taxing. Argus Farm Stop provides an important transition space, as described by a staff person:

There's a waiting list for the Ann Arbor Farmers Market, and it's not as long as it has been in the past, and I know for a fact that the market--because we meet with the market managers because we want to know them. We talk about farms and who's good and who do you worry about. They're worried about aging out farmers. So they have a waiting list, but they also have some of their foundation farmers who are [saying], "I can't do this anymore." When they can't do that anymore, they'll come here as a transition out of farming.

However, with Argus's limited product holding capacity and long waitlist, the store has limited capacity to support all farmers. For example, the Argus staff struggle to balance the need to have constantly stocked shelves, which requires the stable supply of established farmers, and the desire to create space and opportunity for the smaller farmers. In addition, despite Argus's successful grocery store model, it recognizes its own limitations in supporting farmers doing conservation agriculture and mentions the need for more policy work. A co-owner explained,

I feel like we are trying to promote small farmers, and I'd like to be able to do it more effectively with the political powers, so that we can help the small farmers get the help they want and the attention that they want.

7. Local Food Summit

Role, Strategy, and Audience

The Local Food Summit is an annual conference that celebrates local food initiatives throughout Washtenaw County. The planning committee recruits local community leaders, experts, and activists to lead workshops and discussions on permaculture, edible landscaping, indigenous crop varieties, food justice, and other topics related to creating and sustaining a local food system. The annual gathering provides a space and opportunity for education and celebration. Slow Food Huron Valley, a local branch of a national organization, sponsors the event (Local Food Summit, 2017).

A planning committee member described how the Summit is also an important hub for small-scale diversified farmers to connect with each other each year:

I would say something that we both embrace and try and push aside is networking. It's why people show up. People show up because they want to find out what everyone did this year. This is one of the opportunities in winter that farmers and food systems activists and food people have a chance to get together and say, "What happened this year?" Or, "What are your plans?" It's an opportunity to share new ideas and to reconnect, and for a lot of them, it's been there. It's been there for 10 years, which is a long time.

As a committee member explained, a range of people attend the Summit, from farmers to professors, chefs to food aficionados:

You'll have both farmers and farm hands and these academics and then these new people on the scene, and then foodies that are just obsessed with whatever or just think that it's fun to go. And then some academics or academically inclined folk.

The farmers who attend are majority small-scale diversified farmers who are highly educated and conservation-oriented. The committee chair used the phrases like “biodynamic or small organic” and “interested and engaged in academia” to describe these farmers. The planning committee representative admitted that they “tend not to get conventional growers, or, if we do, they're somewhere in between [conventional and small-scale diversified]”.

The Local Food Summit also provides an opportunity for emotional support in the often isolating business of farming. A committee chair describes the ways farmers support each other, and how important that support is for those working outside of the “conventional” food and agriculture framework:

Part of the reason that the farmers come to network is because... they're friends, and then they meet lots of new people too, but that's, especially for farms that aren't conventional or restaurants that aren't conventional or foodies that just are trying to figure out the food system on their own, you do it in part through the support and encouragement of other crazy people.

Resources, Programs, and Tactics for Conservation Agriculture

Though the Local Food Summit is not conservation focused, it provides workshops and educational lectures on permaculture, and social networking opportunities for small-scale diversified farmers to informally exchange knowledge about conservation agriculture practices.

Connections and Reputation

Many organizations are connected to the Local Food Summit, either by participating in the planning process, or by participating in the event itself. Community development and youth education organizations such as Agrarian Adventures and Ypsilanti's Growing Hope were in attendance this year, and MSU Extension educators and representatives of the Farm Worker Alliance were on the planning committee. According to a committee chair, the planning committee wants to connect with other groups and be a resource for the people and organizations that are not always represented at the Summit:

I think when I reach out in that way, my goal is to let that organization know that we want to know if there's a way for us to help them in the future and that we want to be a resource to them and we want to know what they need.

Limitations

Though the committee recognizes that the Summit provides important opportunities for social networking and community cohesion, there is tension between creating space for networking and creating opportunities to engage in conversations and workshops on equity. Committee members want to push attendees to learn more about important issues such as farm worker justice, land accessibility, and food insecurity. As a result, each year the summit takes on a new theme and approach, and constantly experiments with modes of engagement

depending on the needs and responses of the local food and farming community. A planning committee chair describes this process:

I think that various committees try each year to both honor [people's desire to network] and push people to do more, to be more involved in addressing the important questions or to learn more about various issues. And different years are [successful] or not on that depending on the committee, depending on the political climate. Last year I think people were pretty motivated in many ways to do something deeper and more meaningful, but this year we've sort of taken a step back from that a little bit and tried to respect the desire to network a little bit more because I think it's really important for people. It's really useful, and if it's part of what makes people come back every year, you have to find a way to respect that.

Despite the diversity of local food activists and practitioners who attend the Summit, committee members are struggling to reach out and recruit attendees from underserved communities. In our observations of the event, most Summit attendees are white and the family reunion style of the Local Food Summit may create an exclusive environment to those who do not feel part of the family. In attempts to diversify, the committee tends to draw speakers and attendees from Detroit, even though the local food and farming scene is very diverse, particularly in Ypsilanti. A committee chair describes this challenge and how the usual attendees respond to seeing so many representatives from the Detroit area:

Some people felt like it then didn't look like the Washtenaw thing they knew. And some of that I think was legitimate, in that there was a lot of representation from Detroit that in hindsight ... I didn't recognize at the time, but in hindsight it made sense. When people are like, 'Well, but these people are from Detroit. They're not actually from Ypsi.' And I think that was a mistake on some folks' part in sort of a desperate attempt to be like, 'There needs to be black people present.' Washtenaw isn't all white. We need to fix that.

The representative then admitted that that the Summit strives to coalition build with communities of color: "We're not equipped to build a network like that, but it needs to be done." They continued:

And how do you do that? Does that even exist? So that's been a huge question for us and we don't have the answer. One thing that has come up a couple of times and has made some people more or less uncomfortable is reaching out to churches, because we know that Growing Hope has had success with that. And that I think intuitively makes sense for some individuals and is intuitively alarming for others, but reaching people where they're at and finding out what they need is something that we want to do a better job of.

Further, the Local Food Summit only occurs once a year, so the capacity for the event to provide long-lasting knowledge exchange and social support is limited. This makes coalition building with communities of color even more difficult.

8. Farmer Social (a.k.a. Farmer Beer Night)

Role, Strategy, and Audience

Farmer Social is a monthly social gathering where farmers meet at a bar to talk about farming, share information, and catch up with friends. Participants also refer to it as "Farmer Beer Night" and the names can be used

interchangeably. Created by small-scale diversified farmers in Washtenaw County, the monthly gathering provides an informal opportunity for “those who own or operate a farm, work on a farm, or even dream of a farm in the greater Washtenaw County area (and beyond) to get together and share, socialize, and talk about whatever they want” (Farmer Social About, 2018). In addition, there is often an option for farmers to come an hour early to hear about programs, upcoming events, and timely topics such as the Farm Bill. An MSU Extension educator who attends the event described how Farmer Beer Night has transitioned from “Let’s get together once a month and hang out” to “a place where a lot of people post things. Like, ‘Hey looking for this or do you guys know about this?’”

Resources, Programs, and Tactics for Conservation agriculture

Though conservation agriculture is not the primary goal of the farmer social, most of the farmers who attend are small scale diversified farmers that believe that conservation is inherent to farming and Farmer Beer Night provides the space for farmers to talk about particular farming practices or management approaches.

Connections and Reputation

The attendees at Farmer Beer Night are similar to those who attend the Local Food Summit, though Farmer Beer Night is almost exclusively farmers. While the Local Food Summit provides an annual get together and promotes challenging conversations about equity and the nature of the food system, Beer Night is primarily social and information-sharing. A farmer who co-manages the Farmer Beer Night, further described the role of the gathering in relation to the role of the Local Food Summit:

You know the local food summit, I go every year, I find that to be really useful. It’s a great season kickoff, you get to see people that are too busy to see the rest of the year. For me personally they could just sit us around a buffet and let us talk all day and they wouldn’t need to do any programming and I’d be happy. But that’s what the beer nights are, so yeah, we do it once a month informal. We just gather at a different brewery every month and farmers are invited to just sort of share and network and complain or celebrate or whatever the case may be.

Though there are other local events that provide opportunities for farmers to network such as potlucks and farm tours, they often require a greater commitment of time than many farmers are willing or capable of contributing. One co-organizer of the get-together described how Farmer Beer Night distinguishes itself from other gatherings:

The distinction is, for the beer night you don’t have to [do] anything, you could work right up to it and show up muddy. You ...don’t even have to make a salad, you don’t even have to think. No one RSVPs, I don’t know who is going to show up.

Another farmer, who does not even attend the event, describes their appreciation for it:

This is a wonderful opportunity to bring people together to talk about those things and to just have a community connection because that can only strengthen the entire everything, really, within this township, I mean, the farming community. There’s this synergy there on a greater level that providing that space alone is extraordinarily helpful. I’m very thankful that it’s around. I just hadn’t been so interested [in going].

Limitations

Though the Farmer Beer Night monthly gathering is ostensibly for all farmers in the region, it may not be the social scene for every farmer. Older farmers often go to the Washtenaw Small Farmer's Breakfast, a monthly social event held at a coffee and breakfast place in Dexter. In contrast, Beer Night occurs in the evening, often at a bar, and the attendees tend to be young and/or beginning farmers. An MSU Extension educator that attends the event described the group as, "pretty hyper local... small farmers who are first generation farmers."

As a result, intergenerational interactions among farmers may be limited in some regard due to the fact that attendees self-select the environment that feels more comfortable. Some farmers also described time limitations that prevent attendance and engagement. As a farmer commented:

I used to do more of the formal stuff, but now I'm kind of just, you know, I don't go out so much. I take care of cows in the evening, so I generally do my chores at night, then I don't want to go anywhere.

Barriers to Accessing Government Resources

The farmer resource organizations (FROs) discussed above are a small sampling of the government resources available from county, state, and federal sources that are designed to help farmers overcome barriers to participating in conservation practices (see Appendix D). However, these resources are not always accomplishing their stated outcomes. Farmers face barriers in accessing government resources, such as bureaucracy, office accessibility, timing, knowledge of resources, lack of funding, and a mismatch between program offering and farmer needs.

Bureaucracy

Farmers and FROs, including the agencies themselves, expressed that the paperwork and documentation required to access government resources can be daunting. Already short on time, farmers are sometimes deterred by the sheer complexity of the application process. Additionally, agencies are often slow to respond to requests and applications, which can be frustrating for farmers, and make the resources impractical to access. Both large-scale and small-scale farmers found cumbersome bureaucracy to be a barrier.

A FRO representative who works with underserved farmers explained this problem:

I think one of the biggest challenges for our group is navigation of the programs....You start confusing a veteran with paperwork and things and questions that they don't understand because of language or whatever it may be, they're not going to come back. They will leave frustrated and anxious and they're not going to enter back into that situation.

One farmer shared the reason they do not attempt to apply for more government funding:

That [grant] money is great, but I don't have time to go after and go through the application process. It's too much, and it's too much of a gamble for me to invest those 80 hours and then turn around, and not get it. It encumbers my ability to earn a living, anytime I'm not out

there...I don't have a lot of time to spend because I'm actually farming.

Office Accessibility

Some farmers, particularly urban farmers, cannot access resources because of the location of agency offices. Often agencies such as FSA, NRCS, and Conservation Districts have one office per county--in Washtenaw County, these agencies all share an office. When the office is too far away, transportation as well as the time required to get there can be barriers.

Timing

Government resources such as workshops have historically been offered during traditional working hours, 9 am to 5 pm Monday through Friday. However, small-scale farmers, and increasingly large-scale farmers, sometimes work off-farm jobs to support their financial viability, meaning they are unavailable during working hours. An Extension educator explained how the Extension program is trying to adapt to this challenge:

To be honest a lot of those guys [small-scale farmers] have other jobs. So when we hold a meeting in the middle of the week for farmers who can walk away from their farm and go to a meeting, these guys can't walk away from their other job. So now we're starting to do more programs on Saturdays and Sundays, which really sucks, but that's the only time that those people are available.

Knowledge of Resources

Farmers cannot access resources that they do not know about. Knowledge of government programs and how to navigate them is passed down through generations of farmers. Beginning farmers who are not from farming families have far less knowledge of what is available to them and often determine it is not worth their time to learn.

Lack of Funding

Some access challenges are due to budget cuts and underfunded programs. Many government FRO practitioners lamented the lack of staff needed to meet the needs of the farmers they are charged to serve.

Program Offering-Needs Mismatch

For small-scale farmers, even when they do know about programs, they often find that the resources offered by government programs do not serve their needs. An Extension educator explained a shortcoming of the Environmental Quality Insurance Program (EQIP), a USDA Farm Bill program that funds conservation agriculture practices, and why a small-scale farmer would not be well-served by the program:

And they're not going to qualify for anything real big on EQIP because they got like five acres. Where are they going to put a filter strip? And even if they got money for cover crops it's like, ok, so they put in an acre of cover crops. They might get cost share up to \$60 on that acre. Is that worth the hassle filling out all that paperwork on it?

A small-scale farmer doing innovative conservation work in Washtenaw County shared their frustration at the lack of resources from Extension for their type of farming:

I also don't know that the Extension is doing anything in the realm of seed work like what I'm doing. And I tend to ask Extension agents when I encounter them. So who is doing diverse vegetable seed work? Who is doing local, regionally adapting breeding? Who is saving seed from garden vegetables, flowers, ornamentals? And my answer is, always that I've gotten, is no one.

A MAEAP program representative shared a similar concern about a USDA conservation program, EQIP:

They [the USDA] like those contracts to be--the bigger they are, the more priority they get, so if you have one practice or a couple small practices you're not going to get one... Unfortunately, some of those little practices, for example, getting some exclusionary fencing for waterway or something like that, they're never going to get funding, but would have a huge amount of impact.

Trust

Many farmers do not trust government agencies, and therefore avoid contact with the agencies that are offering resources. This lack of trust manifests differently between groups. Some large-scale commodity farmers do not trust the government because their value systems dictate a belief in small government, which builds negative associations with any government agency. We also encountered a perception of government agencies as enforcers of regulations, which causes farmers to fear retribution. They do not want government representatives on their land who might punish them if they see something out of compliance. In order to address this fear of reprimand and general distrust, conservation programs like MAEAP will stress the confidentiality of their services. FRO representatives stressed the need to build trust with farmers to allow them to feel safe asking for help. Chapter 3 elaborates on the importance of trust.

A MAEAP representative explained some of the challenges of getting farmers to participate in the MAEAP program:

They [farmers] are confused about how the program works. They think they can receive some kind of penalty. We push that all the time, that it's all confidential. It's a small amount of regulatory. There's nothing bad that can come out of this...At any point, you don't like what we're saying, we can just leave. It's not, there's no harm, no foul. Nobody will be upset...Even as I was one of the first ones of my county to go through the [MAEAP] program then, there was a lot of people that thought that was a crazy thing. "Why would you want to do this? You're going to get in trouble."

Barriers Specific To Underserved Farmers

Underserved farmers experience particular barriers to both farming in general and to practicing conservation agriculture. Underserved farmers, specifically farmers of color, tend to be small-scale diversified farmers who see conservation as intrinsic to farming, for the reasons discussed in Chapter 3. The barriers mentioned above are amplified due to the historical loss of land, structural and institutional barriers to capital accumulation,

and exclusion from White-dominated networks and social circles. Farmers of color are even less likely to have family land to build a farm on, are less likely to have capital to invest in land and equipment, and are less connected to and have less knowledge of resources that do exist (loans, government resources, etc.)

Further, farmers of color have experienced discrimination accessing government resources and participating in government programs both historically and currently, which has both made the resources less available, and made farmers reticent to get involved with government programs. A farmer of color described this concern:

The history of distrust of government dealings with people of color, there's a lot of history. Some of us getting the shaft one way or another. You don't want to share too much of your information with people, because now you're on their radar. There's a lot of old, but well-founded stigmas and fears associated with going after government help.

This history causes many farmers of color to avoid government resources altogether, putting them at even more of a disadvantage when trying to start or maintain a farming operation.

In addition, the low concentration of farmers of color means that they are a low priority as a focus of government resources. A farmer of color noted the need for “some better networking of farmers of color.” One Extension educator noted that farmers of color “are spread far and wide” and therefore “are difficult to access a lot of times.” This Catch-22--that historical discrimination and barriers have resulted in a low population of farmers of color, and because of that low concentration they are not prioritized as a group that needs resources--keeps resources out of the hands of farmers of color.

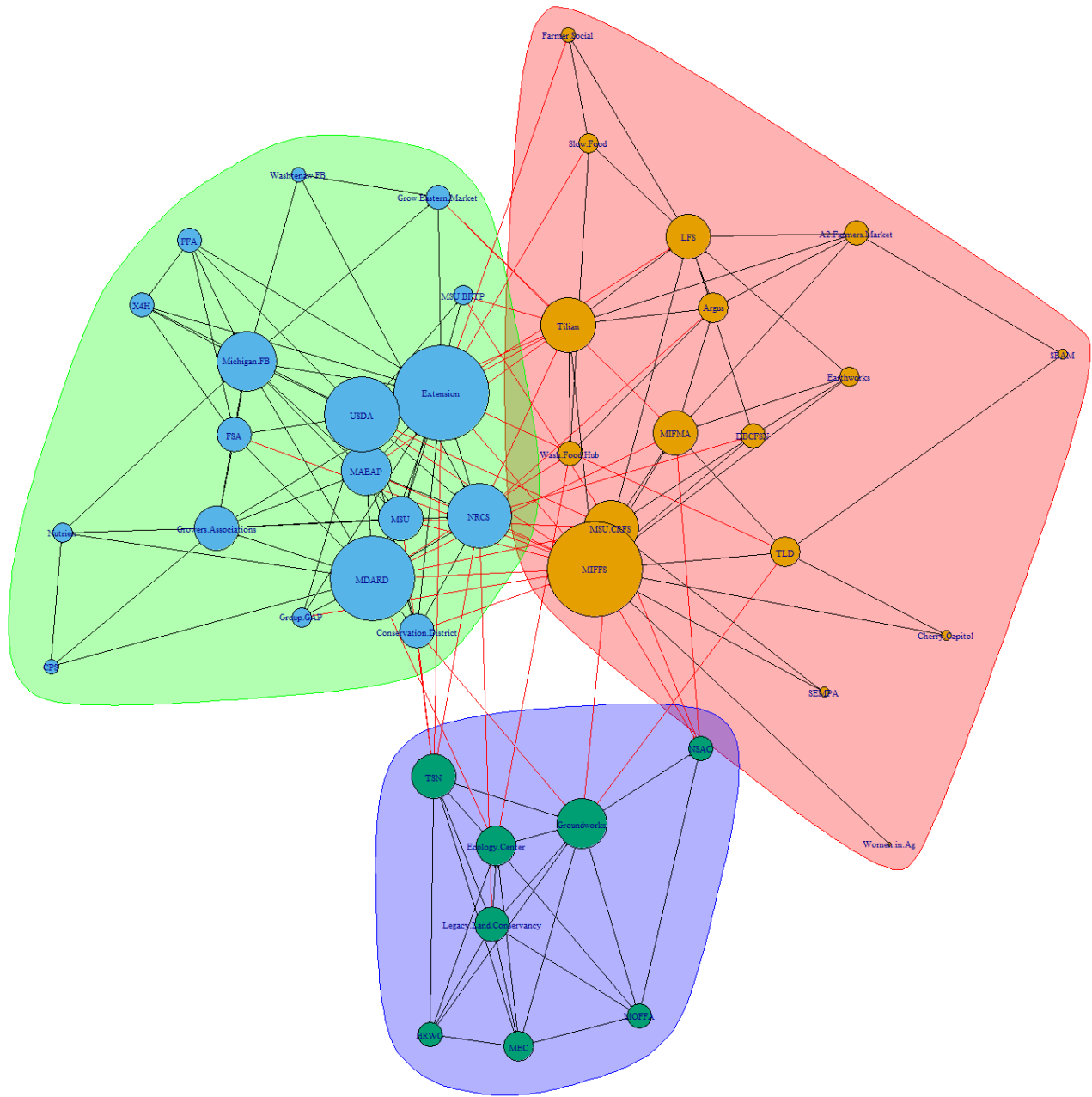
The FRO Network Map

To understand where it might connect to the agricultural sector, TSN should understand the diversity of organizations already operating in the field and how they are already connected to each other. A network map demonstrates the complexity and interconnectedness of organizations and the way resources flow within and among particular social groups (see Figure 5.2).

The majority of FROs on the map were mentioned in interviews with farmer or other FRO representatives as important organizations for supporting conservation agriculture. However, some organizations were included in the map because of the social importance of the institution to the farming community. These connections have implications for conservation agriculture resource acquisition and distribution. Two organizations were considered connected if they had exhibited one of the following formal institutional connections:

- High level funding and sponsorship relationships.
- Shared leadership, such as staff, steering committee, or board overlap.
- Market-based connections.
- Event co-hosting and collaboration.
- Leadership as a keynote speaker at another organization's event.

Figure 5.2: Farmer Resource Organization Network map



A cluster analysis algorithm in R statistical programming divided the network map into three different communities. This analysis finds organizations that share more connections with each other than with organizations outside the community.

The size of the circle is correlated with the number of connections the organizations has with other organizations. Black lines represent connections between organizations located into the same community and red lines illustrate connections between organizations in separate communities.

The communities are differentiated by the primary resource recipients of the organizations, the types of organizations that serve them, and the strategies the organizations employ in supporting conservation agriculture and farming in general. The red group is composed of organizations that provide programming and resources that fits the needs of small-scale diversified farmers. The green group is comprised of organizations that primarily serve large-scale diversified farmers. The blue group has organizations that serve non-farmers but are involved in conservation agriculture in some capacity.

Large-Scale Commodity Farmers

Primarily, the organizations that serve large-scale commodity farmers are federal and state agencies, land grant university programs, farmer-focused nonprofits, and private industry. These organizations employ different strategies than the previous community, which include advocacy, financial support, technical and consultation assistance and research-- in addition to education and social networking.

The Michigan Farm Bureau is a social hub for large scale commodity farmers and has formal partnerships with 4H and FFA, as well as ties to private industry like Crop Production Services and commodity crop growers' associations, such as MCGA. MAEAP is an important intermediary organization between the Michigan Farm Bureau and federal and state programs for conservation agriculture. In addition, close connections with MSU Extension increase federal and state resource accessibility for commodity crop growers.

Michigan State University (MSU) has several subsidiary programs and institutions that serve all farmer categories, including underserved, small-scale diversified, and large-scale commodity farmers, but primarily meet the needs of large-scale commodity farmers. On top of institutional connections demonstrated in the map, individuals involved in MSU also have strong social ties to the Michigan Farm Bureau. Many large-scale commodity growers have gone to MSU for college and have strong relationships of trust with Extension.

The USDA Farm Bill supports several different programs for conservation agriculture through NRCS, EQIP, CSP, and the Farm Service Agency loans. In addition, NRCS, Conservation District, and MAEAP collaborate in the provision of financial and technical assistance to support conservation agriculture practices.

Small-Scale Diversified Farmers

Organizations that primarily serve small-scale diversified farmers include farmer-focused nonprofits and conferences and gatherings. The primary strategies employed by these organizations include social networking,

markets and distribution, community development, and education.

Organizations like Argus and the Local Food Summit provide important networking opportunities for small-scale diversified farmers in Washtenaw County. The connections these small-scale diversified-oriented organizations have with federal and state agencies like the Conservation District and NRCS are minimal and are often facilitated by Extension educators.

MIFFS is an important social hub for underserved and beginning farmers throughout the state and is responsible for connecting these farmers to federal and state resources and Extension. MIFFS is partnered with the USDA agency through the Beginning Farmer and Rancher Development Program (BFRDP). BFRDP provides grants to organizations, like MIFFS, that provide education, outreach, and technical assistance to beginning farmers.

Non-Farmers

The third community identified in the network analysis is made up of organizations that primarily serve non-farmers. These organizations are conservation-focused nonprofits that work in conservation agriculture but tend to not work directly with farmers. They are peripherally involved in the agriculture community. The Michigan Environmental Council (MEC), for example, is an environmental policy organization that partners with other environmental organizations in Michigan, such as land trusts and conservation networking organizations like TSN, to provide and advocate for policy recommendations that support conservation agriculture.

Implications

The institutional divisions displayed in the network map reflect community divisions within the farming community. Subsequently, the connections organizations have with each other have implications for resource accessibility for individual farmers based on the group they are part of. TSN is part of this complex network and already has connections to organizations that serve farmers in implementing conservation agriculture, though those connections are not currently related to agriculture. There is opportunity for TSN to build on these connections, so it might benefit from both understanding how these organizations are already connected, and seeing how they fit into the existing network.

Conclusion

As TSN explores what role it may have in conservation agriculture, it is important that it understands the types of organizations and resources that currently support farmers. Interviews with farmers and FROs revealed that there are over 50 organizations that work at the interface between agriculture and conservation to support farmers in the adoption or maintenance of conservation farming practices in Washtenaw County and throughout the state. The degree to which conservation agriculture is a core part of an organization's mission differed substantially between FROs.

An in-depth analysis of the roles of particular organizations, the audiences they serve, and the challenges faced provides insight into the inner-workings of these institutions and the ways they connect to farmers and other

FROs. The organization network map, Figure 5.2, demonstrates the complexity and interconnectedness of the agricultural community and the way resources flow within and among particular social groups.

Based on our findings, two main themes arose in understanding the role farmer resource organizations play in the agriculture community; the importance of institutional networks for resource accessibility and the variety of approaches organizations have in supporting conservation agriculture. In addition to these major themes, the organizations encountered several common challenges in assisting farmers in conservation agriculture.

Social Networks and Resource Accessibility

The tensions and divisions between small-scale diversified farmers and large-scale commodity farmers within the agriculture community play out at the institutional level, and seem to affect the flow of resources to particular types of agriculture and demographic groups. Though nearly all of the representatives we interviewed discussed the inclusive nature of their organization, the farmers that most often access each organization's resources are those who are already part of the social networks in which the program or institute are situated. The diversity of operations, ethnicities, political alignments, and educational backgrounds within the Washtenaw County agricultural community are not represented by any one FRO.

The ways that organizations network with each other determines and maintains the flow of resources among groups. In general, there is overwhelming institutional support, in the form of political, social, and financial resources, for farmers that fall on the large-scale commodity side of the farmer spectrum. However, very few of these organizations specifically support conservation agriculture.

In addition, the representatives of many of the organizations that serve large-scale farmer like MAEAP, Farm Bureau, MCGA, and MSU Extension have farming backgrounds themselves. Hence, many of these FRO representatives have spent years building relationships of trust with the large-scale commodity community. Similarly, the Local Food Summit, Farmer Beer Night, and Argus support small-scale diversified farmers because of the way those farmers are already tied to the sustainable agriculture movement supported by these organizations.

Conservation and Value/Practice Incongruence

There are few organizations that have conservation agriculture as their primary organizational goal. Rather, most organizations focus primarily on maintaining farmers' livelihoods, with conservation representing one method of several for meeting that objective. Approaches to conservation also vary substantially. Some FROs focus on voluntary verification and certification programs for large-scale commodity growers, while others focus on creating social and economic support opportunities for small-scale diversified farmers.

In response to large-scale commodity farmers' resistance to regulatory approaches to conservation agriculture, FROs provide voluntary conservation programming as an alternative to regulation. The certification and verification programs provided by MAEAP and Crop Production Services are used to show that farmers are already practicing conservation, despite how others may portray them. From interviews with these organizations

and the farmers they support, it became clear that verification programs are an important source of pride for large-scale commodity crop farmers because it shows the ways farmers are doing their part as stewards of the land.

The conservation practices encouraged by these verification programs seek to better manage chemical inputs and existing mechanized processes, rather than support alternative farming practices like integrated pest management.

In general, the large-scale commodity organizations and the community they serve have a strong distrust of environmental organizations because of the perception that these organizations have villainized the agriculture community. PETA, the Sierra Club, and the Humane Society were noted in particular. An Extension educator described their wariness of environmental organizations and the ways they had witnessed these organizations using pre-established institutions like Extension to connect with farmers, without providing anything in return.

Common Challenges

Despite the abundance of organizations supporting farmers in implementing conservation agriculture, and the connections between both the organizations and the farming community they serve, organizations are still struggling to meet the needs of the farming community in the areas of capacity, research accessibility and dissemination, and outreach and coalition building.

Capacity

While USDA provided millions of dollars to farmers in Michigan, and over \$3 million to farmers in Washtenaw County between 2000 and 2015 in support of conservation through programs like CSP and EQIP (EWG, 2015), there is insufficient federal and state funding for NRCS and the Conservation District to provide the technical assistance farmers need when implementing these practices. Funding cuts are reflected in low staffing, which limits the capacity of these organizations to meet farmer need. Non-profit organizations also deal with similar challenges.

Research Accessibility and Dissemination

Difficulty disseminating and accessing research was a common challenge brought up by interviewees. The process of translating new research findings into practical, applicable advice for farmers is a long-term project.

In addition, the research that is made available to farmers by Extension educators, private industry, and commodity crop grower associations is mostly geared towards large-scale commodity farmers. Small-scale diversified farmers find it difficult to get information on conservation agriculture practices that are appropriate for their scale and production methods. Both FRO representatives and farmers acknowledged this problem. As an Extension educator explained:

I think that especially at MSU a lot of the research is still tied to big ag because that's who they're funded by. So, they're doing variety trials and they're using exactly the same type of practice to plant and do all these things. And there's not a lot of research, there's some, there's some.

But there's not a lot on soil health... and maintaining hedgerows and planting plants to attract beneficial insects.

Outreach and Coalition Building

In general, professional and social connections are strong within the agricultural communities in Washtenaw County. However, the connections between particular farming communities are limited. For example, the Local Food Summit is struggling to overcome racial, political, and social divides within the local food community. A committee chair for the Local Food Summit provided an example of this challenge:

I think the folks that are on the spectrum closer towards conventional feel like they're not welcome in the space. The urban farmers have started to come, but certainly they were not involved very much in the conversation to begin with, and farmers or food communities that represent minority groups just haven't been represented very well.

Differences in community needs and lifestyles make it difficult for FROs to effectively reach a diversity of farmers. An Extension educator described how small farmers that have off-farm jobs cannot attend MSU events and workshops offered 9:00 am to 5:00 pm during the work week, as they are at their off-farm jobs.

Finally, a lack of inter-agency coordination and communication makes it difficult to build a coalition to support conservation. Some FRO representatives discussed how it is challenging to reach consensus between organizations on what the problem is and what the solutions should be pursued.

6



A scenic landscape featuring rolling green hills and a paved road that curves through the foreground. The sky is a vibrant blue with scattered, soft white clouds. The overall atmosphere is bright and open, suggesting a rural or agricultural setting.

FARMER NETWORKING ORGANIZATIONS

6

“Really starting from where the farmer is and what can make the farmer successful is the framing that we’ve tried to use, and is the framing that I think is fundamentally important if you’re going to work at the intersection of conservation and agriculture.”

-Aaron Reser, Green Lands Blue Waters

The Stewardship Network will benefit from learning from other organizations building networks at the interface of conservation and agriculture. This chapter details insights from two farmer networking organizations (FNOs), organizations with similar objectives and strategies to The Stewardship Network. These two organizations were selected from the 18 FNOs discovered through our research (see Appendix E). We determined that Practical Farmers of Iowa (PFI) and Green Lands Blue Waters (GLBW) would have the most relevant and useful insights for The Stewardship Network. This assessment was based on the organizations’ Midwestern regional scope and their comparable but different strategies for supporting conservation agriculture through network-building. GLBW is based in Minnesota and connects farmer resource organizations to build their capacity around continuous living cover. PFI builds networks between farmers of all types in order to support conservation agriculture practices in the state. Each organization illuminated important lessons for The Stewardship Network to consider.

Green Lands Blue Waters

Role and Audience

Green Lands Blue Waters is a regional consortium of Mississippi River watershed partners working to improve soil and water quality by increasing continuous living cover on the agricultural landscape (GLBW, 2016). According to GLBW, continuous living cover is a key part of maintaining soil health and water quality, and includes agroforestry, biomass, perennial grains, perennial forage, and cover crops.

GLBW's primary strategy for supporting continuous living cover is to connect practitioners who work with farmers; it does not generally work with farmers directly. The organization serves as a conduit for information, resources, and connections; it provides a biweekly newsletter, information on their website, training materials, workshops, field days, and an annual conference. It also builds partnerships around research policy work. It recently appointed a National Sustainable Agriculture Coalition (NSAC) representative to its steering committee, and is working on strengthening policy partnerships.

The organization works with members to identify priorities through its Steering Committee, which is made up of a representative sample of organizations involved in the network. The work of the organization also connects staff with members, allowing it to stay in touch with the needs and concerns of their community.

GLBW is a regional network that focuses on the Upper Midwest along the Mississippi River Corridor. It is based in St. Paul, Minnesota and its main connections are in Minnesota, Iowa, Illinois, and Wisconsin, but it is connected to organizations along the Mississippi River, including in Louisiana and Missouri. GLBW does not currently work in Michigan, but it is exploring a Great Lakes-basin approach and potential work in Michigan.

GLBW intentionally does not have a formal membership structure, and strives to provide a loose collaborative network. Aaron Reser, Watershed Initiative Coordinator for GLBW, explained why this model has proven to be successful for them:

That allows us to have many different partners and pull lots of people into our conversations, and really champion from behind any work that's elevating continuous living cover.

Similar to The Stewardship Network, GLBW seeks to build broad-reaching coalitions, and the partners involved in any particular project depend on the project's needs.

Organizational Challenges

GLBW's primary organizational challenges involve measuring success and impact, and communicating that success to its network and grant funders. It struggles with naming its own success within the success of the organizations they support. Reser commented:

When you are the networker, it's often the people in your network that are really actively doing the work, so then defining your role as the networker is kind of a dynamic and constant question.

The model of being an informal or loosely associated network means that network members do not always identify participation, or know how to articulate the benefit they are receiving from their participation. This is a challenge when GLBW is trying to communicate its value.

Connections and Reputation

GLBW's work started through land grant university funding, particularly from the University of Minnesota. Participants in GLBW's networks now include universities, researchers, state agencies such as the Department of Health and the Department of Natural Resources, NRCS, Conservation Districts, farmer-oriented nonprofits such as the Minnesota Farmers Union, and businesses that work on perennial crops. In 2017, GLBW partnered with the Savanna Institute, an organization working to develop agroforestry in the Midwest, to host a joint conference that included the Savanna Institute's Perennial Farm Gathering and GLBW's annual conference.

Reser noted that they are well-connected in the region. GLBW prioritizes tapping into areas where there is a lot of interest but not a lot of organization. Notably, GLBW works the USDA, NRCS, SARE, Farmers Union, and The Nature Conservancy, all of which are also part of the agricultural network in Washtenaw County.

Considerations for The Stewardship Network

Key to GLBW's success is its commitment to being farmer-centric. Given the distrust of environmental organizations within the farming community, working with farmers and practitioners requires approaching the work from the perspective of what the farmer needs to be successful. Reser urged anyone working at the intersection between agriculture and conservation to prioritize farmers' needs:

Something else I would say really strongly, particularly because of your questions coming through The Stewardship Network and coming from a conservation organization being interested in agriculture, is that we have fundamentally always come from the perspective of the farmer and looking out for the farmer, and [blaming the farmer] is the wrong way to frame things if you're going to make agricultural change...Really starting from where the farmer is and what can make the farmer successful is the framing that we've tried to use, and is the framing that I think is fundamentally important if you're going to work at the intersection of conservation and agriculture.

As was apparent in Washtenaw County, trust-building is essential to working with farmers, especially conventional farmers, and building that trust is a long-term investment. The Stewardship Network's reputation as an environmental group must be considered when approaching farmers.

Another key to GLBW's success has been finding the niche where it can be most useful, and being careful not to step on toes in an already crowded field. Similarly, The Stewardship Network should also work to understand the network of organizations working at the cross-section of agriculture and conservation and in agriculture more generally in Washtenaw County and Southeast Michigan, and understand which gap it wants

to fill. Reser spoke about the value of choosing a specific goal in their work:

There are so many people that are working in agriculture, so many people that are working directly with farmers, so really being specific about the geography that we work in and being specific about working on continuous living cover, and being specific about having this role of working with practitioners, rather than duplicating the role of working directly with farmers when other organizations are already doing that well.

The Stewardship Network will benefit from specificity in its approach. Reser emphasized how important it is for The Stewardship Network to:

...really understand the landscape and know that it's a crowded space of organizations working in agriculture, and a lot of the people working in agriculture and conservation are committed to a long-term vision of change. Lots of people have been working for a long time on that work, and just being careful about not coming in as a new organization and not being aware of all the good work that has been done in the past.

Finally, if The Stewardship Network decides to include agricultural stakeholders in its work, it should take advantage of GLBW's strong network connections and consider working with it, especially in the area of continuous living cover. GLBW, and Aaron Reser in particular, expressed interest in connecting with The Stewardship Network, and the regional proximity and mission-alignment will make the two organizations good partners moving forward.

Practical Farmers of Iowa

Role and Audience

Practical Farmers of Iowa (PFI) is a nonprofit farmer-to-farmer networking organization based in Ames, Iowa. Its mission is to “strengthen farmers and their communities through farmer-led investigation and information sharing” (PFI, 2018). PFI was founded in 1985 amidst the 1980's farm crisis: collapsed commodity prices, a growing awareness of the ecological impacts of agriculture, and the loss of thousands of farms, along with rural community vitality. In response to these challenges, a group of Iowa farmers interested in diversifying their farming operations and reducing their reliance on agricultural inputs joined forces with Iowa State University to build community capacity for innovative on-farm research. While originally focused on field crops and livestock (which are still the two most popular areas), PFI's membership network has expanded to include farmers interested in “horticulture, small grains, on-farm energy and local foods” (PFI, 2018). Though its regional focus is Iowa, 11-12 percent of its members are located outside of Iowa, including in Illinois, Minnesota, and Missouri.

PFI's objective is to provide knowledge exchange opportunities for farmers on topics such as business, conservation practices, and on-farm research. The organization holds over 150 events a year, each of which are aimed at providing detailed, actionable information that farmers can take with them and implement on their farms. PFI also provides online resources on farm labor, policy, and energy and hosts farmer-to-farmer

mentor programs, field days, webinars, and an annual conference (PFI, 2018). PFI is careful to ensure that its programming is farmer-focused and farmer-led. It also emphasizes the customizability of conservation agriculture practices to the needs of each farmer's particular operation. PFI's Executive Director Sally Worley explained, "We work really hard to coach our farmers that they are examples, and not models, so there's not an answer, but there are answers."

On-farm, farmer-led research is an integral part of PFI's work. Worley elaborated, "Our farmers are coming up with their own research ideas, and we're helping them create bonafide research projects out of that, and helping them collect and analyze the data." The research questions that cannot be addressed on the farm (due to length of time or additional resources the research requires) are sent to Iowa State University researchers. This type of research has supported conventional farmers in transitioning to conservation agriculture practices, and supported farmers of all types in achieving conservation outcomes.

PFI works with a wide variety of farmers at all operation scales, types of sustainable practices and products, including hops, flowers, meat, and commodity crops like corn and soybeans. It has intentionally selected a diversified board and committees in order to represent the range of operations and farmers in Iowa.

The political views of the farmers that participate in the organization also differ, and PFI strives to create a space that both accommodates the differences and promotes understanding between the various groups. According to Worley:

They're [the farmers] also quite different with their politics, or their philosophies. So, other organizations in Iowa, they might be largely Republican or Democrat, for instance, or believe in committing to organic, and ours are all across the board...I think, as an organization, we strongly believe that any styling of beliefs or practices will just really limit the potential for what can happen here on Iowa's agricultural landscape.

PFI also partners with other organizations that serve farmers, and promotes and advertises the resources the organizations provide, while still ensuring that it prioritizes its mission to serve farmers.

Organizational Challenges

Maintaining PFI's welcoming and inclusive reputation has been difficult because of the different ways that PFI is perceived. Worley described this challenge:

We have multiple personalities in people's minds. You know, they say, "Oh, they're a no-kill organization. They're the organic organization. They're the cover crop organization. They're the vegetable organization."

And really, the truth is, we're all of the above, but we sometimes get labeled for just one thing that we work on, especially if it's a pretty traditional Iowa farmer, and they see we're doing vegetable work. They might think, "Oh, that's not relevant to me. I don't need to be a part of that organization."

Though the farming community served by PFI is politically and operationally diverse, a representative described how PFI struggles to reach out to farmers of color, and in particular the growing Latinx farming community. Worley explained:

The place that we are lacking in diversity is with non-Caucasians in our membership. We do have some, but we would like to increase that, to be on scale with the increasing demographics of non-Caucasians here in Iowa. So we are actively working to do that, but that is a challenge for us. Especially with the political landscape as it is now, it's not really the easiest time to reach Latinos in Iowa, because they're leery of people trying to offer them services. But we are working with the Office of Latino Affairs, here in Iowa, to try to alleviate some of that.

At the genesis of the organization, PFI struggled to find the financial and leadership support necessary to build the comprehensive conservation agriculture network the founders envisioned. Even today, the staff struggle to accommodate and maintain growth while still acknowledging the constraint of their institutional size and design.

In the past, PFI also struggled to prove the credibility of their research because traditional research institutions, according to Worley, “didn't see farmers as scientists. So, they saw research as something that was done at a university, by a professor with a PhD.” To overcome this challenge, the organization has been intentionally transparent with regards to research methodology and results.

Connections and Reputation

While PFI prioritizes connections between farmers, it also works with USDA agencies such as NRCS to connect farmers to conservation assistance programs like EQIP and CSP.

Considerations for The Stewardship Network

Due to PFI's diverse membership, the staff have to filter and prioritize the programming they offer. They always consider the needs of the farming community, and ensure new projects align with the organization's mission and do not duplicate the work of other organizations.


Similarly, TSN will need to work to ensure that the resources it provides are reflective of community needs. PFI is also careful to ensure mutual trust when connecting farmers to agricultural experts and practitioners.

By prioritizing building relationships across divisions in the farming community, PFI has committed to a long-term, high-staff time endeavour. With 16 full time staff and 12 board members, 10 of whom are farmers, PFI has the capacity to support a diversity of farming operations throughout the state. In determining where to engage with the agricultural sector, The Stewardship Network might consider the reach possible given its financial and institutional capacity.

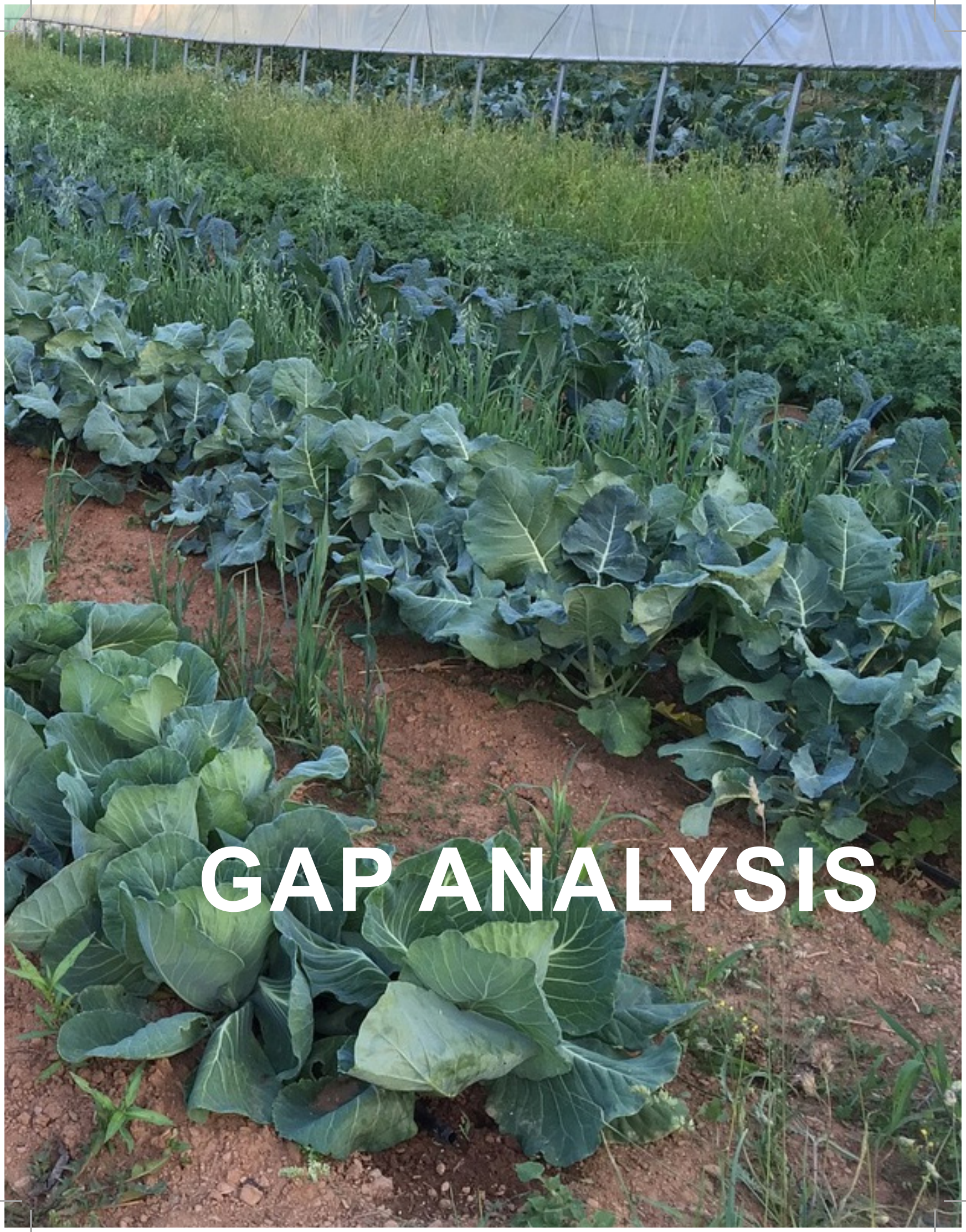
Conclusion

The innovative work being done by Green Lands Blue Waters and Practical Farmers of Iowa provides excellent insight for The Stewardship Network. Each organization provides a slightly different model for networking the agricultural community around conservation agriculture--GLBW focuses on connecting and building capacity for practitioners, while PFI prioritizes connecting farmers with different types of operations.

Both organizations highlighted the importance of understanding and honoring the work already being done at the intersection of conservation and agriculture. TSN should ensure any new initiatives it brings to the community are truly unique from existing projects and programs, and that the objectives match the needs expressed by the community. The organization representatives noted challenges related to building trust with farmers, and the particular challenges facing environmental organizations interested in working with large-scale commodity farmers. Both GLBW and PFI will be excellent resources and partners as TSN considers working with agricultural lands and stakeholders.



7



GAP ANALYSIS

7

After understanding the nature of the agricultural community in Southeast Michigan, farmers’ motivations and barriers to participating in conservation agriculture, and the resources available to facilitate farmers’ participation in conservation agriculture, we developed a gap analysis to understand where available resources do not meet farmer needs. Understanding where gaps still remain in the services provided by farmer resource organizations (FROs) will help The Stewardship Network evaluate where their interests, capacity, and strengths could be of most value.

Farmer needs, resources available, and the remaining gaps are summarized in Table 7.1. The “Farmer Need” column lists the six needs determined from barriers discussed in Chapter 4: lack of conservation research, land access, financial assistance and loans, markets for diversified crops, equipment and labor access and affordability, and knowledge and expertise. The “Existing Resources” column lists the FROs that provide resources to meet the listed need and the “Gap” column indicates the ways in which the listed needs are still not being met by the available resources.

Table 7.1: Gaps Between Farmer Needs and Available Resources for Participating in Conservation Agriculture in Washtenaw County, Michigan

Farmer Need	Gap	Existing Resources
Conservation Agriculture Research	<p>Conservation-specific research tailored to both large-scale and small-scale farms</p> <p>Avenues for dissemination of research findings to small-scale diversified farmers</p>	<p>Michigan State University Sustainable Agriculture Research and Education Program (USDA) Commodity Growers Associations</p> <p>MSU Center for Regional Food Systems</p> <p>University of Michigan</p>
Land Access	<p>Availability and affordability of land in Washtenaw County</p> <p>Historical and continued racial exclusion</p>	<p>Ann Arbor Greenbelt</p> <p>Tilian Incubator Farm</p> <p>Legacy Land Conservancy</p>
Financial Assistance and Loans	<p>Availability of loans for small-scale diversified farming operations</p> <p>Financial risk inherent to farming profession</p>	<p>GreenStone Farm Credit Services</p> <p>Farm Service Agency</p> <p>USDA Farm Bill Programs</p> <p>NRCS</p>
Markets for Diversified Crops	<p>Ability to simultaneously build local supply and demand for small-scale diversified products</p> <p>Ability to compete on the wholesale market</p>	<p>Argus and Ann Arbor Farmers Market</p> <p>Michigan Farmers Market Association</p> <p>Washtenaw County Local Food Systems Coordinator, MSU Extension</p> <p>Washtenaw Food Hub</p> <p>Cherry Capital Foods</p> <p>Frog Holler</p> <p>Grow Eastern Market</p> <p>Taste the Local Difference</p> <p>Small Business Association of Michigan</p> <p>Great Lakes Fruits and Vegetable EXPO Meet the Buyers Program</p>
Equipment and Labor Access and Affordability	<p>Incentives or resources for overcoming cost barriers to accessing equipment and labor</p>	<p><i>Financial Assistance:</i></p> <p>GreenStone Farm Credit Services</p> <p>Farm Service Agency</p> <p>USDA Farm Bill Programs</p> <p>NRCS</p>

Knowledge and Expertise	Direct on-farm support	<p><i>Education:</i> USDA Sustainable Agriculture Research and Education Program MSU Extension MSU Center for Regional Food Systems MAEAP FFA and 4H Agrarian Adventure NRCS MOFFA Detroit Black Community Food Security Network MIFFS Earthworks Northern Michigan Small Farms Conference (Crosshatch)</p> <p><i>Consultation and Technical Assistance:</i> NRCS Conservation District MAEAP Michigan Group GAP Network Agricultural input companies (i.e. CPS)</p>
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Need: Conservation Agriculture Research

Gap: Conservation-specific research tailored to both large-scale and small-scale farms, and avenues for dissemination of research findings to small-scale diversified farmers.

While plenty of agricultural research is occurring nationwide, especially at the 109 land grant universities, we heard from both farmers and FRO representatives that there is a dearth of research specifically focused on conservation agriculture. This gap may be due in part to the shift away from the public funding of land grant universities, which has led to a prioritization of research for large-scale commodity operations over small-scale diversified operations, and the focus on yield and pest management over conservation outcomes (Carolan, 2005). Based on our interviews, the small-scale-focused conservation research that does exist is not reaching farmers. The small-scale diversified farming community lacks the structured research dissemination system of the land grant university Extension system. Research-informed conservation decisions are hindered by both a lack of regionally-specific research and a lack of connection between researchers and farmers.

Other academic studies echo the need for more research on conservation practices. MacMillan and Benton (2014) detail the need for grassroots, farmer-led research, especially given the site-specific needs of farmers. They argue that “big knowledge flowing from institute to farm must be complemented by local knowledge”

(MacMillan and Benton, 2014). Goodwin and Gouldthorpe (2013) found the need for “well-constructed and accessible information pathways” to deliver new research to farmers.

Need: Land Access

Gap: Availability and affordability of land in Washtenaw County, and historical and continued racial exclusion

Land access is particularly challenging in Washtenaw County, due to the hot real estate market centered in Ann Arbor. Land trusts and the Ann Arbor Greenbelt Program (a land preservation program that protects farmland and open space around the City of Ann Arbor through grants and conservation easements) are working to make land more accessible. However, conservation easements are not always able to put the price of land within reach, given the small profit margins of farming (Johnson, 2008). Land is not only expensive, but limited, given the highly developed nature of Washtenaw County. Renting is an option, but not desirable for a profession that requires significant long-term investments in soil health and infrastructure. Land tenure may also be negatively associated with the likelihood of adopting conservation practices, since tenure uncertainty does not incentivize land conservation investments (Soule et. al., 2000). Urban land may be available, especially in places like Detroit, but farmers described the ways that city zoning ordinances can make that land unavailable.

Further, historical discrimination has led to the systematic removal of people of color from their land, and that legacy continues to make land even harder to access for that population (Harvey, 2016). Black farmers owned 15 million acres of farmland in 1920, but only owned 3.6 million acres in 2012 (Banks, 1986; USDA Black Farmers, 2012). This decrease in Black farmland ownership is part of a larger system of land dispossession mirrored in cities with redlining and racial covenants.

Need: Financial Assistance and Loans

Gap: Availability of loans for small-scale diversified farmers, and the financial risk inherent to farming

Loans are almost an essential resource for farming, and especially for buying land. According to our interviewees, farming is already seen as a risky investment, and lenders often see unconventional farming operation models as unproven and therefore even more risky. Farm-specific lenders who have built their businesses on financing farms do exist in the region, such as GreenStone Farm Credit Services, a bank that provides financial services to the agricultural industry in Michigan and Wisconsin (GreenStone, 2018). However, one farmer we interviewed reported that even GreenStone is hesitant to fund innovative endeavors, making this capital unavailable to many small-scale diversified farmers. Small-scale farmers with off-farm jobs are more credit-worthy, but having an off-farm job makes it difficult to invest time building a successful farming business (Tyler, 2013).

A variety of government resources exist to provide farmers with financial resources to purchase land and participate in conservation agriculture. Though these resources are designed to provide credit when conventional sources cannot provide reasonable rates and terms (Ahrendsen et al, 2011), there are barriers to accessing these resources. These barriers include agency bureaucracy, cost of time, and trust in resource providers. There is also

a mismatch between farmers' financial needs and the resources available, as the grant structure favors large-scale commodity farms by paying per acre of a particular practice. For small-scale diversified farmers who farm a small number of acres, the benefit of this support may be negligible.

The very idea of incurring debt to fund a farm business does not make economic sense at certain scales of farming, given the low return on investment expected in the field. Further, racial discrimination in lending practices compounds inequity in land access, creating further barriers for farmers of color (Daniel, 2013; Tyler, 2013).

Need: Markets for Diversified Crops

Gap: Ability to simultaneously build local supply and demand for small-scale diversified products, and farmers' ability to compete on the wholesale market

Many organizations in our study region recognize the growing need to develop markets for locally produced food products. Indeed, the demand for local food is growing nationwide (Artz and Naeve, 2016). Farmers markets are an important local retail location and have been growing in popularity, but the model has challenges. Farmers markets often have a waiting list, and cannot serve all farmers. Their limited hours and seasonal operation limit their ability to reach customers. They require farmers to wake up very early, often travel long distances, and stand next to their produce for many hours, without guaranteed sales--bad weather may significantly dampen sales (Bruce and Castellano, 2016).

Argus Farm Stop has attempted to expand the reach and improve on some of the shortcomings of farmers markets, but they also have a waitlist and cannot serve all farmers who wish to sell their products. Some FRO practitioners involved in the local food movement suggested that farmers markets, MIFMA, and Argus may have reached all easily accessible audiences that understand the value of local food, and may have to find strategies to reach new customers. However, studies show that demand for organic and sustainably grown food is still outstripping supply (Greene, 2015). Farmers also expressed frustration at the lack of coordination at farmers markets, which leads to farmers undercutting each other's prices in an effort to capture market share.

Some organizations, such as Cherry Capital Foods and Taste the Local Difference, are having success expanding the customer base and distribution opportunities for locally produced food but have limited reach in Washtenaw County. Other organizations, such as the Washtenaw Food Hub and the Small Business Association of Michigan, do not seem to be reaching farmers, either because farmers are unaware of their services or do not see their value. An Extension educator has been hired in Washtenaw County to improve markets for local food, but as a single employee, their capacity is limited.

A major challenge expressed by interviewees of expanding local food markets is that the supply and demand must be developed simultaneously. In order to expand to larger wholesale, restaurant and institutional customers, farmers need to increase their production. However, some farmers are unwilling to take on the risk associated with increasing production without a guaranteed customer. Building the relationships that would enable that

kind of simultaneous scaling up takes time. Further, wholesale purchasers and restaurant customers have different expectations in terms of scale, presentation, and delivery regularity for the products they purchase than do retail customers. Farmers need to learn these standards and adapt in order to be appealing to these customers. Restaurants in particular require high reliability in the products they purchase, and can only work with a limited number of farmers due to the complexity of working with multiple suppliers. Farmers selling wholesale are also competing with large-scale farms, and must adjust their prices accordingly. Current policy and crop subsidy incentive structures place additional burdens on small-scale diversified farmers (Bruce and Castellano, 2016). Farmers may be able to receive a premium for their products if organically certified, but not necessarily for being a small-scale farm or employing other types of conservation practices.

Need: Equipment and Labor Access and Affordability

Gap: Incentives or resources for overcoming cost barriers to accessing equipment and labor

Specific equipment and sufficient labor are essential for participating in conservation agriculture at all scales, yet there are few resources available for meeting these needs. The economic payoff for conservation agriculture is hard to calculate and likely long-term, so the financial incentive for using loans to purchase equipment is minimal. Further barriers related to the suitability and accessibility of loans are discussed above.

Rebuilding soils and preserving biodiversity are inherently labor intensive, and the cost of labor must be accounted for in considering participation in conservation agriculture (Bruce et al., 2016). Labor is a major cost to farmers, and given the low income associated with the profession, there are limited options for dealing with this cost. Farmers can choose to pay workers well at the expense of their own income, underpay their workers, employ migrant labor (more common on large-scale farms) or recruit volunteer labor (more common on small-scale farms).

Community resources such as co-ops to rent or borrow equipment, official networks for sharing equipment (Artz and Naeve, 2016), subsidies for conservation-specific labor, or more collective ownership and management of farms could help overcome barriers related to equipment and labor (Bruce et al., 2016), but based on our findings these institutions do not exist in Washtenaw County.

Need: Knowledge and Expertise

Gap: Direct on-farm support

Resources for supporting knowledge and expertise related to conservation agriculture can be divided into two categories: education and on-farm technical assistance. There is no dearth of education resources available to farmers at all scales--many groups work to support farmers with workshops, webinars, lectures, and conferences. However, these resources lack the backing of in-depth and farm-specific research, as discussed above. Further, FRO practitioners we interviewed noted that the impact of an education session is often limited--farmers may participate in an education program, but may not follow-through with the associated conservation recommendations for any of the reasons outlined above, such as cost, adaptability, etc.

Farmers described needing site-specific, on-farm support to make conservation decisions that work for their farms. Compared to education resources, there are far fewer on-farm technical resources available to farmers. Traditional sources of technical support through government agencies have become underfunded and lack technicians. The technical support traditionally provided by Cooperative Extension services is being replaced by private sector input producers (Ahearn et al., 2003). Extension in large part, and the private sector almost entirely, targets large-scale commodity farmers, and very few address the needs of small-scale diversified farms. Large-scale farmers can be hesitant to allow government agents to provide on-farm technical support because they see government agencies as regulatory enforcers, and fear being penalized for not meeting regulatory standards.

Recommendations

It will be important for The Stewardship Network to consider what farmers need to participate in conservation agriculture, the resources available, and the gaps between needs and resources to understand how best to leverage their strengths and capacity to begin working with this population. Given their experience building capacity and connection between stakeholders, we suggest that TSN focus on addressing unmet needs where farmers will benefit from an expanded network. We see potential for this type of support in two gaps: the need for avenues of dissemination of research findings to small-scale diversified farmers, and the need for equipment and labor access and resources.

TSN should consider the potential for providing a connection between research institutions, researchers, and farmers to help farmers both connect to existing and ongoing research, and to support farmers in conducting their own research on their own farms. Practical Farmers of Iowa will be an important resource for helping TSN develop this type of work.

TSN should also consider helping to set up resource-sharing networks for farmers of all sizes in the area. Given the cost barriers associated with purchasing new equipment for conservation practices, resource sharing could make conservation agriculture more accessible. Some sharing already occurs, but providing capacity to develop a more formalized network could help farmers meet this need.

Most importantly, TSN should note which organizations are already doing work to address farmer needs and think strategically about filling a hole so as to not duplicate effort.

8





CONCLUSIONS AND RECOMMENDATIONS

8

The rapid changes in the agriculture industry over the last century due to the innovations of the Green Revolution have led to a host of environmental impacts from soil degradation to compromised water quality. Farmers, researchers, and industry professionals are developing and implementing solutions to these environmental impacts locally, nationally, and globally, though substantial and complex barriers exist that keep them from being adopted at higher rates.

The Stewardship Network (TSN) is a conservation-focused nonprofit organization based in Ann Arbor, Michigan that provides tools, resources, and funding to increase the collective regional impact of local collaborative conservation communities. Currently, it focuses on building diverse, regionally-bound networks to support conservation on natural lands. In light of the impacts of industrial agriculture on land and water resources, The Stewardship Network is exploring the possibility of incorporating agricultural lands and stakeholders into its work. The purpose of this study was to help TSN understand what it should consider before expanding its work into this domain. This report shared the findings of this research about the people and organizations that comprise the agricultural community in Washtenaw County, Michigan. With this understanding, TSN can reflect on its own strengths and interests in order to determine how and where to connect, if anywhere. Recommendations to The Stewardship Network for considerations in deciding whether to engage with this community are detailed below.

Characteristics of the Farming Community

This study examined the farming community in Washtenaw County and explored its social and professional organization through a series of semi-structured interviews with farmers and farmer resource organizations, combined with observations at events and meetings. The farming community in Washtenaw County can be divided along a spectrum from small-scale diversified farmers to large-scale commodity farmers. This division is

based on farm size, type of product grown, practices employed, and market. These groups socialize and connect professionally in separate spheres, exhibit distinct values, and have different needs regarding conservation.

Our research exposed a range of definitions and perspectives on conservation agriculture. These perspectives can be organized along a spectrum, from conservation understood as intrinsic to farming to understood as an addition to farming. Farmers who view conservation as intrinsic to their work often take an agroecological approach to farming, which recognizes the farm as part of a larger ecological system that includes interactions between soil health, water quality, and pest management. Farmers who view conservation as an addition to farming understand conservation agriculture as a set of specialized and compartmentalized practices that address specific environmental impacts and on-farm resources concerns. These practices function within and alongside the industrial agriculture system and seek to mitigate its harmful environmental impacts. Organic agriculture, which seeks to reduce or eliminate chemical inputs, is incorporated into both agroecological and industrial approaches to conservation.

The farmer spectrum and the conservation spectrum are loosely parallel--small-scale diversified farmers tend to see conservation as intrinsic to farming while large-scale commodity farmers see conservation as an addition to farming. Though there are exceptions, these spectra provide a useful model for understanding the farming community in Washtenaw County.

Though they do not always fit neatly on one side of the spectrum or the other, farmers are organized socially and professionally into two major groups. The small-scale diversified community is younger and comprised of more beginning farmers than the large-scale farming community. This community is organized around farmers markets and Argus Farm Stop. They also connect at the monthly Farmer Beer Night gathering and the annual Local Food Summit. They are a product of, and dependent on, the vibrant local food movement in Ann Arbor for their economic sustainability. Their main source of resources and information is through informal social connections, online sources, and one-off workshops and trainings.

Large-scale commodity farmers in Washtenaw County are largely multi-generational and tend to be closer to the average age of farmers in the state, 57 years. There is concern about the rising average age of these farmers, though there is a thriving Young Farmers network in the county. The most important social and professional hub in the large-scale commodity community is the Michigan Farm Bureau. These farmers access resources and information through MSU Extension and agrochemical company salespeople.

Black farmers make up less than 1% of farmers in Washtenaw County (Census of Agriculture, 2012). Though not the rule, many Black farmers grow at a small-scale, understand conservation as intrinsic to farming, and participate in the small-scale diversified farming community. However, due to their low numbers and shared experience of historical discrimination, Black farmers have also built a strong regional and statewide community through which they connect socially and professionally. Michigan Food and Farming Systems (MIFFS) provides spaces, or supports groups that provide spaces, for these communities to connect across the state, including their yearly conference.

While not every farmer fits neatly into the small-scale and large-scale categories, these categories represent two distinct communities who see themselves as different from each other. The methods a farmer chooses are not just a business choice, they reflect values and identity, and often political affiliation. These groups largely do not socialize together, and often view each other with an “us vs. them” mentality.

These farming communities are built on strong relationships and deep trust: trust between farmers, trust between farmers and the farmer resource organizations (FROs) that serve them, trust with consumers, trust between FROs. There is a lack of trust between the two farming communities, and between environmental organizations and FROs that serve large-scale commodity farmers. Trust and relationships determine how resources are disseminated and accessed, and even what information is believed.

Interviews reveal that the primary factors motivating farmers to participate in conservation agriculture were intrinsically valuing conservation, knowledge of both the need for conservation agriculture and the practices and resources available, and external pressure (including market incentives, regulatory incentives and social pressure). Farmers interested in adopting conservation practices faced different barriers to doing so, depending on farm type. Small-scale diversified farmers, who are often already practicing conservation because they see conservation as intrinsic to farming, face barriers related to staying in business, including access to land, capital, and markets. They also struggle with the availability of research on conservation practices specific to the context of their farms, and the lack of avenues of dissemination that would enable access to research. For large-scale commodity farmers who see conservation as an addition to farming, adopting conservation practices requires making a change. The barriers they face are related to challenges in changing their systems. These barriers include small profit margins, the cost of making a change to their system, and the adaptability of the changes. Large-scale farmers also mentioned a lack of conservation-specific research.

The impacts of these barriers are amplified for underserved farmers due to the historical loss of land, structural and institutional barriers to capital accumulation, and exclusion from White-dominated networks and social circles. Black farmers, in particular, tend to be small-scale farmers. Because of the systematic dispossession of Black-held land and capital, Black farmers have less land to farm and less money to purchase inputs and machinery and are therefore small-scale by default. In addition, community building efforts are reconnecting Black farmers to ancestral production methods, which influences their farming operations. While this study addressed Black farmers in particular, TSN will need to address the needs of all underserved farmers if it wants to support a truly sustainable agricultural system.

Farmer Resource Organizations

Over 50 organizations support farmers in Washtenaw County at the intersection of agriculture and conservation. These farmer resource organizations (FROs) represent federal and state agencies, markets and distribution centers, land grant universities, farmer-focused nonprofits, conservation-focused nonprofits, and conferences and gatherings. They employ a broad range of strategies to support farmers including advocacy, financial support, social networking, research, education and outreach, consulting and technical assistance, markets and

distribution, and community development. A network analysis of how these organizations connect with each other, revealed that the FRO network is divided into three communities comprised of different organization types, strategies, and primary resource recipients. Large-scale commodity farmers have greater access to federal and state agencies that provide financial support and consulting and technical assistance. Small-scale diversified farmers rely more on farmer-focused nonprofits that provide markets and distribution and social networking resources. Conservation-focused nonprofits primarily serve non-farmers, but have connections with farmer resource organizations in the other communities. The social divisions within the farming community are reiterated at the institutional level, which has implications for resource accessibility among particular types of farmers.

Farmer Networking Organizations

The Stewardship Network is not alone in wanting to facilitate networks to support conservation agriculture, and it will benefit from the experience of other organizations working in this realm. In particular, the experience of Green Lands Blue Waters and Practical Farmers of Iowa provide useful insights for informing TSN's work. These organizations highlighted the importance of understanding and honoring the work already being done at the intersection of conservation and agriculture. They emphasized that TSN should ensure any new initiatives they bring to the community are truly unique from other work being done, and that the objectives match the needs expressed by the community. They noted challenges related to building trust with farmers, and the particular challenges facing environmental organizations interested in working with large-scale commodity farmers.

Unmet Needs in Conservation Agriculture

Despite the vast array of organizations and resources available in Washtenaw County, farmers still face unmet needs in participating in conservation agriculture. These needs include existence and access to conservation agriculture research, access to land, financial assistance and loans, markets for diversified crops, equipment and labor access and affordability, and conservation agriculture knowledge and expertise. As part of our analysis, we evaluated the gaps between existing farmer needs and the resources available. The Stewardship Network should consider these gaps in evaluating how they can best support agricultural stakeholders.

Recommendations

In deciding whether or how to add agricultural lands and stakeholders to its work, The Stewardship Network should carefully consider the strategic dimensions of such work and the organizational implications for TSN. In addition, the likely challenges TSN may confront in stepping into the conservation agriculture sphere should be considered along with the specific opportunities that might be capitalized upon. This section discusses the key considerations that became apparent in our study.

Strategic Considerations

Interviews with farmers, farmer resource organizations, and farmer networking organizations revealed several strategic considerations for TSN. In particular, TSN will need to carefully assess its choice of target audience and

specific niche within conservation agriculture, as well as its desired impact. The particular needs of underserved farmers combined with the labor realities of agriculture today also beg strategic consideration.

Audience

Existing divisions within the farming community will challenge TSN's entry into the field. Given the organization's small staff, it is not likely to be possible to reach out to both small-scale diversified and large-scale commodity farmers; a choice between the two audiences will need to be made initially. In selecting a target audience, TSN should consider the strategic implications of this decision to its own organizational goals as well as to future connections it may desire in agriculture.

Small-scale diversified farmers will be easier for TSN to connect with. They will not be turned off by TSN's perceived identity as an environmental organization, and their values may align better with the values of the existing TSN community. These farmers may be interested in participating in TSN's clusters as they currently exist, assuming the farmers see value in their participation. However, by focusing on small-scale diversified farmers, TSN might be seen as aligning with this community, and it might be harder to connect to large-scale commodity farmers in the future.

Conversely, connecting with large-scale commodity farmers will not preclude small-scale diversified farmers from participating in a future network. However, connecting with this population will require a long-term project of trust-building--a much bigger lift as an organization. If TSN decides to invest resources in connecting large-scale commodity farmers, they should start with "cross-over" farmers and FROs--those that are in the middle of the small-scale to large-scale farmer spectrum. These farmers include former large-scale conventional farmers who now grow organically or grow something else, large-scale conventional farmers that already invest heavily in conservation practices, or small-scale diversified farmers that do not use any or many conservation practices. These FROs include Michigan Agricultural Environmental Assurance Program (MAEAP), Michigan Food and Farming Systems (MIFFS), and Michigan State University Center for Regional Food Systems.

Underserved Farmers

Farmers of color face deep historical and structural discrimination, including USDA lending discrimination and land dispossession. This inequity amplifies the barriers faced by their White counterparts, and adds additional barriers. In order to work toward a truly sustainable agricultural system, TSN should consider the particular needs and barriers of farmers of color. It will need to work hard to facilitate inclusive, non-White dominated spaces if they want farmers of color to participate. It should follow and support the leadership of those already developing resources for underserved farmers, such as MIFFS and the Detroit Black Community Food Security Network (DBCFSN). There could be opportunities to build the capacity of these existing organizations, without diminishing their leadership.

Desired Impact

In considering its audience, TSN might also consider the type of impact it wants to prioritize. While there are a greater number of small-scale diversified farmers (in Washtenaw County, 80% of farms are fewer than 180 acres, and 54% are fewer than 50 acres), conventionally grown commodity crops account for the vast majority

of farmland in Washtenaw County and in Michigan (over 99% of farmed acres in Michigan were farmed conventionally). Consequently, conventional farms are responsible for a bigger share of the environmental impacts of agriculture. Working to meet the needs of large-scale commodity farmers may arguably have a larger impact on a shorter timescale. However, adding conservation practices to an industrial system does not change some of the aspects of conventional agriculture that have landscape-level consequences, such as loss of habitat. Small-scale diversified farmers are providing an alternative to industrial agriculture, and a transformative change within the agricultural system. Both are needed, and TSN should consider where their efforts are best served.

Conservation Niche

Farmers and FROs define and approach conservation in a diversity of ways. Given the lack of consensus on the definition of conservation agriculture, TSN will need to choose a niche within the wide field of conservation agriculture and ensure that it is unique from the other work being done. They will need to be specific in defining their goals and objectives, precise in the language they choose to describe their work, and take care to stay in their lane.

In considering precise language, “conservation agriculture” may not be the appropriate term for the work TSN is interested in pursuing. The preferred term will depend largely on the specific outcome, practice, or conservation approach chosen, and the audience TSN is interested in reaching, as different audiences will read that term differently.

TSN already has a strong understanding of community-led collaboration, and can draw on its substantial resources in this respect to ensure that their chosen niche is reflective of community priorities. Choosing a niche to occupy will help them be strategic with their resource allocation, ensure that what they are providing is different from what is already available, and build their value in the eyes of the community.

Labor Realities

Conservation agriculture can be more labor-intensive than conventional agriculture. The cost of labor is a significant barrier to implementing conservation practices (for large-scale farmers) or maintaining a business (for small-scale farmers). Understanding the full range of issues associated with farm labor was beyond the scope of this research, but with impending immigration restrictions, current and past farm worker mistreatment, and the increasing commodification of human labor in agriculture, these issues have become an important and much-needed part of the conversation on sustainable and just agriculture. Understanding how farmers and farmer resource organization navigate, address, and seek to alleviate these issues is essential to ensuring conservation agriculture continues. Future research in the area of conservation agriculture should focus on labor and the implications that agricultural policy, cultural norms, social dynamics in agriculture have on both farmer and farm-worker livelihoods and well-being.

Organizational Considerations

As TSN weighs the strategic dimensions of its associated involvement with the agricultural sector, it will want to reflect on several organizational considerations. Specifically, TSN should also consider whether conservation agriculture is an organizational fit given its capacity, and the possibility of a strategic new hire, and become familiar with the existing work being done in the field.

Organizational Fit

In order to be a strategic partner in supporting conservation agriculture, TSN should examine its own organizational abilities and limitations. Engaging in the agricultural community is long-term commitment. We recommend TSN evaluate its current network and connections, existing and potential resources, and its capacity as an organization. A realistic assessment of its mission and capacity and the potential contributions it might make to the agricultural community will inform TSN's decision whether or not to venture into this new domain.

Staff

To gain the trust of agricultural communities in Washtenaw County, TSN would benefit from hiring a project manager with a farming background who can help to broker relationships. The particular farming background should reflect the community that TSN decides to prioritize. This individual could connect with thought leaders and influential stakeholders to build social capital and trust within the community.

Honor Existing Work

Over 50 organizations support farmers in Washtenaw County at the intersection of agriculture and conservation. These organizations have well-established missions, long-standing relationships, and entrenched territories that must be recognized and respected. While there are few organizations whose main goal is conservation agriculture, many of these organizations work in conservation and see themselves as providing professional and social connections. It will be very important for TSN to build relationships with representatives from key organizations, and partner with them to build on their existing work and grow their capacity and reach. Many organizations expressed wariness of duplicative work, and will be alert to TSN stepping on their toes.

Challenges

In evaluating its potential involvement with the agricultural sector, TSN should consider likely challenges and evaluate its capacity and desire to address these. In particular, the challenges TSN must consider the importance and complexities related to trust building.

Trust

Trust is the single most important currency when working in agriculture. It is possible that TSN will encounter distrust from all sides when beginning to work with agricultural stakeholders. Some small-scale diversified farmers and related FROs that were interviewed had heard of TSN, but most had not. It will take a significant amount of work to build trust within the small-scale diversified community, and they will need to be convinced that participation with TSN is worth their limited time. Any farmer or FRO will be skeptical of information

or support from a new organization with no farming experience.

Distrust of Environmental Organizations

Environmental organizations have a particularly dubious reputation among many farmers and farmer resource organizations, especially large-scale commodity farmers. Because of the work they already do and the network they have already built, TSN will likely be perceived as an environmental organization. This reality must be taken into account when working with large-scale commodity farmers. They will be harder to reach, and the framing with which they are approached will be essential for gaining their trust. Green Lands Blue Waters suggests being “farmer-centric”--approaching farmers with an eye toward what they need, and not with a focus on environmental outcomes.

Opportunities

Though challenges are inevitable with any shift or expansion in organizational focus, there may be a need for what TSN has to offer. TSN has a strong foundation of success in conservation, as well as a robust network of organizations already working in the field of conservation agriculture.

Network Building is Needed

Despite the vast array of organizations and resources available in Washtenaw County, farmers still face unmet needs in participating in conservation agriculture. TSN has tools and resources that can help address these unmet needs. The Stewardship Network should consider the gaps between farmer needs and resources available (identified in Chapter 7) to evaluate how it can best support agricultural stakeholders. Given its experience building capacity and connection between stakeholders, we suggest that TSN focus on addressing unmet needs where farmers will benefit from an expanded network.

One need that could benefit from this type of support is access to conservation agriculture research for small-scale diversified farmers. Currently, avenues are limited for disseminating new research findings to this community. TSN might consider the potential for providing a connection between research institutions, researchers, and farmers to help farmers both connect to existing and ongoing research, and to support farmers in conducting their own research on their own farms. Practical Farmers of Iowa would be an important resource for helping TSN develop this type of program.

TSN’s experience in network and capacity building might also be leveraged to create equipment and labor-sharing networks for farmers of all sizes. Given the cost barriers associated with purchasing new equipment for conservation practices, resource sharing could make conservation agriculture more accessible. Some sharing already occurs, but providing capacity to develop a more formalized network could help farmers meet this need by allowing for cost sharing, equipment trades, and the pooling of labor.

Build On Existing Success

TSN has seen tremendous success in its existing work in conservation. Its ability to bring together a diversity of stakeholders is promising for their ability to connect to the array of actors involved in agriculture. Additionally, TSN is already connected to many of the farmer resource organizations that are currently working in the realm

of conservation agriculture, including Groundworks, the Huron River Watershed Council, the Legacy Land Conservancy, the Michigan Environmental Council, Michigan State University Extension, Natural Resources Conservation Service, and the Conservation District. TSN can leverage these connections to support and build on the work already being done at the intersection between conservation and agriculture.

Initial Steps for The Stewardship Network

Deepen Agricultural Knowledge

Before attempting to participate in the agricultural sector in Washtenaw County, The Stewardship Network might consider broadening its understanding of how agriculture functions in the United States, the associated political divisions, and the social dynamics of farming communities. The findings detailed in this report provide a foundation for understanding the way farming communities are organized in Washtenaw County.

Further background on the agricultural industry is also important. It will be helpful for TSN to understand capital flows within the global agricultural system, economic pressures, and policy, especially a basic understanding of the Farm Bill. Our recommendations include readings such as:

- *Farming for All of Us: Practical Agriculture and the Cultivation of Sustainability*
Michael Mayerfeld Bell
(Penn State University Press, 2004)
This book was written in partnership with Practical Farmers of Iowa, and it provides an overview of practicalities and uncertainties of rural farming, as well as insight into the sociology of the farming community.
- *Nature's Metropolis: Chicago and the Great West*
Chapter 3: "Pricing the Future: Grain."
William Cronon
(W. W. Norton, 1992)
This book provides an environmental history of 19th century America, and Chapter 3 focuses specifically on the evolution of agriculture and commodity speculation during that time.
- *Black Farmers in the USA and Michigan: Longevity, Empowerment, and Food Sovereignty*
Dorceta E. Taylor
(Journal of African American Studies, 2018)
This academic paper by a professor at the University of Michigan's School for Environment and Sustainability details the experience of Black farmers in the United States and Michigan, and looks at opportunities for addressing the legacy of discrimination through cooperatives and community-based organizations.
- *Factors Influencing Farmer Adoption of Soil Health Practices in the United States: a Narrative Review*
Liz Carlisle

(Agroecology and Sustainable Food Systems, 2016)

This academic paper is a review of the literature on soil health adoption practices and the persistent adoption gap. It focuses on U.S. commodity agriculture, with an emphasis on the midwest.

Participate in the Community

TSN can help mitigate challenges related to a lack of trust by beginning to develop relationships within the farming community. TSN representatives could begin to integrate themselves into the community by attending meetings, events, and conferences, talking to people, listening, and observing. The following meetings and events may be useful starting places to begin interfacing with the agriculture community:

- **Local Food Summit**
Annual Washtenaw County gathering that celebrates local food, attended by farmers, academics, activists, and other food system practitioners
- **Michigan Farm Bureau Annual Meeting**
Agriculture advocacy organization that provides networking and community for large-scale farmers
- **Washtenaw Farm Bureau Board Meeting**
Leadership meeting for county-level leadership of the statewide organization
- **Farmer Beer Night**
Informal monthly gathering for small-scale diversified farmers to share information and connect socially
- **Michigan Food and Farming Systems (MIFFS) Annual Conference**
Statewide organization that serves underserved farmers and connects them to resources
- **Northern Michigan Small Farmers Conference**
Annual conference that aims to build and promote a vibrant small farm community, and provides educational opportunities for small farmers
- **Washtenaw County Food Policy Council**
A council that advocates for and supports a thriving local food system through policy initiatives and education
- **Michigan Farmers' Union Meetings**
An advocacy group that provides educational opportunities, cooperative endeavors and civic engagement opportunities for family farmers

Build Relationships

TSN will need to develop a strong understanding of the existing agricultural landscape in order to understand their potential place within it. We recommend that TSN review the vast array of organizations evaluated in

this report and understand the strategies they employ and the resources they provide to farmers. With this knowledge, begin to build one-on-one relationships with key community leaders, and learn about their vision and priorities for conservation agriculture in the county, region, or state. We recommend TSN partner with these leaders to build on their existing work and grow their capacity and reach.

Limitations

Our sampling methodology, limited capacity, and broad scope introduced some limitations to our full understanding of the farming community in Washtenaw County.

Sampling Bias

Most interviewees were identified through snowball sampling, which is “where existing study subjects recruit future subjects from among their acquaintances” (Snowball Sampling, 2018). Given the pace of agricultural work and the fact that it is both a job and a lifestyle, getting in touch with farmers to interview proved difficult. Snowball sampling enabled us to more easily reach farmers, as we were relying on existing connections, but following the trail of recommendations and referrals may have biased our perception of the farmer network.

One example of how snowball sampling may have limited our understanding of the agricultural community is our initial interaction with the Michigan Farm Bureau. We reached out to the Farm Bureau to help us connect to farmers in the area, because of the important role it plays politically and socially for the large-scale commodity farming community. We interviewed a staff person at the Washtenaw County Farm Bureau, who then connected us with farmers with whom they work. Predictably, these farmers had strong connections with the Farm Bureau, and discussed its importance in their life as a social hub. Our initial interviews subsequently reinforced our perception of the importance of the organization. While the Farm Bureau does appear to be an important organization for farmers in Michigan, due to the bias of the population interviewed, we were not able to determine how important other political advocacy groups like the Michigan Farmers’ Union are for the community. We were not able to determine how many farmers in Washtenaw County access Farmers’ Union resources compared to those of the Michigan Farm Bureau.

The same sampling methodology implications apply to the small-scale diversified farming community. For example, once we connected to a particular organization, such as Farmer Beer Night, our sampling methodology connected us to more farmers who were already involved with and valued that organization. This sampling methodology may have caused us to miss subsections of the community that are not connected to the individuals and organizations we interviewed.

Limited Farmer Interviews

Most interviews were conducted with representatives of farmer resource organizations, which means most of our information on the farming community did not come directly from farmers. Though many FRO representatives are themselves farmers, they spoke to us as representatives of their organizations, and not primarily from their roles as farmers.

While we tried to focus efforts on reaching underserved farmers to understand their specific needs and challenges, our perspective was largely confined to Black farmers. In our emphasis on Black farmers and their experience, we neglected to ask women farmers about their experiences as an underserved farmer and were unable to connect with other farmers of color in addition to Black farmers.

Due to limited capacity and time, we were unable to collect quantitative data on farmers in addition to our interviews through surveys. In addition, focus groups would have provided the study with a greater breadth of understanding of the community, and are often recommended in this type of community-based research.

Conclusion

The Stewardship Network has made substantial contributions to conservation outcomes in Michigan, the Great Lakes region, and beyond. The organization's staff and community understand and are deeply committed to advancing environmental stewardship. This dedication, combined with TSN's community-based networking model, is an excellent foundation for building out the organization's work to include agricultural lands and stakeholders. Collaboration at the intersection of conservation and agriculture is essential, and we commend The Stewardship Network's desire to approach the work with humility and care. TSN should carefully consider the challenges and strategic implications associated with a move into agriculture. Having spent the past year immersed in farming communities in Michigan, we would also encourage TSN and others interested in the interface between farming and stewardship to consider how agriculture can be welcomed into conservation, not just how conservation can be brought to agriculture.

Acknowledgements

This report is dedicated to those that feed us.

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Appendix

List of Appendices

Appendix A...Interview Guide for Farmers

Appendix B...Interview Guide for Farmer Resource Organizations

Appendix C...Interview Guide for Farmer Networking Organizations

Appendix D...Farmer Resource Organizations that Serve Washtenaw County

Appendix E...Farmer Networking Organizations

Appendix F...Census of Agriculture Highlights for Washtenaw County, 2012

Appendix G...Census of Agriculture Demographic Highlights for Michigan, 2012

Appendix H...Census of Agriculture Highlights for Black Farmers, 2012

Appendix A: Farmer Interview Guide

Why don't we start by you telling me a little bit about yourself and the farm.

- 1) How long have you been farming?
- 2) Could you tell me about the layout of your farm?
 - a) Maybe you could sketch your land and the different portions that are under cultivation.
 - b) If you have an aerial photo, I would love to see it.
- 3) What do you grow?
- 4) Are you a full time farmer? Do you co-manage the farm?

Now I'd like to know more about your farming and soil management practices.

- 1) How did you come to use those practices?
 - i) What are some of the advantages of using them? Disadvantages?
 - (1) Financial, social, environmental, political?
- a) What are some new practices you've adopted in recent years?
 - i) What are some of the challenges you've faced in using them? Benefits?

So you've mentioned a number of advantages and disadvantages for using certain practices. Now I'd like you to reflect on the experiences where you've chose to adopt practices with conservation in mind. Next, I'd like you to reflect on some the reasons you were or weren't able to adopt these practices.

- 1) Describe these experiences for me.
- 2) What thoughts were going through your mind during these experiences?
- 3) What motivated you to adopt these practices?
- 4) What are you thoughts about these practices so far?
 - a) What are some of the advantages? Disadvantages?
- 5) Did you discuss these conservation practices with other farmers? If so, what was the nature of those conversations?
 - a) Are other farmers also employing conservation practices? How were their experiences similar or different from your experiences?
- 6) What organizations did you go to for assistance? For example: government resources or community based resources.
 - a) Describe the types of resources or advice they provided.
 - b) How helpful were they?
- 7) Are you involved with the Farm Bureau? I've noticed that the FB community does not seem to include many farmers market farmers. Why do you think that is?
 - a) Is there a place for that kind of farmer in the FB community?
- 8) Now that you have reflected on these things a bit, what was necessary or would have been helpful in adopting these practices?
- 9) What management outcomes do you hope to have in the future?

Resources and Community

- 1) Where have you gone to learn new information about farming in general?
 - a) Can you give me some examples of the information you gained?
- 2) What organizations or groups have you interacted with?
 - a) How would you describe these interactions?
- 3) How would you describe the farming community of this area?

- a) What organizations play a role in the community?
 - i) How do you engage with these organizations?
- b) What kinds of social activities do farmers engage in? Educational?
 - i) How do you participate in these activities?
 - (1) For example: Tell me about that meeting/conference/workshop?
 - (2) When was the last time you went to one of those meetings?
 - (a) What was it like?
- c) What are the different types of farms do people operate?

**for farmers of color, women farmers and new farmers:

- 1) What other types of farmers do you interact with?
- 2) What distinguishes your farming practices from others?
- 3) What kinds of challenges do you face that are particular to you as a new farmer, women, or person of color?
- 4) What are the ways in which these challenges are or not being addressed?
 - a) What resources do you access to address these needs? Are there any that you know of that you don't access?
 - b) What are some of the reasons you don't access these resources?

Closing Statements

- 1) The Stewardship Network has a model for building networks around land conservation. They are interested in applying that model to agricultural lands. They are interested in understanding if there is a need in the farming community for a network around conservation. Given all that we've talked about today, is there something that the Stewardship Network could provide you? What might that be?
- 2) Do you know of other farmers that are interested in conservation agriculture that might be willing to be interviewed that you could put us in touch with?
- 3) Is there anything I didn't ask that you think I should have?

After we have done synthesis information and have talked to other farmers, would be willing to do a follow up interview if we find that would be helpful?

Appendix B: Farmer Resource Organization Interview Guide

I want to start by getting a better sense of your organization and your role in the organization

1. What is your role at your organization?
 - a. How long have you been there?
 - b. Do you have other relevant experience?
1. Who are the main recipients of the resources you provide?
 - a. What are the demographics of these people? What types of crops, what size, who are their markets?
 - b. Is the population that accesses your conservation agriculture resources different than your general population?
2. How many farmers do you support or serve? (Membership, conference attendees, etc.)
3. Could you walk me through the process of connecting farmers to your programs?
 - a. How do you find farmers to support or how do they find you?

The focus of our research is on conservation agriculture

1. How would your organization describe/define conservation agriculture?
2. How does conservation agriculture fit into the goals of your organization?
3. What kinds of resources does your organization provide to farmers that support conservation practices?
 - a. When farmers do access your conservation agriculture resources, why does that happen?
 - b. When farmers don't access your conservation agriculture resources, why don't they?
 - c. Can you describe the types of farmers that are not accessing your resources?
4. Do you have specific programs or resources for farmers of color, women farmers, and new farmers (historically underserved farmers)? Are any of these resources geared toward conservation practices in particular?
 - a. If you don't have any programs, have you seen a need for resources specifically for these groups?
 - b. If you are providing resources, where do they excel, and how could they be improved?
5. Take me back to some of your interactions with the farmers involved in your program. What challenges or barriers to adopting conservation practices have farmers mentioned to you or that you have observed?
6. Can you share an example of a time that a farmer accessed your resources in a way that made you and your organization feel successful?
 - a. How would you describe this farmer?
 - b. What was your and your organization's relationship with that farmer?
 - c. What is happening with that farmer now?
 - d. Was there something that the farmer needed that your organization couldn't or didn't provide?
7. Can you think of a specific example of a time when you were not able to support a farmer?
 - a. What needed to change in order to support that farmer?
 - b. What are your barriers to supporting farmers in participating in conservation agriculture?
8. What would help your conservation agriculture resources or programs be more effective? Do farmers have conservation agriculture needs that you aren't able to meet?
9. How would you characterize how farmers see you in the region?

I want to talk about the farming community in Southeast Michigan

1. How would you describe the farming community in Southeast Michigan and the relationship between community members?
 - a. Is there collaboration? Tension?
 - b. How is it organized?
 - c. Are there central hubs (social or professional)?
 - d. Are there leaders or big personalities that stick out to you?
 - e. What are farmers talking about? What hot topics? What do you hear from farmers in the community?
2. How do farmers connect to each other outside of your organization in general? Specifically around conservation issues?

Now, I'd like to know what connections you have with other organizations.

1. What other organizations do you work with to support farmers? What do those relationships look like?
 - a. How did you connect with them?
2. What organizations do you know of that you don't work with? What are some of the reasons you don't work with them?
3. How would you like to connect to other organizations or resources?
 - a. How do you imagine the relationships would work/look like?

Closing Statements

1. The Stewardship Network currently supports community networking among individuals and organizations involved with land conservation and management to help them coordinate their efforts and leverage funding. They are interested in expanding their work to include agricultural lands. What kind of need is there for the services The Stewardship Network provides in the farming community to support conservation agriculture practices?
2. Are there other organizations that are like yours that we should talk to?
3. Is there anything you think I should have asked that I didn't?

Appendix C: Farmer Networking Organization

Interview Guide

I want to start by getting a better sense of your organization and your role in the organization

1. What is your role at your organization?
 - a. How long have you been there?
 - b. Do you have other relevant experience?
1. How would you describe the resources you provide?
2. Who are the main recipients of the resources you provide?
 - a. What are the demographics of these people? What types of crops, what size, who are their markets?
3. How many farmers do you support or serve? (Membership, conference attendees, etc.)
4. Could you walk me through the process of connecting farmers to your programs?
 - a. How do you find farmers to support or how do they find you?

The focus of our research is on conservation agriculture

1. How would your organization describe/define conservation agriculture?
2. How does conservation agriculture fit into your organization's mission and goals?
3. What kinds of resources/programs does your organization provide to farmers that support conservation practices?
 - a. Is the population that accesses your conservation agriculture resources different than your general population?
 - b. When farmers do access your conservation agriculture resources, why does that happen?
 - c. When farmers don't access your conservation agriculture resources, why don't they?
 - d. Can you describe the types of farmers that are not accessing your resources?
4. Do you have specific programs or resources for farmers of color, women farmers, and new farmers (historically underserved farmers)? Are any of these resources geared toward conservation practices in particular?
 - a. If you don't have any programs, have you seen a need for resources specifically for these groups?
 - b. If you are providing resources, where do they excel, and how could they be improved?

The Stewardship Network is interested in moving into the agricultural sector and wants to know if there is a need for their work in agriculture. It would be great to learn more about your organization's history and approach to support conservation agriculture practices.

1. How did your organization form?
2. What challenges, if any, arose in its formation?
3. Can you describe your organization's model/approach for supporting sustainable agricultural practices in the farming community? In what ways is this model different from other organizations? In what ways is it similar?
 - a. Organizational structure (Board members, staffing, etc)
 - b. Geographic reach and organization
 - c. Stakeholders
4. How does your organization prioritize certain interests/concerns/objectives regarding conservation agriculture within the community? Are there specific practices that you focus on?
5. What have you and your organization learned over the years? Have there been any major changes in

- the model and the stakeholders involved in this network?
- a. If it has changed, what are some of the reasons it has changed?
6. What do you envision the future of your organization to be?
 - a. What do you think your organization needs to do to be more even more successful?
 - b. Do you see the needs of the farming community changing over time? If so, in what ways?
 7. What do you think makes your organization's model of networking most effective? Are there other models that are also effective?
 - a. What kinds of partnership are necessary?
 - b. Who are the leaders in the network?
 8. What should the Stewardship Network keep in mind when developing an network for farmers and farmer resource organizations in Southeast Michigan?

Appendix D: Farmer Resource Organizations that Serve Washtenaw County

Farmer Resource Organization	Main Recipients of Services	Regional Scope	Organizational Strategy	Mission and Values	Agriculture-Related Resources, Programs, and Tactics	Conservation Fo-
Federal and State						
Conservation District	Landowners	Michigan counties	Consultation and Technical Assistance	Assist landowners with and provide leadership in the conservation and management of natural resources	Tree and shrub sales, habitat and wildlife management consulting	Yes
Farm Service Agency (FSA)	Farmers, ranchers, and agricultural partners	National, State, County	Financial Support	Agricultural programs for developing an economically and environmentally sound agricultural system	Farm loans and voluntary conservation related programs: Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Farmable Wetlands Program (FWP), Grassland Reserve Program (GRP)	No
Michigan Department of Agriculture and Rural Development (MDARD)	Consumers, farmers, businesses, and regulators	State	Other	Expand economic opportunities for agriculture, maintain food safety, preserve the environment	Agricultural product licensing and certification; Right to Farm Act and Generally Accepted Agricultural and Management Practices (GAAMPS); Food safety, environment, animal, and pest related online services. Environmental programs include the Conservation District, Farmland preservation, MAEAP, CREP, Habitat Incentive Program	No
Natural Resource Conservation Program (NRCS)	Farmers, ranchers, and forest landowners	National, State, County	Financial Support; Consultation and Technical Assistance	Provide financial and technical assistance for conservation to help both the environment and agriculture operations	Financial support for conservation such as the Conservation Stewardship Program (CSP), Environmental Quality Incentives program (EQIP), Agricultural Management Assistance Program (AMA); Conservation Technical Assistance Program	Yes

Sustainable Agriculture Research and Education (SARE)	Farmers	National, Regional	Research; Education	Advance agricultural innovations that improve profitability, stewardship, and quality of life	On farm research through partnerships with Extension, non-profits, and NRCS, sustainable agriculture, professional development programs for extension educators and ag professionals	Yes
United States Department of Agriculture (USDA)	Farmers	National	Research; Financial Support; Education	Provide economic opportunities, promote agriculture production, and preserve natural resources	Research, grants, education	No
Land Grant University						
Michigan State University (MSU) Extension	Farmers	State, Multi-county districts	Education; Consultation and Technical Assistance	Disseminate MSU knowledge and resources to individuals, communities, and businesses	Agricultural information and education through farm tours, workshops, webinars by extension faculty and staff. Conservation specific programs include Organic Reporting Session, Integrated Pest Management (IMP), Organic Farm Exchange	No
MSU AgBio Research Center	Agri-food industry	Michigan	Research	Conduct innovative research that combines scientific expertise with practical experience to generate economic prosperity, sustain natural resources and enhance quality of life	Project GREEN	No
MSU Center for Regional Food Systems (CRFS)	Farmers	Michigan	Research; Education	Provide applied research, education, and outreach to develop regionally integrated sustainable food systems	Farm and farmer development programs, such as finance, beginning farmers support. Includes beginning farmer training program and food system-related initiatives such as the Good Food Charter.	No
MSU Product Center	Agri-food businesses	Michigan	Markets and Distribution	Improve economic opportunities in Michigan agriculture, food, and natural resource sectors	Innovation counselor team helps entrepreneurs and established companies develop and commercialize high value consumer-responsive products; Accelerated growth services program to help larger established companies create new business opportunities	No
Farmer Focused Non-Profit						
4H	Youth	National, State, County, Parish	Education; Research; Community Development	Empower youth through research, hands-on projects, and leadership opportunities in health, sciences, and agriculture	On the Farm Program, My American Farm educational game, scholarships, Mini-Grants, and Purple Plow Challenge to increase agricultural literacy	No

Cornucopia Institute	Consumers, family farmers, and the media	Wisconsin	Education	Provide information to stakeholders in the good food movement and to the media	Newsletters and other educational materials	Yes
Crop and Livestock Growers Associations and Councils	Commodity crop and livestock farmers	Varied	Markets and Distribution; Social Networking; Research	Create and increase opportunities for growers	Network to connect, growers, processors, shippers and trade people in promoting the welfare of various crop industries, research	No
Detroit Black Community Food Security Network (DBCFSN)	Black farmers	Detroit	Education; Community Development	Empower the Detroit Black community through organic agriculture and education and development opportunities for youth and adults	Volunteer and education opportunities at D-Town farm; knowledge exchange and networking opportunities for Black urban farmers in Detroit	Yes
EarthWorks	Farmers of Color	Detroit	Community Development; Education	Build a just, beautiful food system that restores connection to the environment and community	Volunteer and education opportunities	Yes
Future Farmers of America (FFA)	Youth and farmers	National, State associations, Local chapters	Education; Community Development	Provide personal growth and career success for students interested in agriculture and leadership	Awards and scholarships, career development events, collegiate programs, and conferences for members	No
Michigan Agriculture Environmental Assurance Program (MAEAP)	Farmers	Michigan	Education; Consultation and Technical Assistance	Ensure that Michigan farmers are engaging in cost-effective pollution prevention practices and working to comply with state and federal environmental regulations	Education; risk assessment and practice implementation assistance; on-farm verification of environmentally sound practices	Yes
Michigan Farm Bureau	Farmers and agricultural professionals	National, State, County	Advocacy; Education; Social Networking	Enhance and strengthen the lives of rural Americans and build strong, prosperous agricultural communities	Membership, public education	No
Michigan Food and Farming System (MIFFS)	Underserved and beginning farmers	Michigan	Social Networking; Education	Connect farmers to each other and other resource opportunities; ensure social justice, environmental stewardship, and profitability	Events and annual meetings such as workshops and MIFFS annual conference; Farm development centers including Tilian Farm Development Center, Lansing Roots Incubator Farm, and Women in Ag Network; Multicultural, Women, and Veteran farmer networks	Yes
Michigan Group-Gap Network	Farmers, buyers, distributors, food hubs, local non-profits, etc	Michigan	Consultation and Technical Assistance	Provide a means for small farmers to navigate food safety certification by developing a statewide network of farms and auditors to leverage the Group-Gap program	Partnerships and collaborations that allow for transparency in the certification process	No

Michigan Organic Food and Farm Alliance (MOFFA)	Organic farmers	Michigan	Education	Promote organic agriculture and develop food systems that sustain communities	Newsletter and events on organic agriculture	Yes
National Sustainable Agriculture Coalition (NSAC)	Grassroots organizations	National	Advocacy	Advocate for federal policy reform for sustainability of food systems, natural resources, and rural communities	Membership opportunities for agri-food grassroots organizations	Yes
Slow Food Huron Valley	Farmers and agri-food professionals	Southeast Michigan	Social Networking; Education	Build connections among agri-food system stakeholders to re-invigorate the food system and provide educational opportunities to the community	Local Food Summit, Home-grown Festival, Monthly Meetings, and Mini-Grants	Yes
Southeast Michigan Producers Association (SEMPA)	Underserved farmers and communities	Southeast Michigan	Markets and Distribution; Social Networking	Provide underserved communities fresh vegetables and help small farmers continue to flourish	Urban market access through a collaboration of producers and distributors	No
Washtenaw Farm Council	Various organizations	Washtenaw County	Other	Promote interest in agriculture, horticulture, etc.	Event space	No
Conservation-focused Nonprofits						
Ann Arbor Green Belt	Landowners and residents	Ann Arbor	Land Preservation and Conservation	Preserve open spaces, farmland and natural areas along the the Huron River	Provides funds for park purchases and conservation easements within Greenbelt zone	Yes
Crosshatch	Local community	Northern Michigan	Community Development; Education	Build strong communities through the intersections of art, farming, ecology, and economy	Workshops, courses, and conferences such as the Northern Michigan Small Farm Conference; guilds or peer groups for farmers, beekeepers, orchardists, etc.	Yes
Ecology Center	Local community	Southeast Michigan	Community Development; Markets and Distribution	Develop innovative solutions for healthy people and a healthy planet	Community food system development programs such as affordable access to health foods that supports small scale farmers; farm to institution programs that create market opportunities for local farmers	Yes
GroundWork	Local community	Northwest Michigan	Markets and Distribution; Education	Protect the environment, strengthen the economy, and build community	Marketing through Taste the Local Difference; farm, food, and health advocacy conferences	Yes
Growing Hope	Local community	Ypsilanti, Michigan	Community Development; Education; Economic Development	Help people improve their lives and communities through gardening and increasing access to healthy food	Ypsilanti farmers markets, vegetable and herb starters, youth programs, and workshops	Yes
Huron River Watershed Council (HRWC)	Residents, businesses, and local governments	Southeast Michigan	Land Preservation and Conservation	Protect and restore the Huron River watershed for healthy and vibrant communities	Partnership building between multiple stakeholders; monitors the Huron River Watershed and leads programs for watershed health such as biological habitat monitoring, chemistry and flow monitoring, etc.	Yes

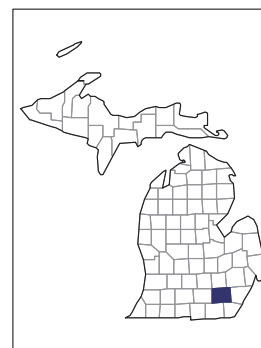
Legacy Land Conservancy	Landowners and residents	Washtenaw and Jackson Counties	Land Preservation and Conservation	Secure a land base for nature, agriculture, freshwater and recreation for current and future generations	Working farm protection and conservation	Yes
Michigan Environmental Council (MEC)	Environmental and public health organizations	Michigan	Advocacy	Lead the Michigan environmental movement in achieving positive change through the political process	Coalition and partnership for organizations committed to environmental policy advocacy	Yes
Nifty Hoops	Farmers	Michigan, Greater Midwest	Financial Support	Help farmers become successful and profitable while they do the good hard work of feeding their community	Hoop house design and installation	Yes
Conferences and Gatherings						
Farmer Social	Farmers	Washtenaw County	Social Networking	Provide opportunities for farmers to get together and share, socialize, and talk about whatever they want	Once a month get-together to connect with other small scale farmers over beer and camaraderie	No
Great Lakes Fruit and Vegetable Expo	Farmers and farmers markets	Great Lakes Region	Education; Social Networking	Provide an opportunity for agriculture education and knowledge exchange	Education and marketing opportunities through workshops, exhibits, and trade shows	No
Homegrown Festival	Local community	Washtenaw County	Social Networking	Celebrate local and regional food	Gathering opportunity for the community	Yes
Local Food Summit	Farmers, local residents, agri-food system organizations	Washtenaw County	Social Networking; Education	Discuss and brainstorm innovative models, ideas, and policies that ensure accessible, local food for everyone	Presentations, discussions, and networking opportunities with important community leaders in the county	Yes
MIFFS Michigan Small Farms Conference	Underserved and beginning farmers	Michigan	Social Networking; Education	Opportunity for small-scale and culturally diverse farmers to network and learn in order to build sustainable family farms	Workshops and presentations on soil health, food safety certification, federal programs, FSA registration	No
Northern Michigan Small Farms Conference	Small farms, community businesses, and local government	Michigan	Social Networking; Education	Promote and build a local vibrant agriculture community	Educational event that allows for open exchange of ideas and network building	Yes
Washtenaw Small Farmers Breakfast	Farmers	Washtenaw County	Social Networking	Provide social networking opportunities	Opportunity to socialize with other farmers in the area	No
Distributors and Markets						
Ann Arbor Farmers Market	Farmers, businesses	Southeast Michigan	Markets and Distribution; Social Networking	Bring farm fresh produce to the community every week of the year	Gathering place for farmers and other local producers to sell products to the community. Provides an opportunity for farmers to connect with each other as well	No

Argus Farm Stop	Farmers, businesses	Southeast Michigan	Markets and Distribution; Social Networking	Grow the local agricultural economy	Retail space for farmers and other business to sell products. Provides an alternative to the farmers market, with 80% of the proceeds going back to the farmer/business	Yes
Cherry Capital	Farmers	Michigan	Markets and Distribution	Connect thoughtful eaters to local Michigan products to support regional foodsheds and Michigan economy and environment	Food safety certification consultations, product distribution across the state	No
Frog Holler	Farmers, restaurants	Southeast Michigan	Markets and Distribution	Provide fresh, locally grown produce to restaurants	Partnerships with Michigan-based growers and restaurants to support local food	No
Grow Eastern Market	Farmers, wholesale buyers	Southeast Michigan	Markets and Distribution	Farm to wholesale buyer food distribution	Food hub for direct small farm to wholesale buyer distribution	No
Michigan Farmers Market Association (MIFMA)	Farmers market managers, vendors, and visitors	Michigan	Markets and Distribution	Create a thriving marketplace for local food and farm products	Statewide association to connect more farmers to consumers through farmers markets	No
Small Business Association of Michigan	Small businesses	Michigan	Markets and Distribution	Help Michigan's small businesses succeed	Marketing opportunities	No
Taste the Local Difference	Farmers, consumers	Michigan	Markets and Distribution	Sell more local food to communities	On farm research through partnerships with Extension, nonprofits, and NRCS; sustainable agriculture, professional development programs for Extension educators and ag professionals	No
Washtenaw Food Hub	Farmers, businesses	Washtenaw County	Markets and Distribution	Create a community of triple bottom businesses and a model for regional sustainability and self-sufficiency	Commercial processing kitchens, retail and wholesale opportunities, farm equipment repair, and educational programs, ecological demonstrations	Yes
Private Industry						
Crop Production Services	Farmers	International	Consultation and Technical Assistance	The leading provider of agricultural inputs and provide exceptional service to our valued customers	Soil and plant tissue sampling, application rate advice (4Rs), field scouting, product recommendations, and product sales	No

Appendix E: Farmer Networking Organizations

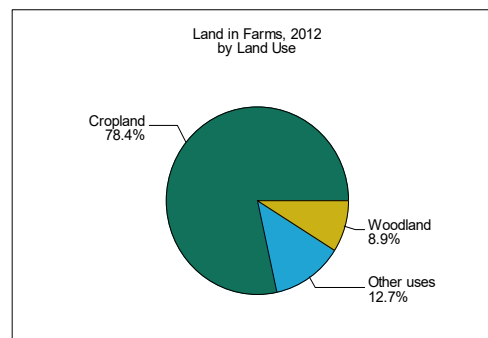
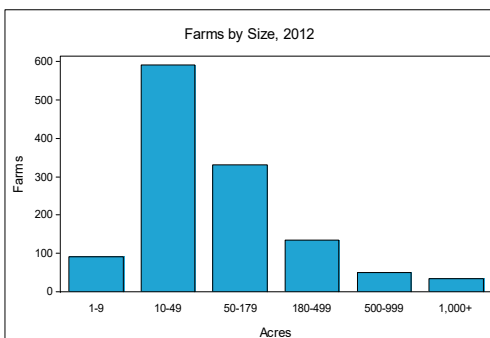
Organization	Service Area
Ag Innovations	California and Arizona
Center for Environmental Farming Systems	North Carolina
Conservation Finance Network	United States
Crosshatch Center for Food and Ecology	Northwest Michigan
Ecological Farming Association (EcoFarm)	California
Family Farmed	Chicago
Green Lands Blue Waters	Mississippi River Basin
Groundwork Center for Resilient Communities	Five-County Grand Traverse Region
Holistic Management International (HMI)	International
Illinois Stewardship Alliance	Illinois
Kansa Rural Center	Kansas
Land Stewardship Project	Minnesota
Michigan Food and Farming Systems (MIFFS)	Michigan
Northwest Food and Farming Network	Michigan
Practical Farmers of Iowa	Iowa
Rocky Mountain Institute	International
The Experimental Farm Network	Pennsylvania
Women Food and Ag Network	Iowa

Appendix F: Census of Agriculture Highlights for Washtenaw County, 2012



Washtenaw County Michigan

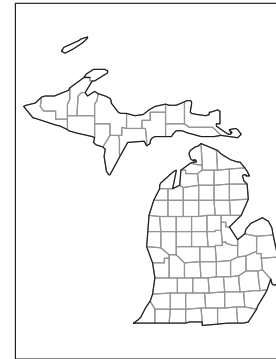
	2012	2007	% change
Number of Farms	1,236	1,300	- 5
Land in Farms	170,154 acres	166,881 acres	+ 2
Average Size of Farm	138 acres	128 acres	+ 8
Market Value of Products Sold	\$87,761,000	\$73,197,000	+ 20
Crop Sales \$67,584,000 (77 percent)			
Livestock Sales \$20,177,000 (23 percent)			
Average Per Farm	\$71,004	\$56,305	+ 26
Government Payments	\$3,466,000	\$2,193,000	+ 58
Average Per Farm Receiving Payments	\$8,843	\$5,173	+ 71



Appendix G: Census of Agriculture Demographic Highlights for Michigan, 2012

2012 CENSUS OF AGRICULTURE RACE / ETHNICITY / GENDER PROFILE

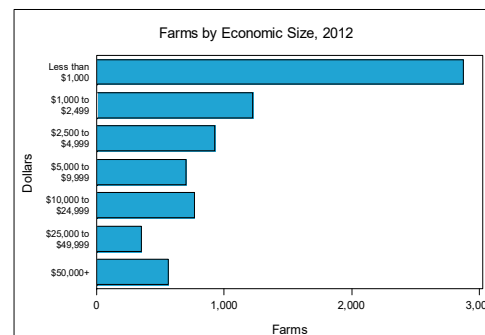
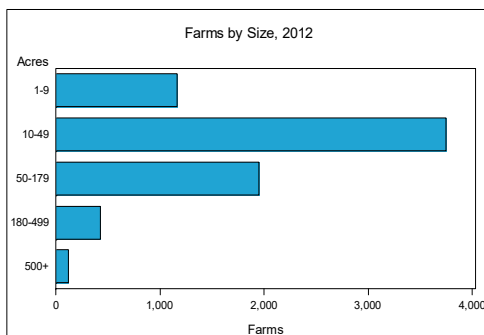
Michigan Farms with Women Principal Operators Compared with All Farms



	Women Principal Operators	All Farms
Number of Farms	7,409	52,194
Land in Farms	518,091 acres	9,948,564 acres
Average Size of Farm	70 acres	191 acres
Market Value of Products Sold	\$232,237,000	\$8,678,050,000
Crop Sales	\$182,505,000	\$5,506,437,000
Livestock Sales	\$49,732,000	\$3,171,614,000
Average Per Farm	\$31,345	\$166,265
Government Payments	\$7,062,000	\$155,919,000
Average Per Farm Receiving Payments	\$4,349	\$7,567

See footnotes on reverse page.

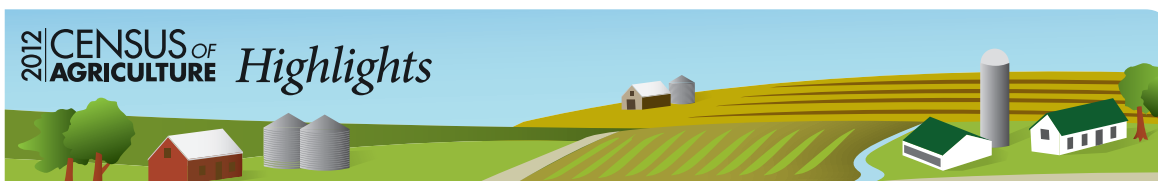
Farms with Women Principal Operators



US Department of Agriculture
National Agricultural Statistics Service

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Appendix H: Census of Agriculture Highlights for Black Farmers, 2012



Black Farmers

ACH12-10/September 2014

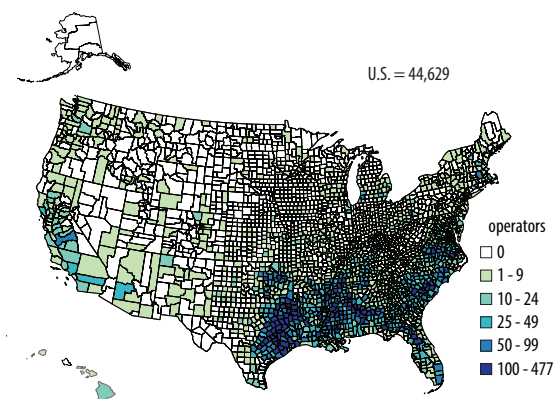
Up 12 percent since 2007; most live in southern states.

33,371 farms ...

... sold \$846 million in agricultural products and operated 3.6 million acres of farmland.

In 2012, the number of black farmers in the United States was 44,629. This was a 12 percent increase since 2007, when the last agriculture census was conducted. Nationally black farmers were 1.4 percent of the country's 3.2 million farmers in 2012. Ninety percent lived in twelve southern states. Freestone County, Texas, had more black farmers than any other county.

Black Farm Operators, by County, 2012



Source: USDA NASS, 2012 Census of Agriculture.

Principal Operators

Of total black farmers, 33,371 were principal operators, that is, the person in charge of the farm's day-to-day operations. Farms with black principal operators increased 9 percent between 2007 and 2012. In contrast, principal operators of all farms declined 4 percent. (Table 1)

Table 1
Black Farm Operators, 2007 and 2012

	2007	2012	% change
Black farm operators	39,697	44,629	+12%
Total farm operators	3.3 million	3.2 million	-3%
Blacks as % of total	1.2%	1.4%	
Black principal operators	30,599	33,371	+9%
Total principal operators	2.2 million	2.1 million	-4%*
Blacks as % of total	1.4%	1.6%	

Source: USDA NASS, 2012 Census of Agriculture.

About the Numbers

This *Highlights* document includes data for operators reporting their race only as "Black or African American." An additional 1,953 respondents to the 2012 Census of Agriculture indicated they are "Black or African American" in addition to one or more other races. For more information on black farmers, see <http://bit.ly/REGprofiles>.

*Statistically significant change. See <http://bit.ly/AgCensusFAQs>.



United States Department of Agriculture
National Agricultural Statistics Service

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