A PHENOMENOLOGICAL INQUIRY INTO PRODUCERS' EXPERIENCES GROWING ORGANIC PRODUCE AND EXTENSION AGENTS' EXPERIENCES SUPPORTING ORGANIC PRODUCERS

by

AMANDA OLBRICK MARABESI

(Under the Direction of Kathleen D. Kelsey)

ABSTRACT

Research regarding interventions to support organic producers have addressed producers' motivations to grow organically and the relationship between Extension agents and organic producers. Exploring phenomenological findings from interviews with seven organic producers in North Georgia, we reported the essence of producers' decision-making process toward growing organically. Producers were classified as pragmatic or committed based on their motives for growing organically. As a result of the findings, we proposed a model for Extension programming specific to each category of organic producers. In addition, we conducted a phenomenological inquiry with twelve Extension agents from the University of Georgia to explore *what* Extension agents' experienced in supporting organic producers and *how* they experienced it in terms of conditions, situation, and context. From the findings, we emerged the essence of participants' experiences in supporting organic producers to inform recommendations for the establishment of Extension educational programs in organic agriculture and further refined the model.

INDEX WORDS: Extension; organic agriculture; committed; pragmatic; diffusion of innovations.

A PHENOMENOLOGICAL INQUIRY INTO PRODUCERS' EXPERIENCES GROWING ORGANIC PRODUCE AND EXTENSION AGENTS' EXPERIENCES SUPPORTING ORGANIC PRODUCERS

by

AMANDA OLBRICK MARABESI

B.S., University of São Paulo, Brazil, 2016

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF AGRICULTURAL AND ENVIRONMENTAL EDUCATION

ATHENS, GEORGIA

2019

A PHENOMENOLOGICAL INQUIRY INTO PRODUCERS' EXPERIENCES GROWING ORGANIC PRODUCE AND EXTENSION AGENTS' EXPERIENCES SUPPORTING ORGANIC PRODUCERS

by

AMANDA OLBRICK MARABESI

Major Professor: Kathleen D. Kelsey

Committee: James C. Anderson
Nicholas E. Fuhrman

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2019

DEDICATION

I dedicate this thesis to my parents, Mario and Adriana, who always believed in my potential and fully supported my journey.

ACKNOWLEDGMENTS

I would like to thank all the participants who volunteered their time to participate in interviews. You were the essential piece that made this study possible. I would also like to thank the members of my committee, Dr. Kathleen D. Kelsey, Dr. James C. Anderson, and Dr. Nicholas E. Fuhrman. The knowledge I have gained by working with you all is invaluable and extends way beyond the classroom.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

The U.S. is expected to be among the leaders in economic and agricultural growth for the next eight years (Interagency Agricultural Projections Committee, 2018), supplying products to meet increasing food demands and contributing to the diversification of food consumption among the global population. Global population growth necessitates increasing total food production while simultaneously encouraging agricultural innovation to reduce the environmental impact of intensive agricultural practices (Velten et al., 2015). Organic agricultural practices are an alternative to conventional methods and hold the promise of reducing agrochemical inputs and improving the quality of soils and nutrient value of foods (Oluwasusi, 2014). Therefore, organic agriculture has the potential to improve the environmental performance of U.S. agriculture toward the goals stated in the 2030 Agenda for Sustainable Development. The 17 Sustainable Development Goals (SDGs) were established with the aim of mobilizing efforts worldwide to promote prosperity while protecting the planet (United Nations, 2019).

According to the U.S. Department of Agriculture Certified Organic Survey (2012; 2017), between 2011 and 2016 the total number of farms under USDA certified organic operations increased over 55% in the U.S. and over 100% in Georgia. This number does not take into account organic operations that are not USDA certified, rather Certified Naturally Grown (CNG). There are over 750 CNG producers in the U.S. and most of them are in Georgia (Certified Naturally Grown, 2019); therefore, the expanding organic agricultural sector in Georgia would benefit from better understanding how Extension can support this growing community.

Reported major challenges facing organic producers in North Georgia were a lack of sufficient, appropriate, and relevant research on small-scale organic production, educational programs, and Extension support (OlbrickMarabesi & Kelsey, 2019). Previous research to better understand organic producers' needs have addressed growers' motivation to grow organically and categorized them into economic and social variables that influenced decision-making at the farm level (Fairweather, 1999). In addition, interventions to support organic producers have considered influences of Extension agents and their role in leading information for education, interpretation, and application of research-based knowledge (Crawford et al., 2015; Hall & Rhoades, 2010). Extension has been recognized as an interpersonal communication source that delivers scientific information that helps form attitudes and change behavior among agricultural growers to adopt new technologies (Rogers, 2003). Agunga stated that (1995, p. 171), "farmers' full comprehension of an innovation is the necessary first step to adoption or rejection". Therefore, Extension has served as an important educational agent to provide information on agricultural practices and build awareness regarding long-term implications of agricultural systems practices (Agunga, 1995; Boone et al., 2007).

Extension has played a leading role in supporting U.S. agriculture by providing growers with the "full comprehension" of new technologies for over 100 years. However, Extension has fallen short in regard to serving organic growers. Numerous studies have documented that Extension has not served organic growers to the same extent as conventional growers (Agunga & Igodan, 2007; Beus & Dunlap, 1992; Crawford et al., 2015; Gailhard et al., 2015; Hall & Rhoades, 2010; OlbrickMarabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997). The purpose of the research reported here was to identify strategies to improve Extension support to organic producers in North Georgia based on the stated needs of organic producers.

The research reported here was structured in two separate studies. In the first study (Chapter 2), I employed phenomenological inquiry research design to explore organic producers' motivation for growing organically, as well as the challenges and barriers encountered as organic producers. The findings provided data to classify organic producers into pragmatic and committed producers (Fairweather, 1999), based on their motivation for growing organically, which included ideological reasons, preferred lifestyle, commitment to environmental responsibility, land-ownership history, financial viability, and ability to market produce more effectively. The data informed the development of an original model to support organic producers in becoming more effective and efficient in doing so by presenting strategies for Extension to approach producers according to their stance toward growing (pragmatic or committed).

In the second study (Chapter 3), I conducted a phenomenological inquiry research design to explore Extension agents' experiences while working with organic producers in North Georgia. I explored *what* Extension agents' experienced when supporting organic producers and *how* they experienced it in terms of conditions, situation, and context. As a concluding synthesis of the data, I emerged the essence of participants' experiences when supporting organic growers to inform recommendations. The data led to refinement of the model presented in Chapter 2 to inform Extension educational programs that serve organic growers in North Georgia.

Reflexivity Statement

I was born in Brazil and grew up at my grandparents' farm. My family background has encouraged me to pursue agricultural education. I earned a bachelor's degree in Agronomic Engineering and had the opportunity to work with farmers and agrochemical companies. My critical insight into agriculture has always led me to question the sustainability of food production and my experiences in the field have contributed to my discernment about the path agriculture is

taking globally. I am a pragmatic researcher as I am interested in finding practical solutions to real-world problems. I am an advocate of sustainable agriculture; therefore, my research interests have focused on identifying interventions to support sustainable agriculturalists.

References

Agunga, R. (1995). What Ohio extension agents say about sustainable agriculture. *Journal of Sustainable Agriculture, 5*(3), pp. 169-187.

Agunga, R., & Igodan, C. (2007). Organic farmers' need for an attitude towards Extension. *Journal of Extension*, *45*(6), Article 6FEA6. Retrieved from https://www.joe.org/joe/2007december/a6.php

Beus, C. E., & Dunlap, R. E. (1992). The alternative-conventional agriculture debate: Where do agricultural faculty stand? *Rural Sociology 57*(3), pp. 363-380.

Boone Jr., H. N., Hersman, E. M., Boone, D. A. & Gartin, S. A. (2007). Knowledge of sustainable agriculture practices by extension agents in Ohio, Pennsylvania, and West Virginia. *Journal of Extension*, *45*(5), Article 5RIB2. Retrieved from https://www.joe.org/joe/2007october/rb2.php

Certified Naturally Grown. (2019). *Farmers and beekeepers*. Retrieved from https://www.cngfarming.org/farmers

Crawford, C., Grossman, J., Warren, S. T. & Cubbage, F. (2015). Grower communication networks: Information sources for organic farmers. *Journal of Extension*, *53*(3), Article 3FEA9. Retrieved from https://joe.org/joe/2015june/a9.php

Fairweather, J. R. (1999). Understanding how farmers choose between organic and conventional production: Results from New Zealand and policy implications. *Agriculture and Human Values*, *16*, 51-63.

Gailhard, İ. U., Bavorová, M. & Pirscher, F. (2015). Adoption of Agri-Environmental Measures by organic farmers: The role of interpersonal communication. *The Journal of Agricultural Education and Extension, 21*(2), 127-148. doi: 10.1080/1389224X.2014.913985

Hall, K. & Rhoades, E. (2010). Influence of subjective norms and communication preferences on grain farmers' attitudes toward organic and non-organic farming. *Journal of Applied Communications, 94*(3), 51-64. https://doi.org/10.4148/1051-0834.1192

Interagency Agricultural Projections Committee. (2018). *USDA Agricultural Projections to 2027*. Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. Long-term Projections Report OCE-2018-1

OlbrickMarabesi, A. & Kelsey, K. D. (2019). *A Phenomenological Inquiry into Producers' Experiences Growing Organic Produce.* Manuscript submitted for publication.

Oluwasusi, J. O. (2014). Vegetable farmers' attitude toward organic agriculture practices in selected states of South West Nigeria. *Journal of Agricultural Extension and Rural Development, 6*(7), 223-230. doi: 10.5897/JAERD2013.0572

Pretty, J. N. & Vodouhe, S. D. (1997). Using rapid or participatory rural appraisal. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

Rogers, E. M. (2003). *Diffusion of innovations*. New York, NY: Free Press.

Rolling, N. & Pretty, J. N. (1997). Extension's role in sustainable agricultural development. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

United Nations. (2019). *About the Sustainable Development Goals*. Retrieved from https://www.un.org/sustainabledevelopment/sustainable-development-goals/

USDA National Agricultural Statistics Service. (2012). *Certified Organic Survey 2011 Summary*.

USDA National Agricultural Statistics Service. (2017). *Certified Organic Survey 2016 Summary*.

Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability*, *7*, 7833-7865. doi:10.3390/su7067833

CHAPTER 2

A PHENOMENOLOGICAL INQUIRY INTO PRODUCERS' EXPERIENCES GROWING ORGANIC PRODUCE[1]

[1] OlbrickMarabesi, A. & Kelsey, K. D. Submitted to Journal of Extension, 10/04/2018

Abstract

Exploring phenomenological findings from interviews with seven organic producers in North Georgia, we reported the essence of producers' decision-making process toward growing organically. Challenges and barriers participants experienced as sustainable agriculturalists included a lack of technical and marketing knowledge for growing and selling organic produce and policy and regulations for gaining US Department of Agriculture and Certified Naturally Grown certifications. Producers were classified as pragmatic or committed on the basis of their motives for growing organically. As a result of these findings, we proposed a model for Extension programming specific to each category of organic producers.

Introduction

Global population growth necessitates increasing total food production while simultaneously encouraging agricultural innovation to reduce the environmental impact of intensive agricultural practices (Velten et al., 2015). Organic agricultural practices are an alternative to conventional methods and holds the promise of reducing agrochemical inputs and improving the quality of soils and nutrient value of foods (Oluwasusi, 2014). Organic agricultural practitioners seek to integrate three main objectives into their work: a sustainable environment, economic profitability, and social and economic equity.

Major challenges facing organic producers are a lack of sufficient, appropriate, and relevant research, educational programs, and Extension support. Interventions to support organic producers have addressed producers' motivation and categorized them into economic and social variables that influence decision-making at the farm level (Fairweather, 1999). The research reported here addressed producers' decision-making process for growing organically in North

Georgia as well as motives and barriers for growing organically produce. We propose herein an Extension model to support producers in becoming more effective and efficient in doing so.

Purpose Statement

Our purpose with our phenomenological inquiry was to describe the essence of producers' decision-making process when selecting organic practices, including challenges and barriers organic producers encounter.

Review of Literature

Industrialization of agriculture in the 1940s brought concerns such as exhausted soils, lack of organic amendments, and improper use of chemicals (Treadwell, McKinney & Creamer, 2003). Organic agriculture was defined as a production system that sustains healthy soils, ecosystems, and relies on ecological processes, biodiversity and cycles adapted to local conditions (IFOAM, 2018). Organic agricultural practices gained prominence with the publication of the Brundtland Report in 1987 (WCED, 1987) to address the concerns of industrial agricultural practices.

Critics of organic production claimed that the global demand for food could not be met by organic methods alone and discredited organic and other low-input agricultural approaches (Youngberg & DeMuth, 2013). However, Badgley et al. (2006, p. 94) reported comparative yields between organic and non-organic production methods, stating "organic methods of food production can contribute substantially to feeding the current and future human population on the current agricultural land base while maintaining soil fertility."

The US Department of Agriculture (USDA) (2016) reported that sales nationally from USDA Certified Organic production increased in 2016 to $7.6 billion, up 23% over 2015. Also, the number of certified organic farms increased 11% to 14,217, and the number of certified organic

acres increased 15% to 5.0 million acres in 2016. However, USDA Certified Organic farms represent less than 1% of total agricultural land in Georgia (Georgia Organics, 2018).

Organic producers have the option to align their operations with an accredited certification body. To obtain organic certification from USDA producers must follow USDA's regulations. Similar to the USDA certification, Certified Naturally Grown (2018) disallows the use of synthetic fertilizers, pesticides, herbicides, and Genetically Modified Organisms (GMO); however, CNG relies on peer inspections versus inspections by state entities or certifying agents. The process of becoming CNG is less bureaucratic and expensive than USDA certification, making it an attractive option for smallholder producers. Many producers in North Georgia are CNG or do not hold any certification but still follow organic practices.

Previous research on producers' decision to practice organic agriculture centered on health, safety, and environmental quality over profitability (Burton, Rigby & Young, 1999; Cranfield, Henson & Holliday, 2010; Naspetti, Bteich, Pugliese & Salame, 2016). Burton et al. (1999, p. 62) reported, "any analysis of the motivations for adopting organic techniques which confines itself to farm-level financial measurement may be missing important factors." Producers reported lifestyle decisions, concerns about the environment, and sustainability of food systems as primary motives for growing organic. The transition to organic practices was influenced by their position in society, skills, accessible resources, traits like curiosity, flexibility and creativity in exploring innovative marketing approaches, and willingness to take risks (Darnhofer, Schneeberger & Freyer, 2005; Morshedi, Lashgarara, Hosseini & Najafabadi, 2017).

Pietola and Lansink (2001) addressed the economic factors influencing producers' decision to grow organically. They recommended assessing non-economic factors in future research. Economic factors that led to the adoption of organic practices included large land areas and

opportunities to practice differing farming technologies, farms located in low-yield regions, low returns on standard farming, and income-neutral policy reforms.

Challenges and barriers producers faced when adopting organic practices included management and production processes while converting to organic and after certification, marketing, financial aspects, and infrastructure (Cranfield et al. 2010). Middendorf (2007) summarized challenges perceived by organic producers as related to production, marketing, education and awareness, and practical models. These challenges were comingled with a lack of organic expertise regarding inputs, production, processing, marketing, weed control, time management, labor, and certification.

Negative pressure from other producers and farm groups were also reported as challenges (Cranfield et al. 2010), raising questions of social acceptance of non-conventional agricultural systems. Nevertheless, findings from Burton et al. (1999) suggested that within the organic community producers opt for informal networks to support each other in creating communities of practice that affirm their decision making process.

Conceptual Framework and Research Methods

Fairweather (1999) found that organic producers fell into two groups: pragmatic and committed. Pragmatic producers sought alternatives to conventional farming systems and perceived organic farming as a good prospect for securing income. In contract, committed producers based their decisions on a philosophical ideal related to environmental responsibility, human health, and lifestyle. On the basis of this conceptual framework, we used phenomenological research methods to conduct the research reported here, seeking to capture the "common meaning for several individuals of their lived experiences" of a phenomenon (Creswell & Poth 2018, p. 75). The phenomenon addressed was producers' decision to pursue organic practices.

Seven criterion-selected participants agreed to participate in the study by participating in a one-hour face-to-face interview at their farm. We took the following steps to collect and analyze data:

1. Identification of the phenomenon of interest.
2. Description of the phenomenon of interest.
3. Data collection from participants who experienced the phenomenon using face-to-face in-depth interviews. Participants were asked two main questions: "What was your decision process for pursuing organic practices?" and "How have you experienced the adoption of organic practices?"
4. Verbatim transcription of interviews were shared with participants for verification (member checking). None of the participants changed their statements, indicating validity of initial data collection.
5. From seven verbatim transcripts, we identified 121 significant statements to provide an understanding of how participants experienced the phenomenon.
6. Clustering of the 121 significant statements into 11 themes allowed us to draw conclusions regarding the essence of the phenomenon through a composite description of producers' experiences (Creswell & Poth, 2018; van Manen, 2014).

University of Georgia Institutional Review Board approved the study. To address credibility and validity, participants were engaged in the research process and their quotations were included in the findings to establish truth-value. Participants were assigned pseudonyms to protect their privacy.

Findings

Producers developed an interest in organic agriculture for ideological reasons, preferred lifestyle, commitment to environmental responsibility, land-ownership history, financial viability, and ability to market produce more effectively. Our findings focus on what producers' decision-making process for pursuing organic practices were and how producers' experienced growing organically, including challenges and opportunities faced as an organic producer.

Producers chose to use organic agricultural practices on the basis of their unique situations and positions within the market. Participants who viewed organic practices as a philosophy of life and a social movement valued their beliefs above a profit motive. We classified them as committed organic producers (Ana, Carol, Eli, Neil, and Sam) versus participants who viewed organic agricultural practices as a way to add value to their business, classified as pragmatic organic producers (Ben and Max).

Land access was the first criteria for growing organic. Ana, Ben, Carol and Max inherited land that had been owned within their families for several generations. Inorganic inputs were never used on their land; therefore, converting to organic production was easy. Eli, Neil, and Sam bought their land. Ana and Sam received a grant from the Natural Resources Conservation Service. While it was not difficult to obtain the grant, Ana complained about the delay in the administrative process for securing additional grants. Eli said, "it is hard to do this without initial capital. To get some specific loans you are required to have at least two years of managing or owning a farm, so you have to function bleeding money and losing time for two years to get any assistance". Carol and Neil never applied for a grant. Ben and Eli were in the process of applying for a grant for the first time. Max did not share his experience regarding obtaining grants.

After securing land and associated financing to support production, the next challenge was learning how to grow organically. Eli said, “the biggest challenge is how to fight diseases, pests, and weeds, when you are just starting on new land and there is no system in place”. Max, Neil, and Sam said that organic production is challenging because it takes time and effort to develop a strong knowledge base in the topic. None of the participants were served by Extension agents. They all expressed an interest in being served in the future. Eli stated, “there are not enough resources for organic farmers in regard to state universities and extension agencies. A lot of training is geared toward conventional and big agriculture”.

All participants reported experiencing financial concerns. Sam stated that growing conventional agriculture on a small-scale farm would not be feasible, and that growing organic produce returned ten times more profit per acre than conventionally grown produce. Neil reinforced that organic production on a small scale was only profitable when selling retail. Organic production aligned with committed producers’ values. They were aware that they could make more profit following conventional methods. As Darnhofer et al. (2005) pointed out, producers’ willingness to risk some income to grow organic produce does not imply that they expect a long-term lower net income. However, committed producers reported that if their organic businesses failed they would not use conventional methods regardless. Their strong commitment to a philosophy of life was a critical element regarding the development of marketing strategies for selling produce. Carol reported being surprised by the price difference between organic and conventional produce. She stated, “I did not look into the finance of marketing. When I got into the CNG I just knew that I wanted a better way to eat for myself and others. I wanted to share the love.” Because committed producers perceived profit as a secondary motivation, their marketing skills were lacking.

Six participants were CNG. Obtaining CNG certification was easy for participants. None of the participants held USDA organic certification due to cost and bureaucratic barriers. In north Georgia producers are required to be certified, either CNG or USDA organic, to sell at farmers' markets. When asked about his decision to become CNG Ben said that the only reason was to sell the produce at farmers' markets. In addition, he said that he wanted to participate in farmers' markets as a way to meet consumers and other producers and to market his company. Neil reported using farmers' markets as way to receive feedback from customers. Carol was raised on an organic farm. She consumed organic products. About gaining CNG she said, "I thought that it would be a really great way to continue my way of life and get some legitimacy to it." Being a member of farmers' markets offered producers the opportunity to create networks with other producers and consumers. Producers experienced support from other members of the organic community, creating positive reinforcement for growing organic. Neil followed organic practices but he was not certified because he grew hydroponic produce. Some hydroponic production practices do not align with certification standards. Committed producers reported that following organic practices was more important than becoming certified.

A strong factor for committed producers when choosing to follow organic practices was their lifestyle, personal philosophy of environmental stewardship, and a desire to leave a legacy. Sam said, "it has always been my philosophy of life and I would not say that conventional agriculture would ever have fit into that lifestyle". Participants reported being committed to improving natural resources by carefully using inputs, minimizing damage to the environment, and ensuring that resources would be available for future generations. The need to be better environmental stewards contributed to their decisions to adopt organic practices, as they wanted to produce food sustainably.

Pragmatic producers perceived organic production as an option for marketing produce to increase sales. When asked about his decision process for pursuing organic practices, Max said, "at first it basically came down to a decision, we are on the fence. We could go organic or in this case CNG right away. Alternatively, we could go with conventional farming. My thought was I can do organic and learn a lot and I can always do the other side if things fail". For Ben, health and sustainability aspects were not motivators for growing organically. He grew organically because his products did not require the use of chemicals or GMOs but he would use them if doing so were profitable for him. Ben said, "as long as it is natural, I do not see a need in going totally organic. I do not really have a problem with GMOs either. If we could use nature to our benefit, why not?"

The essence of growing organic produce for committed producers was a commitment to environmental stewardship and a way of life. For pragmatic producers it was a commercial activity. Pragmatic producers aligned their conceptions of agricultural production with their business needs to generate income.

Discussion, Conclusion and Recommendations

A number of studies have shown the need for research and Extension efforts to extend to the organic agriculture sector (Agunga & Igodan, 2007; Lillard et al. 2013; Middendorf, 2007). Agunga & Igodan (2007) reported that organic agriculturalists have a strong interest in Extension and are willing to pay for Extension services; however, they think Extension agents do not know enough about organic agricultural practices and do not understand their needs well enough to be helpful.

Lillard et al. (2013) recommended four ways to overcome challenges to providing information specific to organic producers. They advised Extension agents to initiate collaboration

from producers' point of interest by assessing their needs and preferences; build understanding, rapport, and trust within the organic community; be aware of farm characteristics across the region that affect producers' information needs; and deliver information in a format that aggregates value to the message.

Our findings suggest that organic producers from north Georgia would benefit from more Extension programs targeted toward organic agriculture. Extension experts act as change agents (Rogers, 2003) who play a role in clients' adoption decisions and promote effective communication about new technology; therefore, developing specific Extension programs is necessary to serve organic producers and stimulate growth in this sector.

We classified organic producers into two categories: committed and pragmatic. Figure 1 illustrates an Extension model to support organic producers. Extension agents are advised to increase their interest and personal commitment to organic agriculture and increase their knowledge base for organic compliance and assessment mechanisms to help both committed and pragmatic producers comply with USDA and CNG policy and regulations. Pragmatic producers need more training in community engagement. Committed producers need more training in marketing strategies and new technologies adapted to the local markets.

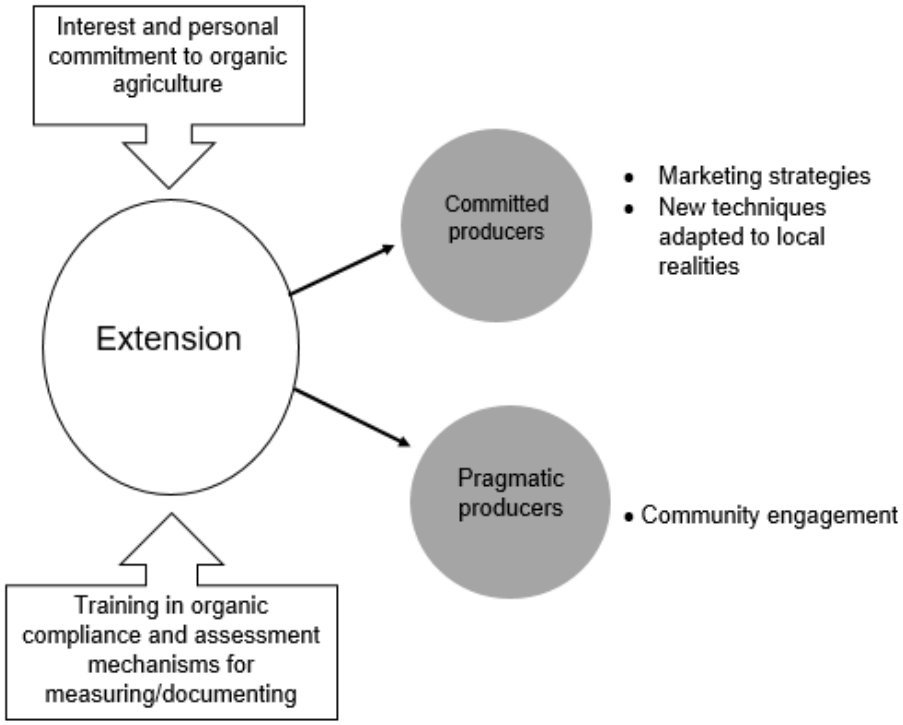

Figure 1. Model for working with organic producers.

Committed producers were motivated to grow organically by their philosophical ideals. They were willing to adapt their production to overcome a number of barriers; therefore, they need help from Extension to learn about agricultural techniques adapted to their conditions. Marketing was a challenge for committed producers. They would benefit from learning marketing strategies to address economic vulnerability and financial oscillations.

Pragmatic producers perceived organic farming as important for securing income. They appreciated the skills required for organic agricultural production and visualized organic agriculture as something new and challenging. According to Rogers (2003), the structure of a social system could hinder the diffusion of an innovation. Pragmatic producers seek innovativeness to achieve compensatory payments by creating a strategy based on multiple uses of resources, low expenses, and few external inputs. Generally, they were informed about marketing strategies and techniques to ensure profits. Therefore, Extension would better serve them by facilitating their

inclusion in the organic community so that they could engage with other producers and share their knowledge.

Classifying organic producers into pragmatic and committed was important to develop a specific Extension program focused on the diverse elements of organic agriculture, which is necessary to better attend organic producers and stimulate the organic sector's growth. As any qualitative research, the findings of this study are not generalizable. However, they do offer insights into what influences Georgia organic producers' decisions for adopting organic practices and how they experience growing organically. This study could introduce a foundation for similar studies in other areas of the United States. Extension agents are advised to develop a better understanding of the community of organic producers in their regions by exploring producers' motivations for growing organically and their experiences as organic producers.

References

Agunga, R., & Igodan, C. (2007). Organic farmers' need for and attitude towards Extension. *Journal of Extension*, *45*(6), Article 6FEA6. Available at: https://www.joe.org/joe/2007december/a6.php

Badgley, C., Moghtader, J., Quintero, E., Zakem, E., Chappell, M. J., Avilés-Vázquez, K., Samulon, A. & Perfecto, I. (2006). Organic agriculture and the global food supply. *Renewable Agriculture and Food Systems*, *22*(2), 86–108. doi:10.1017/S1742170507001640

Burton, M., Rigby, D., & Young, T. (1999). Analysis of the determinants of adoption of organic horticultural techniques in the UK. *Journal of Agricultural Economics, 50*(1), 47– 63.

Certified Naturally Grown. (2018). *Produce Certification.* Available at: http://www.cngfarming.org/produce

Cranfield, J., Henson S., & Holliday J. (2010). The motives, benefits, and problems of conversion to organic production. *Agriculture and Human Values, 27,* 291–306. doi: 10.1007/s10460-009-9222-9.

Creswell, J. & Poth, C. (2018). *Qualitative Inquiry & Research Design: Choosing among five approaches* (4th ed). Thousand Oaks, CA: Sage Publications, Inc.

Darnhofer, I., Schneeberger, W., & Freyer, B. (2005). Converting or not converting to organic farming in Austria: Farmer types and their rationale. *Agriculture and Human Values, 22,* 39–52. doi: I 10.1007/s10460-004-7229-9

Fairweather, J. R. (1999). Understanding how farmers choose between organic and conventional production: Results from New Zealand and policy implications. *Agriculture and Human Values, 16,* 51-63.

Georgia Organics. (2018). *Farmer Services.* Available at*:* https://georgiaorganics.org/about-us/programs/

IFOAM. (2018). *Definition of organic agriculture*. Available at: https://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture

Lillard, P., Parker, J., & Sundermeier, A. (2013). Recommendations for establishing Extension programming for organic farmers. *Journal of Extension, 51*(6), Article 6TOT1. Available at: https://www.joe.org/joe/2013december/tt1.php

Middendorf, G. (2007). Challenges and information needs of organic growers and retailers. *Journal of Extension, 45*(4), Article 4FEA7. Available at: https://www.joe.org/joe/2007august/a7.php

Morshedi, L., Lashgarara, F., Hosseini, S. J. F. & Najafabadi, M. O. (2017). The role of organic farming for improving food security from the perspective of Fars farmers. *Sustainability, 9*, 2086. doi:10.3390/su9112086.

Naspetti, S., Bteich, M. R., Pugliese, P. & Salame, N. (2016). Motivation and values of farmers in Lebanon: A comparison between organic and conventional agricultural producers. *New Medit*, (2).

Oluwasusi, J. O. (2014). Vegetable farmers' attitude toward organic agriculture practices in selected states of South West Nigeria. *Journal of Agricultural Extension and Rural Development, 6*(7), 223-230. doi: 10.5897/JAERD2013.0572

Pietola, K. & A. Lansink. (2001). Farmer response to policies promoting organic farming technologies in Finland. *European Review of Agricultural Economics, 28*(1), 1–15.

Rogers, E. M. (2003). *Diffusion of innovations*. New York, NY: Free Press.

Treadwell, D., McKinney D., & Creamer, N. (2003). From philosophy to science: A brief history of organic horticulture in the United States. *HortScience, 38*(5), 1009–1016.

USDA National Agricultural Statistics Service. (2017). *Certified Organic Survey 2016 Summary*.

van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Walnut Creek, CA: Left Coast Press, Inc.

Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability, 7*, 7833-7865. doi:10.3390/su7067833

WCED. (1987). Our common future. *Report of the World Commission on Environment and Development*. G. H. Brundtland, (Ed.). Oxford: Oxford University Press.

Youngberg, G. & DeMuth, S. P. (2013). Organic agriculture in the United States. *Renewable Agriculture and Food Systems, 28*(4), 294–328. doi:10.1017/S1742170513000173

CHAPTER 3

BUILDING BRIDGES: IMPROVING EXTENSION SUPPORT TO ORGANIC GROWERS[1]

[1]OlbrickMarabesi, A., Kelsey, K. D., Anderson, J. C. & Fuhrman, N. E. To be submitted to Journal of Agricultural Education and Extension.

Abstract

Organic agriculture has the potential to improve the environmental performance of U.S. agriculture toward the goals stated in the 2030 Agenda for Sustainable Development. Organic agriculturalists are challenged by a lack of Extension support as research reports that Extension has not served organic growers to the same extent as conventional growers. Rogers (2003) Diffusion of Innovations theory guided our phenomenological inquiry to explore 1) *What* Extension agents experienced while supporting organic growers and 2) *How* Extension agents experienced providing support to organic growers in North Georgia. According to participants, the essence of Extension agents' support to organic growers is that of an uneven bridge. Extension agents were willing to provide growers with the resources to support organic production; however, they lacked theoretical and empirical knowledge regarding organic agriculture production that would enable them to establish stronger relationships with organic growers. The essence of participants' experiences in supporting organic growers (the uneven bridge) informed recommendations for the establishment of a proposed model that outlines educational interventions for Extension agents.

Introduction

The U.S. is expected to lead global economic and agricultural growth for the next eight years (Interagency Agricultural Projections Committee, 2018), supporting gains in food demand and diversification of food consumption globally. In 2015, the United Nations (UN) Members States adopted 17 Sustainable Development Goals (SDGs) for the 2030 Agenda for Sustainable Development. The SDGs were established to mobilize efforts worldwide to promote prosperity while protecting the planet (United Nations, 2019). SDG 2: Zero Hunger calls attention to the current agricultural production system as increases in agricultural productivity and implementation

of sustainable food production systems are necessary to sustain the increasing global population, projected to be nine billion by 2050 (United Nations, 2019). Therefore, by 2030, sustainable food production systems and resilient agricultural practices should be adopted to increase food production while improving the quality of ecosystems globally.

Organic agriculture has the potential to improve the environmental performance of U.S. agriculture by reducing pesticide residues in water and food, reducing nutrient pollution, improving the physical, chemical, and biological condition of soils, reducing carbon levels in the atmosphere, and enhancing biodiversity (Greene et al., 2009). According to the U.S. Department of Agriculture Certified Organic Survey (2012; 2017), between 2011 and 2016 the total number of farms under USDA certified organic operations increased over 55% in the U.S. and over 100% in Georgia. This statistic does not take into account organic operations that are not USDA certified, rather hold Certified Naturally Grown (CNG) status, which increases the number of acres under organic cultivation over federally published statistics. There are over 750 CNG producers in the U.S., most of which are located in Georgia (Certified Naturally Grown, 2019).

Challenges and barriers organic agriculturalists experienced in North Georgia included a lack of accessible information regarding technical and marketing knowledge for growing and selling organic produce and policy and regulations for obtaining USDA and CNG certification (OlbrickMarabesi & Kelsey, 2019). Interventions to support organic growers have included Extension agents who provide education, interpretation, and application of research-based knowledge to all growers (Crawford et al., 2015; Hall & Rhoades, 2010). The Cooperative Extension Service (CES) is fundamental in supporting the organic agricultural sector and has the potential to encourage growers in their organic production operations as well as recruit new producers to grow organically (OlbrickMarabesi & Kelsey, 2019). Ozkaya (2003) claimed that the

Extension model used to support conventional growers viewed the grower as a passive agent who follows instructions. The model consisted in a linear process where researchers create innovations and Extension agents transmit innovations to growers; however, the model does not engage growers in the learning process or consider growers' unique situation. Ozkaya argued that this model should be adapted to organic growers as organic agriculture requires a more knowledge-intense model. Investigating how Extension agents perceive organic agricultural practices is important for identifying improved strategies for outreach to sustainable growers (Agunga, 1995).

Despite numerous studies reporting the economic profitability and increased yields in agriculture resulting from Extension efforts, there are limited studies that have been conducted with the primary goal of exploring Extension agents' experiences working with organic growers and understanding the collaborative relationship between Extension agents and organic growers. Therefore, the research reported here explored *what* University of Georgia (UGA) Extension agents experienced while supporting organic growers and *how* they experienced it in terms of conditions, situation, and context. We analyzed participants' experiences in providing support to organic growers using a phenomenological lens (Creswell & Poth 2018; Moustakas, 1994; van Manen, 2014) and emerged the essence of these experiences to inform recommendations for establishing Extension educational programs. We concluded the study with an original model for extending land-grant university research and support to organic growers.

Literature Review

Organic Agriculture in North Georgia

Agriculture is Georgia's largest industry with farm gate values over $13.7 billion in 2017 (UGA Georgia Farm Gate Value Report 2017); however, organic agricultural production in Georgia is a developing sector. Between 2011 and 2016 the number of USDA certified organic

farms doubled in Georgia, from 41 to 83 farms (USDA Certified Organic Survey, 2012; 2017), yet this number did not account for organic farms that are not USDA certified.

In the U.S., the term "organic producer" has connotations that go beyond USDA certified organic status. The International Federation of Organic Agriculture Movements (IFOAM) defined organic agriculture as a production system that sustains healthy soils, ecosystems, and relies on ecological processes, biodiversity, and cycles adapted to local conditions, while simultaneously building relationships that ensure fairness among current and future human generations (IFOAM, 2018). The USDA National Organic Standards Board determined that organic food must be produced without the use of conventional pesticides, petroleum-based fertilizers, sewage-sludge-based fertilizers, herbicides, genetic engineering, antibiotics, growth hormones, or irradiation (USDA Certified Organic Survey, 2017). Land specifications regarding applications of prohibited chemicals are also part of the standards, as well as the requirement for an organic certifier who is accredited by USDA to conduct the inspections (USDA Certified Organic Survey, 2017). The certification process was considered expensive and bureaucratic by organic growers, which drove some growers to pursue other types of certification such as CNG (OlbrickMarabesi & Kelsey, 2019).

CNG certification was found to be a popular alternative organic certification process among organic growers in North Georgia (OlbrickMarabesi & Kelsey, 2019). The CNG certification has similar standards to USDA organic certification; however, "the process of becoming CNG is less bureaucratic and expensive than USDA certification, making it an attractive option for smallholder growers. Many growers in North Georgia are CNG or do not hold any certification but still follow organic practices" (OlbrickMarabesi & Kelsey, 2019, p. 2). The authors also reported that CNG growers requested more support from Extension agents; therefore,

the expanding organic agricultural sector in Georgia calls for additional interventions to assist organic growers (OlbrickMarabesi & Kelsey, 2019).

Cooperative Extension Service History of Supporting Organic Agricultural Growers

The 1914 Smith-Lever Act established the Cooperative Extension Service (CES) in the U.S. as "a tripartite cooperation of federal, state, and local county governments, with the state college as the Extension agency" (Jones & Garforth, 1997, p. 7). CES's purpose is to promote improved agricultural practices among U.S. growers by diffusing research-based information regarding agriculture and home economics to the public. Over the last century, Extension has confirmed their capacity to conduct research and teach best practices through trained field experts (agents), evolving as a fundamental agency supporting U.S. agricultural development (Brunner & Yang, 1949). Goetz (2016) estimated that federal CES programs have helped more than 137,000 growers stayed in business since 1985. Between 1984 and 2010, 490,000 farmers left farming, and without CES and the underlying research supporting agricultural innovation, it is estimated that the U.S. would have lost an additional 28% of growers (Goetz, 2016).

Extension has been recognized as an interpersonal communication source that delivers scientific information that helps form attitudes and change behavior among agricultural growers to adopt new technologies (Rogers, 2003). Agunga stated that (1995, p. 171), "farmers' full comprehension of an innovation is the necessary first step to adoption or rejection". Therefore, Extension has served as an important educational agent to provide information on agricultural practices and build awareness regarding long-term implications of agricultural systems practices (Agunga, 1995; Boone et al., 2007).

Extension has played a leading role in supporting U.S. agriculture by providing growers with the "full comprehension" of new technologies for over 100 years. However, Extension has

fallen short in regard to serving organic growers. Numerous studies have documented that Extension has not served organic growers to the same extent as conventional growers (Agunga & Igodan, 2007; Beus & Dunlap, 1992; Crawford et al., 2015; Gailhard et al., 2015; Hall & Rhoades, 2010; OlbrickMarabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997). Beus and Dunlap (1992) claimed that land-grant university faculty were more inclined to conduct research and outreach regarding conventional agricultural practices and were oriented toward large-scale growers. The authors suggested expanding research and Extension efforts to include alternative agricultural practices; however, the scope of the problem remains unknown due to limited research on the role of Extension in developing organic agricultural systems in the US.

Agunga and Igodan (2007) explored Ohio farmers' attitudes toward Extension and found significant unmet needs expressed by sustainable agricultural producers, such as how to gain organic certification, marketing strategies, access to information, and customer and media relations. They also reported that organic growers had a strong interest in receiving support from Extension; however, they thought Extension agents did not have sufficient knowledge regarding organic agricultural practices to help them. The authors recommended increasing professional development opportunities for Extension agents in organic approaches to establishing stronger relationships between organic growers and Extension agents (Agunga & Igodan, 2007).

Crawford et al. (2015) found that establishing relationships between Extension agents and organic growers was challenging because organic growers reported that Extension agents did not "understand their own 'organic' perspective, and thus they sought other information sources to help guide their production practices" (Conclusions section, para. 5). The authors claimed that further research was needed to measure Extension agents' perceptions of organic agriculture to better understand how perceptions shape Extension agents' choice of educational programming

education. Agunga (1995) claimed that if Extension agents' attitudes were negative toward organic agriculture, they could not be expected to serve organic growers and encourage adoption of organic practices.

Agents of Change

A number of studies have shown potential to further the role of Extension in organic agriculture (Agunga & Igodan, 2007; Beus & Dunlap, 1992; Crawford et al., 2015; Gailhard et al., 2015; Hall & Rhoades, 2010; OlbrickMarabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997). Effective communication between Extension agents and organic growers is essential to understand how growers experience growing organically and what information needs they have; allowing for the identification of educational approaches that would guide Extension staff to develop programs to support organic growers (Crawford et al., 2015; Hanson et al. 1995).

Several studies addressed the role of Extension agents in establishing effective communication with organic growers (Gailhard et al., 2015; Hall & Rhoades, 2010; Nagel, 1997; Pretty & Vodouhe, 1997; Rogers, 2003; Rolling & Pretty, 1997). Hall and Rhoades (2010) used a survey based on the theories of planned behavior and diffusion of innovations to investigate the role that communication channels had on forming attitudes toward organic and non-organic production by non-organic grain growers. Their findings indicated that growers preferred interpersonal communication sources when seeking information about adopting or not adopting specific farming practices (Hall & Rhoades, 2010). Gailhard et al. (2015) also investigated the impact of interpersonal communication on the adoption of environmentally friendly practices by organic farmers. Findings suggested that receiving information from formal actors in combination with informal channels increased the probability of adoption of environmentally friendly practices (Gailhard et al., 2015).

In regard to furthering Extension agents' role as an interpersonal communication source, Pretty and Vodouhe (1997) suggested that participatory methods and approaches were important to increase learning between Extension agents, researchers, and growers; moreover, growers became more confident that agents could help them when participatory approaches were employed. Concerning Extension agents' present and future role, Nagel (1997, p. 19) claimed, "They are no longer to be simply transmitters of technical knowledge. They are to practice participatory methods, recognize and respect gender issues, identify indigenous needs and problem solutions, and serve as a link to the world outside the village." In addition, Rolling and Pretty (1997, p. 186) enforced that "The location-specific nature of sustainable agriculture implies that Extension must make use of farmers' knowledge and work together with farmers."

Therefore, exploring Extension agents' experiences in working with organic growers is important to understanding how they go about establishing effective communication channels and their readiness to support organic growers as agents of the land-grant university system.

Theoretical Framework

Theory of Planned Behavior (TPB)

Ajzen (1985) developed the Theory of Planned Behavior (TBP) based on the assumption that individuals make decisions rationally, considering the implications of their actions before deciding whether to behave in a certain way. People's intentions on how to behave are affected by their attitudes toward a certain behavior (behavioral beliefs produce a favorable or unfavorable attitude toward behavior), the subjective norms (what other people think about their behavior), and their perceived behavior control (their perception of their ability to succeed in performing the behavior, which includes self-efficacy and controllability). According to TPB, people are more likely to intend to enact certain behaviors when they believe that they can enact them successfully.

Diffusion of Innovations Theory (DOI)

Rogers (2003) proposed the Diffusion of Innovations theory to explain how new ideas and technology spread through society. He considered diffusion as a type of communication, that is, "a process in which participants create and share information with one another in order to reach a mutual understanding" (p. 5). Furthermore, he defined diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 5).

The rate of adoption of the determined innovation as the relative speed with which an innovation is adopted by individuals. Rogers (2003) suggested five categories of adopters: innovators, early adopters, early majority, late majority, and laggards. The process by which individuals seek information concerning an innovation is called the innovation-decision process and it occurs through five main steps:

1. Knowledge: the individual is first exposed to the innovation and acquires knowledge on how it works.
2. Persuasion: The individual develops a positive or negative stance regarding the innovation.
3. Decision: The individual decides whether to adopt or reject the innovation
4. Implementation: The individual applies the innovation to determine its usefulness.
5. Confirmation: The individual seeks interpersonal reinforcement of an innovation-decision to finalize their decision to continue using the innovation.

Rogers (2003) emphasized the role of "opinion leaders" and "change agents" as influencers of adoption behavior within the diffusion of innovation process. Opinion leaders are "members of the social system in which they exert their influence" (p. 28) and change agents are influencers

external to the system. Rogers (2003) suggested that Extension agents work as change agents by delivering research-based information that helps form attitudes and change behavior among agricultural growers. He recognized the agricultural Extension service as the "oldest diffusion system in the United States" (p. 160) and claimed that research and Extension support for a determined innovation can expedite its adoption in a state or county, whereas the lack of support can hinder an innovation's adoption. As Extension agents diffuse university-based research, they are uniquely positioned to introduce and support sustainable practices to growers and stress the value of community engagement due to their historical mission of disseminating agricultural knowledge to the public (Brunner & Yang, 1949).

The research reported here applied both Diffusion of Innovations theory and the Theory of Planned Behavior in creating a lens to analyze the findings that influenced Extension agents' attitudes and behavior towards organic growers. We considered Extension as the diffusion system that delivered research-based information to organic growers. According to TPB, a number of internal and external factors could influence Extension agents' behavior towards organic growers; therefore, it was important to understand the essential structure of Extension agents' experiences in supporting organic growers to inform recommendations for the establishment of Extension educational programs.

Our original model (Figure 2) developed as a result of the research reported here includes both theories to provide a path forward for better serving organic growers in North Georgia. The model considers Extension agents' behavior towards organic growers as being influenced by normative, control, and behavioral beliefs.

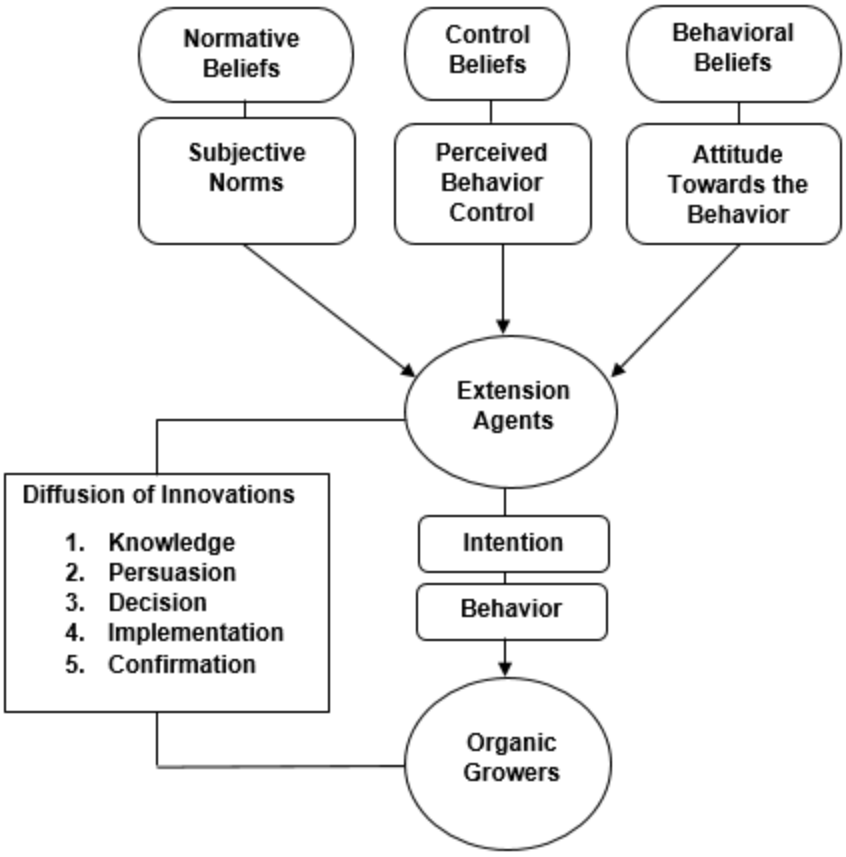

Figure 2. An emergent model for building bridges between Extension agents and organic growers.

Extension agents' normative beliefs determine the subjective norms, their control beliefs give rise to their perceived behavior control, and their behavioral beliefs influence their attitudes towards certain behavior. In conjunction, subjective norms, perceived behavior control, and attitude towards the behavior have a direct effect on Extension agents' intention to perform their change agents' role to promote the diffusion of innovations within the organic growers' community. Extension agents' actual behavior leads to serving or not serving organic growers through the diffusion of innovations framework.

Methodology

Participants

The population for the study consisted of 12 agricultural and natural resources Extension agents employed by UGA in North Georgia.

The UGA sustainable agriculture coordinator provided us with a list of 21 Extension agents from Northeast and Northwest Georgia districts. We targeted these districts due to the homogeneity of these regions in terms of geography and growers' attributes. After obtaining University Institutional Review Board approval, we invited all 21 Extension agents to participate in the research study via email, 12 agents agreed to participate.

Research Design

Hermeneutic phenomenological research design was used to capture the essence of a phenomenon (Creswell & Poth 2018). A phenomenon is "an event or a lived-through experience as it shows itself or as it gives itself when it makes an appearance in our awareness" (van Manen, 2014, p. 65). Hermeneutic phenomenology explores ordinary experiences that "we live in and that we live through for most, if not all, of our day-to-day existence" (van Manen, 2014, p. 28) and attempts to "construct a full interpretive description of some aspect of the lifeworld, and yet to remain aware that lived life is always more complex than any explication of meaning can reveal" (van Manen, 1997, p. 18). Phenomenological inquiries allow the researcher to understand *what* and *how* participants experienced a central phenomenon and bring experiential realities to language by reflecting on themes grounded on participants' shared experiences (van Manen, 2014).

The central phenomenon addressed in this study was Extension agents' support to organic growers in North Georgia. We emerged the essential structure of participants' experiences from

textural and structural descriptions of *what* they experienced while supporting organic growers and *how* they experienced giving support in terms of the conditions, situations, and context (Creswell & Poth 2018; Moustakas, 1994; van Manen, 2014).

Data Collection

Instrumentation

We developed a semi-structured interview protocol to allow the participants to fully engage in the interview process and describe their experiences by having a conversation with the researcher. The interview protocol followed the hermeneutic research design, utilizing insights from the literature to inform the selection of questions. We developed open-ended questions focused on participants' experiences working with organic growers, their perceptions of organic agriculture, their participation in programs related to organic agriculture, their sources of information regarding organic agriculture, and their knowledge of organic agriculture.

Interviews

After securing informed consent, we conducted semi-structured, face-to-face, in-depth interviews with 12 participants during fall 2019 to collect experiential data. Interviews took place at participants preferred locations and lasted less than one hour. We recorded the interviews using electronic devices, transcribed the interviews verbatim, and sent the transcripts to participants for verification. None of the participants requested modifications in their transcripts, indicating validity of the data collected (member checking).

Analysis

Analysis included the following procedural steps as prescribed by Creswell & Poth (2018), Moustakas (1994), and van Manen (2014):

1. Arising the phenomenological question and describing the central phenomenon.

2. Collecting interview data from 12 participants who experienced the central phenomenon. The interviews were recorded using electronic devices, transcribed verbatim, and sent to participants for verification (member checking). None of the participants requested modifications in their transcripts. The transcripts were loaded into ATLAS.ti for analysis.
3. Reducing verbatim transcripts into 271 significant statements by highlighting sentences that provided an understanding of participants' experiences of the phenomenon (horizontalization).
4. Refining the significant statements into four themes by reflecting on what constitutes the nature of participants' shared experience.
5. Describing *what* (textural description) and *how* (structural description) participants experienced the central phenomenon.
6. Emerging the common underlying structure of participants' experiences - the essence of the phenomenon - by writing a composite description from the textural and structural descriptions.

Quality Control

Qualitative quality was addressed by engaging participants in the research process and following procedures to protect human subjects. Ethical procedures outlined by Tracy (2010) included approval by the University Institutional Review Board (IRB#: STUDY00005828, MOD00006435), getting participant's informed consent before the interviews, and securing all research data with a password-protected file. The interview transcripts were sent to participants so they could judge the accuracy and credibility of the data (Creswell & Poth, 2018). To ensure anonymity, we assigned pseudonyms to all participants and developed the findings as a composite

profile rather than focus on individual assertions (Creswell & Poth, 2018). We provided a thick description of the findings and included direct quotations to remain true to participants' voices; therefore, addressing credibility and achieving resonance through transferability (Tracy, 2010).

Results and Discussion

Participants' Demographics

Table 1

Participants' Name, Gender, County, and Specialty.

Pseudonym	Gender	County	Specialty
Amy	Female	Blue	Entomology
Bob	Male	River	Ornamental horticulture
Craig	Male	Jones	Fisheries management and aquaculture
Erin	Female	Boots	Horticulture
Gary	Male	Dani	Horticulture and landscape architecture
George	Male	Avon	Biological sciences
Hank	Male	Bristol	Animal science
Mark	Male	Kent	Plant protection and pest management
Neil	Male	Sussex	Agriculture engineering
Oscar	Male	Lima	Animal science
Scott	Male	Devon	Plant protection and pest management
Tom	Male	Yellow	Biological sciences

The 12 Extension agents that were interviewed for this study served in Northeast and Northwest Georgia counties (Table 1). All of them reported addressing the needs of both

conventional and organic growers. However, participation among Extension agents in serving organic growers was lower when compared to conventional growers. The following themes provided a composite description of what and how participants experienced supporting organic growers.

Extension Agents Were Willing to Help Organic Growers

Claim: Participants were supportive of the organic agricultural community; however, they said that organic growers did not reach out to them as frequently as conventional growers, justifying low levels of engagement with organic growers.

Supportive Evidence: Previous findings suggested that organic growers from North Georgia perceived Extension agents put more effort towards serving conventional growers (OlbrickMarabesi & Kelsey, 2019). Bob said that organic growers think that Extension agents "do not know how to do anything other than spray" (16-17). Bob's statement reflects the thoughts of all participants (n=12), who agreed that there was a perception from organic growers that Extension agents are "chemical pushers." For instance, Craig said that most organic growers choose not to reach out to Extension because they are able to find the information they need on Google and because they think Extension agents are going to recommend a non-organic pesticide to solve their problems (38-41). Neil considered Georgia's focus on agricultural commodities production as an influence on organic growers' perceptions that Extension is not willing to support them (137-139). He reported seeing agents rejecting topics on organic agriculture during agent's professional development workshops, underlining the perception among Extension agents that organic agriculture was not a priority for training. Neil stated (170-173):

> There are a lot of agents that all they have ever known is "production agriculture", I saw that in agents' training, they will turn their nose up at organics….So there is a perception

among people who work with the university that organic agriculture is not really relevant, is not realistic, and is never going to be an important part of Georgia's agriculture.

In spite of Neil's claim, all participants (n=12) claimed that they were willing to help both organic and conventional growers. When participants were asked if they thought that organic agriculture contributed to Georgia's overall economy, Scott said no. He claimed that only a small group of people could pay the higher prices for organic products (70-72). The other 11 participants reported seeing organic agriculture as a niche market that was growing and establishing its importance in consumer preferences. In particular, Gary and George said that they supported organic agriculture and had small organic gardens at their home. George grew organic produce for family consumption. Gary grew organic produce for family consumption and to sell to local restaurants. Their personal experiences with growing organically encouraged them to seek more information about organic practices, which in turn provided them with an important knowledge base to help organic growers, thus, promoting their willingness to engage with the organic community.

A number of aspects contributed to building participants' perceptions of organic agriculture. All (n=12) reported having their perceptions influenced by organic growers' attitudes towards Extension. Participants felt that organic growers did not want help from Extension. Craig said that Extension was not traditionally known for serving organic agriculture but that it does not mean that they cannot help organic growers (371-372). Neil emphasized the role of Extension by stating:

Extension is here to serve all of our community, all the taxpayers, because we are taxpayer funded, so I feel like is our responsibility to help someone with crop production, regardless of what their philosophies are with respect to how they grow, whether they grow

organically or conventionally or whether it is a little bit of both. To me, it does not matter, if they need help trying to produce a crop, regardless of what their philosophies are, then I think it is our position to help them in any way we can (Neil, 10-16).

Although they were willing to help organic growers, all participants (n=12) reported that organic growers did not reach out to them as frequently as conventional growers and that they had little feedback when trying to contact organic growers. Gary reported contacting organic growers was a challenge because they did not show up to events targeted to organic agriculture organized by Extension, they were not interested to know who their county Extension agent was, and they did not contact Extension regarding their needs (54-63). He reported feeling frustrated, stating, "I have a hard time listening to the growers complaining that Extension doesn't try to do anything because we have and they don't show up. Eventually, you are just going to find another clientele" (61-63). As Rogers (2003) stated, Extension agents are effective in influencing behavior, gaining knowledge, and developing new attitudes; however, growers tend to seek information sources that reinforce existing values and traditions. Participants felt that organic growers held a stigma against Extension because agents spent most of their time serving conventional growers. For them, this stigma was a substantial factor that may have prevented organic growers from reaching out to Extension more often. Gary, Hank, and Mark said that bad experiences with Extension agents in the past could have contributed to creating this stigma. Hank said that currently there are more young agents in Extension and they might be more open-minded toward organic production (45-47).

In summary, Extension agents were available to serve organic growers; however, they said organic growers should express their needs by asking for help from Extension to create more engagement between the two groups.

Extension Agents Need Educational Programs in Overcoming Communication Challenges

Claim: Participants reported that organic growers followed organic practices because they had a strong philosophical ideal regarding environmental responsibility and human well-being. All participants (n=12) reported experiencing difficulties in communicating with organic growers because the growers believed that agents did not understand their philosophies; therefore, organic growers did not trust Extension agents.

Supporting Evidence: The most frequently recurring statements within the interviews were participants' uncertainty about the central factor influencing the relationship between themselves and organic growers. Participants reported barriers to establishing productive relations with organic growers; however, they had trouble in identifying and explaining what those barriers were. Tom said that he perceived a disconnection between Extension and organic growers but he did not know why that disconnection existed (73-74). Erin also reported perceiving a disconnection and claimed that Extension should provide agents with educational resources regarding organic agriculture and then show organic growers that agents were able to help them (143-148). Craig said that it takes time to build a relationship of trust with organic growers because Extension agents did not necessarily have the same philosophies as organic growers regarding agricultural production (380-381).

All participants (n=12) agreed that there was a need for more training in organic agriculture; however, Gary and Neil said that learning about the science of growing organically was relatively easy for Extension agents since all of them had a bachelors' degree in an agriculturally related major. Neil stressed that the main need for education was with respect to understanding organic growers' philosophies and how to effectively communicate with them (194-204). Gary said that it was important to understand growers' philosophies in order to learn how to

establish effective communication that could transcend philosophical stances and ultimately help agents to build rapport with organic growers, as he reflected:

> As Extension agents, we have to be sensitive to them. Because you are going to turn that person off immediately if you say 'you can't do this'. It is like religion and politics, it's a belief system. Most of the time you are not going to change that belief system but you are definitely going to turn them off to you and everything you might have to say. I really have to be careful and try to explain things sensibly. It is a challenging group to serve because of that mentality, that belief system (Gary, 148-151).

According to participants, being able to effectively communicate with organic growers and establish a relationship of trust within the organic grower community was essential to improving Extension support to organic growers. All of the agents reported a need for educational programs to overcome communication challenges.

Extension Agents Need More Training in Organic Production

Claim: Participants reported having a limited educational background in organic agricultural production practices and claimed that if they had more training on the topic they would feel more comfortable working with organic growers.

Supporting Evidence: Agunga & Igodan (2007) suggested that organic growers might think that Extension agents do not know enough about organic agriculture to help them. We asked participants about the existence of programs on organic agriculture provided by the university and their engagement in such programs. All agents (n=12) reported participating in professional development workshops on cover crops in organic agricultural systems, taught by a sustainable agriculture coordinator from the university. The mentioned workshops were the only resource regarding organic agriculture that the university provided for Extension agents and happened once

a year. Amy, George, Mark, Oscar, Scott, and Tom (n=6) explained that Extension agents were able to choose which professional development workshops they were going to attend and that they sought educational training according to the perceived needs in their counties. All participants said that Extension could benefit from more educational programs in organic agriculture to increase their knowledge on the topic. Amy, George, and Tom (n=3) said that the organic movement was growing in GA and that UGA Extension agents were not as knowledgeable in this subject as they could be; therefore, they were hesitant to recommend the adoption of organic practices.

> I think there is definitely a need for more training on organic, more support for Extension agents to provide that organic based information to the farmer. I think if we had that, then Extension agents might be a little more comfortable working with organic farmers (Tom, 152-155).

George emphasized how Extension agents' lack of preparation to work with organic growers might have influenced organic growers' perceptions of Extension, as he stated:

> It is not that we do not want to help them, it's a matter that we don't know if we have all the answers, because organic can be very difficult….Therefore, that may cause a lot of frustration among organic farmers, thinking that we are not willing to help. We just do not have answers yet (George, 141-148).

Participants were asked about their main sources of information on organic agriculture. Craig, Hank, and Neil said that it was usual for them to contact other UGA Extension agents when they faced a situation that they were not knowledgeable about. Extension agents usually have a specialty related to their educational background and they can reach out to other agents who have different specialties (Neil, 82-90). However, Bob and Neil said that UGA Extension lacked agents

whose specialty was organic production and that agents would benefit from more organic specialists in the state.

Erin was the only participant who had a formal educational background in organic agriculture. Her bachelor's degree was in Horticulture and she specialized in organic agricultural production. She was mentioned many times by other agents as a reference in the field. Erin said that organic growers from surrounding counties, rather than the one she served, called for help. She worked with growers that were not located within her county's limits (94-98). She affirmed that the Extension agents from the counties where she was serving organic growers did not have the same technical background as her; therefore, they were not able to help organic growers to the same extent (Erin, 90-91). Oscar, Scott, and Tom said that a certification program in organic agriculture should be offered by the university. They said that if organic growers saw that agents participated in more professional development workshops regarding organic agriculture they would be more likely to reach out to Extension because they would know that the agents had the appropriate knowledge to help them.

Besides asking for help from other Extension agents, Craig, Hank, and Neil reported reaching out to other university databases because they thought there was not enough information on organic agriculture available from UGA sources. Seeking the best information available was important to them so they could help their clients, as Neil said:

> If UGA is a good resource, I will utilize UGA. But I use information from other land-grant universities every day. If I get a question that I do not immediately know the answer to, I will research other land-grant universities and what information they have available on it. I will choose the best information for my client. It does not have to be from UGA (Neil, 71-75).

In summary, participants reported their willingness to help organic growers in spite of having limited knowledge on the topic. They suggested that the university's support regarding training, courses, and overall educational content on organic agriculture was lacking. Currently available programs for Extension agents regarding organic agriculture were considered to be limited by all participants (n=12). Participants expressed a need for educational programs on organic agriculture provided by the university as well as Extension specialists that provide support to agents statewide. These resources are essential for establishing productive relationships between Extension agents and organic growers.

Extension Agents Perceive Small-Scale Organic Production as not Profitable

Claim: Seven participants reported not having access to information regarding the economic feasibility of small-scale organic agriculture in North Georgia. Due to the lack of economic analysis, and therefore, perceived importance of the organic industry, they did not feel obligated to support small-scale organic production.

Supporting Evidence: Agents were biased against serving organic growers due to a perception that small-scale organic production was not economically feasible. Bob, Craig, Hank, Mark, Neil, Oscar and Scott (n=7) said that the majority of organic growers in their counties had either another job, a spouse that had another source of income besides farming, or were retired and farming as a hobby. This led Extension agents to the perception that small-scale organic farms in their counties were not economically feasible since organic growers were not making a living solely with the income from organic agriculture. Craig, Hank, and Oscar mentioned that the "profit-making standpoint" influenced their attitudes towards organic agriculture. Oscar claimed that organic production could not be called sustainable if it is not economically sustainable (42-44). Craig and Hank said that they would like to see a feasibility model for small-scale organic

production, where the producer could show a profit without having another source of income. Small-scale organic farming was not perceived as a business by agents, thereby, not deserving of support from Extension. The agents did not feel comfortable encouraging small-scale organic production because they had not experienced a profitable operation under these conditions. They claimed that knowing how to help organic farmers become profitable would help agents to better support growers.

> I would like to see in Georgia somebody's balance sheet that this actually works, that it is profitable, that is a viable option. When some person calls wanting to do small-scale organic farming, it is hard for me to say that they should invest money and invest time, without knowing that someone has done it without a whole lot of money sitting somewhere else, and it is just a hobby that might make some money (Gary, 170-175).

> I have not met anybody that has farmed organically on a small-scale and made money. I said that we as Extension have a responsibility to, if a person is interested in entrepreneurship, if they want to make money, we have the responsibility to let them know how difficult it is going to be (Hank, 123-127).

In summary, Extension agents are often skeptical of the economic feasibility of organic agricultural practices; therefore, they are not likely to encourage it. Agents requested more data regarding the feasibility of implementing and managing organic agricultural systems for profit. Extension agents' pragmatic orientation concerning the economic feasibility of organic agriculture conflicted with some organic growers' perspectives of organic agriculture, especially those who have a strong philosophical ideal motivating them to grow organically.

Conclusions

According to participants, the essence of supporting organic growers is that of an uneven bridge. Extension agents were willing to provide support to organic growers; however, they said that organic growers did not reach out to them as frequently as conventional growers and that they experienced difficulties in communicating with organic growers, justifying their low levels of engagement within the organic community. In addition, seven participants reported not having access to information regarding the economic feasibility of small-scale organic agriculture in North Georgia. Due to the lack of economic analysis, and therefore, perceived importance of the organic industry, they did not feel obligated to support small-scale organic production. To establish productive relationships with organic growers, participants required more training regarding organic agriculture and access to information concerning the economic feasibility of small-scale organic agriculture in North Georgia so they would feel more comfortable supporting organic growers.

Our findings suggested that Extension agents have not fulfilled their change agents' role in regard to serving the organic community. Our findings showed that the relationship between Extension agents and organic growers was not well established. These findings are in line with other researchers who reported that Extension did not serve organic growers to the same extent as conventional growers (Agunga & Igodan, 2007; Beus & Dunlap, 1992; Crawford et al., 2015; Gailhard et al., 2015; Hall & Rhoades, 2010; OlbrickMarabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997).

Participants reported being supportive of organic agriculture; however, they said that organic growers did not reach out to Extension as much as conventional growers, justifying the low participation rates in serving organic growers when compared to conventional growers. This

finding supports Crawford et al. (2015) who suggested that organic growers did not perceive Extension as a primary source of information; therefore, they did not reach out to Extension frequently.

Extension agents described their experiences working with organic growers and reported that organic growers had a strong philosophical ideal regarding environmental responsibility and human well-being. According to participants, it was challenging to establish a relationship of trust with those growers because they had felt that Extension was more supportive of conventional practices, adding to previous findings that suggested that there is a perception among organic growers from North Georgia that Extension agents put more effort toward serving conventional growers (OlbrickMarabesi & Kelsey, 2019). Our findings suggest a pressing need to support Extension agents' professional development regarding understanding organic growers' motivation to grow organically and how to effectively communicate with them to build stronger relationships. The findings reinforce the literature that participatory approaches are important to increase collaboration between Extension agents and growers (Nagel, 1997; Pretty & Vodouhe, 1997; Rogers, 2003).

Overall, participants expressed a willingness to provide support to organic growers and stated that organic agriculture is a growing sector in North Georgia. However, one participant said that he did not think that organic agriculture contributed to Georgia's overall economy and that only a few people could pay for organic products at the market. Seven participants were skeptical of the economic feasibility of organic agricultural practices; therefore, they were not likely to encourage it. These findings are consistent with Beus & Dunlap (1992), who claimed that Extension agents tend to be more inclined to support conventional agriculture. Our findings

highlight that both organic growers and Extension agents have counterproductive perceptions about each other that resulted in poor service delivery and a lack of access to Extension resources.

Participants were willing to support organic growers; however, they needed more professional development regarding organic agriculture. All participants (n=12) reported having limited educational resources regarding organic agriculture and claimed that if they had more training in the topic they would feel more comfortable working with organic growers. They said that Extension would benefit from a greater number of educational programs in organic agriculture and they considered the currently available programs offered by the university as limited. In addition, participants reported not having access to information regarding the economic feasibility of small-scale organic agriculture, such as budget projections for organic production in North Georgia. The limited educational resources regarding organic practices aligned with skepticism regarding the economic feasibility of small-scale organic production and the challenges in establishing effective communication with organic growers were identified as the main reasons preventing the establishment of stronger supportive relations between Extension agents and organic growers.

Recommendations

Extension agents' limited knowledge regarding organic agriculture combined with their uncertainty regarding the economic feasibility resulted in challenges to establishing effective communication and developing a passive attitude towards serving organic growers. Therefore, we proposed a model for building bridges between Extension agents and organic growers (Figure 3).

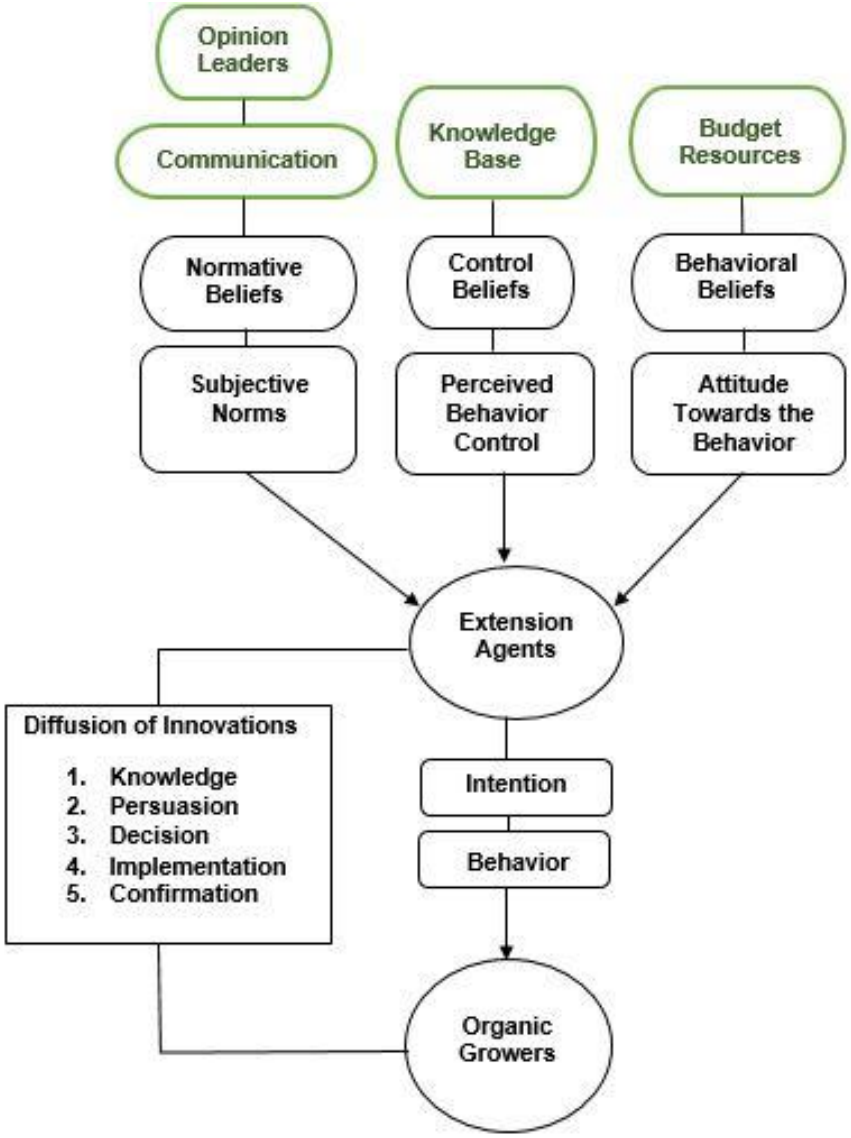

Figure 3. A model for building bridges between Extension agents and organic growers.

To efficiently act as change agents (Rogers, 2003), Extension agents are advised to:

1. *Identify **opinion leaders** within the organic growers' community and build rapport with them.* Participants reported that organic growers did not reach out to them frequently and had little feedback when trying to contact organic growers. This has an impact in the subjective norms influencing Extension agents' behavior as they thought that organic growers were not interested in receiving Extension support (normative beliefs). Opinion leaders are a potential means for accessing the organic community as they are

able to influence other growers informally and facilitate communication between growers and agents. Therefore, by identifying opinion leaders and building rapport with them would lead to an increase in the number of organic growers' responding to Extension efforts.

2. *Implement participatory approaches within the organic growers' community to facilitate **communication** and build rapport with organic growers.* Participants reported that it was challenging to establish a trusting relationship with organic growers. This impacted Extension agents' normative beliefs as they thought organic growers did not trust them. Agents would benefit from educational programs regarding communication methods to increase trust between the two groups. In addition, agents are advised to develop a better understanding of growers' motivation for growing organically through participatory approaches. This would afford Extension agents an opportunity to learn about growers' unique situations by creating commonalities between groups (Pretty, 1995).
3. *Develop a thorough **knowledge base** regarding the principles and practices of organic agriculture to adapt to growers' situations.* Our findings suggest that Extension agents would benefit from more educational programs regarding organic agriculture production techniques. Improving Extension agents' knowledge base would increase their perceived behavioral control toward supporting organic growers as they would have more knowledge in organic agriculture topics. These programs should be promoted and supported by the university.
4. *Promote the development of **budget resources** regarding the cost of implementing and managing organic agricultural systems.* Extension agents reported being skeptical of

the economic usefulness of small-scale organic production. This skepticism might influence agents' attitudes towards supporting organic growers as they did not feel obligated to support small-scale organic agriculture. The community of researchers, as well as Extension personnel, are encouraged to further investigate the economic feasibility of small-scale organic production and develop accessible resources that inform financial decisions.

Implications and Directions for Future Research

The research reported here provides practical implications for increasing Extension agents' professional development regarding organic agriculture and building stronger relationships between Extension agents and organic growers; therefore, increasing Extension support to the organic community, regardless of financial status of farming operations.

The findings of this qualitative study are not generalizable; however, they do offer insights into what Extension agents' experienced while working with organic growers and how these experiences informed recommendations for improving Extension support to organic growers. It is important to note that this study addressed a small geographic region in North Georgia; therefore, further research is warranted to determine which Extension educational approaches should be adopted in other areas of the U.S. Also, future research should test our model for building bridges between Extension agents and organic growers to determine if the model has generalizability to other situations and whether this approach to Extension promotes the implementation of sustainable food production systems by supporting organic growers to stay in business.

References

Agunga, R. (1995). What Ohio extension agents say about sustainable agriculture. *Journal of Sustainable Agriculture, 5*(3), pp. 169-187.

Agunga, R. & Igodan, C. (2007). Organic farmers' need for an attitude towards Extension. *Journal of Extension*, *45*(6), Article 6FEA6. Retrieved from https://www.joe.org/joe/2007december/a6.php

Ajzen I. (1985). *From intentions to actions: A Theory of Planned Behavior*. In: Kuhl J., Beckmann J. (eds) Action Control. SSSP Springer Series in Social Psychology. Springer, Berlin, Heidelberg

Beus, C. E., & Dunlap, R. E. (1992). The alternative-conventional agriculture debate: Where do agricultural faculty stand? *Rural Sociology 57* (3), pp. 363-380.

Boone Jr., H. N., Hersman, E. M., Boone, D. A. & Gartin, S. A. (2007). Knowledge of sustainable agriculture practices by extension agents in Ohio, Pennsylvania, and West Virginia. *Journal of Extension*, *45*(5), Article 5RIB2. Retrieved from https://www.joe.org/joe/2007october/rb2.php

Brunner, E. S., & Yang, E. H. P. (1949). *Rural America and the Extension Service: A history and critique of the Cooperative Agricultural and Home Economics Extension Service.* New York, NY: Columbia University

Certified Naturally Grown. (2019). *Farmers and beekeepers*. Retrieved from https://www.cngfarming.org/farmers

Crawford, C., Grossman, J., Warren, S.T. & Cubbage, F. (2015). Grower communication networks: Information sources for organic farmers. *Journal of Extension*, *53*(3), Article 3FEA9. Retrieved from https://joe.org/joe/2015june/a9.php

Creswell, J. & Poth, C. (2018). *Qualitative Inquiry & Research Design: Choosing among five approaches* (4th ed). Thousand Oaks, CA: Sage Publications, Inc.

Gailhard, İ. U., Bavorová, M. & Pirscher, F. (2015). Adoption of Agri-Environmental Measures by organic farmers: The role of interpersonal communication. *The Journal of Agricultural Education and Extension, 21*(2), 127-148. doi: 10.1080/1389224X.2014.913985

Goetz, S. (2016). Land grant university programs helped keep farmers on the farm. Retrieved from https://www.ag.ndsu.edu/ext-employees/documents/goetz-cooperative-extension-investment-press-release

Greene, C., Dimitri C., Biing-Hwan, L., McBride, W., Oberholtzer, L. & Smith, T. (2009). Emerging issues in the U.S. organic industry. *U.S. Department of Agriculture, Economic Research Service,* EIB-55.

Hall, K. & Rhoades, E. (2010). Influence of subjective norms and communication preferences on grain farmers' attitudes toward organic and non-organic farming. *Journal of Applied Communications, 94*(3), 51-64. https://doi.org/10.4148/1051-0834.1192

Hanson, J. C., Kauffman, C. S. & Schauer, A. (1995). Attitudes and practices of sustainable farmers, with applications to designing a sustainable agriculture extension program. *Journal of Sustainable Agriculture, 6*(2/3), 135-156.

IFOAM. (2018). *Definition of organic agriculture*. Retrieved from https://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture

Interagency Agricultural Projections Committee. (2018). *USDA Agricultural Projections to 2027*. Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. Long-term Projections Report OCE-2018-1

Jones, G. E. & Garforth, C. (1997). The history, development, and future of agricultural extension. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage Publications, Inc.

Nagel, U. J. (1997). Alternative approaches to organizing extension. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

OlbrickMarabesi, A. & Kelsey, K. D. (2019). *A Phenomenological Inquiry into Producers' Experiences Growing Organic Produce.* Manuscript submitted for publication.

Özkaya, T. (2003). "Extension and Training in Organic Farming and Participatory Methods." *Cahiers Options Méditerranéennes 61*: 75–79.

Pretty, J. N. & Vodouhe, S. D. (1997). Using rapid or participatory rural appraisal. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

Rogers, E. M. (2003). *Diffusion of innovations*. New York, NY: Free Press.

Rolling, N. & Pretty, J. N. (1997). Extension's role in sustainable agricultural development. *Improving agricultural extension: A reference manual* (3rd ed.). Rome, Italy: Food and Agriculture Organization of the United Nations.

The University of Georgia Center for Agribusiness & Economic Development. (2018). *Georgia Farm Gate Value Report 2017.* Retrieved from http://www.caes.uga.edu/content/dam/caes-website/research/centers-and-

institutes/center-for-agribusiness-and-economic-development/publications/annual-reports-farm-gate-value-reports/2017-farm-gate-value-report.pdf

Tracy, S. J. (2010). Qualitative quality: Eight "Big-Tent" criteria for excellent qualitative research. *Qualitative Inquiry*, *16*(10), 837-851. doi: 10.1177/1077800410383121

United Nations. (2019). *About the Sustainable Development Goals*. Retrieved from https://www.un.org/sustainabledevelopment/sustainable-development-goals/

USDA National Agricultural Statistics Service. (2012). *Certified Organic Survey 2011 Summary*.

USDA National Agricultural Statistics Service. (2017). *Certified Organic Survey 2016 Summary*.

van Manen, M. (1997). *Researching lived experience: Human science for an action sensitive pedagogy* (2nd ed.). NY: Routledge.

van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Walnut Creek, CA: Left Coast Press.

CHAPTER 4

CONCLUSIONS

Our findings suggested that organic producers from North Georgia would benefit from more Extension programs targeted toward organic agriculture. Classifying organic producers into pragmatic and committed was important to develop a specific Extension model focused on the diverse elements of organic agriculture, which is necessary to better attend organic producers and stimulate the organic sector's growth. Extension agents are advised to increase their interest and personal commitment to organic agriculture and increase their knowledge base for organic compliance and assessment mechanisms to help both committed and pragmatic producers comply with USDA and CNG policy and regulations. Pragmatic producers need more training in community engagement. Committed producers need more training in marketing strategies and new technologies adapted to the local markets.

Our findings also showed that the relationship between Extension agents and organic producers in North Georgia was not well established. Extension agents were willing to provide support to organic growers; however, they said that organic growers did not reach out to them as frequently as conventional growers and that they experienced difficulties in communicating with organic growers, justifying their low levels of engagement within the organic community. In addition, seven participants reported not having access to information regarding the economic feasibility of small-scale organic agriculture in North Georgia. Due to the lack of economic analysis, and therefore, perceived importance of the organic industry, they did not feel obligated to support small-scale organic production. To establish productive relationships with organic

growers, participants required more training regarding organic agriculture and access to information concerning the economic feasibility of small-scale organic agriculture in North Georgia so they would feel more comfortable supporting organic growers. The data led to refinement of the model presented in Chapter 2 to inform Extension educational programs that serve organic growers in North Georgia. The model was developed for building bridges between Extension agents and organic growers. Recommendations for Extension agents included: 1) Identifying opinion leaders within the organic growers' community and build rapport with them; 2) Implementing participatory approaches within the organic growers' community to facilitate communication and build rapport with organic growers; 3) Developing a thorough knowledge base regarding the principles and practices of organic agriculture to adapt to growers' situations, and 4) Promoting the development of budget resources regarding the cost of implementing and managing organic agricultural systems.

The findings of these qualitative studies are not generalizable. However, they do offer information regarding what influences organic producers' decisions for adopting organic practices and how Extension agents' experiences supporting organic producers can inform recommendations for the establishment of productive relationships between Extension agents and organic producers. It is important to note that this study addressed a small geographic region in North Georgia; therefore, further research is warranted to determine if the model for building bridges between Extension agents and organic growers has generalizability to other situations as well as which Extension educational approaches should be adopted in other areas of the U.S. Also, future research should test our model for building bridges between Extension agents and organic growers to determine if the model has generalizability to other situations and whether this approach

to Extension promotes the implementation of sustainable food production systems by supporting organic growers to stay in business.