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Building Bridges: Improving Extension Support to Organic Growers in North Georgia

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Organic agriculture has the potential to improve the environmental performance of U.S. agriculture, supporting increasing food demand and diversification of food consumption while improving the quality of ecosystems. Organic growers are challenged by a lack of Cooperative Extension agent support as agents have not served organic growers to the same extent as conventional growers nationwide. Rogers' (2003) diffusion of innovations theory guided our phenomenological inquiry to explore (a) what agents experienced while supporting organic growers, and (b) how agents experienced providing support to organic growers in north Georgia. According to participants, the essence of the support offered to organic growers was an uneven bridge. Agents were willing to provide growers with the resources to support organic production; however, they lacked theoretical and empirical knowledge regarding organic agricultural production that would enable them to establish stronger relationships with growers. Findings from the study and the uneven bridge metaphor led to an original model to assist Extension agents in better serving the organic agricultural community.

Keywords: Extension agents' perceptions, organic agriculture, organic growers, phenomenology

Introduction

The United States (U.S.) is expected to lead global economic and agricultural growth for the next eight years (Interagency Agricultural Projections Committee, 2018), supporting increasing food demand and diversification of food consumption globally. According to the United Nations (UN), by 2030, sustainable food production systems and resilient agricultural practices should be adopted by growers to increase food production while improving the quality of ecosystems globally (UN, 2019).

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 and

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carbon levels in the atmosphere; improving physical, chemical, and biological conditions of soils; and enhancing biodiversity (Greene et al., 2009). According to the U.S. Department of Agriculture (USDA) Certified Organic Survey (2012, 2017), between 2011 and 2016, the total number of farms under USDA certified organic operations increased over 55% nationally and over 100% in Georgia. The USDA survey did not take into account organic operations that were classified as Certified Naturally Grown (CNG); thus, undercounting total acreage in organic production nationwide. There are over 750 CNG producers in the U.S., most of which are located in Georgia (Certified Naturally Grown, 2019), which prompted us to explore Extension agents' experiences and perceptions of supporting organic growers in this state.

Our previous research with organic producers in north Georgia uncovered many challenges and barriers to growing and marketing organic produce, including a lack of accessible research-based information made readily available to conventional growers by Extension agents (Marabesi & Kelsey, 2019). Extension is fundamental to the entire agricultural sector and has the potential to encourage organic growers as well as recruit new producers to grow organically (Marabesi & Kelsey, 2019). However, the Extension model used to support conventional growers is inadequate for organic growers because organic growers require a more knowledge-intensive and bidirectional mode of engagement between Extension agents and growers. Therefore, investigating how Extension agents perceive organic agricultural practices is important for identifying improved outreach strategies targeted to organic growers (Agunga, 1995; Özkaya, 2003).

Despite numerous studies reporting the economic profitability and increased yields in agriculture resulting from Extension agents' efforts, there is a dearth of literature exploring Extension agents' experiences working with organic growers. Therefore, using phenomenology research design, we 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. From a phenomenological lens, we analyzed Extension agents' experiences in providing support to organic growers (Creswell & Poth 2018; Moustakas, 1994; van Manen, 2014). The essence of these experiences emerged to inform recommendations for establishing Extension educational programs to better serve organic growers. We present an original model for extending land-grant university research-based knowledge and educational support to organic growers using Extension agents as change agents.

Cooperative Extension Service History of Supporting Organic Agricultural Growers

The Cooperative Extension System's (CES) purpose is to promote improved agricultural practices among U.S. growers by diffusing research-based information regarding agriculture and home economics to the public (Rogers, 2003). Extension is an interpersonal communication network that delivers scientific information to shift attitudes and change behaviors among agricultural growers to adopt best practices. Agunga (1995, p. 171) stated that "farmers' full

comprehension of an innovation is the necessary first step to adoption or rejection.” Therefore, Extension has served as an important educational mediator by maximizing growers’ access to research-based information for the purpose of improving practice (Agunga, 1995; Boone et al., 2007; Diehl et al., 2018). Over the last century, Extension has confirmed its capacity to conduct research and teach best practices through trained 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 stay in business since 1985. Between 1984 and 2010, 490,000 growers left farming, yet 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).

While Extension has played a significant role in supporting U.S. agriculture, it has fallen short in regard to serving organic growers. In their seminal work, Beus and Dunlap (1992) reported that land-grant university faculty were more inclined to conduct research and outreach regarding conventional agricultural practices and were oriented toward large-scale growers. Numerous authors have echoed this finding over the past three decades (Agunga & Igodan, 2007; Beus & Dunlap, 1992; Crawford et al., 2015; Gailhard et al., 2015; Hall & Rhoades, 2010; Marabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997). In summary, the literature suggests expanding research and Extension efforts to include alternative agricultural practices; however, the scope of the problem remains unknown due to a lack of research on Extension agents’ perceptions and experiences in serving organic growers.

Extension and Organic Growers

The term *organic* goes beyond USDA certified organic status. The USDA organic certification process requires that organic food production must not use conventional pesticides and herbicides, petroleum-based fertilizers, sewage-sludge-based fertilizers, genetic engineering, antibiotics, growth hormones, or irradiation (USDA Certified Organic Survey, 2017). Alternatively, the International Federation of Organic Agriculture Movements (IFOAM) defined organic production systems as those that sustain healthy soils and ecosystems, and rely 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). Since the USDA certification process was considered expensive and bureaucratic by organic growers in Georgia, many pursued other types of certification, such as Certified Naturally Grown (CNG), or remained non-certified (Marabesi & Kelsey, 2019).

Previous research concluded that effective communication between Extension agents and organic growers was essential to further extend research-based knowledge to organic growers and promote best practices among all growers (Crawford et al., 2015; Hanson et al., 1995). For example, Agunga and Igodan (2007) explored Ohio growers’ attitudes toward Extension. They 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 and establishing stronger relationships with organic growers. Likewise, Crawford et al. (2015) found that establishing relationships between Extension agents and organic growers was challenging but recommended further research to measure Extension agents' perceptions of organic agriculture that could be used to develop an improved model for service delivery.

Agents of Change

A number of studies have shown the 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; Marabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rogers, 2003; Rolling & Pretty, 1997). Rogers (2003) suggested that Extension agents work as change agents by delivering research-based information that helps form attitudes and change behaviors among agricultural growers. Rogers recognized the U.S. 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. Accordingly, previous research suggested that receiving information from formal actors using various forms of interpersonal communication increased the probability of adopting environmentally-friendly practices (Gailhard et al., 2015; Hall & Rhoades, 2010). Further, Nagel (1997), Pretty and Vodouhe (1997), and Rolling and Pretty (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.

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). Given these trends, exploring Extension agents' perceptions and experiences in working with organic growers is important to gain a better understanding of how they go about establishing effective communication channels with this unique and increasingly relevant clientele-base.

Conceptual Framework

We built upon Rogers's (2003) theory of diffusion of innovation (DOI) and Ajzen's (1985) theory of planned behavior (TPB) to further understand Extension agents' attitudes and behaviors toward organic growers. As such, we considered Extension as the diffusion system that delivered research-based information to organic growers.

Rogers's (2003, p. 5) DOI theory provided a framework for understanding how new ideas and technologies are adopted and communicated in society. Rogers considered diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system." The process by which individuals seek information concerning an innovation is called the innovation-decision process and occurs through five main steps:

1. Knowledge: Exposure to the innovation and knowledge acquisition regarding how it works.
2. Persuasion: Development of a positive or negative stance regarding the innovation.
3. Decision: Decision-making process on whether to adopt or reject the innovation.
4. Implementation: Application of the innovation to determine its usefulness.
5. Confirmation: Seeking interpersonal reinforcement regarding an innovation-decision to finalize the decision to continue using the innovation.

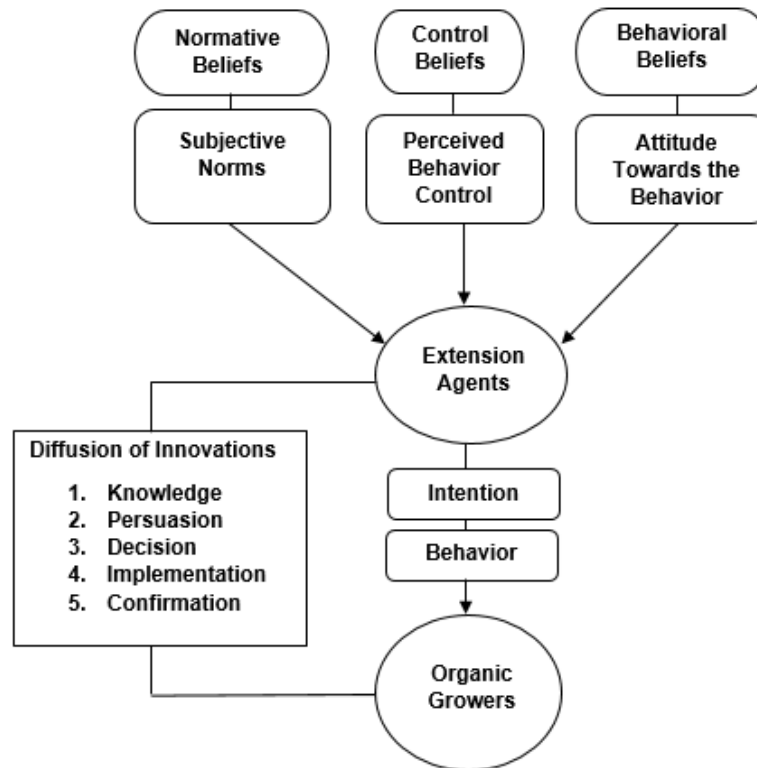
The rate of adoption of the determined innovation can be understood as the relative speed with which individuals adopt an innovation. Rogers (2003) suggested five categories of adopters: (a) innovators, (b) early adopters, (c) early majority, (d) late majority, and (e) laggards. Rogers (2003) emphasized the role of opinion leaders and change agents as influencers of adoption behavior within the diffusion of innovation process. While opinion leaders are "members of the social system in which they exert their influence" (p. 28), change agents are influencers external to the system. Traditionally, Extension agents have been regarded as change agents.

According to Ajzen's (1985) TPB, individuals make decisions rationally by considering the implications of their actions before deciding whether to behave in a certain way. Peoples' behavioral intentions are affected by their favorable or unfavorable attitudes toward a certain behavior, the subjective norms (what other people think about their behavior), and their perceived behavior control (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 toward certain behaviors when they believe they can execute them successfully.

Extension agents' normative beliefs help determine the subjective norms, their control beliefs give rise to their perceived behavior control, and their behavioral beliefs influence their attitudes towards certain behaviors. In conjunction, subjective norms, perceived behavior control, and attitude towards the behavior directly affect 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.

We combined elements from TPB with elements of the five-step innovation-decision process to create an emergent model to explain effective interpersonal communication between Extension agents and organic growers (see Figure 1). The model considers Extension agents' behavior towards organic growers as being influenced by normative, control, and behavioral beliefs.

Figure 1. An Emergent Model for Building Bridges Between Extension Agents and Organic Growers



Methodology

Participants

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

The UGA sustainable agriculture coordinator provided a list of 21 Extension agents from the 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, and 12 agents agreed to participate for a 57% response rate.

Research Design

Hermeneutic phenomenological research design was used to capture the essence of a phenomenon (Creswell & Poth 2018; van Manen, 1997, 2014). In the context of this study, a phenomenon was considered a lived-through experience that emerges from one's intentional awareness of an event. Furthermore, hermeneutic phenomenology attempts to interpret ordinary

experiences while simultaneously recognizing the complexity of our lived experiences that interact with the phenomenon. Phenomenological inquiries allow the researcher to understand *what* and *how* participants experience a central phenomenon and bring experiential realities to language by reflecting on themes grounded in participants' shared experiences.

The central phenomenon addressed in this study was Extension agents' perceptions of the support offered to organic growers. We emerged the essential structure (essence) 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 of that support (Creswell & Poth 2018; Moustakas, 1994; van Manen, 2014).

Data Collection

Instrumentation. We developed a semi-structured interview protocol to allow participants to describe their experiences through a naturalistic conversation with the interviewer. The protocol was reviewed by a committee of qualitative research specialists who also have Extension experience and 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 IRB approval and informed consent, we conducted face-to-face interviews with 12 participants during fall 2018. 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 and final manuscript back to the participants for verification. None of the participants requested modifications of their transcripts or the final manuscript, indicating validity of the data collected (member checking) (Tracy, 2010).

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

1. We developed the phenomenological question and described the central phenomenon using the literature as a guide.
2. We interviewed 12 Extension agents who experienced the central phenomenon.
3. We transcribed the interviews verbatim.
4. We engaged in member checking the transcripts to ensure accuracy by asking participants to review the transcripts for accuracy.
5. We loaded the transcripts into ATLAS.ti 8, a qualitative data analysis software to store, manage, and assist with descriptive and open coding of the interviews and observation data (Friese, 2019)

6. We used the conceptual frameworks to inform our interpretations of the data during thematic inquiry (Saldaña, 2016) and reduced the verbatim transcripts (approximately 120 pages of text) to 271 significant statements by highlighting content that provided an understanding of participants' experiences of the phenomenon (horizontalization).
7. To emerge themes, we grouped the 271 significant statements into four themes by reflecting on what constituted the nature of participants' shared experience, including describing *what* (textural description) and *how* (structural description) participants experienced the central phenomenon.
8. We emerged the common underlying structure of participants' experiences or the essence of the phenomenon by writing a composite description from the textural and structural descriptions to explain the phenomenon.
9. The final step in phenomenology analysis is to develop a metaphor to communicate the findings known as *the essence* to capture the central structure of participant's experiences.

Quality Control

Ensuring quality in qualitative research includes building in trustworthiness, transferability, and accuracy throughout the study (Tracy, 2010). We employed procedural, situational, relational, and exiting ethics throughout the study by (a) engaging participants in the research process, (b) representing participants' authentic voices in the findings by using their quotes, (c) asking for participants' feedback on the analysis and reporting phases of the study, and (d) following procedures to protect participants' rights as human subjects (IRB approval #: STUDY00005828, MOD00006435). We sent the interview transcripts and draft report to all participants so they could judge the accuracy and credibility of the data. To ensure anonymity, we assigned pseudonyms to all participants and developed the findings as a composite profile rather than focusing 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).

Reflexivity

The first author was born in Brazil and got a bachelor's degree in Agronomic Engineering. She came to the U.S. to pursue a master's degree in Agricultural and Environmental Education (UGA, 2018). She is currently a doctoral student in Horticulture at UGA. This study is part of her master's thesis. While she advocates for the inclusion of organic growers in Extension efforts, her biases were minimized by peer debriefing among authors and bracketing, i.e., setting aside past experiences and assumptions to have a clear interpretation of the phenomenon (Creswell & Poth, 2018). The second author served as the student's research advisor and has 20 years of experience as a professor at a land-grant university as an evaluation specialist. She has worked extensively with Extension agents to improve program delivery and impacts of

educational efforts offered through Extension. She is also a qualitative research methods expert and guided the student through the methodology to ensure rigor.

Findings

The 12 Extension agents interviewed for this study served in north Georgia counties (see Table 1). All of them reported addressing the needs of both conventional and organic growers. However, they served organic growers to a lesser extent than conventional growers.

Table 1. Participants' Name, Gender, and Specialty

Pseudonym	Gender	Specialty
Amy	Female	Entomology
Bob	Male	Ornamental horticulture
Craig	Male	Fisheries management and aquaculture
Erin	Female	Horticulture
Gary	Male	Horticulture and landscape architecture
George	Male	Biological sciences
Hank	Male	Animal science
Mark	Male	Plant protection and pest management
Neil	Male	Agricultural engineering
Oscar	Male	Animal science
Scott	Male	Plant protection and pest management
Tom	Male	Biological sciences

The following four themes provide a composite description of what and how participants experienced supporting organic growers. Numbers in parentheses indicate line numbers where participants' statements are located in interview transcripts for audit trail purposes (Tracy, 2010).

Extension Agents Were Willing to Help Organic Growers

Theme: 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.

Supporting Evidence: Previous findings suggested that organic growers from North Georgia perceived Extension agents were putting more effort towards serving conventional growers (Marabesi & Kelsey, 2019). This finding was affirmed in the research reported here. Extension agent Bob said that organic growers think that Extension agents "do not know how to do anything other than spray" (16-17). Bob's statement reflected the thoughts of all 12 participants, who agreed that there was a perception from organic growers that Extension agents are

“chemical pushers.” For instance, Craig said that most organic growers chose not to reach out to Extension because they were able to find the information they needed on Google and because they thought Extension agents were going to recommend a non-organic pesticide to solve their problems. Neil considered Georgia’s focus on agricultural commodity production as an influence on organic growers’ perceptions that Extension was not willing to support them. He said,

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 (170-173).

Despite Neil’s claim, all participants said they were willing to help both organic and conventional growers. Neil went on, emphasizing the role of Extension by saying,

Extension is here to serve all of our community, all the taxpayers, because we are taxpayer funded, so I feel like it 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 (10-16).

When participants were asked if they thought that organic agriculture contributed to the state’s overall economy, Scott said no. He claimed that only a small group of people could pay the higher prices for organic products. 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 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 provided them with an important knowledge base to help organic growers and promoted their willingness to engage with the organic community.

Although the agents were willing to help organic growers, they reported that they did not reach out to them as frequently as conventional growers and had little feedback when trying to contact organic growers. Gary reported that contacting organic growers was a challenge for three reasons: first, organic growers did not show up to Extension events targeted to organic agriculture; second, they were not interested to know who their county Extension agent was; and third, they did not contact Extension regarding their needs. Gary reported feeling frustrated with organic growers, 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 other clientele [to serve]” (61-63). As Rogers (2003) stated, Extension agents are

effective in influencing behavior, gaining knowledge, and developing new attitudes; however, according to Rogers, growers tend to seek information sources that reinforce existing values and traditions.

A self-fulfilling negative feedback loop contributed to forming Extension agents' perceptions of organic growers. Extension agents perceived that organic growers did not want help from them. Craig said that Extension was not traditionally known for serving organic growers, but that did not mean that agents were unwilling to help organic growers. However, Extension agents recognized the stigma organic growers held towards them because they spent most of their time serving conventional growers. This stigma was a substantial factor that may have prevented organic growers from reaching out to Extension agents more often.

Extension Agents Need Educational Programs in Overcoming Communication Barriers with Organic Growers

Theme: Extension agents reported that organic growers followed organic practices because they held strong philosophical ideals regarding environmental responsibility and human well-being. Agents reported experiencing difficulties 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 interview data were participants' uncertainty about the central factor influencing the relationship between themselves and organic growers. Agents reported barriers to establishing productive relations with organic growers; however, they had trouble identifying and explaining those barriers. Tom said that he perceived a disconnection between Extension agents and organic growers, but he did not know why it existed. Erin said that Extension should provide agents with educational resources regarding organic agriculture and then show organic growers that agents were able to help them. Craig said that it takes time to build a relationship of trust with organic growers because agents did not necessarily have the same philosophies as organic growers regarding agricultural production, environmental responsibility, and human well-being.

Agents agreed that there was a need for more training in organic agricultural production techniques; however, Gary and Neil said that learning about the science of growing organically was relatively easy for agents since all of them had a bachelors' degree in agriculture. Neil stressed that the main need for education was with respect to understanding organic growers' philosophies and how to effectively communicate with them. 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 (148-151).

Gary’s statement was similar to others who noted the importance of understanding growers’ philosophies in order to learn how to establish effective communication that could transcend philosophical stances. According to the agents, being able to effectively communicate with organic growers and establish a relationship of trust within the organic community was essential to improving Extension support to organic growers.

Extension Agents Need More Training in Organic Production

Theme: Extension agents 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: We asked participants about the existence of programs on organic agriculture provided by the university and their engagement in such programs. Agents reported participating in professional development workshops on cover crops in organic agricultural systems, taught by the UGA sustainable agriculture coordinator. The workshops were the only resource offered to them regarding organic agriculture and happened once a year. Amy, George, Mark, Oscar, Scott, and Tom explained that Extension agents were able to choose which professional development workshops they were going to attend and sought educational training according to the perceived needs in their counties. Amy, George, and Tom said that the organic movement was growing in their area 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. Specifically, Tom said,

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 (152-155).

Additionally, George emphasized how agents’ lack of preparation to work with organic growers might have influenced organic growers’ perceptions of Extension. George said,

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 (141-148).

Collectively, all participants said they could benefit from more educational programs in organic agriculture to increase their knowledge on the topic. Participants were asked about their main sources of information on organic agriculture. Craig, Hank, and Neil typically contacted other UGA Extension agents when they were unknowledgeable of a situation. Neil explained the network of shared knowledge of Extension agents, as they relied on each other's areas of specialization. However, Bob and Neil said their Extension network lacked agents specialized in organic production, and they would benefit from more organic specialists in the state.

Erin was the only participant who had a formal educational background in organic agriculture with a B.S. in Horticulture, specializing in organic agricultural production. She was mentioned many times by other agents as a reference in the field. Erin said that organic growers from counties outside the area she served called for help. 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. Oscar, Scott, and Tom said that UGA should offer a certification program in organic agriculture. They said that if organic growers saw agents participating in more professional development workshops regarding organic agriculture, they would be more likely to reach out to Extension.

Besides asking for help from other Extension agents, Craig, Hank, and Neil reported reaching out to other university databases when they could not find a solution using organic agriculture resources available from UGA. Neil explained,

If UGA has a good resource, I will utilize it. 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 (71-75).

Seeking the best information available was also important to other agents so they could help their clients most effectively.

Extension Agents Perceive Small-Scale Organic Production as not Economically Viable

Theme: Seven agents reported not having information regarding the economic feasibility of small-scale organic agriculture in their region; therefore, they did not feel obligated to support small-scale organic production as it was considered inconsequential to the overall agricultural industry.

Supporting Evidence: Seven agents were biased against serving organic growers due to a perception that small-scale organic production was not economically viable. Bob, Craig, Hank,

Mark, Neil, Oscar, and Scott said the majority of organic growers in their counties had either another job, a spouse who had another source of income besides farming, or were retired and farming as a hobby. These assumptions led agents to the perception that small-scale organic farms in their counties were not economically viable. Craig, Hank, and Oscar mentioned that the “profit-making standpoint” influenced their attitudes towards organic agriculture. Hank said,

I have not met anybody that has farmed organically on a small-scale and made money. I said that we as Extension agents 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 (123-127).

Oscar claimed that organic production could not be called sustainable if it is not economically sustainable. Craig and Hank said that they would like to see a feasibility study for small-scale organic production, where the producer could show a profit without having another source of income. Gary said,

I would like to see somebody’s balance sheet that this actually works, that it is profitable, that it 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 (170-175).

Agents did not feel comfortable encouraging small-scale organic production because they had not experienced a profitable operation within their counties. They claimed that knowing how to help organic growers become profitable would enable agents to better support growers.

Conclusions

According to participants, the essence of supporting organic growers was 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, participants reported not having access to information regarding the economic feasibility of small-scale organic agriculture in Georgia’s northern region. Due to the lack of economic viability studies regarding organic production, and therefore, the perceived importance of the organic industry, agents did not feel obligated to support small-scale organic production. To establish productive relationships with organic growers, participants requested more training and access to information concerning the economic viability of small-scale organic agriculture in their region.

Our findings suggest that participants have not fulfilled their *change agent* role in regard to serving the organic community and that the relationship between Extension agents and organic

growers was not well established. These findings are consistent with other researchers who reported that Extension agents 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; Marabesi & Kelsey, 2019; Pretty & Vodouhe, 1997; Rolling & Pretty, 1997). Furthermore, agents justified their lack of service to the organic community due to the lessened perceived initiative of organic growers to seek information. 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 to meet their information needs.

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 the agents, it was challenging to establish a relationship of trust with growers because they felt that Extension was more supportive of conventional practices. Our findings suggest a need to support agents' professional development regarding understanding organic growers' motivation to grow organically and how to effectively communicate with them to build stronger relationships and enhance trust, thus, opening up communication channels.

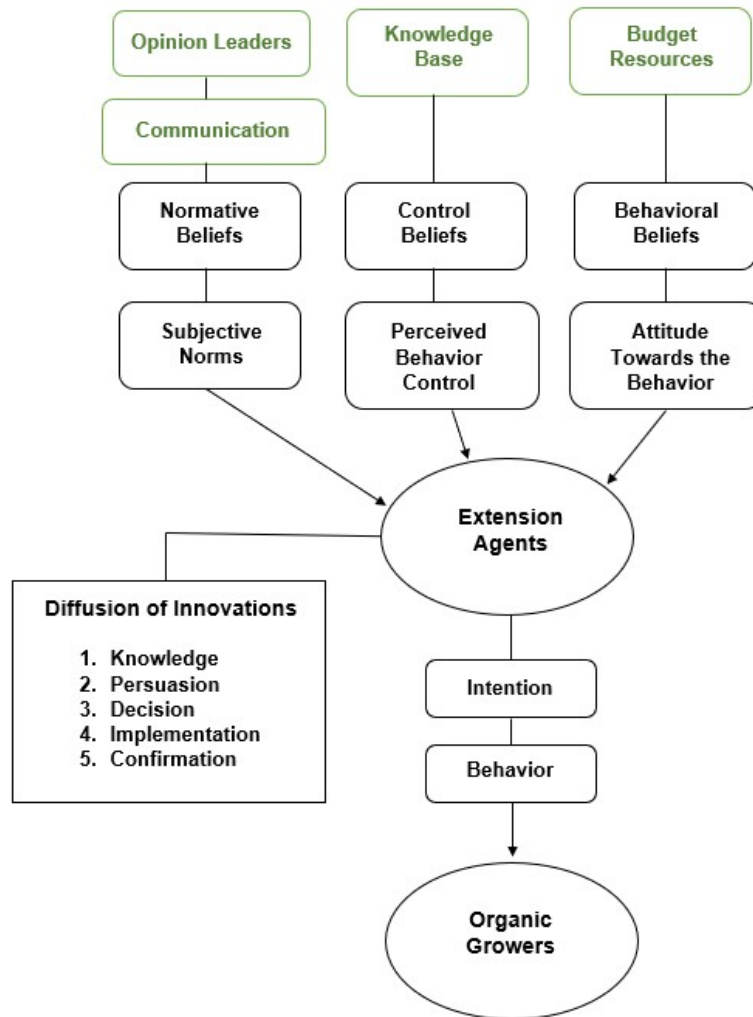
Agents were willing to support organic growers, but they needed more professional development on organic agriculture production techniques. Agents reported having limited educational resources on organic agriculture and claimed they would feel more comfortable working with organic growers if they had more training. They said that Extension would benefit from more educational programs in organic agriculture and considered the currently available professional development programs offered by UGA as limited. Our findings are consistent with Diehl et al. (2018) who said providing contextually relevant information to organic growers is a challenge for Extension because it requires agents to engage in additional professional development that may or may not be offered by their employer. Several agents reported not having access to information regarding the economic feasibility of small-scale organic agriculture, such as budget projections, leading to skepticism that growing organic was a viable enterprise.

The limited educational resources regarding organic practices aligned with skepticism regarding the economic viability of small-scale organic production led to barriers in establishing effective communication channels with organic growers. One participant said he did not think that organic agriculture contributed to the state's overall economy and that only a few people could pay for organic products at the market. Others were skeptical of the economic viability of organic agricultural practices; therefore, they were not likely to encourage it. These findings are consistent with Beus and Dunlap (1992), who claimed that Extension agents are more inclined to support conventional agriculture. Our findings point to counterproductive perceptions that growers and agents have towards each other that result in barriers to communication and an overall lack of service to one agricultural sector in Georgia.

Recommendations

Our findings are consistent with the literature that emphasizes the need to increase collaboration between agents and organic growers through participatory approaches (Nagel, 1997; Pretty & Vodouhe, 1997; Rogers, 2003). To address the barriers identified in this study, we propose a model (see Figure 2) for building bridges between Extension agents and organic growers that combines elements of the TPB (Ajzen, 1985) and DOI (Rogers, 2003).

Figure 2. 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 negative feedback loop impacted the subjective norms influencing agents' behavior as they thought that organic growers were not interested in receiving support from Extension (*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, identifying opinion leaders and building rapport with them would likely increase the number of organic growers responding to Extension agents' efforts.
2. *Implement participatory approaches within the organic community to facilitate **communication** and build rapport with organic growers.* Participants reported it was challenging to establish a trusting relationship with organic growers. This impacted Extension agents' ability to become formal actors in the diffusion of this innovation as they thought organic growers did not trust them. Agents would benefit from professional development training regarding communication methods to increase trust between the two groups. In addition, agents are advised to develop a better understanding of (a) growers' motivation for growing organically through participatory approaches and (b) how to facilitate change through the innovation-decision process. This would afford agents an opportunity to cultivate interpersonal communication and learn about organic 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' expertise would shift their attitudes toward supporting organic growers as they would have more knowledge of organic agriculture topics. Such programs should be promoted and supported by the university.
4. *Promote the development of **economic feasibility data** regarding the cost of implementing and managing organic agricultural systems through economic studies.* Extension agents reported being skeptical of the economic viability of small-scale organic production, which in turn, influenced the time they spent supporting small-scale organic agriculture. Agricultural leaders are encouraged to further investigate the economic feasibility of small-scale organic production and develop accessible resources that inform financial decisions.

Implications, Limitations, and Directions for Future Research

The results reported here provide practical implications for increasing Extension agents' professional development required for better serving organic growers. By building stronger relationships between Extension agents and organic growers, there is an opportunity to increase Extension support to the organic community, regardless of the financial status of farming operations.

The findings of this qualitative study are not generalizable; however, they do offer insights into what 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 was limited by a small geographic region in the U.S.; therefore, further research is warranted to determine which Extension educational approaches should be adopted in other regions. Additionally, our population sample resulted from a list of Extension agents provided by a university employee; therefore, not providing a real representation of a population, which could have resulted in a biased sample. 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.

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