

Narrative Inquiry of Small-Scale Regenerative Farmers' Experiences: The Self-Determination Theory Approach

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Regenerative agriculture (RA) offers an ecologically grounded and socially conscious alternative to conventional farming, yet the motivational dynamics that sustain small-scale RA farmers remain underexamined. Guided by Self-Determination Theory (SDT), this study used narrative inquiry to provide a nuanced understanding of the lived experiences and psychological needs of 15 small-scale urban RA farmers in Ohio, United States. Findings show that farmers' engagement in RA is largely driven by intrinsic motivations rooted in community food security and ecological responsibility. The fulfillment of autonomy, competence, and relatedness emerged as central to sustaining long-term commitment to RA practices, though broader structural and policy contexts also shape these needs. The study extends SDT by situating motivation within a relational and ecological framework, challenging its traditionally individualistic orientation. Practically, the results highlight the importance of participatory Extension approaches that empower self-direction, strengthen peer-to-peer and context-specific learning, and build community and institutional support, particularly for low-resource farmers. These insights offer guidance for designing Extension, policy, and outreach programs that cultivate intrinsic motivation for resilient and equitable food systems. Future research should examine cultural and international variations of these processes.

Keywords: small-scale agriculture, regenerative agriculture, narrative inquiry, self-determination theory, food security.

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Introduction

Agricultural production in the United States (US) is a critical component of the national economy, food security, and rural livelihood. The sector is characterized by a diverse range of farming operations, from large-scale farms to small-scale, family-run enterprises (US Department of Agriculture, Economic Research Service [USDA ERS], 2025). While large-scale agriculture dominates production output through mechanization and extensive land use, small-scale agriculture remains essential for sustainable food systems, local economies, and community development (Dhillon & Moncur, 2023; McDonagh et al., 2017). The definition of small-scale farms varies depending on the country and production system. For instance, in some low and middle-income countries, the number of farms or average farm size (less than 2ha) defines small farms (Lowder et al., 2016). In the US, a small-scale farm is defined as any farm that grosses less than \$350,000 in farm income annually (USDA ERS, 2025).

According to Iles et al. (2020), the USDA definition of small-scale farms has a restrictive implication, as it focuses on economic value without considering production farm size, practices, or the diversity of individuals engaged in them. This perspective directly challenges the prevailing productivity narrative that views small-scale farms as inefficient. Instead, it offers an alternative interpretation that “small-scale farming and alternative agri-food networks are emerging as the producers of quality food and the harbingers of local traditions and rural lifestyles” (Mincyte, 2011, p. 109). The increasing interest in small-scale agriculture research, along with the growing number of people involved in small-scale farming, suggests a rising societal demand for alternative agriculture (McDonagh et al., 2017).

Specifically, alternative systems such as regenerative agriculture (RA) have been proposed as a solution to the challenges posed by conventional farming methods (Bless et al., 2023). RA is defined as a “place-based management philosophy whose adherents think about their land, their businesses, and their communities as dynamic ecosystems” (Sharma et al., 2022, p. 8). Meanwhile, “the drivers for the rapid emergence of regenerative agriculture are not well understood” (Bless et al., 2023, p. 1), especially among small-scale farmers whose voices have remained limited in the RA movement (Wilson et al., 2022).

Despite a global growing interest in RA, the issues that influence well-being and long-term commitment to RA have been overlooked (Bopp et al., 2019). This gap, therefore, limits the understanding of how to treat small-scale farms as heterogeneous entities or to holistically support small-scale RA farmers who are vital to the transition toward more sustainable food systems (Frankel-Goldwater et al., 2024; Iles et al., 2021; Triste et al., 2018). While studies of sustainable and low-carbon farming (e.g., Triste et al., 2018; Zhu & Chen, 2024) reveal that intrinsic motivation and the internalization of extrinsic incentives predict durable behavioral change, there is a lack of knowledge about how these processes operate among small-scale RA farmers.

RA is neither a novel idea nor a practice. Instead, it draws from and reflects long-standing Indigenous practices that have been used for generations (Carlisle, 2022). To date, RA lacks a universally agreed-upon definition, but it encompasses a wide variety of practices and principles that remain consistent (Newton et al., 2020; Wilson et al., 2023). Such practices include cover crops, minimum or no-tillage, crop rotation, rotational grazing, buffer planting, mulching, and integrated pest management (US Department of Agriculture, Natural Resources Conservation Service [USDA NRCS], 2023). Additionally, five common principles of RA are often emphasized: minimizing soil disturbance, maintaining soil cover, enhancing biodiversity, preserving living roots in the ground, and integrating livestock (Khangura et al., 2023).

Although farmers across nations are involved in RA practices, they still represent a small portion of the overall farming population, much like organic farmers, who have traditionally been the exception rather than the norm (Day & Cramer, 2022). Studies in the US have highlighted consumers' needs (Mpanga et al., 2021) and the benefits to the community (Coon et al., 2025) as key drivers of RA adoption. Internationally, Dipu et al. (2022) found that ethical shifts in both consumers and producers in Australia served as drivers to adoption, while a lack of financial and technical support was identified as a limitation. Similarly, improved Extension service delivery in Rwanda and Kenya (Ntawuhiganayo et al., 2023), experiential learning and enhanced social connections among farmers in South Africa (Moodley et al., 2024), and cultural influences in Ethiopia and Zimbabwe (Orton & Lee, 2025) were identified as factors influencing the adoption of RA. These global patterns offer a crucial lens for examining how RA is being interpreted, adapted, and implemented, thereby creating a valuable point of comparison.

The present study provides an understanding of small-scale RA in the US, offering valuable insights that can inform and enhance global agricultural systems, particularly in countries where small-scale farming predominates. Given that RA involves diverse stakeholders with varying interpretations and practices, we look at it as a social movement (Eckberg & Rosenzweig, 2020). Thus, this study examines the motivational processes and psychological needs of small-scale urban RA farmers through the lens of self-determination theory (SDT; Deci & Ryan, 2000). This study contributes to the growing conversation on farmers' well-being, sustainable behavioral change, and community-based agricultural development.

Theoretical Framework

Self-Determination Theory (SDT) frames human motivation by distinguishing between intrinsic and extrinsic drivers of behavior. It posits that individuals are motivated either by internal desires or external influences, and that this motivation is sustained through the fulfillment of three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). Intrinsic motivation arises from a sense of internal control, as seen in small-scale regenerative farmers (RA) who adopt sustainable practices to grow healthy food and serve their communities. Conversely, extrinsic motivation is shaped by how external pressures or incentives are perceived and internalized (Bopp et al., 2019).

SDT emphasizes *autonomy*, the feeling of being in control, and acting in line with personal values. For RA farmers, this can be affirmed when institutions or markets respect their knowledge and interests. When autonomy is lacking, for example, through restrictive policies, motivation may decline, which can undermine long-term engagement. *Competency* is the feeling of being practical and capable of managing ecological challenges. RA farmers who gain confidence through skill-sharing or adapting to new practices are more likely to sustain motivation. Without this sense of competence, individuals may lose confidence in their abilities (Ryan & Deci, 2000). *Relatedness*, the need to feel connected to peers, consumers, and local networks, reinforces a shared sense of purpose and commitment. RA farmers often build strong ties through Community-Supported Agriculture (CSA) programs, farmers' markets, and local food networks. In contrast, unmet relatedness needs can lead to isolation or disengagement (Ryan & Deci, 2000).

A few studies have explored farmers' motivations in agriculture and innovation adoptions using SDT across several settings. The study by Garini et al. (2017) examined the adoption of agroecological practices among winegrowers in Italy. Farmers' autonomous decision was found to influence adoption. Additionally, in two focus group settings, Abdulai et al. (2022)

interviewed twenty-four farmers in Newfoundland to understand the motivational dimensions that influence farmers' sustained operations. The study found that autonomy, competency, and relatedness needs are essential for informed farming decisions. Charatsari et al. (2017) explored farmers' interest in competence-oriented projects in another study. Farmers' participation was both internally and externally motivated, but perceived gaps in autonomy and competency needs shaped their decisions. These SDT-based studies underscore that innovation adoption is sustained when farmers' intrinsic values and psychological needs are supported.

The SDT constructs directly informed both the design of the interview questions and the thematic coding in the present study. Understanding these motivational processes provides insight into the enduring commitment of small-scale RA urban farmers to ecological stewardship, which is linked to ecological advocacy, community education, and a collective vision for food system resilience (Trout et al., 2006). This study, therefore, draws on SDT as an integrative lens to understand how institutional, social, or environmental conditions influence small-scale RA farmers' behavior within urban contexts.

Purpose and Research Questions

The purpose of this study was to elevate the voices of small-scale urban RA farmers and explore their psychological needs through the lens of SDT. The research questions were:

1. What are the characteristics of Ohio small-scale urban RA farmers?
2. What factors motivate Ohio small-scale urban farmers to adopt RA practices?
3. How do the psychological needs of Ohio small-scale urban RA farmers sustain their operations?
4. What are the underlying challenges the Ohio small-scale urban RA farmers face in fulfilling their needs?

Methods

Study site

Agriculture is Ohio's leading economic sector, contributing over \$100 billion annually (Ohio Department of Agriculture, n.d.). With 14 million acres of arable land and 76,000 farms [90% family-operated], Ohio agriculture is both robust and diverse (US Department of Agriculture National Agricultural Statistics Service [USDA NASS], 2024). Approximately 12% of farms have less than 10 acres, and 18% earn less than \$25,000 annually (USDA NASS, 2024). The number of new and beginning farmers increased from 33,883 in 2017 to 39,103 in 2022 (USDA NASS, 2024). Soil conservation efforts support Ohio's leadership in sustainable agriculture (Islam & Reeder, 2014). Organizations like the Ohio Ecological Food and Farm Association (OEFFA) promote regenerative practices and support small-scale and urban farmers who produce a diverse range of crops and raise livestock on pastures through education (Bruce & Castellano, 2016).

Sampling Procedure

This qualitative study was guided by a constructivist ontological worldview, allowing for multiple perspectives of small-scale RA farmers to be constructed through their lived experiences (Creswell & Poth, 2018). Using narrative inquiry as a methodology (Clandinin & Connelly, 2000), we explored how SDT shapes farmers' experiences in cultivating RA practices. Narrative

inquiry facilitated a deeper understanding of farmers' actions within their agroecological context (Bendfeldt et al., 2021), underscoring the role of narratives in fostering connections, promoting understanding, and influencing action.

Due to the absence of a comprehensive database for small-scale farmers in Ohio and the need for transparent participants' inclusion criteria, we defined small-scale urban farms as those cultivating <1–10 acres and implementing at least two NRCS-recognized regenerative practices (USDA, NRCS, 2023). Initial participants were purposively recruited based on familiarity with the farm, then snowball and convenience sampling followed. All methods are suitable for qualitative studies that focus on direct, lived experiences (Creswell & Creswell, 2023). Data saturation was reached after recruiting fifteen small-scale RA farmers, all of whom operated farms located within urban areas across five Ohio cities, including Columbus, Mansfield, Youngstown, Groveport, and Johnstown.

Recruitment was challenging due to limited online presence or listings. Strategies included: (1) contacting OEFFA and the BIPOC Food and Farming Network for contact details of small-scale farmers, and (2) contacting farmers directly through outreach events and email. This strategy enabled small-scale RA farmers in Ohio to participate based on their interest, eliminated selection bias, and ensured that a wide range of experiences relevant to the study's objectives were obtained. This aligns with narrative inquiry's emphasis on depth (Creswell & Poth, 2018).

Data Collection

Approval for this study was obtained from The Ohio State University Institutional Review Board before data collection. The lead author conducted semi-structured interviews with fifteen farmers, enabling reflective storytelling (Bendfeldt et al., 2021). Interviews took place between August and November 2023, either on farms, in community locations, or via Zoom, depending on the participants' availability. Each session lasted 90–120 minutes and was audio-recorded with participant consent. Noted responses were reviewed for accuracy at the end of each interview (Creswell & Poth, 2018). Farmers received a \$50 gift card for participation, with one declining to accept it. Those who allowed farm visits received an additional \$25 to gain a deeper understanding of their RA practices on-site.

Analysis

The narratives were transcribed verbatim and analyzed using MaxQDA to explore SDT themes, autonomy, competence, and relatedness (Ryan & Deci, 2000). These basic needs served as a framework for coding to examine intrinsic and extrinsic motivations. Thematic analysis guided the coding process (Braun & Clarke, 2006), with direct quotes illustrating key SDT constructs. Prolonged engagement with transcripts enhanced understanding and validity (Creswell & Poth, 2018). Findings revealed that small-scale regenerative farmers are motivated by personal values, ecological awareness, knowledge sharing, and strong community ties, highlighting their role in sustaining farming legacies and fostering relational stewardship within their local environments.

Results/Findings

The analysis of the data revealed both shared patterns and nuanced differences among the small-scale RA urban farmers, shedding light on how they interpreted their experiences guided by the SDT variables – demographic characteristics, motivations, and basic psychological needs.

Participants' demographic characteristics

Of the fifteen interviews conducted (including one farming pair), twelve participants were women, and three were men. Most identified as non-White ($n = 10$), while five identified as White. Land access was evenly split, with seven owners and seven renters of farmland. Additionally, most participants (12) farmed for personal/community purposes, while three farmers operated their farms to generate a profit (see Table 1). Additionally, approximately two-thirds had less than 10 years of farming experience, while six had more than 10 years of experience. Similarly, participants included nine part-time and six full-time farmers. A majority sold their produce at farmers' markets or donated it to pantries, with a few selling wholesale. Among the operations, participants implemented a range of RA practices, including drip irrigation, plant pollination, cover cropping, no-till or minimum-tillage farming, crop rotation, composting, mulching, and integrated pest management.

Table 1

Demographics of Small-scale Urban RA Farmers

Pseudo Names	Gender	Ethnicity	Landowner	Farm type
Lilian	F	African American	Rent	Community garden
Serena	F	African American	Own	Personal garden
Adrian	M	African American	Rent	Community garden
Denise	F	Japanese Canadian	Own	Personal garden
Rebecca	F	White	Own	Personal garden
Kathy	F	White	Own	For-profit
Patty	F	African American	Own	For profit
Darcy	F	White	Rent	For-profit
Riley & Tristan	M & M	White & White	Rent	Community garden
Tiana	F	African American	Own	Personal garden
Janelle	F	African American	Rent	Community garden
Ameenah	F	Indian Continent	Rent	Community garden
Ayanna	F	African American	Rent	Community garden
Tanisha	F	African American	Own	Personal garden

Factors that motivate the adoption of RA practices

The analysis revealed that a combination of intrinsic and extrinsic factors shaped participants' motivations for engaging in RA practices. They were presented as subthemes.

Intrinsic Motivation

Small-scale urban RA farmers in this study were intrinsically motivated to adopt RA practices due to a combination of environmental and social factors. For Darcy, RA practices were

the foundation of her farming knowledge, which was gained through several internships. With much appreciation for the complexity that RA offers, Darcy shared, “I am just passionate about developing a system that is going to be continually productive. It feels intellectually stimulating in addition to being physical as a job, but it is not just the kind of following a recipe.” Another participant, Riley, a church priest, was inspired by the potential of the unused lawn portion of the church land to address the food desert in his community. He shared, “Just working with the earth in a way that you are taking care of the earth so it can take care of you, and I think that makes it long-term viable and sustainable.”

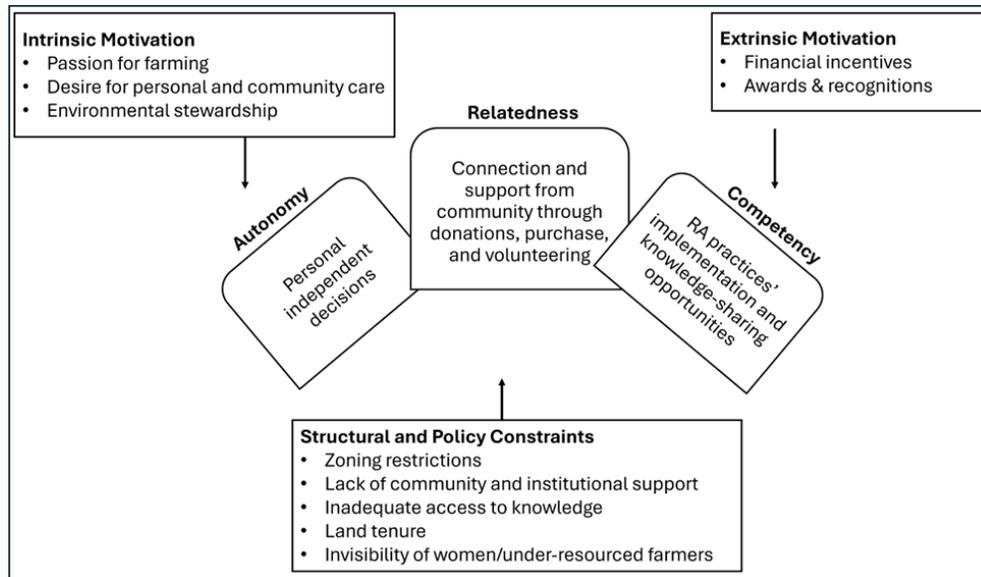
Rebecca, who owned a 2-acre plot and farmed on her home property, was socially motivated by a desire to strengthen her local communities and provide healthy, nutritious food. This motivation aligned with her values of stewardship, resilience, and self-reliance. She remarked, “RA is a valuable work that contributes in great ways to the community. Where you get your food and how it is grown make a significant difference.” Janelle, on the other hand, who started farming as a new and beginning farmer, was captivated by the “understanding that we all deserve food sovereignty.” Because she lived in a socially and economically challenged community, the right to healthy food for herself and her community inspired her. Janelle shared, “No matter your economic status, no matter where you live, no matter where you came from. You deserve to eat quality food that is nourishing to your body.”

Extrinsic Motivation

Participants acknowledged a few external influences that indirectly sustained their RA operations. Apart from various forms of grants (federal, state, local, and personal donations) that all participants obtained at some point, some participants had been publicly acknowledged for their community development efforts. For instance, Lilian shared, “The city recognized me as the 2022 Master Gardener of the Year. I think that is a city-wide kind of recognition.” Another participant, Serena, shared, “A community partnership came and got me from the garden and said, ‘We need your voice.’ Then crown me the Mahoning Food Access Director and provide me funding to serve my people the way I like to be served.”

Basic Psychological needs of small-scale urban RA farmers

The findings are organized around the three psychological constructs of SDT (autonomy, competency, and relatedness) and serve as themes shaping farmers’ experiences and motivations. A visual display summarizing themes by SDT constructs is presented in Figure 1.

Figure 1*SDT Model of Needs, Motivations, and Constraints for Sustaining Small-Scale RA Adoption****Autonomy***

This basic need reflects the ability to make independent decisions about farming. Driven by personal tragedy, especially the heartbreaking loss of her daughter to Lupus in 2006, Patty discovered that while Lupus has no cure, nutrition and self-care can significantly impact the quality and length of life. Her intentional journey as an RA farmer began in 2012 and is a testament to resilience and the healing power of food. Patty said, “I used to grow like everybody else way back as a home grower. However, when I was diagnosed with lupus, I became an organic grower. I did not have to wait after I decided to do it.” Another participant, Lilian, was awakened to the value and wisdom of traditional African farming practices during her visits to various African countries, which she noted were often rebranded in the US as “innovative regenerative practices.” She said:

At some of the community gardens, I said to them, 'No, just take the plastic jars, put holes in them, and irrigate.' Those are traditional practices. I have seen them done with clay jars. In general, I find it [RA] inexpensive.

Competency

This need was met as participants employed RA knowledge. They employed practices such as cover cropping, crop rotation, composting, and limited/no-till farming, among others, through direct experience and ongoing learning. The positive outcomes reinforced their sense of efficacy. Darcy never farmed conventionally, but she extensively prioritized her soil health through practices such as cover-crops, silage tarps, and deep composting. She said:

The primary benefits we have observed since implementing these practices are reduced soil erosion, particularly during winter and early spring. That has been huge. We have observed an improvement in water infiltration into the soil following significant rainfall

events. It is not perfect, but it has improved significantly from resembling a mock field after rain to being workable, usually within a day or two. We also observed a yield increase in some beds, accompanied by a significant amount of earthworm activity and other forms of biological activity, particularly in those beds where we used a substantial amount of rotted hay. We have observed better or more resilient plants in the face of insect and pest pressure.

Furthermore, small-scale RA farmers indicated participation in knowledge-sharing communities such as peer-to-peer mentoring, conferences, workshops, or investment in books and media sources. These ongoing learning engagements enhanced their confidence and deepened their commitment to and advocacy for RA. A participant, Tiana, gained valuable knowledge through a few accessible community-based learning opportunities. She said:

I do not have extensive agricultural knowledge, but I have taken advantage of a wide variety of classes offered through the Extension office, where I began learning about different composting processes.

Despite farming on a part-time basis, Rebecca described her commitment to continuous learning of soil health through direct experience and farm visits:

I collaborate with other farmers and learn from them, but from those who are just slightly ahead of me. For me, that has happened informally by visiting people's farms. Many of us in this organic and regenerative community are trying new things.

Relatedness

Participants often found fulfillment and encouragement through strong relationships with(in) their local communities, fellow farmers, consumers, and the natural environment, thus validating their ecological values and efforts. Ayanna, with her children, self-funded their garden space. She described a time she depended on her community to facilitate their garden needs:

Somebody vandalized our water source (stole the pipes). So, we had to have a new water line installed, and it was gonna be \$3,500. I just went on social media (Facebook) and utilized my college alum network. I said, for all of you who allegedly care so much about food security, here is your big opportunity to help. We need to have this water line fixed, and it is gonna be \$3,500. Surprisingly, I raised that \$3,500 in under a week, solely through social media.

Tristan, a farm manager in a church space, had initially thought that the community would be skeptical of the idea of a community garden in the urban neighborhood. However, different forms of community support have shown their appreciation for community food security efforts. He said:

As far as funding, the Methodist Church has been a significant donor in this regard. They gave us a \$30,000 grant and will continue to do that. Just our volunteer base, I think we have had over 200 different people come through all our volunteer days. We have had a few personal donors who have supported the building of our fence and farm tools.

In addition, at points of sale, RA farmers have received appreciation from consumers who recognize and patronize them in support of their community care work. Lilian shared:

Sometimes, I am just amazed. People leave their work to ensure they come to the market on Thursday and buy something, and they pass by Kroger Hills and a couple of other stores to get to us. However, when they come, it is a sense of dedication and responsibility, because they appreciate the food and the fact that we are doing it.

Challenges hindering basic needs attainment

Despite their passion and dedication, these small-scale RA farmers are often faced with significant challenges that hinder the fulfillment of their basic psychological needs, as outlined in SDT, due to structural and policy-related constraints. These constraints are presented as subthemes.

Structural Constraints

Limited community/local support questioned participants' sense of belonging, contributed to emotional breakdown, and threatened motivation. This challenge was reported to affect relatedness. Serena, an advocate of fairness for Black and brown small-scale farmers, recounted her ordeal in her low-income, disinvested community:

There is jealousy within my community, particularly regarding theft and vandalism. How do you build something so great in an area that's disadvantaged and needs hope, and they are the very ones that harmed me? The people I am serving are not just stealing but breaking up my raised beds. When someone has harmed you in a space where you have been safe, you will never be the same, and to push past that trauma and still grow something was difficult.

Other participants expressed a lack of community support in terms of meeting the labor demand of their operations. RA is physically demanding, especially since they often have unmechanized systems given their farm size and funding limitations. Lilian gardens on her church grounds and heavily relies on volunteer labor. She shared, "All I need is labor. That is all, I just need labor, and things will change." Additionally, Ayanna, who farmed in the community of formerly enslaved African descendants, expressed limited support given the historical and negative connotation of agriculture in the US. She shared her suspicion:

So, part of what has been revealed to me is that a lot of us who are in this community of descendants of formerly enslaved Africans are dealing with an unaddressed form of post-traumatic stress syndrome, especially, what that process did to people psychologically. It became apparent to me, and what I began to realize was that for a lot of Black people, this is triggering. This work is triggering not just in the context of actual enslavement, but in the context of sharecropping. So, I had people say to me, 'I left Alabama so I would not have to do this,' or 'I went to school so I would not have to do this.'

Furthermore, participants were constrained by a lack of knowledge or access to educational resources that could improve their operations, which is directly reported to undermine their competency. Adrian, a new beginning farmer, utilized a couple of RA practices. Since starting in 2014, he has undergone a steep learning curve. Initially, he relied on tilling and raised beds using a tiller and landscape fabric. He soon discovered that repeated tilling disrupted the soil, especially in clay-heavy conditions. He then shifted to gentler methods, such as broad forking and layering organic compost, to build healthier soil. However, composting has remained a challenge, even as he aspires to utilize other RA practices. Adrian said, "We have not done that much composting because we have not been successful yet. We are still looking to really understand what you do put in your compost pile and what you do not put in there."

Participants' self-directed decision-making regarding their production and management practices was constrained due to concerns about land tenure security. Participants expressed concerns about their insecure land tenure, which undermines their autonomy and competency. Since no land was transferred to Darcy, the financial burden of owning land for farming forced

her to farm on leased property. She described how her tenancy condition contests the long-term implementation of RA practices for her commercial operation:

My land tenure situation and ability to farm are tenuous. This property just got sold. Although the new owner plans to continue our leases in the short term, the long-term implications remain unclear. So, it is a bit of a challenge to plan, especially since I identify as a regenerative farmer, which involves incorporating perennial crops alongside annual crops and landscapes. So, it has now been a bit of a risk to do that, given that I have year-to-year leases. Something could happen where I do not get my lease next year, and then I will lose.

Policy Constraints

Some participants reported the lack of institutional support. For example, inaccessible extension services and exclusion from agricultural programs diminished participants' perception of being a part of a supportive network. These challenges were reported to affect relatedness and competency. A participant, Kathy, given her scale of operation as a 7-acre wholesale vegetable grower, expressed a desire for stronger local support for agricultural efforts in her county. She remarked that she often relied on resources from out-of-state institutions that are leaders in areas such as small farm technologies, food safety, and organic practices. "We have reached our county Extension for various things, and for whatever reason, it seems like we are not in the wheelhouse of our Extension agents, and their focus and expertise are elsewhere."

Also, due to entrenched biases and the invisibility of women farmers, some women faced gender barriers to obtaining Extension services and access to other resources. Rebecca said:

Early on, I got a call from someone, assuming that my husband was the one who was farming, even though that has never been true. It is just like somebody guesses that if there is a farm here, it is the husband who is doing it. I have also experienced a lot of mansplaining, particularly in Extension, where I have been assumed to be told how to do things, which has not been the case.

For many farmers, land-use policies such as zoning restrictions dictate how land can be used for infrastructural installation on the farm. This challenge was noted as undermining participants' autonomy and competency. Rebecca, who farms on her home property, struggles with her county land-use codes, which have limited consideration for small-scale operations and thus have impacted the expansion of her operation. She said:

When I want to build the high tunnel, which, in most people's understanding, is a temporary structure, however, the rules in Franklin County stipulate that it must be a permanent building. So that was frustrating. Although I was able to get it permitted, I am unable to build any more structures, not even a garden shed or a chicken coop. There are lots of restrictions, and that has been kind of a constant challenge, that it does not just challenge in terms of what I could do, like planning-wise, but it is just kind of this dagging-like feeling in the back of my mind that I could be doing something, and somebody can come and tell me to stop at any time.

Discussions, Conclusions, Implications, and Recommendations

Drawing on interviews with fifteen small-scale RA urban farmers in Ohio, this study aimed to contribute to the multidimensional understanding of small-scale farmers. This study

provides critical insight into the lived experiences of Ohio's small-scale RA farmers by examining their motivations, challenges, and psychological needs through the lens of SDT.

A majority were women and identified as Black and Indigenous People of Color (BIPOC). This sample supports the claims that sustainable agriculture, or RA, provides space for women and underserved populations (Sachs et al., 2016) compared to the dominant structure that limits women's participation (Trauger, 2004). Overall, the participants mirrored the general depiction of small-scale farmer populations contributing to community food security as examined in other studies (Bruce, 2019; Iles et al., 2021; Mpanga et al., 2021).

The findings revealed autonomy as a central psychological driver for small-scale urban RA farmers. Their decision to adopt RA practices often emerged from a personal commitment to environmental stewardship, food justice, cultural identity, or healing. The multiplicity of motives supports other studies (Triste et al., 2018). This finding affirms SDT's proposition that individuals are more likely to internalize and sustain behaviors when they perceive them as congruent with their personal beliefs (Deci & Ryan, 2000). While intrinsic motivation is strong, its sustainability relies on external conditions, such as land tenure, zoning policies, and funding, that support farmers' decisions (Charatsari et al., 2017; Frankel-Goldwater et al., 2024).

A significant need for competence was emphasized. Many farmers acquired RA knowledge through informal learning, direct experimentation, community workshops, and Extension services. Their commitment to lifelong learning echoes the observation by Bopp et al. (2019) that continual engagement in RA leads to a cycle where learning, practical application, and environmental enhancement reinforce one another. Nevertheless, barriers such as limited access to specialized technical support, inadequate local Extension capacity, and gendered assumptions may undermine efficiency. The findings corroborate other studies that demonstrate frustration in assessing extension services and an uneven distribution of resources, which limits the expansion of knowledge and operations among small-scale farmers (Coon et al., 2025; Curtin et al., 2024; Ntawuhiganayo et al., 2023).

Relatedness served not only as an initial motivator for RA practices but also as an ongoing support for their continuation. The experiences of small-scale RA farmers underscore the importance of community validation, peer learning, consumer recognition, and intergenerational support as key factors in shaping their farming identity and contributing to their psychological well-being. Social infrastructure, primarily through farmers' markets, CSAs, and local/federal grants and donations, functioned as a relational scaffold that nurtured resilience. These findings aligned with the recognition that social capital is a bedrock of sustainable agriculture transitions, emphasizing that Extension, communities, and consumers are important actors (Schreiber et al., 2023; Silvert et al., 2022). Nevertheless, not all participants experienced this support uniformly. Labor was also a significant concern for many participants, whose operations often relied on family and volunteers. Due to scale (smaller), production is labor-intensive (Janssen, 2018). Participants, such as Serena and Ayanna, expressed emotional strain and cultural dissonance during their community engagements. Their experiences reinforce the relational burdens carried by Black/Brown and women farmers in spaces with historic or ongoing racialized dynamics around land and food (Penniman, 2018).

This study contributes to the growing body of literature that applies SDT to understand motivation within agricultural contexts. Findings from this research both extend and challenge the conventional applications of SDT. Consistent with previous studies in sustainable farming motivation (Garini et al., 2017; Triste et al., 2018), participants emphasized the intrinsic fulfillment derived from meaningful, value-driven work. However, this study deepens SDT's

explanatory power by demonstrating that autonomy among RA farmers often manifests as collective autonomy, a shared capacity among community and support institutions to co-create sustainable systems and advocate for local food sovereignty. This interpretation challenges the individualistic framing of autonomy within SDT (Deci & Ryan, 2000), suggesting that in agricultural contexts, autonomy is often relational and community-oriented.

Also, farmers defined competency not only through technical mastery but through ecological knowledge and the ability to regenerate both the land and social relationships. This finding aligns with research on motivation in sustainable agriculture, which links competency with environmental ethics and civic purpose (Charatsari et al., 2017; Trout et al., 2006). Similarly, relatedness was extended beyond interpersonal connection to include emotional and moral relationships with the natural environment, highlighting an ecological relatedness that enriches SDT's scope in sustainability research.

Individual motivation is not sufficient; however, systemic and culturally adaptive approaches are essential to fulfilling the basic needs of RA farmers. Hence, this study has important implications for sustaining the motivation of small-scale farmers and scaling up RA adoption across international and cross-cultural contexts. To begin with, it is essential to enhance *autonomy*, which is frequently hindered by obstacles such as uncertain land ownership and restrictive agricultural regulations. To enhance autonomy across regions, international and national institutions, such as Extension professionals, Non-Governmental Organizations (NGOs), farmers' organizations, and agricultural advisory boards, should promote participatory land reforms, strengthen leasing frameworks, and include small farms in policy design processes that directly affect their livelihoods. Secondly, strengthening the skills, *competency*, of small-scale farmers is crucial, particularly because this gap becomes even wider in areas with fewer resources, such as those lacking extension services or access to education. Support and promotion should be given to cross-cultural interventions, such as specialized skill workshops, peer mentoring among farmers, and global networks or knowledge banks that combine scientific understanding with Indigenous ecological wisdom. This actionable approach can empower farmers to adapt RA practices or principles to the local context. Thirdly, it is important to support the *relatedness* needs of RA farmers by promoting connections both within their communities and globally, through farmer cooperatives, storytelling initiatives, CSAs, farmers' markets, and policies that encourage inclusivity in agriculture. This approach can reinforce social connections and recognition of small-scale RA farmers within their communities and markets.

Building on SDT, further research should examine how SDT constructs function within communal and non-Western agricultural systems, where collective rather than individual values may shape motivations. In this sense, comparative studies across the Global South can highlight shared motivations toward food sovereignty, emphasizing the role that cultural factors may hold. SDT can also inform development programs that support farmer agency, while research into transnational knowledge networks may reveal new forms of relatedness and competence that sustain RA practices globally.

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