UNDERSTANDING WOMEN'S PERSPECTIVES AND EXPERIENCE IN SUSTAINABLE AGRIFOOD SYSTEMS IN THE MID-SOUTH REGION OF THE UNITED STATES

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by

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DEDICATION

I dedicate this dissertation to the Almighty, my loving family, and all the wonderful people who have extended their unwavering support and guidance as I navigated this journey of knowledge from India to the United States. Undertaking this scholarly pursuit at a later stage in my career, amidst significant family responsibilities, was a mountain I could not have climbed alone.

To my Aradhya: Thank You for the strength, grace, and wisdom that sustained me through every step of this journey.

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To my beloved children: You are my greatest blessings and my deepest motivation. You are my legacy and my heart! This is for you to show that no mountain is too high to climb. May my journey inspire you to believe that with spirit and determination, there are no limits to what you can achieve, at any age.

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ABSTRACT

Women's participation in farming in the United States is increasing, with a notable concentration in the Mid-South region (Southern MO, eastern OK, northern AR, western TN, and KY). This region, marked by persistent economic challenges, exhibits low adoption rates of sustainable practices like USDA-certified organic farming. This presents a conundrum, as scholarship suggests women farmers often favor sustainable methods due to family and community nutrition motivations. Women characteristically manage smaller landholdings, rely on lower-input methods, and utilize direct-to-consumer markets. Despite this inclination, they face significant barriers, including limited access to resources, information, and extension services, along with challenges in gaining full acceptance of their farmer identities. This study investigates this paradox within an understudied and demographically deprived region. It explores the gendered perspectives of women farmers in the Mid-South's sustainable agrifood systems (SAFS) to identify factors constraining or enabling their empowerment. The three central questions are: a) How do women farmers perceive their relationships with various institutions, in managing resources for farming activities and business in the Midsouth region? b) What are their motivations, benefits, and constraints for participating in SAFS at various institutional levels? c) How do women farmers perceive their contributions within SAFS in this region?

This exploratory case study uses constructivist ontology and interpretivist epistemology, emphasizing that reality is socially constructed and knowledge is gained by understanding the subjective, lived experiences of participants. For the case-study, semi-structured interviews were conducted with 22 women farmers engaged in sustainable vegetable, crop, and livestock enterprises from across the region. Women participants were recruited using snowball sampling, with initial contacts gained from USDA's National Organic Integrity database. Other initial contacts came from other certification schemes, such as Certified Naturally Grown. While sustainable agriculture was initially defined as having USDA Organic certification, this is a flawed proxy for indicating adoption of sustainable agriculture as snowball sampling revealed. In addition, it is likely that all the study participants identify as White; because demographic questions regarding race or income were not asked, nor was there specific outreach to Black or other underserved communities. The exclusion of non-White farmers was likely intensified by snowball sampling and is a limitation of the case study. Data were analyzed using a hybrid inductive-deductive thematic approach, guided by an analytical framework, 'Gender Relation Framework for Women Farmers in Sustainable AgriFood Systems (GRFWF-SAFS)', a synthesized framework integrating Kabeer's Social Research Approach (SRA) and Feminist Agrifood Systems Theory (FAST).

The research findings suggest that adoption of sustainable agriculture in the Mid-South region and the rise in female farmers in the region is likely unrelated. Such a finding may reflect initial sampling as several pull and push factors influence how women orient themselves to adopting sustainable agricultural practices, including choosing not to certify. Moreover, it was difficult to target women farmers using

sustainable practices such as cover cropping, where lack of data is an issue. Women in the sample who have been farming for more than a decade indicated they now see more women farmers in sustainable agriculture, potentially because of women obtaining relevant education and experiences, motivating them to pursue sustainable agriculture as a profession.

Findings also suggest that women farmers in the Mid-South are dynamic agents of change, actively architecting a more resilient, community-focused, and ecologically sound agricultural paradigm. Their motivations are deeply rooted in a commitment to health, stewardship, and collaboration, and their innovative, relational business strategies respond to consumer demand for local food systems. Despite a collective vision for transforming food systems, their potential is systematically constrained by legacy systems. Key barriers identified include patriarchal landownership structures that create precarious access to land; inflexible economic and institutional frameworks that fail to support their unique business models; and pervasive socio-cultural norms that impose a "double shift" of farm and domestic labor while simultaneously questioning their credibility as farmers.

The central conclusion of the study is that achieving a sustainable food system is inseparable from achieving genuine gender equity. Systemic barriers inhibiting women farmers weaken the entire agricultural landscape. Therefore, supporting women farmers through targeted policy reform, redesigned support services, and a cultural shift that recognizes their contributions is not merely an issue of social justice but a pragmatic prerequisite for building a healthy and sustainable food future. Notably, education and digital technology have played a crucial role in enabling women to navigate

informational barriers and enhance market diversification. . Recommendations, based on the learning from women farmers' experiences, include involving women in policy decisions, focusing on targeted education and land access, and developing the institutional standing of women's organizations. Theoretically, this study proposes adding a new principle to Sachs et. al.'s (2016) Feminist Agrifood System Theory (FAST), "Defining Achievements by the women farmers in sustainable agrifood systems," which is derived from the integration of Kabeer's (1999) Social Relations Approach into FAST. Methodologically, it contributes the Gendered Sustainable Agriculture Pathways (GSAP) Model for identifying opportunities for enhancing the situation of women farmers by strengthening the "gender relations" to the resources.

CHAPTER 1: INTRODUCTION

The primary aim of this research study is to investigate the opportunities and barriers of increasing participation of women in farming and agribusiness in the United States. This surge in female participation is not only indicative of shifting gender roles within the agriculture sector but also highlights the vital contributions women make towards enhancing sustainability within agricultural systems. Women farmers play a pivotal role in bringing structural transformation within Sustainable AgriFood Systems (SAFs). The long-term viability and effectiveness of women farmers' agricultural and allied entrepreneurial ventures are fundamentally contingent upon their capacity to efficiently acquire and utilize essential operational and non-operational resources. In alignment with the principles of SAFs, this research underscores the necessity of integrating gender equity into agricultural policies and practices. As SAFs evolve into complex, multi-stakeholder systems, we must examine women farmers' ability to navigate these changes and secure resources. Consequently, a systematic investigation of the resource requirements and acquisition patterns of women farmers becomes imperative, alongside a thorough analysis of their relational dynamics with key stakeholders and institutional frameworks that mediate resource accessibility.

This study specifically examines women farmers engaged in sustainable agricultural practices, including organic and organic-adjacent farming. The scope includes producers both with and without formal designated certifications, such as USDA Organic or Certified Naturally Grown etc. Further the study is situated in the Mid-South region for this study which is delineated (southern MO, eastern OK, northern AR, and western TN and KY) for three key reasons, a) low adoption rate of USDA organic certification among

the farmers b) lesser economic development in the region , and c) a consistent rise in the participation of women in farming based on USDA data. This provides an interesting paradox observed in this region - the coexistence of two potentially opposing opposite situations: 1) Consistent rise in number of women farmers in the region at the same time, lower adoption rates of sustainable agriculture in the region (as defined by organic certification rates). 2) This presents a paradox precisely because the literature suggests that women farmers are attracted to sustainable agriculture, as supported by several scholarships (Trauger, 2007; Sach et. Al, 2016).

The study utilizes a qualitative research approach, exploratory case study. A synthesized theoretical framework was developed for the analysis the Gender Relation Framework for Women Farmers (GRFWF), which could be adopted in other agricultural scenarios. This framework is derived from two complementary theoretical paradigms: Kabeer's (1999) Social Research Approach (SRA) and the Feminist Agrifood Systems Theory (FAST) established by Sachs and colleagues (Sachs et al., 2016). This study grounds its analysis in the Social Relations Approach (SRA) (March et al., 1999), interpreted through Naila Kabeer's perspective on the empowerment process (Resource → Agency → Achievement). Because Kabeer locates 'gender relations' within four distinct institutional spheres—household, community, market, and state—this analysis employs SRA primarily as a conceptual framework rather than a rigid assessment tool as used in international agricultural development projects. This allows for a deeper analysis of the institutional interactions women navigate to secure resources. Complementing this is the Feminist Agrifood Systems Theory (FAST), which centers on agency in sustainable agrifood systems. FAST emphasized on the Agency – increasing gender equality, asserting

identity, shaping new agrifood system, gaining greater access to resources, negotiating roles in agricultural organizations, forming women centered farming organizations. of women farmers in sustainable agrifood systems. FAST offers methodological guidelines for comprehending structural transformations through empirical evidence derived from women farmers' experiences, particularly as documented in the U.S. Northeast. In the context of the Mid-South region, this study operationalizes FAST to examine how women farmers catalyze transformational processes within each identified institutional level, while simultaneously identifying institutional barriers that constrain their agency and resource access.

This study utilizes a hybrid inductive-deductive thematic analysis (Fereday & Muir-Cochrane, 2006). This sophisticated approach integrates the deductive use of prior theories—which ensures structural consistency and relevance—with inductive open coding, which captures the nuance and novelty of participant realities. The thematic analysis is supported by the quantification of themes. This quantification is grounded in deep immersion in the data, allowing for systematic analysis without losing the essence of the participants' shared experiences. As Sandelowski (2001) notes, such judicious quantification showcases the rigor of qualitative work and bridges the gap between anecdotal evidence and systematic findings.

The findings will enrich the discourse on sociological-systemic perspectives on gender relations in sustainable agrifood systems. This investigation not only seeks to illuminate the transformative role of women farmers but also aspires to contribute to the discourse on sustainable development by advocating for a more inclusive and equitable agricultural landscape. The enabling and constraining factors derived from the study may

have policy implications. The conceptual framework for the analysis can be used in other business operations where women are involved.

1.1: Context of the Study

Participation of the Women Farmers in the United States

Women primary producers in U.S. agriculture show greater racial and ethnic diversity and excel in running smaller, diversified operations that boost local economies and job growth, laying off fewer workers during crises. (Schmidt, 2021; Dentzman and Pilgeram, 2020; Sarah, 2015; Matsa & Miller, 2014).

Statistical data shows that in the USA women producers form a significant labor force in agriculture, either as hired labor or managing their farming operations. As per USDA data, the percentage of women in the hired farm workforce increased from 18.6 percent to 25.5 percent from 2009 to 2018 (Castillo, 2021)[1]. In 2017, 29.13 percent of principal farm operators were women, which rose from 13.66 percent in 2012. In 2022, 36 percent of the country's 3.4 million producers were female; 58 percent of farms had a female producer- 41 percent of U.S. agriculture sales came from farms with female producers, on 46 percent of U.S. farmland.

According to the 2019 Agricultural Resource Management Survey (ARMS), women participated in 51 percent of all farming operations as either principal or secondary operators. As principal operators, women served as the primary decision-makers, responsible for daily management on 14 percent of U.S. farms. These female-led operations contributed over 4 percent to the total value of national agricultural production. On 37 percent of farms, women acted as secondary operators, participating in decision-making

[1] https://ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=100649

without holding primary responsibility. Notably, in operations with at least one female operator, 78 percent of the women were spouses of the principal operator. (Whitt, Todd, and MacDonald, 2020).

Commodity-Wise Distribution of Operations by Women Farmers

As shown in Figure 1, female leadership in operation varies significantly by commodity specialization.

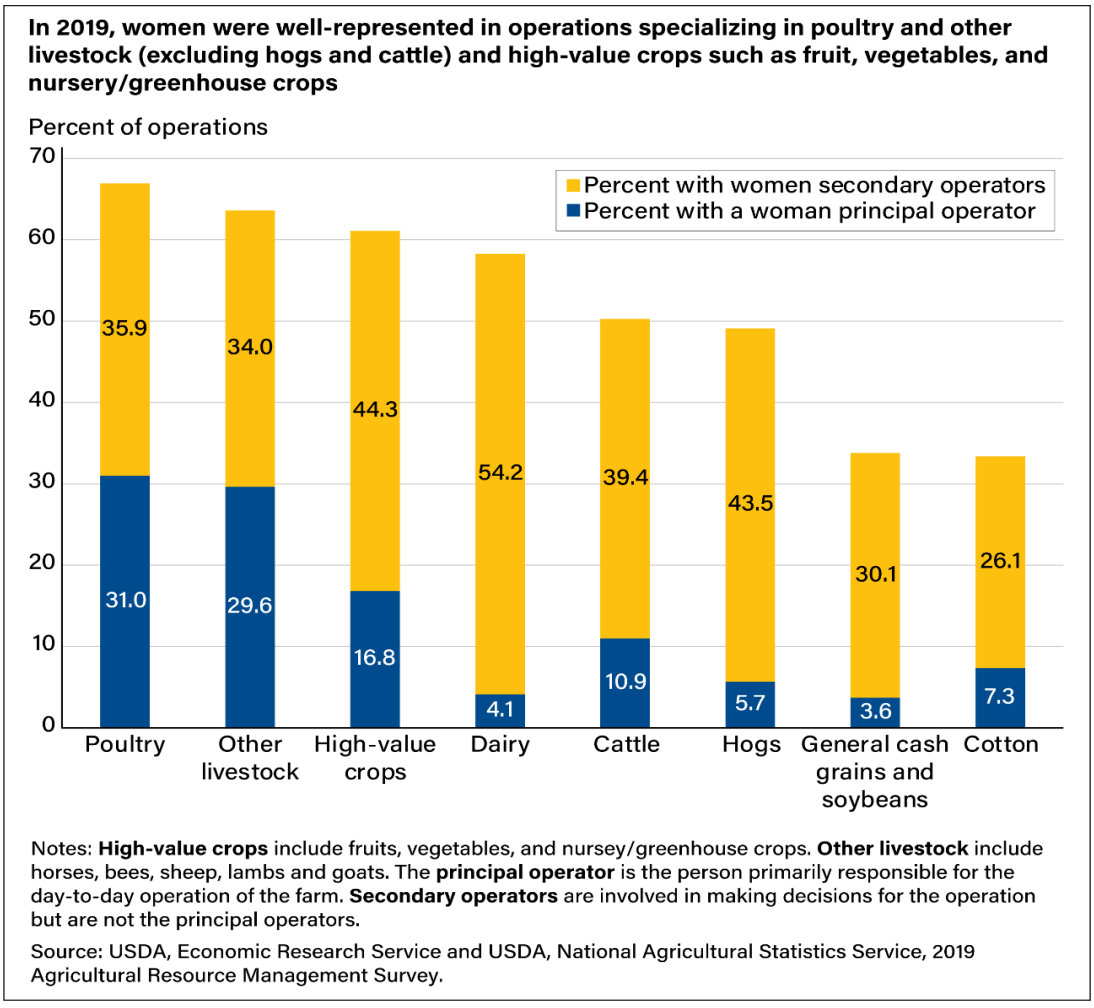

Figure 1:Percentage of Women Operators and Produce Typology

Women were most frequently found as principal operators in the poultry (31 percent) and “other livestock" (29.6 percent) followed by “high-value crops”. Conversely,

dairy operations had the highest prevalence of women as secondary operators (54 percent). Cotton farming demonstrated the lowest overall female participation, with only 33 percent of farms involving women in any capacity. (Whitt, Todd, and MacDonald, 2020). Thus data relates women farmers are in in 'small operations.

Beginning producers are more likely to be female than producers overall. As 41 percent of beginning producers are female compared to 36 percent of all U.S. producers (USDA, 2017). Farms with a beginning producer are less likely to specialize in oilseed and grain production (12percent) compared to all U.S. farms (16percent), and more likely to specialize in specialty crops (12percent compared to 9percent nationally). Women-led operations focus on poultry, equines, small livestock, bees, and specialty crops, with women making up 26percent of farm operators in 2019, up from 19percent in 2009 (USDA-NASS, 2019). In tandem with the rise of women farmers, organic farming has also experienced significant growth in recent years in the U.S., driven by a growing demand by consumers for organic products. As per USDA's data on organic practices, certified cropland acres increased by 73 percent between 2011 and 2019; pastureland and rangeland increased by 22 percent; and the number of certified operations increased by more than 80 percent. The USDA data on sales of organic produce shows the highest percentage of increase in fruits and vegetables sales.

Women in Agriculture in the United States

There have been two strands of scholarship around women in agriculture in the U.S. One set of studies concentrated on challenges such as disparities in income, discrimination in access to resources, and the underappreciated value of women's contributions, while another set has explored how despite of all the barriers women farmers in SAFs are

embracing their caregiver roles and expanding it in the field of farming by reorienting their roles and skills for alternative agriculture. Due to the patriarchal nature of the agriculture sector, the agrifood system presents barriers to women based on race and gender (Pilgeram, Dentzman & Lewin, 2022; Layman & Civita, 2022). "'Women farmers' identities are rarely accepted unquestionably" (Leslie et. al., 2019); they are always questioned, their practices are usually doubted, and they experience sexual harassment (Shisler & Sbicca, 2019). Female farmers have not had properly focused policies to support them to access agricultural resources (Shisler & Sbicca, 2019; Daigle and Heiss, 2022). Women farmers continue lack of resources—particularly land, there is also gender imbalance in farm inheritance, succession, and transfer as evident in one of the studies in the context of Iowa (Liu, Maule, and Zhang, 2023). Further women farmers experience lack of financial support from government programs (Sachs et al.,2016), as well as lack of information and extension services that affect their ability to farm and discuss their farming related issues and gain needed information (Kristjanson et al., 2017; Assan et al., 2018).

Women in SAFs have evolved in various roles and prepared themselves to handle various responsibilities, from being producers and processors to entrepreneurs and leaders. SAFs are considered a pathway to the revival of women farmers as well as small farmers (Trauger, 2004, Barbercheck et al.,2014). SAF also serves as an inspiration for beginning women farmers (Watkins & Mincey, 2014), shifting their identity from "farmwives" to "farmers" themselves, primarily in sustainable agriculture (Sachs et al.,2016, Brasier et al.,2014, Trauger et al.,2008). Their agricultural practices include taking fewer risks (Cunningham et al., 2008), depending more on direct marketing channels (Ahearn et al., 2018), going to farmers' markets, and participating in community-supported agriculture

(Delind & Ferguson, 1999, Trauger et al., 2010), and introducing value-added techniques (Ashrita et al., 2022) in response to community demands.

Women Farmers Defining Sustainable AgriFood Systems in the US

Women are leading a significant change in the country's agricultural landscape and its food systems. Specifically, women are more likely to cultivate various crops, prioritize food over commodity crops, prefer sustainable farming methods, and work smaller plots of land. In addition to having less access to the labor and finance required to launch their businesses, women typically have less land to work with. As a result, more women are looking for opportunities in organic and sustainable farming, which allows them to use less equipment and cultivate on smaller plots of land. They are enterprising and create a niche in the food system through value additions. They follow diversification and their agricultural production plan is primarily focused on the local demand enhancing the local food system (Trauger 2007; Sachs et al, 2016; Njuki et al.,2022). In addition, women are assembling farms in ways that depart from conventional farming methods. Their activities are more varied and frequently involve educational elements. As also suggested in several studies the overall potential of women farmers lies in the asset that they bring to the food system through their heterogeneous approaches such as community education, promoting nutritious and local food, etc., which could strengthen agriculture and create opportunities for women farmers “outside of a masculine paradigm” (Shisler and Sbicca, 2019). Adoption of sustainable agriculture is influenced by a phenomenon of accepting and reorienting gendered roles, allowing them to carve out a niche for themselves.

Women farmers are more likely to be younger, beginning farmers, with a preference to live on the farm they operate. They have operations that are generally smaller

than those operated by men, and are considered socially disadvantaged farmers who utilize lower amounts of inputs and other resources (Delong et al.,2023; Trauger, 2004, Barbercheck et al.,2014; Greenwood, 2015). They depend on local markets and orient production to local demands (Obach, 2015). More commonly female-owned farms are in areas closer to urban markets, that allow them to engage in agritourism activity and offer greater access to childcare (Schmidt, 2021).

As suggested by Wright and Annes, gendered oriented agricultural attributes provide a unique context for women's empowerment. To support this argument, in one of the case studies of women landowners (Fairchild, E., Petrzelka, 2022), women reoriented land tenure theory to gain access to land resources, through varying landowners and renters' relationships and challenged gendered expectations placed on women in land tenure systems. In another study with the help of social networks, women transformed their role from "place makers" to "changemakers" (Carter, 2017). Other scholarship suggested that men and women in organic farming are optimistic about their sharing, acknowledging each other's contribution, and space in agriculture (Sumner, 2004) and household domestic activities (Sumner and Llewelyn, 2011). These approaches suggest that women are able to position themselves within SAFS to some extent by reorienting their farming attributes and adapting to the situations.

Selection of Mid-South Region for the Study

The initial reason to study Mid-South region was the low adoption of USDA organic certification (Veldstra et al., 2014). However, the Mid-South region presents compelling and critically distinct environmental, economic, and demographic factors as well. Environmentally, the region is characterized by significant physiographic challenges,

including thin soil, a subhumid climate, and reduced water-holding capacity, which create considerable agricultural hurdles (Vories & Steve, 2014). Economically, the Mid-South remains one of the nation's more impoverished regions, adding a layer of socioeconomic complexity to the lives of its residents (Federal Network on Disparity in the Mid-South, n.d.). This demographic reality is juxtaposed with a significant gap in academic literature; the area is not only under-researched in the context of sustainable agrifood systems but is almost entirely unexamined from a gender perspective.

1.2: Why a Gender Relation Perspectives?

Gender is socially constructed characteristics of women and men such as norms, roles, etc. A gender relation lens is used because it is evident that historically women have been a socially disadvantaged group and even presently experience the brunt of it in all the spheres of economic activities including the agriculture sector.

Extensive literature highlights that women have historically been marginalized across social, economic, and political domains. Structurally, men have long possessed greater access to power, resources, and cultural authority, while women's opportunities in education, employment, and public life were restricted (Huis et al., 2017). Institutional barriers have reinforced women's underrepresentation in executive and political roles, where women are often relegated to "second choice" positions despite demonstrated competence (Raudeliuniene et al., 2014). Economically, women have been confined to low-income, low-productivity, and less risky sectors. Women-owned enterprises often demonstrate lower survival rates and reduced profitability compared to male-owned businesses, due to systemic barriers to markets, capital, and high-value industries such as manufacturing and knowledge-based sectors (Fuad et al., 2022). Even within microfinance

contexts, while women are frequently targeted for empowerment interventions, their historical exclusion from formal credit and economic structures remains evident (Huis et al., 2017). Cultural and political norms have also restricted women's agency. Patriarchal structures embedded in family, community, and governance systems limited women's decision-making capacities, resulting in what Kandiyoti (1988) described as "patriarchal bargains" — negotiated survival strategies within male-dominated frameworks (Leder, 2017). Despite formal equality legislation, politics and public life remain predominantly male spheres, as evidenced in the United Kingdom, where empowerment initiatives often focus outward on development efforts abroad rather than addressing persistent internal inequalities (Hibbs, 2022). Moreover, violence, harassment, and discrimination have functioned as mechanisms of exclusion. In Indonesia, thousands of cases of workplace discrimination, sexual harassment, and domestic violence against women are reported annually, reinforcing socio-economic vulnerability and restricting participation in public life (Widiastuti et al., 2024). Finally, critiques of gender and development frameworks reveal that empowerment efforts have frequently placed responsibility on women's individual agency rather than transforming structural inequalities. Scholars argue that the "power" was removed from empowerment once radical feminist aims were diluted into technical and depoliticized development targets (MacArthur et al., 2022). This has contributed to the persistence of inequality, with indices such as the Gender Inequality Index and Social Institutions and Gender Index continuing to demonstrate women's relative disadvantage globally (Widiastuti et al., 2024).

1.3: Understanding the Gender Relation Concept

'Gender relation' is primarily comprehended as contested power relations between males and females (Leckie, 1993), which shapes the navigation processes and coping mechanism by the women farmers. Gender relations are a complex phenomenon to understand, involving various intersecting factors , including biological and societal. The differences between women's and men's skills, attitudes, desires, personality traits, behavior patterns, and other attributes, all contribute to the complexity of gender relations. In the context, of this study, empowerment factors are those that enable women farmers in SAFs to farm efficiently and effectively and achieve the desired outputs. The achievements include both economic and social benefits. such as satisfaction, identity, financial stability, autonomy to make decisions, etc. Therefore, the quality of information shared by the respondents varies, and must be interpretated based on their personal beliefs, sociocultural norms, and economic and political situations.

Women empowerment, as defined by Kabeer (1999) is a process of acquiring the ability to make strategic choices. She further suggested that the ability to exercise choices incorporates three interrelated dimensions: 'resources' that women can access and claim in the future, 'agency' is the processes of decision-making, and 'achievements' are well-being, and desired outcomes. This explains the connections between women farmers in SAFs whose efforts are mostly navigating through the processes to get the resources for their farming. And their achievements are much beyond the economic gain. Further, (Huis, Hansen, Otten, and Lensink, 2017) suggested the Three-Dimensional Model (TDM) of women's empowerment, which includes, (i) the micro-level dimension, which refers to individuals' personal beliefs and actions - personalized empowerment which are

internalized by the individuals, this resonates with the achievements that Kabeer suggested (ii) the meso-level dimension, referring to beliefs as well as actions which are relevant to others where relational empowerment can be observed. This resonates with the 'Social Relational Approach' by Kabeer which was laid for gender analysis and (iii) the macro-level dimension, referring to outcomes in the broader, societal context where societal empowerment can be observed. This study is intended to capture the transformation that women farmers are bringing in farming communities, particularly in the Mid-South region.

The International Food Policy Research Institute (IFPRI) formulated the Women's Empowerment in Agriculture Index (WEAI)[2] (Malapit, 2012) measurement tool, based on five domains specific to the agriculture sector, i.e. resources, production, income, leadership, and time, to measure women's empowerment in their internationally implemented programs. This study does not measure the outcome of any program but adopts these five domains for data collection. Therefore, overall factors that describes women empowerment in the context of SAFs in the Mid-South regions, and the conceptual framework for the data analysis consolidate on all these layers of information, such as access to resources for their farming business, their interactions with various formal and information institutions/actors situated at different hierarchy or are cohort levels, women interpretation of achievements and so on.

Acker (1990) introduces the concept of gendered organizations, emphasizing how organizational hierarchies and practices are inherently gendered. This idea is extended in her later work, where she argues that institutions themselves are gendered rather than merely reflecting gender roles (Acker, 1992). Similarly, West and Zimmerman (1987)

[2] https://www.ifpri.org/project/weai/

conceptualize *doing gender* as a routine accomplishment, reinforcing inequality in everyday interactions.

Connell (1987) broadens this analysis by theorizing gender as a system of power relations embedded within society, while Ridgeway (2011) demonstrates how gender frames persistently structure inequality even in modern contexts. Lorber (1994) further complicates the understanding of gender, describing its paradoxes and the social construction that normalizes hierarchy.

Scholarships reflecting understanding of gender relations perspectives suggested by the emerging discourses and actions as mentioned can be summarized as follows: In some cases fear of being labeled feminists prevented women farmers from challenging cultural norms, which reinforced gender discrimination, (Hochschild, 1989; Duncan & Schueths, 2023). I Despite having more decision-making power in the post-feminization era, women farmers were often unhappy because they lacked the confidence to make crucial financial decisions and other farming decisions (DeLind and Ferguson, 1999; Duncan & Schueths, 2023; Archuleta et al., 2017). This may be due to the influence of deep-rooted intrinsic social construction. However there are groups of women farmers who typically do not identify as feminists but are still challenging conventional beliefs about farming hierarchy and who advocate for sustainable agriculture, speak for women farmers, and advocate for their needs in farming (Leslie et al. 2019; Sachs et al. 2016). Female farmers have been growing are accepting their gendered roles as "caregivers," and reorienting these roles by integrating it with their agricultural activities/business – creating a gendered agricultural performance and becoming ‘changemakers (Carter 2017; Leslie et. al., 2019; Shisler, Sbicca, 2019).

1.4: Conceptualizing Gender Relationships Perspectives

The scholarly understanding of gender has evolved significantly, shifting from a focus on individual characteristics to a recognition of gender as a relational, institutional, and structural phenomenon. This paradigm shift, drawn from interdisciplinary scholarship in sociology, political science, and development studies, underscores the profound implications for both theoretical inquiry and practical interventions aimed at promoting equity. The study of gender, institutions, and power relations highlights a bidirectional relationship: institutional structures both shapes gendered experiences and are simultaneously constituted through gendered practices and social relations.

This scholarship conceptualizes gender as a structural phenomenon, grounded in an understanding of institutions as the formal and informal "rules of the game" that structure society (North, 1990). Foundational theories posit that these institutional rules are inherently gendered (Acker, 1990), a premise central to feminist institutionalism (Mackay et al., 2010) and further nuanced by intersectional analyses (Crenshaw, 1989) and critical development studies (Moser, 1993; Kabeer, 1999). To operationalize this theoretical understanding, this study adopts Naila Kabeer's Social Relations Approach (SRA) as its primary analytical framework. The SRA is uniquely suited to this research as it facilitates a structural analysis of gender relations across four key institutional domains—the household, community, market, and state (March et al., 1999)—thereby providing a robust methodology for investigating the challenges and sustainability of women farmers within the agricultural sector (Farnworth and Hutchings, 2017; Agarwal, 2011).

1.5: Theoretical Frameworks for Analyzing Gender in Agriculture

To understand these complex dynamics, scholars have developed specific theoretical frameworks. This research draws upon two key theories: the Sachs and team's (2026) Feminist Agrifood Systems Theory (FAST) and Kabeer's (1999) the Social Relations Approach (SRA).

Feminist Agrifood Systems Theory (FAST)

Developed in the U.S. context, FAST emerged from a decade-long study of women farmers in Pennsylvania. This framework explains the challenges women face and how they navigate them by creating new, more sustainable farming models. It prioritizes equality and social justice and focuses on key themes such as asserting a farmer identity, creating gender equality, innovating access to resources, shaping new food systems, and forming collaborative networks. FAST is particularly concerned with the rise of women farmers and their role in promoting just and sustainable food systems.

Social Relations Approach (SRA)

Pioneered by Naila Kabeer, the SRA provides a broader framework for understanding how gender is socially constructed through a web of relationships and institutions. It analyzes gender relations across four key institutional arenas: the state, the market, the community, and the household. This approach moves beyond focusing on individual attributes to probe the structural relationships that create and reproduce systemic disparities. While the SRA has been widely adopted in development programs in low-income countries, this research will apply it for the first time in the context of a developed nation like the United States.

These frameworks are complementary. The SRA offers a macro-level institutional analysis, while FAST provides a more focused, meso-level lens on how gender relations manifest specifically within the U.S. agrifood system.

1.6: Potential Research Gaps

The primary research gap is defined by a critical contradiction. National data and literature establish a strong, positive correlation between the increasing number of women farmers and the growth of sustainable agriculture; women are often key drivers of and are disproportionately drawn to these practices. However, the Mid-South presents a direct challenge to this narrative. While the region has a high and consistently increasing number of women farmers, it is simultaneously considered an organic "cold spot," with anomalously low adoption rates for certified organic and other sustainable farming systems. This unexplored paradox—the coexistence of high female farmer participation and low sustainable agriculture adoption—is the central puzzle this research seeks to investigate.

Further, current research on women in sustainable agriculture is heavily concentrated in regions where organic and alternative farming are well-established, such as the U.S. Northeast and upper Midwest. The Mid-South—encompassing states like Missouri, Oklahoma, Tennessee, Arkansas, and Kentucky—remains a demonstrably under-researched area despite its growing population of female farm operators.

While both the Social Relations Approach (SRA) and Feminist Agri-Food Systems Theory (FAST) provide robust frameworks, there is a significant gap in scholarly literature that applies them in tandem to analyze the experiences of women farmers specifically within the context of the United States. The SRA was developed

primarily for international development contexts, and FAST, is more US-centric. Much of the literature on women in agriculture tends to focus on the household level e.g., division of labor, farm succession or the state level e.g., USDA policy, extension services. A significant gap exists in the detailed, empirical examination of the community and market institutions. SRA framework allows us to directly address this gap by systematically investigating how gendered norms and power relations manifest in local communities e.g., social networks, local farming culture and market structures e.g., access to credit, relationships with suppliers and buyers.

While this review mentions intersectionality as a key theoretical lens, a gap exists in applying it deeply within the SRA and FAST frameworks. Much of the agricultural research may acknowledge race or class, but it often fails to systematically analyze how these intersecting identities fundamentally shape women's interactions with the institutions of the agri-food system. This gap could be filled by not just identifying the challenges of women farmers, but by exploring how the experiences of women farmers are differentiated by race, class, geographic location, and farm scale.

A substantial portion of the literature focuses on how institutions constrain women farmers. Overall, it is a less explored area, and thus a potential gap is the agency of women farmers in actively challenging, reshaping, and creating alternative institutions. Therefore, this research could contribute by moving beyond a narrative of constraint to agency. How do women farmers collectively organize to change market rules? How do they build new community networks of support and knowledge exchange? How do they navigate and transform gendered norms within their own households? By focusing on these questions,

this research can fill a crucial gap by highlighting women not just as subjects of institutional forces, but as agents of institutional change.

1.7: Significance of the Study

While frameworks like the Feminist Agrifood Systems Theory (FAST) have been developed and applied in the Northeast and Midwest, their applicability to a challenging context like the Mid-South has not been tested. Furthermore, there is a broader need for research that examines the holistic gendered impact of sustainable agrifood systems across various institutional levels—including the community, market, and state—and the resulting social and economic consequences for women farmers.

My research fills a gap by demonstrating the analytical power of integrating the two frameworks SRA and FAST, to provide a more holistic understanding of gendered power relations in American agriculture. By applying this framework to a new and challenging geographical context, the research will assess its generalizability and potentially refine its core tenets. The findings will contribute to a more nuanced, geographically aware, and context-sensitive theory of how gender relations shape agrifood systems across the diverse landscapes of the United States.

Understanding how women farmers in the Mid-South navigate significant agro-ecological and economic challenges is of immense practical importance. The findings can inform the development of more effective and targeted policies, extension services, and support networks that are tailored to the specific needs of women producers in economically and environmentally challenging regions.

This research gives voice to a significant yet overlooked demographic. By focusing on women farmers in the Mid-South, the study will generate novel, empirically grounded

knowledge about their experiences, strategies, and perspectives, thereby filling a major void in the academic literature and ensuring their contributions and challenges are recognized.

1.8: Statement of Problem

There is a critical gap in understanding of how women farmers navigate significant structural barriers in sustainable agrifood systems, when the potential of sustainable agriculture is limited by regional realities. Therefore, this study was necessary to investigate the complex interplay between gender, agency, and structural constraints within the unique context of the Mid-South region.

1.9: Purpose of the Study

The purpose of this research was to explore the gender relation perspectives of women farmers participating in sustainable agrifood systems in the Mid-South region and identify factors that either constrain or enable gender (in)equality and economic empowerment for women farmers. My research questions are:

- ✓ How do women farmers perceive their relationships with various institutions, in managing resources for their farming activities and farming business in Mid-South region?
- ✓ What are their motivations, benefits, and constraints experienced in SAFS at various institutional levels?
- ✓ How do women farmers perceive their contributions within Sustainable AgriFood Systems (SAFS) in the Mid-south region of the U.S.?

CHAPTER 2: A REVIEW OF LITERATURE

2.1: Introduction

This chapter undertakes a critical and comprehensive review of the scholarly literature concerning the evolving role, status, and experiences of women within the sustainable agrifood system (SAFS) of the United States. The central purpose is to construct a robust theoretical and empirical foundation upon which the present research is built. The overarching argument advanced throughout this review is that while the participation of women in U.S. agriculture is undergoing a period of unprecedented growth—a demographic transformation of significant proportions—their engagement is profoundly mediated by persistent, historically entrenched structural inequalities and a complex matrix of gender relations. These relations operate across multiple scales, from the intimate dynamics of the farm household to the impersonal logic of state and market institutions. Consequently, the narrative of women in agriculture is a nuanced account of agency exercised within deeply structured and often constraining social, economic, and cultural landscapes.

To navigate this complexity, the chapter follows a deductive structure, progressing systematically from a broad examination of the national demographic context to a focused analysis of specific theoretical frameworks, and culminating in the identification of a critical, under-examined, and paradoxical research problem situated in the U.S. Mid-South region. The review begins by establishing the empirical predicate for this study: the statistical and demographic ascendancy of women as farm producers and operators in the United States. It then delves into the well-documented nexus between women farmers and

the principles and practices of sustainable agriculture, exploring the distinct motivations, values, and operational characteristics that define this relationship. Subsequently, the analysis shifts to a systematic examination of the enduring structural barriers—related to access to land, capital, information, and social legitimacy—that continue to shape and constrain the agricultural endeavors of women.

2.2: Demographic Transition of Women Farmers in U.S. Agriculture

Statistical Foundation and Demographic Profile

Statistical data shows that in the USA women producers form the significant labor force either as hired labor or managing their farming operations. Claudia Schmidt, professor of marketing and local food system at Penn State University, stated that even though the USDA has changed the method of counting the farm operators, allowing for up to four principal operators per farm, has inflated the number of female operators somewhat, but female participation in agriculture has been all the time increasing, the number of farms operated by women has increased over the past two decades (psu.edu, 2021). As per the USDA data, the percentage of women in the hired farm workforce increased from 18.6 percent to 25.5 percent from 2009 to 2018. In 2017, 29.13 percent of farm Principal operators were women, which rose from 13.66 percent in 2012. In 2022, 36 percent of the country's 3.4 million producers were female; 58 percent of farms had a female producer; 41 percent of U.S. agriculture sales came from farms with female producers which formed 46 percent of U.S. farmland. In tandem with the rise of women farmers, organic farming has also experienced significant growth in recent years in the U.S., driven by a growing demand by consumers for organic products. As per USDA’s data on organic practices, certified cropland acres increased by 73 percent between 2011 and 2019; pastureland and

rangeland increased by 22 percent; and the number of certified operations increased by more than 80 percent.

It is found that the share of female producers has increased in every agricultural census conducted since 2002, a period during which the number of male producers has seen a decline. [3] This sustained growth pattern of the women farmers suggests a fundamental and durable restructuring of the agricultural workforce. The demographic profile of these women producers further indicates their importance to the future of the sector. On average, female producers are slightly younger than their male counterparts and are significantly more likely to be classified as "beginning farmers". [4] This demographic characteristic is critical, as it positions women as a vital source of new energy, innovation, and continuity in an industry grappling with an aging operator population. [5]

The rise of women farmers was experienced as a national phenomenon; however, spread was geographically uneven. Census data 2022, illustrated the highest concentrations of female producers were found not in the traditional heartland of commodity agriculture but in the states of the West and the Northeast. Arizona and Alaska lead the nation in the proportional share of female producers, with women constituting 48percent of all producers in each state. Other states with high representation include New Hampshire (45 percent), Oregon (44 percent), and several others in the Northeast and West. In terms of absolute numbers, Texas has more female producers than

[3] https://www.farm-equipment.com/articles/23898-analysis-of-usda-data-shows-female-farmers-growing-role-in-agriculture
[4] https://www.nass.usda.gov/Publications/Highlights/2024/Census22_HL_FemaleProducers.pdf
[5] https://farmonaut.com/usa/us-agriculture-at-a-crossroads-challenges-and-outlook-for-american-farmings-future

any other state. Conversely, the lowest proportions are found in the Midwest, the northern Plains, and the Mississippi Delta region. This geographic variance is a crucial analytical point, as it suggests that the opportunities and conditions for women in agriculture are place-specific and mediated by regional economic, cultural, and agro-ecological contexts. This regional differentiation provides an important backdrop for the later focus on the Mid-South, a region that exhibits its own distinct pattern of participation.

Farm Typology and Economic Disparity

A rough analysis of farm typology and economic outcomes reveals that a rising demographic number of women in agriculture (Pilgeram et al.,2020) has not translated into appropriate economic power or parity with male-operated farms. A significant body of evidence indicates that women's entry into agriculture is occurring primarily within specific, and often more economically precarious, segments of the farming sector.

Women are disproportionately represented as the principal operators of smaller farms, measured both in terms of acreage and sales revenue (Fremstad and Paul, 2016). Data from the USDA's Agricultural Resource Management Survey (ARMS) shows that farms operated solely by women are far more likely to be classified as retirement, off-farm occupation, or low-sales farms when compared to farms operated by men or jointly by men and women (Todd et. al, 2024). This structural positioning at the lower end of the economic scale has profound implications for farm viability and income of women farmers.

A substantial and persistent gender gap in farm income remains one of the most significant challenges. After controlling for a range of variables including farm assets,

operator work time, age, experience, farm type, and geographic location, research finds that farms led by women still generate nearly 40percent less income than those led by men (Fremstad and Paul, 2016). Another analysis starkly quantifies this disparity, finding that for every $1.00 in profit generated by a women-run farm, a male-run farm makes approximately $2.50 when assets such as landholdings and machinery are included.[6] This is not merely a wage gap but a comprehensive wealth and viability gap, reflecting systemic inequities in access to the resources necessary for profitable farming.

Thus, narrative of women in U.S. agriculture suggests two-fold realities. On one hand, there is a trend of increasing participation, with women now representing a major and growing force in the agriculture sector. On the other hand, this entry is channeled into structurally disadvantaged positions, characterized by smaller operations and significantly lower economic returns. This demographic reality points toward a sector that is, in some respects, becoming more inclusive, however, women's entry into the agricultural sector is under a specific and constrained set of conditions. Thus, rise of women farmers does not directs mere celebration, but scholarly inquiry need investigation of the underlying structural forces that produce this divergence in the outcome. The central question becomes not just that more women are farming, but why their farming experiences and outcomes differ so profoundly from those of their male counterparts.

Furthermore, the data in *Table 1* demonstrates a significant trend for the period of 2017-2022. While the number of farms operated by women increased by a modest 4.66percent, their corresponding agricultural sales surged by 50percent. This considerable

[6] https://farmland.org/blog/inequities-persist-among-american-women-farmers-research-finds

gap implies a strategic concentration on specialty crops and value-added agricultural goods, which typically yield higher economic returns.

Table 1: Statistical Information on Female Producers' Participation

Parameters	Value (2017)	Value (2022)	Percentage change from 2017
Total number of Female Producers	12272	1224 726	-0.2percent
Percentage of all Farms with Female Producers	55.8percent	58.4percent	4.66percent
Total Agricultural Sales from these Farms	$148 billion	$222 billion	50percent
Total farmland Managed by these Farms	388 million acres	407 million acres	4.90percent
Source: Author generated from census data 2017 and 2022			

Additionally, organic farming in the United States has experienced significant growth in recent years, driven by a growing demand by consumers for organic products. As per USDA, NASS 2011, and 2019, certified cropland acres increased by 73 percent; pastureland and rangeland increased by 22 percent; certified operations increased by more than 80 percent.

As Figure 2 shows, in comparison to other crops, the growth in retail sales of USDA-certified organic fruits and vegetables is the largest. Fruit and vegetable production is a potential area of growth for female farmers, who are primarily employed in small-scale farming enterprises. Therefore, there is potential market for women farmers. It is essential to explore how they navigate through this

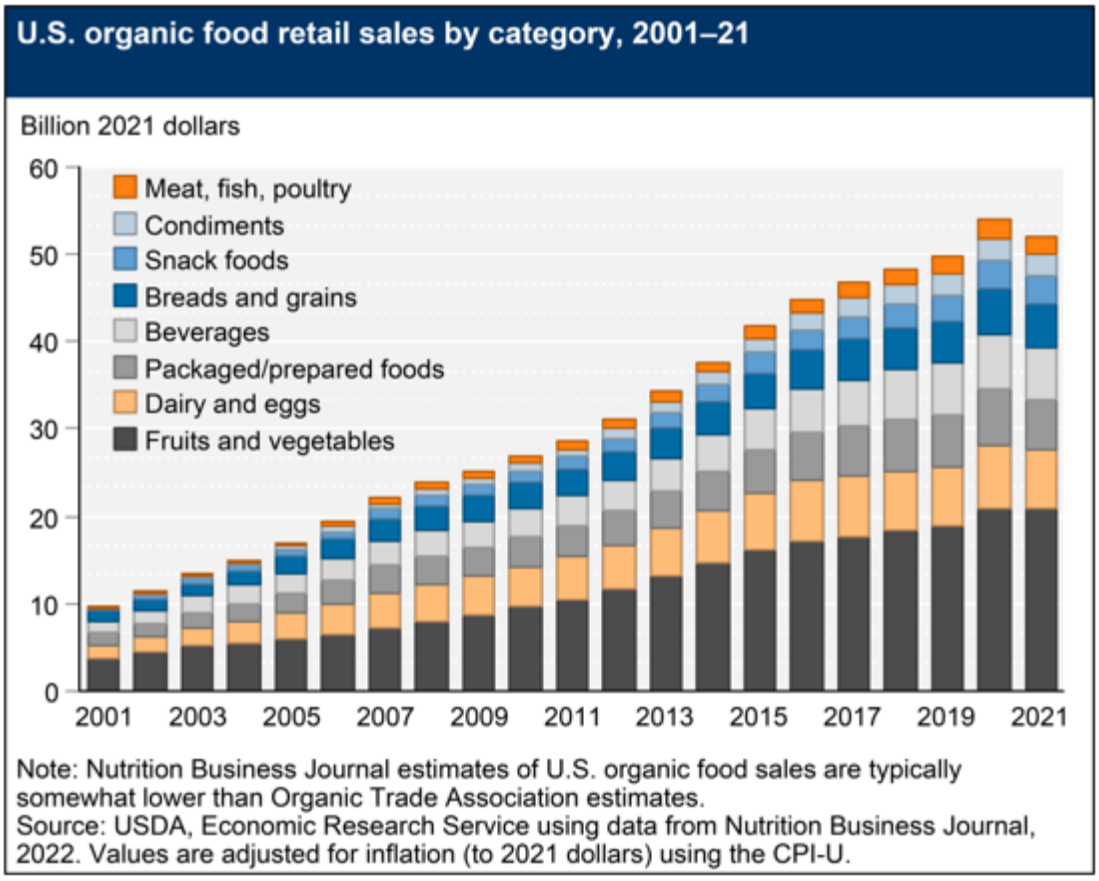

Figure 2: U.S. Organic Food Retail Sales by Commodity

2.3: The Nexus of Gender and Sustainable Agriculture

The growing presence of women in U.S. agriculture is indistinguishably linked to the concurrent expansion of the sustainable agriculture movement. A substantial body of literature documents a strong and consistent affinity between women farmers and the principles, practices, and values that define sustainable and alternative agrifood systems. This section explores the nature of this nexus, moving the analysis from the demographic question of who is farming to the sociological questions of how and why they farm. The evidence suggests that women are not only participating in sustainable agriculture at high rates but are also actively shaping its trajectory, pervading it with a distinct set of motivations and beliefs. However, a deeper analysis illuminates that this affinity towards

sustainable agriculture is not a simple matter of preference initially, but is better understood as a constrained choice, a complex negotiation between personal values and the structural realities of a gendered agricultural landscape and domestic family responsibilities.

Value-Driven Motivation and Ethic of Care

A recurring theme in scholarly literature is that women's entry into sustainable agriculture is often propelled by a set of values that stand in contrast to the profitability tenet i.e. focus on maximizing yield and profit above all else, that has long dominated conventional farming. These set of values are frequently rooted in an "ethic of care" that extends to family, community, and the environment (Trauger, 2004). Research consistently finds that women farmers articulate their goals in terms that transcend pure economics, defining a "successful" farm as one that provides healthy, nutritious, and chemical-free food for their own families and contributes to the well-being of their local communities (Trauger, 2004).

This orientation is often traced to women's historical and traditional roles within the farm household, where they were typically responsible for kitchen gardens, poultry, and small livestock—activities geared toward household subsistence and local exchange. These spheres of activity historically relied on more natural, integrated, and less capital-intensive farming methods. As women have moved into the role of principal operator, they have often scaled up and professionalized this pre-existing knowledge base and value system. This is reflected in their emphasis on conservation, environmental stewardship, and a holistic approach that integrates the ecological, social, and economic dimensions of sustainability (Trauger, 2004). This values-driven approach positions

women not just as producers of food, but as key agents in the construction of more just and resilient local food systems (Sachs et al., 2016).

Manifestations in Farming Practices and Business Models

This distinct values orientation directly manifests in the characteristic features of women-led sustainable farms. The literature provides a clear profile of these operations, which tend to differ significantly from the large-scale, specialized models of conventional agriculture. Women farmers are more likely to operate smaller, more highly diversified farms that produce a wide range of crops and livestock. This diversification is both an expression of an agroecological approach and a pragmatic risk management strategy for smaller operations.

Furthermore, women have been identified as innovators and key players in the development of alternative marketing channels and new farm-based business opportunities. They are more adept at managing businesses that sell directly to consumers, utilizing outlets such as farmers' markets, farm stands, and, notably, Community Supported Agriculture (CSA) programs (Fremstad and Paul, 2016). The CSA model, in which consumers buy "shares" in a farm's harvest in advance, particularly aligns with the community-oriented and risk-sharing principles often espoused by women farmers (Fremstad and Paul, 2016). Beyond direct marketing, women are also more likely to engage in value-added production, such as creating processed goods like jams or cheeses, or developing agritourism ventures. These activities serve to increase the profitability of smaller landholdings and build deeper connections between the farm and the community. Through these practices, women are not just participating in the economy; they are actively contributing to the growth of local food systems and

strengthening local economies. the potential of women farmers as innovators in agricultural practices, creators of new farm-based business opportunities such as value-added production, organic products, or direct marketing operations that add profit to small or medium-sized farms (Barbercheck et al., 2009; Brasier et al., 2009), their contribution to civic agriculture providing a benefit to the communities (Trauger et al., 2009).

Sustainable Agriculture: Demonstrating Potential of Empowerment

The strong presence of women in sustainable agriculture is not solely a result of their own choices and values; it is also a reflection of the nature of the movement itself. The sustainable agriculture community is frequently described in the literature as a more welcoming and accessible sphere for women compared to the deeply patriarchal culture of conventional agriculture (Trauger, 2004). Scholars have argued that sustainable agriculture is perceived as potentially less gendered and more inclusive ((Hall & Mogyyorody, 2007; Ball, 2020), offering a space where women's contributions and ways of knowing are more readily valued.

The seminal work of Trauger (2004) conceptualizes sustainable agriculture as providing "spaces of empowerment for women farmers" (Trauger, 2004). In these spaces, women can transgress the traditional, rigid gender identities of the family farm, which historically defined men as "farmers" and women as "farmwives", where their labor and decision-making seemed invisible. By operating within the sustainable agriculture movement, women are better able to assert their identity as farmers, gain respect for their skills, and build supportive networks with peers who share their values and challenges (Sachs et. al, 2016).

Reconciling Agency and Structure

While the narrative of a values-driven attraction to a more welcoming space is compelling for women farmers, a more critical sociological analysis suggests a more complex dynamic is at play. The affinity between women and sustainable agriculture is to be understood not as a simple, tangential preference, but as a "constrained choice"(Peoples, 2006; Doss, 2015). This framework acknowledges the genuine agency and values-based decisions of women farmers while simultaneously embedding those decisions within the structural realities of a gendered agricultural system. In this view, women are at once pulled toward sustainable agriculture by its alignment with their values and ethics and pushed out of conventional agriculture by its formidable patriarchal structures and high barriers to entry.

The pull factors are evident in the literature already discussed- the alignment of sustainable principles with an ethic of care, community orientation, and environmental stewardship represents a powerful draw for many women entering the field. This is the ‘agency’ component of their ‘choice’. However, these choices cannot be separated from the structural constraints they face. As will be detailed in the following section, conventional, capital-intensive agriculture presents immense obstacles for women, particularly regarding access to the vast amounts of land and capital required to compete in commodity markets (Trauger, 2009).

Crucial scholarship provides the link between these two forces, positing that women's strong involvement in alternative and sustainable agriculture may be a direct consequence of their exclusion from the resources needed for larger, more profitable conventional operations (Trauger, 2009). Sustainable agriculture, often characterized by

smaller scales, lower initial capital requirements, and an emphasis on knowledge and labor over expensive technology, becomes a more accessible and economically viable pathway for those who are systematically denied access to the resources of the conventional system. Therefore, framing this phenomenon as a "constrained choice" offers a more sophisticated and sociologically robust explanation. It avoids the trap of “essentialism”, the idea that women are "naturally" more caring or suited to sustainable farming and instead points to a complex process of negotiation and “relational agriculture” (Duncan, 2023). Women actively and creatively carve out spaces for themselves in the agricultural sector through sustainable agriculture, but the spaces they are most able to access, and shape are those that lie outside the most heavily capitalized and male-dominated centers of power (Sachs et al., 2016). Their choices are real and meaningful, but they are made on a terrain that is not of their own making.

Sustainable and organic agriculture frequently serves as an entry point for women, particularly first-generation farmers (Delong et al., 2023). This attraction is often tied to a belief in the core principles of sustainable agriculture, allowing women to redefine their roles and build transformative agricultural communities (Trauger, 2004). Women-led farms are characterized by smaller holdings, low-input methods, and a focus on local markets and demands (Obach, 2015). This alignment suggests that organic and sustainable farming is not just a production method but a pathway for empowering women and reviving small-scale agriculture (Barbercheck et al., 2014).

2.4: Systemic Barriers and Institutional Challenges

Despite the growing number of women entering agriculture and their pivotal role in the sustainable food movement, the U.S. agrifood system remains characterized by enduring structures of inequality. These are deeply embedded, interlocking system of disadvantage that systematically impedes gender equity. Women consistently struggle with access to land, financial capital, and government support programs (Sachs et al., 2016). This section analyses these institutional and structural barriers, around the access to the foundational resources required for successful farming: land, capital, and information. It further examines the pervasive cultural and social norms that challenge women's very identity and legitimacy as farmers. Understanding these barriers is crucial, as they constitute the structural context within which women's "constrained choices" are made and their enterprising agricultural goals are situated.

Access to Land a Foundational Barrier

Secure and long-term access to land is the essential requirement of a viable farming operation, yet it remains one of the most significant and persistent hurdles for women in agriculture. The primary mechanism for farm transfer in the United States and other countries has historically been, and largely remains, patrilinear inheritance, a system in which farm ownership and operational control are passed down from father to son (Trauger, 2004, Sachs, 2016; Ball, 2019). This deeply ingrained cultural and economic practice systematically disadvantages daughters, who are far less likely to inherit the family farm, even when they have been actively involved in its operation.[7]

[7] https://www.nycfoodpolicy.org/women-farmers-sustainable-agriculture-center-interviews-carolyn-e-sachs-mary-barbercheck-kathryn-braiser-nancy-ellen-kiernan-anna-rachel-terman/

Consequently, women aspiring to become farmers must often pursue alternative, and more precarious, pathways to land access. Three possibilities for obtaining land have been covered in studies: marriage, inheritance, saving and purchasing. Small farmers rely on rented farms until they reach their long-term goals of saving and purchasing. Research has been done on female landowners and how they manage their farms responsibly (Carter, 2017, 2019). While land acquired through marriage may have varying effects on gender dynamics at different levels of institutions, inheritance is a rare situation. Constraint to gender farmland access and acquisition of land through patriarchal inheritance, women farmers get marginalized in availing government support and benefits (Azumah et al., 2023). Each of these places women in a more vulnerable tenure position than their male counterparts who inherit land. This lack of direct, unencumbered landownership has causing negative consequences. It directly marginalizes women from a wide array of government support programs, conservation incentives, and other benefits that are tied to land title, creating a foundational level of institutional exclusion.[8] Without secure tenure, long-term investment in soil health and farm infrastructure becomes a risky proposition, further limiting the growth potential of their enterprises.

Access to Capital and Credit, Financial Constraints

The barriers to land access are compounded by severe constraints on access to financial capital and credit. Farming, even on a small scale, is a capital-intensive endeavor, and the inability to secure adequate financing is a primary driver of the economic disparities observed between male- and female-operated farms. A significant

[8] https://www.landesa.org/securing-womens-land-rights-challenges-and-solutions/

body of evidence, including reports from government oversight bodies, indicates that women farmers, along with other socially disadvantaged farmers and ranchers (SDFRs), face systemic discrimination when attempting to obtain agricultural loans from both private commercial lenders and the USDA's own lending agencies (Miller and Griffin, 2019; Shulman, 2024).[9]

This discrimination is often intertwined with the structural disadvantages women already face. Lacking clear title to land deprives them of the primary form of collateral required for agricultural loans (Roberts, 2021)[10]. Furthermore, because they are more likely to operate smaller, lower-revenue farms and may have weaker credit histories, they are often perceived by lenders as higher-risk applicants, creating a vicious cycle of disadvantages. (Miller and Griffin, 2019). The data on government support starkly illustrates this institutional bias. One analysis found that only 21percent of farms operated by SDFRs (a category in which women are the vast majority) received government payments, compared to 36percent of non-SDFR-operated farms (Miller and Griffin, 2019). This disparity in access to the financial resources of agriculture directly curtails the ability of women-led farms to invest, expand, and weather the inherent risks of farming, thereby reinforcing their position at the economic margins of the sector.

Institutional Exclusion: Access to Information and Extension Services

Beyond land and capital, access to knowledge, technical assistance, and professional networks is a critical component of farm success. Yet here too, the historical structure of agricultural support institutions has systematically underserved and excluded

[9] https://farmland.org/blog/inequities-persist-among-american-women-farmers-research-finds
[10] https://www.landesa.org/securing-womens-land-rights-challenges-and-solutions/

women. The Cooperative Extension System, based at the nation's land-grant universities, has been the primary vehicle for disseminating agricultural research and information for over a century. However, its programming and culture have been profoundly shaped by what Trauger et al. (2008) describe as "long-held social conceptions of women as farmwives or 'bookkeepers' rather than as farmers or decision-makers"

This institutional mindset has resulted in a historical gender segregation of programming, with production-focused, "serious" agricultural training directed at men, while programs for women were relegated to home economics, nutrition, and other aspects of their domestic labor. Women farmers report having their practices doubted and experiencing sexual harassment, indicating that their agency and authority are persistently challenged (Shisler & Sbicca, 2019).

While this segregation is less explicit today, its legacy persists in the culture of many agricultural institutions. Extension agents, who are predominantly male, may still direct their attention and information primarily to the male partner in a farming operation, even when the woman is a co-equal or primary decision-maker. Research has shown that this information is not always effectively transmitted within the household, leaving women without access to crucial knowledge on topics ranging from new production techniques and marketing strategies to adaptive practices for mitigating the impacts of climate change. This information deficit represents a significant, institutionally created barrier to the productivity, profitability, and resilience of women-led farms.

The Shifting Identity and Acknowledged Roles of Women Farmers

A primary theme in the literature is the ongoing struggle for, and gradual attainment of, recognition for women as primary farm operators. Historically, women's

roles were relegated to that of "farmwives" or helpers, but a profound shift is occurring where women increasingly self-identify as farmers (Sachs et al., 2016). Despite this, their identities are often still questioned and not accepted unconditionally (Leslie et al., 2019). Research acknowledges that women's roles are incredibly diverse, spanning from producers and entrepreneurs to processors, and that they bring distinct advantages to local food systems. They are often more diverse racially and ethnically than their male counterparts and excel at managing smaller, diversified businesses that strengthen local economies (Dentzman & Pilgeram, 2020; Schmidth et al., 2021).

The Centrality of Gender Relations for Sustainability

The synthesis of these ideas points to the concept of "gender relations" as the critical factor determining the sustainability of women farmers. This concept moves beyond a simple male-female comparison to examine the web of interactions within households, farming communities, markets, and institutions. How successfully women can navigate these institutional levels determines their access to resources, their decision-making power, and their overall well-being (Kabeer, 1999; Farnworth & Hutchings, 2017). The sustainability of women farmers is therefore dependent on achieving gender equality, which requires acceptance, respect, and trust within these relational contexts.

Concludingly, while there is a growing body of literature on women farmers, most studies are qualitative and focus on specific regions like the Northeast and Midwest. There remains a significant need to understand the nuanced experiences of women farmers through the lens of gender relations in understudied areas, such as the Mid-South region, to fully grasp the changing structure of the American agrifood system.

2.5 Core Analytical Frameworks

Naila Kabeer's Social Relations Approach (SRA)

The Social Relations Approach (SRA), developed by Naila Kabeer, offers a framework for analyzing how structural relationships create and reproduce systemic inequalities between social groups (Kabeer, 1994). Rather than focusing on individual attributes, SRA examines gender as a relation of power that operates through institutional mechanisms.

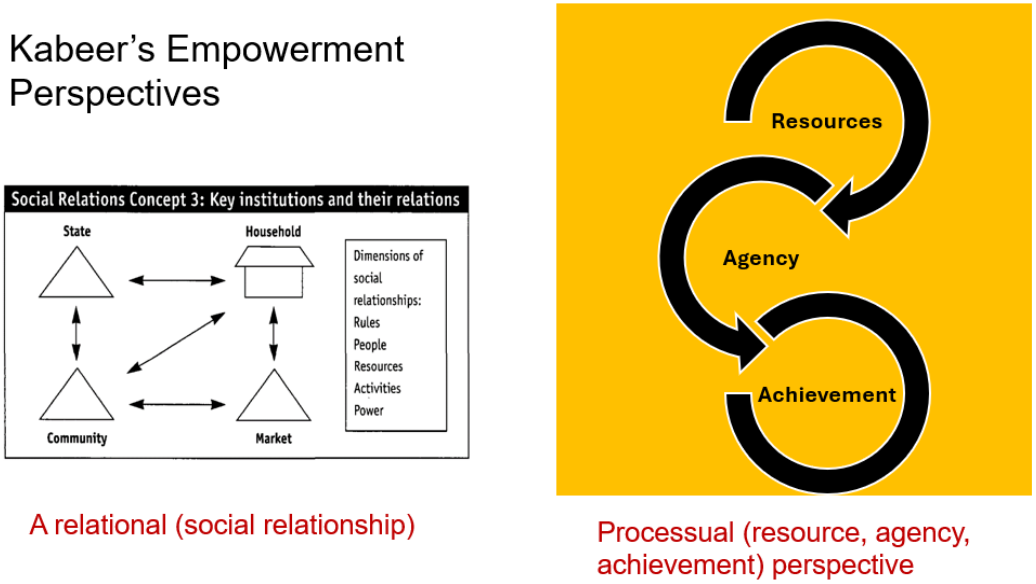

Figure 3: Kabeer's Empowerment Perspective and Social Relation Approach

The framework's primary utility lies in its analysis of gender relations across four key institutional levels: the household, community, market, and the state (March et al., 1999). This multi-level analysis provides a comprehensive lens for understanding how social structures either perpetuate or challenge gender-based disadvantages. At its core, the SRA aims to inform policies that promote women's empowerment, which Kabeer defines through the interconnected components of resources, agency, and achievements (Kabeer, 1999).

Feminist Agrifood Systems Theory (FAST)

The Feminist Agrifood Systems Theory (FAST) emerged from a longitudinal Grounded Theory study of the Pennsylvania Women in Agriculture Network (PA-WAgN) conducted by researchers including Carolyn Sachs, Mary Barbercheck, and others (Sachs et. al, 2016). The framework explains the challenges women face in agriculture and documents how they navigate these obstacles to create new, sustainable models for farming. FAST is guided by six key principles that describe how women farmers are reshaping the agrifood system:

The framework's main contribution is its focus on how the perspective of women farmers expands beyond production to include family life, spirituality, and community concern, thereby reshaping sustainable agriculture.

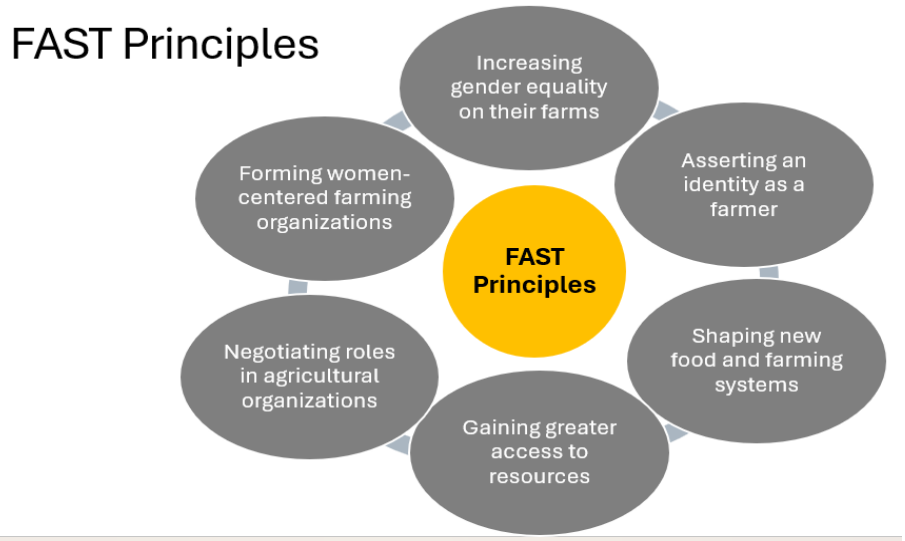

Figure 4: Feminist Agrifood Systems Theory

Expanding the Lens: Related Feminist Agricultural Concepts

Building on the foundation of FAST, other theoretical concepts offer more specific lenses for understanding gender relations in agriculture.

Southern Rural Feminism: Coined by Duncan & Sleuth (2023), Southern Rural Feminism describes the unique experiences of women farmers in the Southern United States. Based on interviews with twelve women, the study found that while participants often accept traditional gendered societal structures—frequently framing their lives through their Christian faith—they also recognize the value of women's contributions to agriculture. Despite encountering gendered discrimination, most of these women do not identify as "feminists" or perceive systemic gender bias. This concept highlights the nuanced way culture and regional identity intersect with gender dynamics.

Relational Agriculture: Proposed by Leslie et. al. (2019), Relational Agriculture uses feminist and queer theory to make the gender and sexual relationships ingrained in family farming visible. It argues that these relationships are not natural but are social constructs that can disadvantage women and queer farmers and hinder sustainability. To counter this, the framework calls for reorienting gendered performances and making structural changes that attend to the intersections of gender, sexuality, race, and class. A key component of this is challenging hegemonic masculinity—the idea that traditional concepts of manliness create barriers for male farmers attempting to adopt more cooperative and diverse sustainable practices.

Feminist Agroecology: outlined by scholars like Anderson et al. (2021, 2025), explicitly links the goals of gender justice with the principles of ecological sustainability and food sovereignty. It criticizes industrial agriculture for its dual exploitation of nature

and social labor and advocates for a transformation that centers women's knowledge and ensures their control over resources. This is enriched by a feminist economics lens that insists on recognizing and valuing the "care economy"—the often-invisible labor of food preparation, childcare, and community health essential for well-being (Galiè, 2022).

Mechanisms of Agency: Communication and Networks: A recurring theme across the literature is the critical role of networks in helping women farmers oppose patriarchal structures and gain agency.

Women landowners in Iowa, through the Women, Food and Agriculture Network (WFAN), gained mentorship and support that enabled them to act as "changemakers" in promoting conservation (Carter, 2017). In Kentucky, Ohio, and Indiana, women who felt excluded from traditional agricultural circles found vital resources through connections with other farmers (Sachs, 1983). A study of women farmers in Northern Colorado found that while they faced marginalization, they created space for themselves not by adopting masculine traits but by embracing feminine ideals like cooperation and care. This allowed them to redefine the farmer role and create agricultural niches centered on community, education, and environmental stewardship (Shisler & Sbicca, 2019). These examples show how women actively reorient their gendered roles, transforming perceived constraints into sources of strength and innovation.

2.6 Synthesizing Gender Relations in Sustainable Agriculture

From the literature, four key phenomena emerge regarding how women navigate gender relations in sustainable agriculture:

1. Women often avoid challenging cultural norms due to a fear of being labeled "feminist," even when facing discrimination (Duncan & Schueths, 2023).

2. Ingrained social structures can cause women to lack confidence in financial decision-making, even when they have formal authority (Archuleta et. al., 2017).
3. Many women do not identify as feminists but actively resist patriarchal farming structures through their actions and innovations (Sachs et. al., 2016; Leslie et. al., 2019).
4. Women frequently accept and reorient traditionally gendered roles, such as "caregiver," expanding them to encompass stewardship of the land, community education, and the creation of nutritious food systems (Carter, 2019; Shisler & Sbicca, 2019).

The fourth phenomenon, accepting and reorienting gendered roles, appears to be a primary strategy women use to carve out a niche for themselves, turning value-added attributes like "care" into a unique context for empowerment and transforming their roles from "place makers" to "changemakers."

2.7 The Hybrid Inductive-Deductive Thematic Analysis in Qualitative Inquiry

In designing this study, I sought a method that could balance scientific rigor with interpretive depth. The literature suggests that comprehensive qualitative analysis is rarely purely inductive or deductive; rather, it thrives on the tension between the two, as shown in *Table 2*.

Table 2: Theoretical Position of Inductive Deductive Processes in Qualitative Analysis

Research Stage	Activity	Logical Process
Mapping	Review literature and research questions. Select theoretical framework	Deductive
Creating analytical framework	Conceptualization of analytical framework	Inductive
Template Creation	Develop the A Priori Codebook. Define codes, descriptions, and criteria.	Deductive

Pilot Testing	Apply codebook to a sample. Test for inter-rater reliability and clarity.	Deductive
Immersion	Read full transcripts to understand the "gestalt" of the data.	Inductive
Hybrid Analysis	Apply deductive codes while simultaneously performing Open Coding for new patterns.	Hybrid
Refinement	Update codebook. Create new themes. Merge/split deductive codes based on data.	Hybrid
Interpretation	Synthesize findings. Discuss how inductive themes align/challenge deductive theory.	Hybrid
Source: Author (Adapted from Fereday & Muir-Cochrane, 2006; Proudfoot, 2022)		

Therefore, I adopted a Hybrid Inductive-Deductive Thematic Analysis (Fereday & Muir-Cochrane, 2006). This approach allowed me to dismantle the traditional binary between rigid theory and exploratory freedom. Specifically, I utilized deductive analysis to create a scaffold based on prior theories and defined objectives. This ensured the research remained relevant and cumulative. Simultaneously, I employed inductive analysis through open coding, which allowed for the discovery of new knowledge and ensured the findings remained authentic to the participants' realities.

I found this hybrid structure essential for my own subjectivity as a researcher. The deductive component provided a theoretical boundary, a base from which I felt safe to operate. While the inductive component gave me the confidence to expand beyond that base and generate novel insights. As Proudfoot (2022) notes, this method is not a compromise but a "unified analytical engine". This methodological synergy ensures comprehensiveness by balancing the context of justification with the context of discovery. The deductive aspect provides a structured map that ensures the study addresses its specific research questions and connects to existing knowledge, while the inductive aspect ensures the analysis remains sensitive to the "first-order constructs" of participants, allowing for the emergence of nuanced or unexpected findings that a rigid theoretical frame might miss. (Fereday & Muir-Cochrane, 2006). By combining these

approaches, researchers can test the applicability of prior theories while simultaneously allowing the data to refine, expand, or challenge those theories based on empirical reality.

Implementation of the Analysis following the protocols of Thematic Analysis defined by Braun and Clarke (2006). Thematic analysis, the most common kind of analysis, comprises the following fundamental steps: transcription of the interview material, coding, categorization of the codes into various themes, and elucidation of the relationships and patterns among these themes (Braun and Clarke, 2006).Over the past 20 years, the value of employing a qualitative research strategy has become clear, and academics have been attempting to strengthen the methodology's structure and scientific acceptability through thorough data analysis.

The scholarships based on which thematic analysis approach for the research is developed are: The six-step approach of Systematic Thematic Analysis (Naeem et. al., 2023); A Five-Phase Process of Qualitative Data Analysis (Bingham, 2023); Inductive/Deductive Hybrid Thematic Analysis (Proudfoot, 2022), A Hybrid Approach to Thematic Analysis in Qualitative Research (Swain, 2018).

The six-step approach of Systematic Thematic Analysis (Naeem et. al., 2023)

Naeem et. al six steps, as shown in the figure below, provides structured method of coding, and clarity in the later steps of conceptualization and development of conceptual model.

Figure 5: Thematic Analysis (Naeem et. al., 2023)

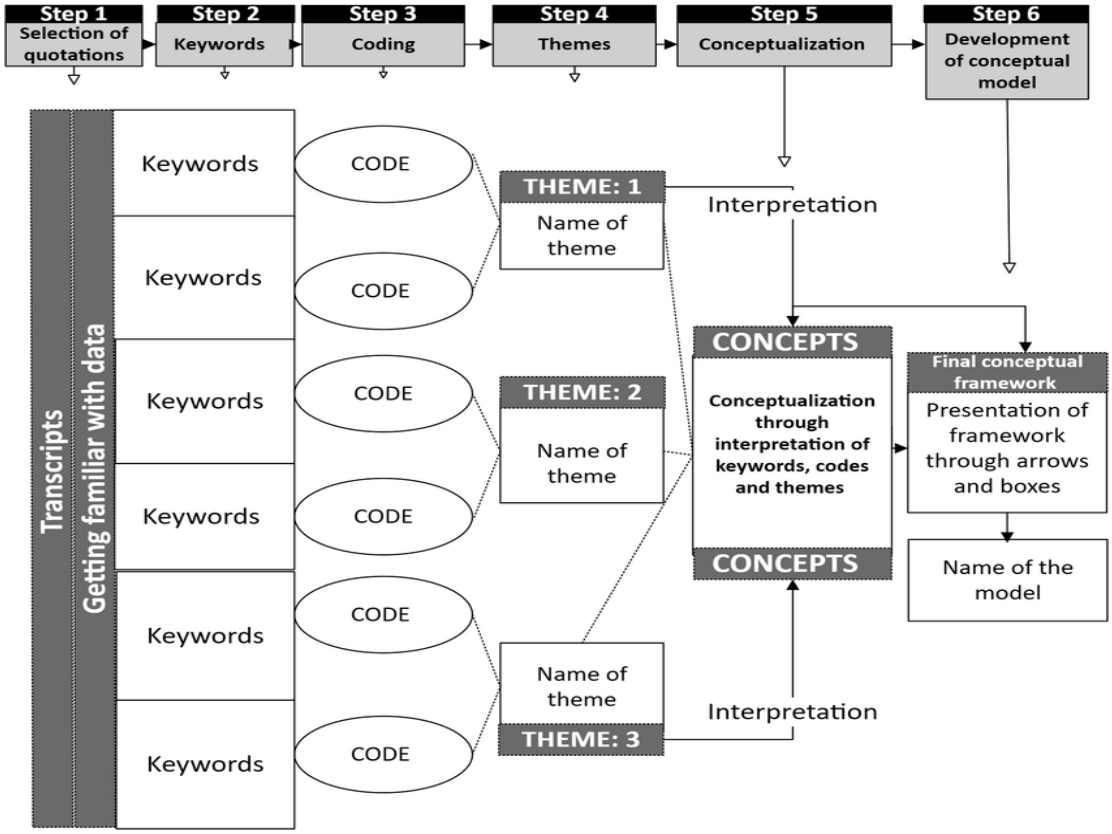

Figure 5: Thematic analysis (Naeem etal., 2023)

The six steps are: selection of quotations, identification of key words, coding, clustering the codes into themes, Conceptualization through interpretation of themes, and developing a conceptual model.

A Five-Phase Process of Qualitative Data Analysis (Bingham, 2023)

The method described here utilizes both inductive (codes created during the study) and deductive (codes created beforehand) coding techniques. This five-phase process can be used in its entirety or in part to assist researchers in organizing, outlining, and carrying out a transparent and systematic qualitative data analysis; creating an audit trail to guarantee the dependability and credibility of the study; and/or expanding on

specific analysis processes related to methodologies. The five phases are as follows, Phase 1: Organizing the Data Phase 2: Sorting Data into Relevant Topical Categories Phase 3: Open/Initial Coding Phase 4: Identifying Patterns, Themes, and Findings Phase 5: Applying Theory and Explaining Findings

This method is exceptional because it may combine the analytical framework that I built in my research plan, which is based on pre-existing theories, frameworks, and notions-based research techniques. This strategy recommends both deductive and inductive ways of analysis. We also need to understand the significance of memo writing and the requirement for clarity throughout the entire data analysis process.

Inductive/Deductive Hybrid Thematic Analysis (Proudfoot, 2022)

The notion of abduction and retroduction, as opposed to induction and deduction, is a key lesson from this study. For analytical and conceptual clarity, the four logics of induction, deduction, abduction, and retroduction have been presented as separate and somewhat consecutive in this article. Explicitly acknowledging theoretical influences while maintaining a critical mindset regarding their applicability presents a potentially more legitimate and transparent method. The inductive element, which serves as a counterbalance to the imposition of theory, has the advantage of balancing this, though. The abduction and retroduction procedures are ideal for thematic analysis that blends deductive and inductive thinking. These ideas deal with the analytical recognition of data that goes beyond a simple theoretical framework (abduction) and the theoretical rethinking that results from this analysis (retroduction). Crucially, this suggests that a theoretical framework is assessed, adjusted, and reconsidered considering the results

rather than being proved or refuted in the sense of deductive reasoning. Therefore, rather than being only theory-confirmatory, this type of approach needs to be theory-generative.

Figure 6: Qualitative Data Analysis (Bingham, 2023)

Figure 6: Thematic Analysis (Bingham, 2023)

The inductive/deductive technique *(Figure 6)* supports inferential explanatory thinking and has the potential to create the unexpected. Similar to this, retroduction—the development of new theory—occurs during the synthesis stage. Combining induction and deduction will result in retroduction. More significantly, though, this study would contend that such an approach can benefit from a number of sources, including—and this

is vital—the synthesis of quantitative data, in addition to the comparison of qualitative inductive and deductive strands. (Proudfoot, 2022)

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This approach offers the flexibility to incorporate supporting quantitative data as well as qualitative viewpoints derived from the analysis.

A Hybrid Approach to Thematic Analysis in Qualitative Research (Swain, 2018)

In this article author with the help of example, provides a flexible framework for applying a type of thematic analysis that uses a hybrid contrasting philosophical methods of reasoning: a top-down, deductive, theoretical process and a bottom-up, inductive, data-driven process. It is believed that the analysis is continuous, organic, and iterative, necessitating reflection and reflexivity on the part of the researcher.

There are seven stages in all, divided into three phases of organization, several of which can be completed concurrently and in any sequence.

Phase 1: Prepare a Table of the Codes and Information, creating priori codes, begin to familiarize yourself with the data. The author's suggested observations, research questions, and goals serve as the foundation for developing priori codes.

Phase 2: Start priori and posteriori coding, add the codes to the database as you go, and create posteriori codes as you go. Start adding and summarizing data from transcripts of interviews onto the table.

Phase 3: Collapse the priori and posteriori codes/themes and generating conceptual model. The technique of integrating "a priori" and "a posteriori" code for creating conceptual models and frameworks is the article's main takeaway. This article's explanation of the entire procedure serves as a blueprint for writing this as a data analysis chapter for a dissertation.

Coding from deductive and inductive procedures differs in epistemological and ontological aspects. The term "collecting data" is used by researchers who employ deductive approaches because they typically draw from more positive epistemologies that view data as "pre-existing" or "ready-made" forms of evidence in an external reality.

Those who employ inductive methodologies, on the other hand, draw on interpretive and social constructivist epistemologies, which highlight the emergent characteristics of the researcher operating in a social context where data are "yet to be discovered," leading them to refer to their work as "generating" or "developing" new data.

As an agent interpreting the "thing(s)" they uncover in the world, in their reality, the researcher does not take a neutral stance. The researcher plays the role of a mediator, affecting the data and findings by continuously deciding what to code, how to show the data and conclusions, and why to provide them again.

Despite the richness of the analytical scholarships, several critical gaps remain. The most significant is the need for a holistic, multi-level analysis that examines how women farmers' relationships with the household, community, market, and state; collectively shape their realities, a task for which the Social Relations Approach (Kabeer, 1994) is well-suited. There is also a need for more intersectional quantitative research, comparative international studies, longitudinal research tracking farmers over time, and dedicated research on the experiences of transgender and gender non-conforming farmers. A forward-looking research agenda must prioritize closing these gaps, strengthening the link between academic research and on-the-ground practice to foster agrifood systems that are not only productive and sustainable but also fundamentally just, equitable, and liberating for all.

2.8 The Sociological Continuum: Micro, Meso, and Macro Processes

The most fundamental stratification in the social sciences is the division between micro, meso, and macro levels. This is not merely a distinction of size, but of process and logic.

At the Micro Level, the focus is on the individual agent—the specific farmer, and the single household. This is the domain of agency, where individuals make decisions based on preferences, beliefs, and immediate constraints. In the context of the provided query, the "Household" and the "Laborer" are quintessential micro-level entities. Sociological literature emphasizes that micro-level processes are characterized by face-to-face interaction, psychological motivations, and the immediate appropriation of resources. However, an exclusive focus on this level leads to an under socialized view of human action, ignoring the structural constraints that shape choices.

The Macro Level encompasses broad social systems, national governments, and global economic structures. This level may include entities like the State Bodies, National Farmers Union, and the overarching legal frameworks of land ownership. Macro processes are characterized by their slow rate of change and their coercive power. The literature on macro-structural factors emphasizes that humans create these large complex societies to solve coordination problems that cannot be handled locally, establishing rules and assigning roles that regulate social action across vast distances. (Fereday & Muir-Cochrane, 2006)

The Meso Level, is often the missing link in development policy, is the crucial middle ground. It is the domain of organizations, communities, and networks. This is where "Interacting Members" reside. It is distinct from the micro level because it involves organized collective action, yet distinct from the macro level because it relies on voluntary association, social capital, and direct reciprocity rather than state coercion. This includes entities like Cooperatives, Community and Social Institutions, and NGOs. Scholarship confirms that meso-institutions serve as transmission mechanisms, linking

the general rules established at the macro level with their perception and implementation by actors at the micro level. It is at this level that the abstract concept of "trust" is operationalized into the concrete practice of SAFS.

2.9 Bridging Frameworks for a Holistic Analysis

This review has charted the intellectual and empirical landscape of gender in U.S. agrifood systems. The analysis reveals a field that has matured from documenting women's roles to developing and critically testing sophisticated theoretical frameworks like FAST. It grapples with the central paradox of alternative agriculture as a "constrained choice" and has embraced the imperative of intersectionality. The cumulative weight of this research calls for a fundamental policy shift toward gender-transformative approaches.

The frameworks of FAST and Relational Agriculture provide a rich, detailed picture of the agency, identity, and strategies of women farmers, particularly in the US. They reveal the complex and often contradictory ways women navigate a male-dominated field. However, these theories primarily focus on individual and group-level actions and identities. They identify important phenomena but do not always connect them to the broader institutional structures of the market and the state.

This is where the Social Relations Approach offers a vital contribution. The most significant gap in the current literature is a holistic, multi-level analysis that examines how women farmers' relationships with the household, community, market, and state collectively shape their realities. Applying SRA to the US agricultural context can fill this gap. It provides the analytical tools to investigate the structural conditions that give rise to the phenomena described by FAST and related theories, offering a more complete

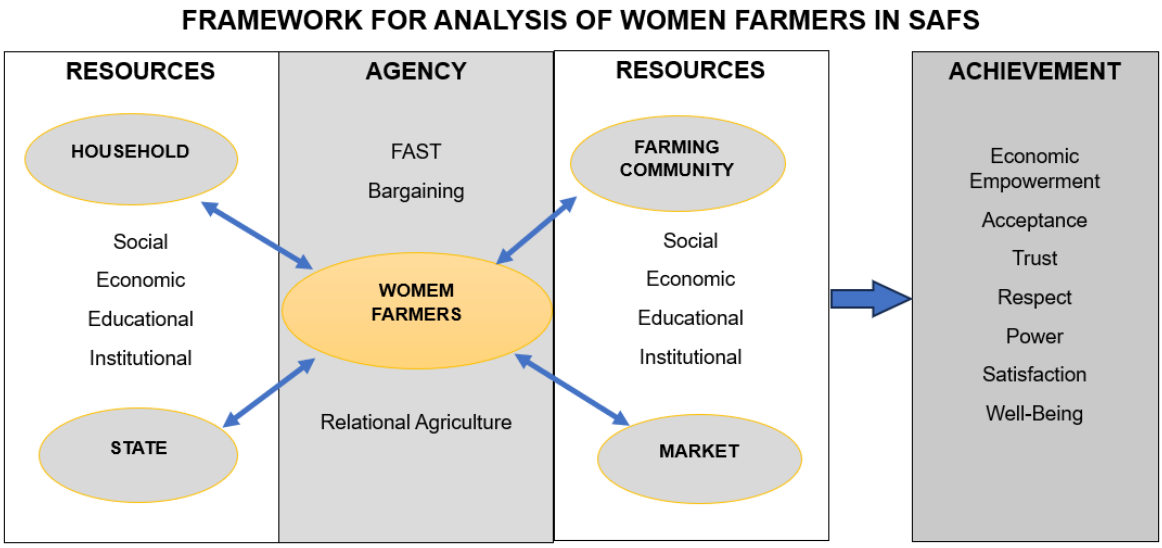
understanding of the systemic barriers and opportunities women face in building a more sustainable and equitable food system.

2.10 Development and Operationalization of Analytical Framework

The intricate power dynamics inherent in gender relations profoundly influence social and economic outcomes. Despite extensive scholarship, the precise mechanisms through which this social construction operates, persists, and might be transformed remain areas of active inquiry (Agrawal, 2011). Gender relations are not monolithic; they are co-constructed and intersected by other social hierarchies such as class, caste, and race, with attendant behaviors and ideologies defining their expression. Building upon established scholarly approaches that illuminate the challenges of gender inequality and women's empowerment, this research develops a novel analytical framework. This framework is specifically designed to analyze the experiences of women farmers within Sustainable Agrifood Systems (SAFS). The synthesized theoretical framework *(Table 7)* developed for this analysis is designated as the Gender Relation Framework for Women Farmers in Sustainable AgriFood Systems (GRFWF).

This study's conceptual framework for analyzing 'gender relations' is primarily adopted from Naila Kabeer's (1999) "Resource-Agency-Achievement" model of women's empowerment. Kabeer's framework posits that empowerment is a process whereby omen leverage "Resources" to exercise "Agency", ultimately leading to desired "Achievements", and Feminist Agrifood System Theory (FAST) by Sachs and team (2016). Within the context of SAFS, these components are conceptualized as follows:

Resources: These are the enabling factors that women farmers must acquire to function effectively. In this study, resources are procured from four key institutional domains: the household, the agricultural and customer community, the market, and the state. To



Source: Author

Figure 7: Conceptual Analytical Framework Developed for Analysis of Women Farmers in SAFS

achieve their desired outcomes, women must navigate the core components of these institutions, including their rules, actors, activities, and power structures. The pertinent resources include, Social Capital: Community support, professional and social networks, and strong family bonds; Economic Capital: Access to financing, markets, and infrastructure (e.g., local processors, storage, transportation), as well as essential inputs like seeds and fertilizers; Human Capital: Opportunities for training, knowledge dissemination, and access to extension services.

Agency: Agency represents the process through which women translate resources into meaningful action; it is their capacity to define goals and act upon them. In this context, agency involves navigating, negotiating, and sometimes challenging gendered social structures. This can manifest itself through enhanced bargaining power or the

adoption of practices associated with "relational agriculture." Analytical tools derived from Feminist Agrifood Systems Theory (FAST) provide established methods for examining the variables that constitute women farmers' agency.

Achievement: Achievement refers to the tangible and intangible outcomes of exercising agency. In this study, achievement is assumed as a state of empowerment, empirically measured by indicators such as respect, acceptance, and social trust etc. These outcomes from the shared experiences by the respondents would help to derive the factors of achievement.

Household: The farmer's family residing together, including partner, parents, grandparents, children etc. They share resources, expenditures, and activities.

Market: A system where farmers sell their produce, procure their inputs, and have financial transactions. It is a market for small farmers, so it primarily functions at regional level, except for some online procurements of inputs.

Community: It is a social unit having a group of people who interact directly, following common activities and experiences, and it occupies a definite territorial area (Hoffer, 1931). For the study community includes farmers and buyers of agricultural produce.

State: In the context of regional agricultural activities undertaken by small farmers, the state functions as a critical entity that enacts agricultural and rural policies directly impacting farm viability, land use preservation, and environmental conservation. State agencies are responsible for the management and distribution of essential resources, including land access, water rights, and financial support through cost-sharing initiatives and other programs.

Having established the theoretical and conceptual foundations for this study, the inquiry now turns to the practical application of this framework. The preceding chapter outlined a model for analyzing the gender relations of women farmers in Sustainable Agrifood Systems (SAFS), integrating Kabeer's (1999) 'Resource-Agency-Achievement' model with a Feminist Agrifood Systems Theory (FAST) lens. To empirically investigate these complexes, lived realities and answer the central research questions, a specific methodological approach is required. The following chapter, therefore, details the research methodology, outlining the qualitative case study design, participant selection, data collection procedures, and analytical strategies employed to explore the experiences of women farmers in the understudied Mid-South region.

CHAPTER 3: RESEARCH METHODOLOGY

To operate the conceptual framework established in the previous chapter and address the central research questions, a robust methodological design is essential. The framework, centered on the concept of gender relations, calls for an in-depth, qualitative exploration that can illuminate the processes of agency and empowerment among women farmers. This chapter details the research methodology selected to meet that need. It describes the overall research design, the methods for data collection and analysis, and the ethical considerations that guided the fieldwork for this study.

3.1: Philosophical Assumptions and Interpretive Frameworks

This study operates under a constructivist ontology, asserting that reality is socially constructed through interactions among individuals and institutions. The experiences of women farmers are understood as shaped by their social, cultural, and institutional contexts. From an interpretivist epistemological standpoint, knowledge is gained through understanding the subjective experiences of women farmers. The research emphasizes the importance of participants' voices and lived experiences in constructing meaning. The research acknowledges the researcher's values and biases, striving for reflexivity throughout the study to ensure that the participants' perspectives and experiences are represented authentically and ethically.

According to epistemological philosophical assumptions, the goal of qualitative researcher is to reduce the "distance" or "objective separateness" between the subjects of their investigation and themselves, (Guba and Lincoln,1988), researchers try to get as

close as they can to the subjects of their study when undertaking a qualitative investigation; Creswell and Poth, 2018). Consequently, subjective evidence is assembled based on the individual perspectives of the participants and the researcher. This is how knowledge is discovered and constructed—through individuals' diverse, subjective experiences (Creswell and Poth, 2018).

The ontological philosophical premise states that the essence of reality and its characteristics are crucial to the ontological discussion. Researchers claim that the idea of multiple realities is embraced by qualitative research. Multiple realities are demonstrated using a variety of evidence in themes, including the depiction of different viewpoints and the actual statements of different people. Through the investigations of individuals, qualitative researchers hope to document these many realities, they document the various perspectives that participants experience (Creswell and Poth, 2018; Moustakas, 1994).

Philosophical assumptions are often included into interpretive frameworks used by researchers while conducting qualitative research studies which are based on the premise that social reality is not singular or objective, but rather that it is shaped by human experiences and social contexts (Denizin and Lincoln, 2011; Creswell and Poth, 2018, p. 58). Interpretive researchers "interpret" social reality through a "sense-making" process because they believe social reality is embedded in—and thus hard to separate from—their social surroundings. Theories or theoretical orientations that guide research can serve as interpretive frameworks, as can the researcher's preconceived notions or worldview. According to Creswell and Poth (2018), social science theories are helpful for framing the theoretical lens of research. The interpretive approach can combine multiple assumptions such as realist ontology and constructivist epistemology (Denzin and

Lincoln, 2011). In social constructivism, individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences—meanings directed toward certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrow the meanings into a few categories or ideas. The goal of research, then, is to rely as much as possible on the participants' views of the situation. The constructivist worldview is evident in phenomenological investigations where participants narrate their experiences (Moustakas, 1994) and in Charmaz's (2014) grounded theory approach.

Thus, the lenses through which I have analyzed and interpreted my data in this research, are derived from Kabeer's Social Research Approach (SRA) and Feminist Agrifood Systems Theory (FAST). The SRA framework underscores the significance of social relations and institutional interactions, focusing on how women navigate the household, community, market, and state to secure resources. This framework allows for an exploration of the dynamics that empower or constrain women's agency in agricultural practices. FAST provides methodological guidelines for examining structural transformations within agrifood systems from a feminist perspective. It emphasizes the importance of understanding women's experiences and roles in agriculture, facilitating a comprehensive analysis of the barriers they face and the strategies they employ to enhance sustainability. Thus, integration of SRA and FAST helped to develop the Gender Relation Framework for Women Farmers (GRFWF), which is applied in the context of SAFS. It allowed for a nuanced understanding of the interactions between gender relations and institutional dynamics. This framework guided the analysis of qualitative data, enabling the identification of both empowering and constraining factors that affect

women farmers' access to resources and sustainable practices. By grounding the study in constructivist ontology and interpretivist epistemology, this research highlights the importance of contextualizing women farmers' experiences within broader institutional structures. The use of SRA and FAST as interpretive frameworks facilitated a comprehensive understanding of the complexities of gender relations in sustainable agriculture and suggested effective policies and practices that support women farmers in SAFS.

3.2: Research Strategies, Approaches and Methodological Framework

This study employs an "exploratory instrumental case study methodology" to achieve a deep, contextualized understanding of women farmers within the SAFS of the Mid-South region of the United States. The research framework for this study, guided by Cooksey and McDonald (2019), combines a case study approach with exploratory research *(Table-3)*.

Table 3: Theoretical Research Frames

Case Study Research	**Exploratory Research**	**Feminist Research**
- Pursued of deep contextualized understanding of phenomena - Take a holistic or embedded focus on single case or multiple (comparative) cases - May reflect Mode 1 or 2 knowledge production	- Focus on fields/contexts/ situations - The goal is to provide insights for guiding further research - Reflect on Mode 1 knowledge production	- Focus on men and women (and other marginalized groups) in myriad contexts - Research is subjective and value-laden, not value-free - Focus on Mode 2 knowledge production
Source: Derived (Cooksey and McDonald, 2019)		

This research framework is purposefully adopted to integrate the depth of case study research with the flexibility of an exploratory approach. This combination is particularly well-suited for investigating complex, real-world phenomena where existing

knowledge is limited. Furthermore, the methodology is underpinned by a feminist research paradigm, FAST and SRA, positioning the study to generate socially accountable, transdisciplinary knowledge that aligns with the principles of "Mode 2 knowledge production"(Gibbons et al., 1994). The knowledge of production *(Table 4)*, suggest the selection of epistemological approach.

Table 4: Mode 1 and Mode 2 of Knowledge Production

Mode 1	Mode 2
Problems of knowledge are set and solved in a context governed by academic interests of a specific community.	Knowledge is produced and carried out in a context of application.
Based on the disciplines	Cross/trans-disciplinary
Homogeneity	Heterogeneity
Hierarchical structure, and tends to preserve its form	Heterarchical and transient
Quality control by peer review judgements	Socially accountable and reflexive
Source: Gibbons et al., 1994	

Justification for the Case Study Approach

The fundamental goal of this research is to pursue an in-depth comprehension of the research problem, a criterion essential for the application of a case study approach (Creswell, 2013; Stake, 1995). Case study research is uniquely capable of facilitating a holistic investigation of a phenomenon within its natural context. The design of this study is specifically an "instrumental case study", a concept defined by Stake (1995) where the case itself is a vehicle—an instrument—to provide insight into a broader issue or to refine theory. Here, the experiences of women farmers in the Mid-South are not merely documented for their own sake; they are examined to illuminate the larger dynamics of gender within sustainable agriculture.

To achieve the necessary depth, the research process involves gathering a variety of qualitative data sources, such as interviews and observations, and engaging in a

continuous cycle of analysis that alternates between deductive and inductive reasoning (Hatch, 2002; Marshall & Rossman, 2010). This interpretive process is grounded in "social constructivism", which posits that reality is subjectively constructed from individual lived experiences (Stake, 2010).

Further, following the conventions of case study research, this study is clearly "bounded" (Creswell, 2018) by three specific aspects that define the scope of the investigation: a) group-women farmer; b) agricultural practices – organic, regenerative, or naturally grown; c) region – the Mid-South region of the United States. This bounded system provides a clear focus, allowing for an in-depth investigation into the defined case while maintaining the flexibility to modify criteria based on field realities.

Integrating Exploratory and Feminist Dimensions

The "exploratory" dimension of the methodology is critical because the specific challenges and perceptions of women farmers in this sustainable agrifood system represent a field with limited prior research. An exploratory approach provides the flexibility needed to uncover new themes and generate initial hypotheses directly from the data, rather than testing preconceived theories (Yin, 2014; Creswell & Poth, 2018).

This exploration is guided by a feminist research lens, which acknowledges that research is not value-free but subjective and value-laden. It intentionally focuses on the perspectives of women, a historically marginalized group in agriculture, and seeks to center their voices and stories (Cooksey & McDonald, 2019). This commitment to participant perspectives and researcher reflexivity aligns directly with the tenets of "Mode 2 knowledge production". Unlike traditional Mode 1 research, which is discipline-

bound and governed by academic interests, this study produces knowledge in a "context of application" that is transdisciplinary and socially accountable (Gibbons et al., 1994).

In summary, the adoption of an exploratory instrumental case study methodology provides the most robust framework for this examination, offering the depth to understand a specific real-world case, the flexibility to explore an under-researched phenomenon, and a critical feminist lens to ensure the findings are holistic, participant-centered, and socially relevant.

3.3: Study Region: Mid-South Region

The study region delineated for research is named the Mid-South (Southern MO, eastern OK, northern AR, western TN, and KY). The Mid-South region presents a compelling and critical area for this research due to a convergence of distinct environmental, economic, and demographic factors. Environmentally, the region is characterized by significant physiographic challenges, including thin soil, a subhumid climate, and reduced water-holding capacity, which create considerable agricultural hurdles (Vories & Steve, 2014). Economically, the Mid-South remains one of the nation's more impoverished regions, adding a layer of socioeconomic complexity to the lives of its residents (Federal Network on Disparity in the Mid-South, n.d.). Compounding these issues, the region is a notable "cold spot" in the adoption of USDA-certified organic farming. While organic production has grown significantly nationwide, it remains heavily concentrated in states like California and Washington, leaving the Mid-South largely outside this trend (Veldstra et al., 2014).

Despite these challenges, the region has a uniquely high proportion of women farmers compared to the national average (USDA, 2017). This demographic reality is

juxtaposed with a significant gap in academic literature; the area is not only under-researched in the context of sustainable agrifood systems but is almost entirely unexamined from a gender perspective.

Therefore, the confluence of these factors: environmental stress, economic disadvantage, low organic adoption, a high concentration of women farmers, and a notable research gap, makes the Mid-South an ideal setting to investigate how women farmers navigate these complex challenges and develop solutions that balance agricultural requirements with their family and occupational needs.

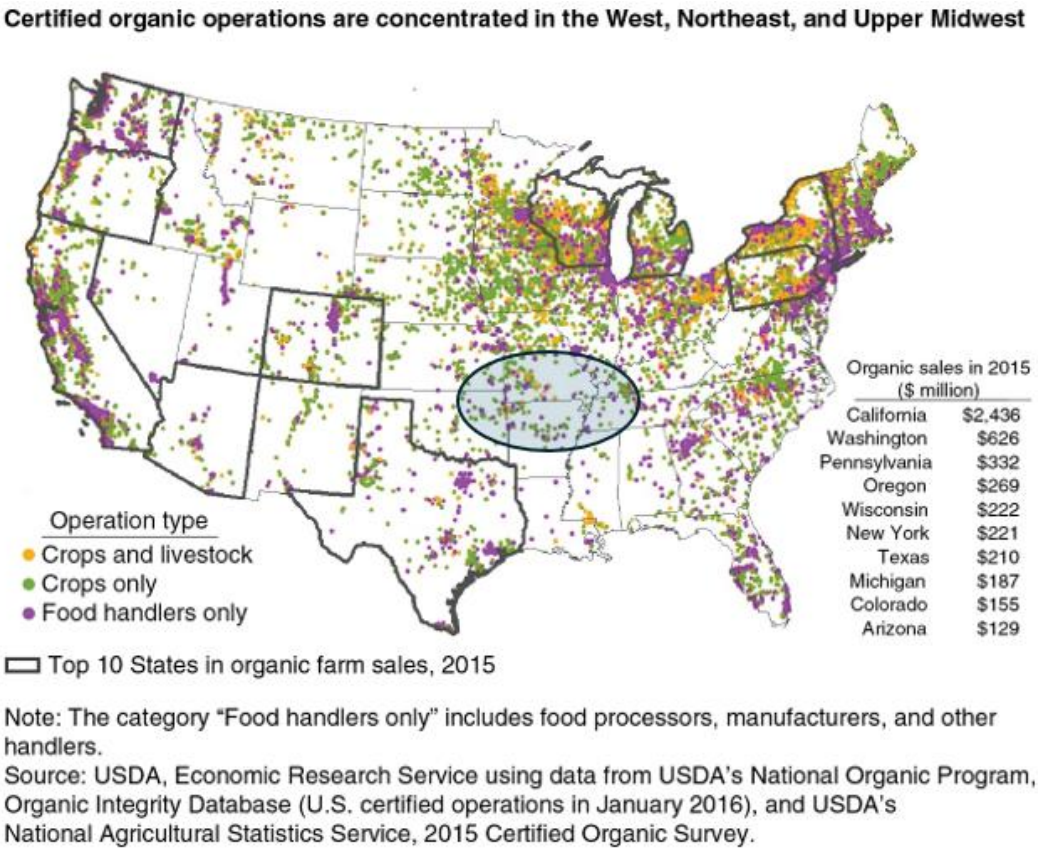


Figure 8: Study Region - Mid-South Highlighted

3.4: Development of the Interview Protocol

To operate the analytical framework established in the previous chapter, an interview protocol was designed to systematically gather in-depth data. The protocol was structured to investigate the core components of the framework: the resources derived from the four institutional pillars (household, community, market, and state), the exercise of agency, and the resulting achievements. *Table 5* presents this guiding structure and the corresponding interview questions.

Table 5: Guiding Framework Developed for Recruitment Protocol

Information level	**Factors**	**Research Questions**
Resources from:		
Household	Financial support, access to land, sharing domestic responsibilities and farming management, motivation, and acknowledgement of women contribution in family.	• Describe your roles and responsibilities as a family member and farmer at home? • How do you identify yourself in these roles at home (caregiver and farmer) • Explain the kind of support and challenges you experience in managing work life balance? • What are those factors that give you a sense of autonomy in making decisions, security of taking action and making you feel assured of managing these roles effectively. • Describe your overall association with household members? How do you share benefits to the family?
Farming communities	Peer learning, market support, identity as farmers, acknowledgement of women contribution in SAFS	• Describe your roles and responsibilities as a farmer in sustainable farming communities. • Describe your motivating and challenging factors. How do you position, place, or identify yourself in the sustainable agriculture and food communities (caregiver, farmer, leader, educator, community mobilizer, etc.)? • What are those factors that give you a sense of peer bonding, autonomy in making decisions, suggesting ideas, and confidence in sharing agricultural practices? • Describe your association with farming community members. How do you share benefits to the farming community?
State	Access to finances, technical support, information and extension services,	• Describe your motivating and challenging experiences for accessing technical and financial support from USDA and other local government/non-government institutions.

	training, and capacity building.	• Describe experiences regarding outreach to the information from the state organizations, and educational institutions.
Market	• Access to inputs (seeds, organic fertilizers, land) • Access to market, • Access to infrastructure (storage and distribution)	• How are you planning economic activities, and shaping the foodshed (region of food flow), creating your agrifood system? • What are the decision-making factors for them?
Agency/Process:	Negotiating, Bargaining, Reorienting, Alternative	• Explain how you navigate through constraints, barriers, challenges?
Achievements:	Economic empowerment Acceptance Trust, Respect, Power , Satisfaction, Well-being Other	• Explain your position, actions, and outcomes that make you feel empowered and situations where you need some changes or transformation. • How do you see the potential of women farmers in sustainable agriculture in the Mid-South region?
Source: Author		

Prior to its full implementation, the interview protocol was pilot tested with one woman farmer. This pilot test validated the instrument, as no modifications to the core questions were necessary. Importantly, the process provided valuable insights into refining probing follow-up questions and identified the potential for gathering supplementary data from participants' media and social platforms, with their explicit consent.

3.5: Sampling Method

Interview protocol, including recruitment strategies, recruitment scripts and interview protocols, were approved by the Institutional Review Board (IRB) of the University of Missouri, Columbia *(see Appendix1)*. It was a rigorous process, where it

was approved after the revision for twice. The identified potential participants were emailed to request an interview.

The sample was drawn from the population of women producers who practice sustainable agriculture and contribute to sustainable agrifood systems, in the Mid-South region. The study depended entirely on primary information from the subjects; those were gathered through semi structured interviews. To identify the subjects, three sources were used, the USDA Integrity database, Certified Naturally Grown directory[11] , and Regenerative Organic Alliance Directory.[12] Initial contacts came from these sources, and snowball sampling from the first round of participants further was used to recruit more women farmers. Few participants did not have any accreditation although they followed the sustainable way of farming.

The participants were recruited through my existing network with the women farmers developed during previous research conducted with my co-advisor.[13] It explored the barriers and challenges faced by producers, in organic farming in the Mid-South Region. Therefore, recruitment for my study included; a) women producers who were interviewed for the organic study and then re-interviewed with the new set of questions, 'Old-updated' (n=7); b) newly recruited participants (n=10) interviewed with the entire set of questions (combined protocol from both studies); and c) women producers who were not available for a reinterview (n=4). The total number of participants interviewed was 21. In case of 'old updated', existing transcripts were recorded as per this research objective and analytical framework.

[11] Source: https://www.naturallygrown.org/directory-of-certified-producers/#map-view
[12] https://regenorganic.org/certified-farm-ranch-directory/
[13] As Graduate Research Assistant, Research project on Organic farmers in midsouth region.

3.6: Data Collection Tools and Techniques

The data for the study was collected using a semi-structured interview protocol (see Appendix B). The questions asked were open ended and then to understand the In-depth knowledge on their 'gender relations' more intensive questions followed.

The participants were interviewed in a place of their choosing, either over the phone, through Zoom, or in person, depending on their convenience and availability. Verbal consent to participate and for recording was obtained prior to the onset of the interview. It is important to note that scheduling interviews with these farmers was not easy, because of their family responsibilities and farming activities. Some interviews conducted by phone occurred while participants were driving to deliver products or going to market. For those with kids, scheduling depends on children's nap or activity times. In one case, the participant's availability was during her wait for her child in an activity/class. That interview took two sessions of 30 minutes each. Most interviews lasted around one hour. In person visits included visits to their farms, and pictures were taken with permission. The interviews were recorded with the participant's consent. As a researcher whose first language is not English, I understood most conversations, as I was educated in English from medium school. However, in some cases, I ensured whether I am getting their meaning, by repeating my understanding of the information shared, wherever I felt the need.

After the interviews, participants were asked to share any final thoughts, and if they had any questions. The participants were found to be enthusiastic and encouraging about the research study and the findings will be shared with them. Because of the limitations of time and other resources, getting their feedback and revising my findings is

beyond the scope of my dissertation. However, I plan to use their comments for the future expansion of this study.

There were times when I had to add or modify some questions. “Because the theory or phenomenon emerges from the data, it is possible that some interview questions may be added, or that the proposed interview questions will be modified during the research study (Birks & Mills, 2011; Charmaz, 2006; Urquhart, 2013)”.

In this study, saturation was largely reached after 15 interviews, but to gain additional evidence on gender relations, I recruited more participants. Seminal work, Glaser and Strauss (1967) discussed the concept of saturation, where the researcher starts to realize that for a given subject, no new categories emerge from the code; therefore, nothing more can be added to the emerging theories. It was possible that saturation could be reached during the interview process conducted as part of this research. Once saturation is reached, the theory or phenomenon is said to be grounded in the data (Charmaz, 2006; Urquhart, 2013). Since the study was trying to understand the gender relation perspectives concerning four institutions – family, community, state, and market – saturation on gender relation perspectives was better reached by 21 interviews. So, 22 interviews conducted were found to be sufficient.

These first group of participants who agreed for participating in the interviews, further suggested other women farmers. Therefore, Snowball sampling helped in reaching out and getting samples. The women farmers were chosen from the different types of produce (grains, livestock, vegetables, egg-layers). Participants were selected from ‘urban and peri-urban areas’ and ‘non-urban areas’ to cover the spatial context of the gender analysis.

Each interview was recorded using audio recorder apps, such as Zoom or voice memos. They were transcribed using Otter.ai, and deidentified. Coding was done using NVivo. The dataset consisted of 22 interview transcripts, averaging 15 pages each, resulting in a total of approximately 350 pages of text. The analysis followed a hybrid approach. First, closed coding' was applied using the Social Relations Approach (SRA) institutional framework, which established five umbrella categories: Market, Household, Community, State, and Others. Subsequently, open coding' was conducted within these categories to identify specific themes. Then within these categories various themes were generated. Minimum interpretation was tried to avoid the subjectivity of the researcher. Coding of a few of them was cross-checked by one of my graduate student peers who used manual coding. Around 75percent match was found in our understanding of the codes. All the themes share the perspectives of women as it.

3.7: Memoing

Throughout the data analysis process, analytical memoing was employed as a key strategy to facilitate a deep and reflexive engagement with the data. After each interview, a reflexive memo was written to document initial impressions, personal reactions, and any potential biases that may have arisen. During coding, analytical memos were created to explore emerging concepts, question initial assumptions, and trace the development of thematic categories. This iterative process of memoing was instrumental in the development of the final thematic analysis presented in Chapter 4

This memoing is on the situations I interviewed all the women farmers, which made me realize how hard they work, how bust they are with other family responsibilities, how they had to fit their interview time with other errands.

3.8 Characteristics of the Participants

The total number of participants interviewed was 22. The details of the total participants are as shown in (Appendix D)

As illustrated in *Figure 9*, the geographic distribution of interviewees was as follows: Arkansas (n=7), Missouri (n=7), Oklahoma (n=5), Kentucky (n=2), and Tennessee (n=1). This sample was not intended to be statistically representative of each state, but rather reflective of the delineated region as a whole. The observed dispersion of respondents results from the snowball sampling method employed.

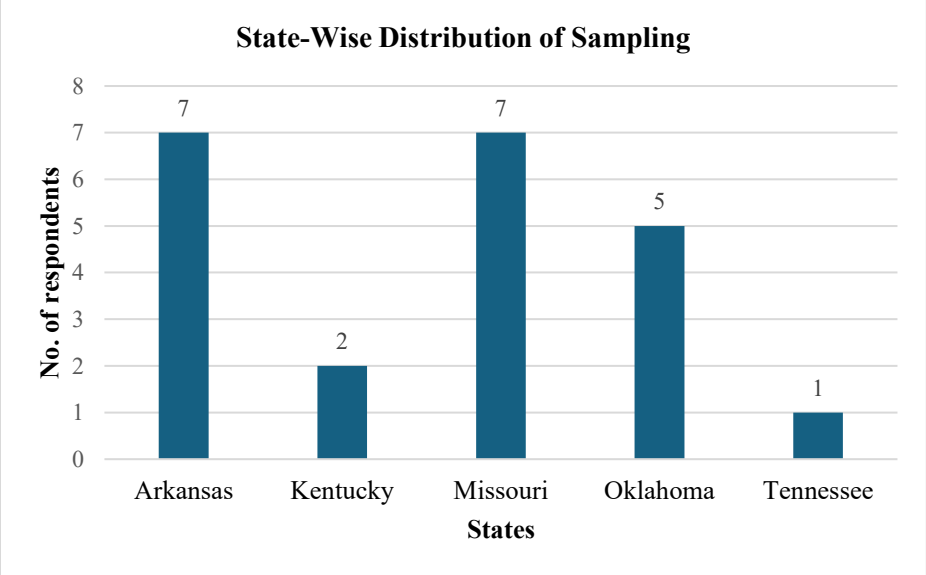


Figure 9: State Wise Distribution of Sampling

As shown in *Figure 10*, distribution of the participant demographics shows a modal age group was 35-40 years. These participants were identified as experienced farmers with more than ten years in the farming business, including time spent running their own operations or working for others.A distinct motivation was observed among producers aged 60 and over, who were actively looking for alternatives to handing over

their farming business for its longevity. Furthermore, one exceptional case highlights a participant who entered the agricultural sector after the age of 50.

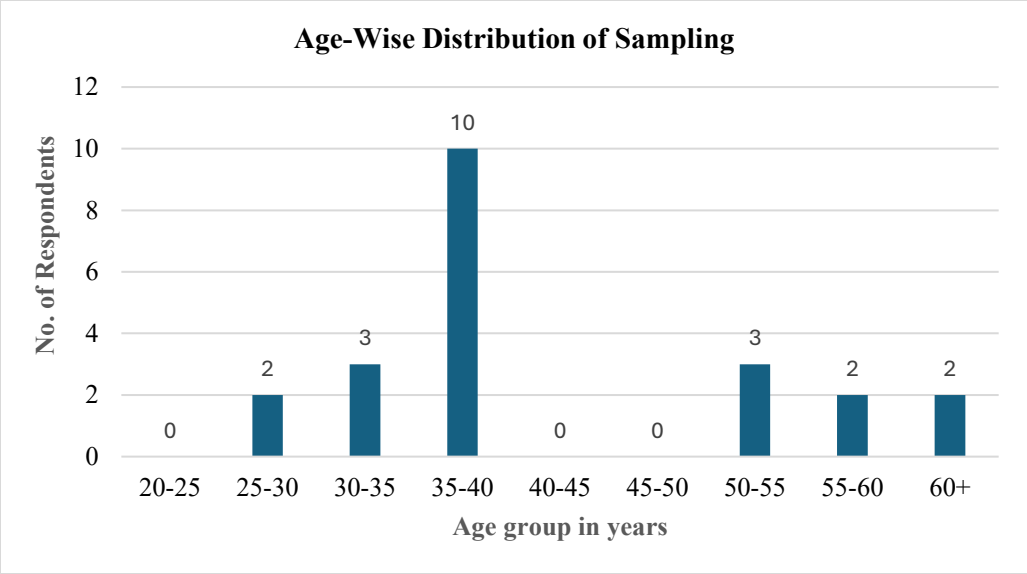


Figure 10: Age-Wise Distribution of Sampling

As shown in *Figure 11*, distribution of the participants work experience in farming business are as follows: >5 years (n=1), 5-10 years (n=8), 10-15 years (n=10), 15-20 years (n=2), < 20 years (n=1).This composition suggests that the collected narratives predominantly reflect the perspectives of highly experienced women farmers., possessing substantial professional expertise.

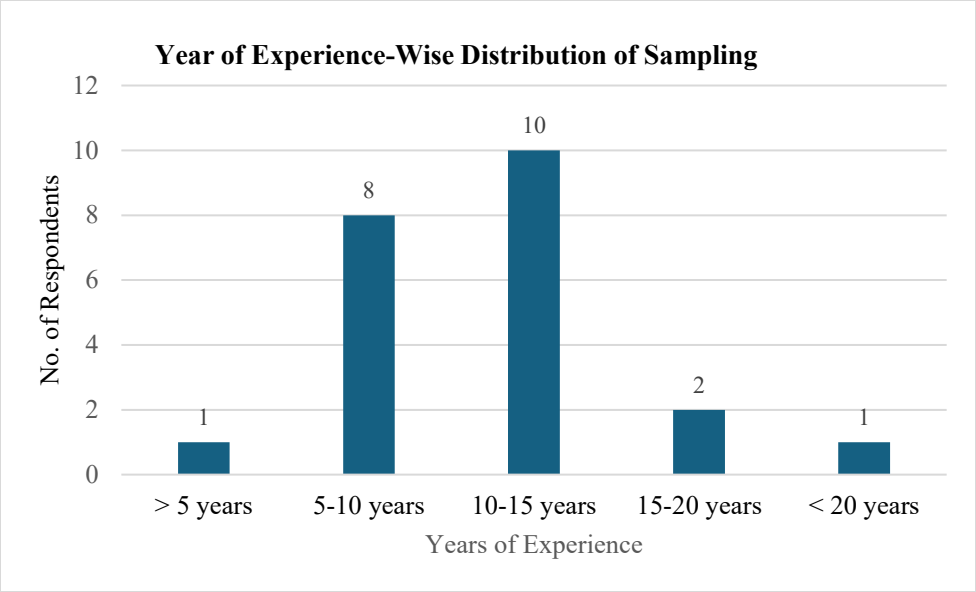


Figure 11: Years of Farming Experience Wise Sampling Distribution

Further, as illustrated in *Figure 12*, women farmers in my sample were predominantly concentrated in vegetable production along with some additional produce – flowers, eggs, fruits, and livestock., followed by ranchers and with additional produce – eggs. Participants also identify cut flowers as an emerging niche market in the Mid-South region.

This pattern of specialization suggests a potential alignment with agricultural sectors that demand precision and meticulous handling, qualities essential for products like fresh produce and floriculture Since my respondents were limited to organic and organic adjacent women farmers in sustainable agrifood systems in this region, the sample has limitation of representing grain growers or women in conventional produce.

Further, the study identified five primary operational structures concerning the management status of the women farmers at the household levels:

i. Farm Enterprise Operated Jointly (Both full time on farm): This pattern included where both the partners were responsible for the operation and management of their farm operations. Farm enterprise was their full-time source of household income.

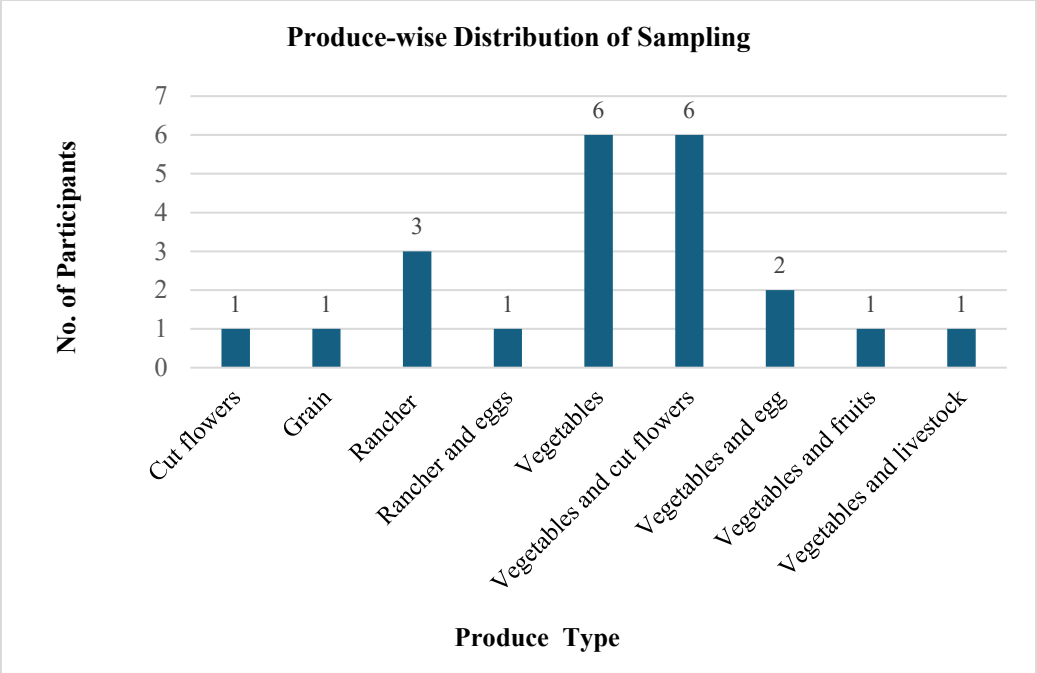


Figure 12: Produce Wise Distribution of Sampling

ii. Farm Enterprise Operated Jointly (women employed off farm as well): This pattern included where farm enterprise was managed jointly, but women was also employed off farm.

iii. Farm Enterprise Operated Jointly (Both employed off farm as well): This pattern included where both the partners were responsible for the operation and

management of their farm operations. Also, they both have off-farm employment. Farm enterprise was not their only source of household income.

iv. Farm Enterprise Operated by Single Women (Full time on farm): This pattern included where farm enterprise was operated by women with single status. These were primarily full-time younger farmers.

v. Farm Enterprise Operated by Women (full time; partner off-farm): This pattern included where farm enterprise was operated entirely by women and partner was employed off-farm. So, collectively household income was

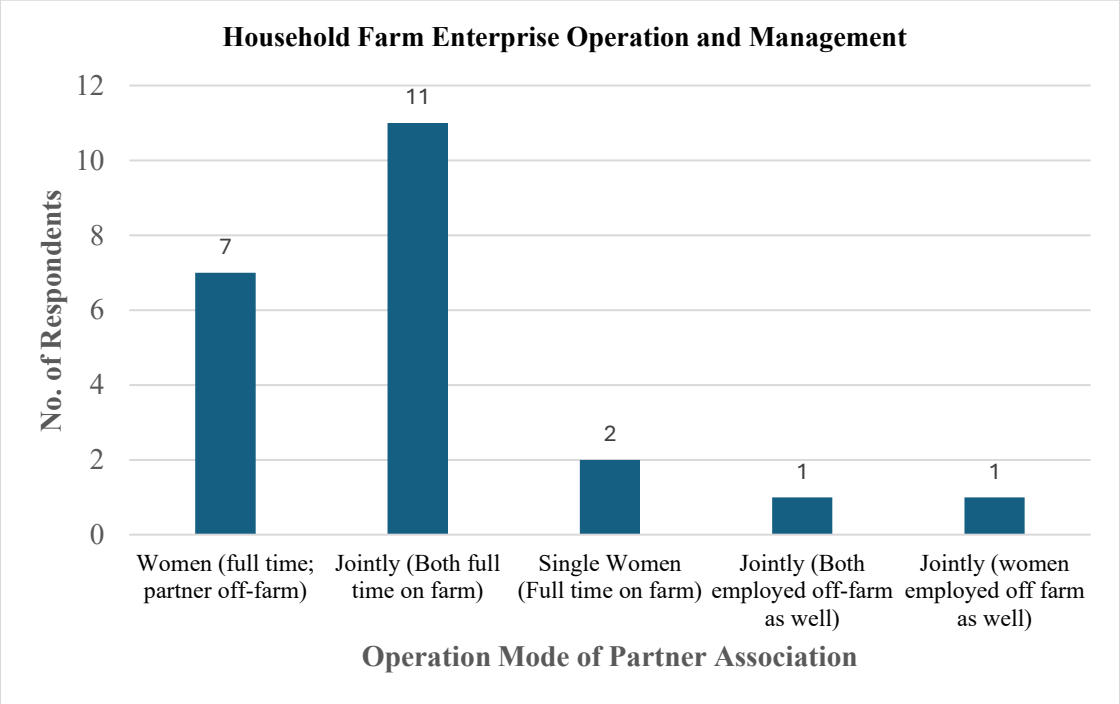


Figure 13: Distribution of Sample Based on Household Farm Operation and Management

Figure 13 illustrates the distribution of farm operational structures. The majority of farms were operated either jointly (n=11) or independently by one partner while the other was employed off-farm (n=7). Given their prevalence, these two categories formed the primary basis for identifying patterns in role distribution. Conversely, categories with limited representation () were analyzed as unique or specific cases.

In summary, this study acknowledges specific limitations regarding demographics and production types. The dataset is racially homogenous and excludes grain producers, who were inaccessible even through snowball sampling. This absence, however, highlights a structural trend: women in sustainable agriculture are predominantly organized as small-scale farmers, whereas grain production is typically associated with large-scale landholdings. Consequently, this analysis focuses on small producers. Additionally, the inclusion of participants in urban and peri-urban areas provided valuable insights into the spatial and proximity contexts of women producers.

3.9 Challenges and Limitations of Data Collection

The data collection process presented multifaceted challenges. While prospective participants were highly receptive to the dissertation's premises and expressed strong interest in contributing, scheduling interviews proved to be a significant logistical hurdle. This resulted in a protracted recruitment period of approximately one year to secure 22 participants. Of these, three interviews could not be completed. In one of the interviews partner also joined in the interview and he equally participated. So, this sample was dropped. Total number of interviews used for analysis was 21.

Data was gathered using a mixed-mode approach, incorporating both in-person farm visits and remote interviews via Zoom, although it was not by design but circumstantial. A limitation of this approach is the potential loss of non-verbal and contextual cues that are more readily observed during face-to-face interactions. Furthermore, the final sample lacks racial and ethnic diversity; despite recruitment efforts, no participants from African American, Latina, or other minority backgrounds could be included, which limits the generalizability of the findings.

3.10: Data Analysis

This study employed sequential analytical design integrating qualitative thematic analysis and quantification of themes. The foundational component of the analysis was a qualitative thematic approach, which focused on the identification and rich description of key constructs as they emerged from the data. To complement and extend this qualitative understanding, a quantitative analysis was subsequently performed, as illustrated in chart 3.6. This involved systematically calculating the frequency of specific codes grouped under the major themes. The resulting numerical data allowed for an assessment of the relative importance and prominence of various challenges, motivations, and policy suggestions, providing a clearer understanding of the most significant factors from the participants' perspectives. While advocating for the utility of numbers, Sandelowski (2001) and subsequent commentators caution against four specific 'counting pitfalls' that can undermine qualitative validity: verbal counting, overcounting, misleading counting, and acontextual counting. To mitigate these risks, I have dedicated a separate chapter to the discussion of thematic quantification. The objective is not to transform this qualitative inquiry into a quantitative survey, but rather to utilize numbers to summarize thematic breadth and identify specific patterns of prevalence and relationship. Throughout the analysis, continuous reflection on research memos and deep familiarity with the raw data ensured that the numerical values remained grounded in their qualitative context.

The analytical boundary of this investigation is conceptualized as the dynamic interactions between women farmers and institutional structures within SAFS. The synthesized theoretical framework developed for this analysis is designated as the Gender Relation Framework for Women Farmers in Sustainable AgriFood Systems (GRFWF)

(*Refer Figure 7*), which provides a comprehensive lens for examining the complex interplay between gender relations, institutional dynamics, and sustainable agricultural transformation.

Qualitative Analysis: A Hybrid Deductive-Inductive Thematic Approach

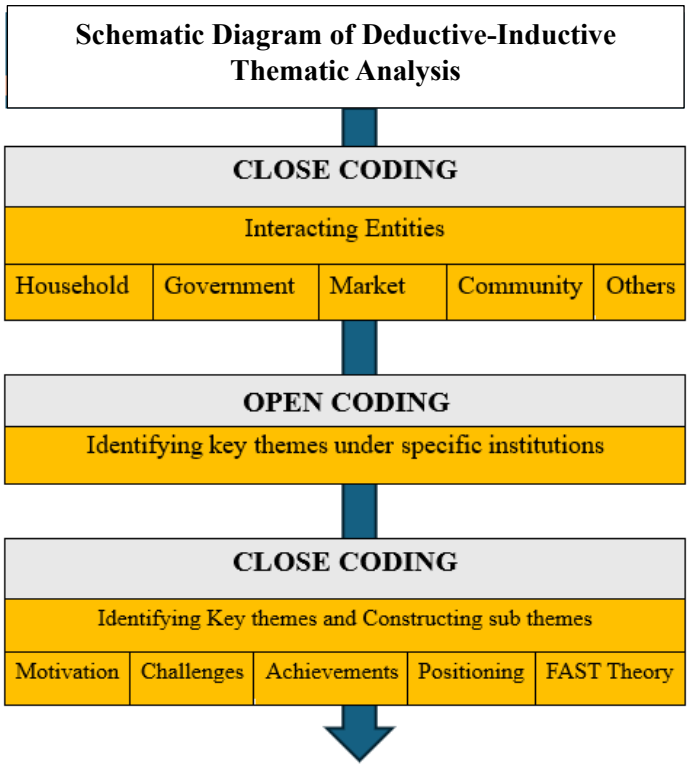


Figure 14: Schematic Diagram of Deductive -Inductive Thematic Analysis

Figure *14*, how my analysis flows between deductive and inductive coding. Deductive Qualitative Coding (DQC) is a top-down approach where analytical themes are derived from research questions and existing theory prior to analysis (Thomas, 2006). Fereday and Muir-Cochrane (2006) describe this as applying a template of 'a priori' codes to raw data to ensure all theoretical concepts are addressed. Conversely, Inductive Qualitative Coding (IQC) is a bottom-up process best-suited for exploratory research, where themes emerge directly from detailed interpretations of the text (Thomas, 2006). This method condenses extensive raw data into meaningful categories to theorize on underlying patterns (Bihu, 2024). Software tools like NVivo facilitate both approaches by streamlining the retrieval of text segments and generating data matrices for analysis The process of qualitative thematic analysis is

grounded in four complementary methodological frameworks that collectively support a comprehensive hybrid thematic analysis: Bingham's Five-Phase Process of Qualitative Data Analysis (2023) serves as an overarching analytical framework. This approach is particularly valuable for its emphasis on integrating pre-existing theories, frameworks, and conceptual foundations with empirical data, while strategically combining both deductive and inductive analytical methods. Naeem et al.'s Six-Step Systematic Thematic Analysis (2023) provides the structured coding methodology essential for this study. This framework offers systematic guidance for data conceptualization and supports the development of robust conceptual models through clearly defined analytical steps. Proudfoot's Inductive/Deductive Hybrid Thematic Analysis (2022) contributes advanced reasoning processes by introducing abductive and retrodictive analytical methods. This approach extends beyond traditional inductive and deductive reasoning to enable more nuanced interpretation of complex data patterns. Swain's Hybrid Approach to Thematic Analysis (2018) informs the integration of *a priori* and *a posteriori* coding strategies. This methodology facilitated the systematic development of conceptual models and theoretical frameworks by balancing predetermined theoretical constructs with emergent themes from the data.

Since employing a qualitative research technique has proven to be advantageous, researchers have been meticulously examining qualitative data to enhance the methodological structure and scientific acceptance (Braun and Clarke, 2006). Hybrid strategies that combine deductive and inductive processes may be useful for methodologies that seek to produce new phenomena, validate existing ones, or identify new ones (Naeem and others, 2023). The most popular type of analysis, known as

"thematic analysis," include the following basic steps: interview material transcription, coding, code classification into different themes, and clarification of the connections and patterns between these themes (Braun and Clarke, 2006). The authors claim that when deductive clarity and inductive richness are joined with theme analysis through the interaction of both paradigms, the validity of the results is strengthened. These four methodological frameworks are synthesized to create a comprehensive analytical strategy that includes both close coding (a priori) and open coding (a posteriori).

Thus, study employed a hybrid deductive-inductive approach to thematic analysis to facilitate a comprehensive interpretation of the data. This dual methodology was chosen to honor the authentic, emergent perspectives of the participants while simultaneously leveraging established theoretical constructs. The deductive analysis was guided by the core tenets of the Social Relational Approach (SRA) and Feminist AgriFood Systems Theory (FAST), which informed the development of the analytical framework. The inductive analysis, initiated through open coding, allowed themes to be grounded directly in the lived experiences of the women farmers within the developed Framework. The analysis proceeded through five distinct phases as shown in the flow charts.

Phase 1: Data Preparation and Immersion:

The initial phase involved immersing in the dataset. All interview recordings were transcribed verbatim, and the resulting transcripts were meticulously cleaned to ensure accuracy, and anonymity of the respondents. Each transcript was then organized in NVivo as a distinct case, with demographic and contextual attributes coded for systematic analysis. Throughout this stage, analytic memos were consistently used to document

researcher reflections, observational notes, and emergent theoretical insights, thereby creating a rich audit trail of the analytical journey.

Phase 2: Deductive Coding Based on the Interacting Entities:

This phase involved a rigorous process of line-by-line identifying the key quotations from the transcribed data. This initial coding phase was entirely inductive, or *a posteriori*, meaning that codes were derived directly from the participants' narratives rather than from preconceived categories (Swain, 2018). Key words and phrases were systematically identified and coded. This stage was intentionally comprehensive to capture all potentially significant information, including insights that, while perhaps outside the immediate scope of the research questions, could prove valuable for future inquiry.

Phase 3: Inductive Coding Thematic Sorting and Categorization:

Following open coding, the numerous codes were systematically sorted and collated into broader, overarching themes. These initial thematic categories included 'Household', 'Market', 'Community', and 'State'. This step marked a transition in the analytical process, where the inductively generated codes from the previous phase were organized within these more deductive, high-level themes.

Phase 4: Clustering of Themes, and Pattern Analysis:

In this highly iterative phase, a more focused, deductive (a priori) analysis was performed. The data within each broad category from phase3, were critically re-examined through the theoretical lenses of SRA and FAST. The specific objective was to identify and cluster data that illuminated “gendered relationships”, “constraints”, and “motivations” within these institutional domains and their subsequent impact on the

women's agricultural enterprises. This process was reflexive; while the theoretical frameworks guided the analysis deductively, the thematic clusters were continuously refined inductively based on the emergent patterns observed in the data.

Phase 5: Interpretation of the Clustered Themes:

In the final phase, the refined themes and clusters were interpreted and synthesized to develop higher-order analytical constructs. This involved moving from a descriptive account of the data to a conceptual interpretation of the patterns and relationships identified. This process culminated in the formulation of the final conceptual framework, which explains the complex interplay between gender, institutional engagement, and farming outcomes for the study participants.

Phase 6: Conceptual Framework Development

The analytical framework developed, Gender Relation Framework for Women Farmers in Sustainable AgriFood Systems (GRFWF) and the themes derived helped me to develop the conceptual framework, GSAP.

3.11 Quantifying the Emerging Themes or Factors

While this study is inherently qualitative, a thematic quantification was performed to provide a structured summary of the findings.

Largely the article reviewed have long argued that numbers of strip qualitative data of its nuance, contemporary methodologists argue that the rigid demarcation between "words" and "numbers" threatens validity. The literature presents a spectrum of strategies for quantifying qualitative information, but they described those studies as ‘Mixed method’. However, with lot of caution Sandelowski (2001) and Maxwell (2021) provide the primary theoretical defense for this practice of quantifying themes, arguing

that numbers allow researchers to document labor, verify interpretations, and achieve precision (Martyn, 2021; Sandelowski, 2001).

These strategies range from simple counts to complex relational formulas . The following table *(Table 6)* synthesizes these approaches, highlighting their primary mechanisms, intended outcomes, and the specific context of their use found in the research.

Table 6: Key Proponent of Quantifying Qualitative Information

Strategy	Proponent	Mechanism	Primary Goal	Context/Example
Quasi-Statistics	Maxwell / Becker	Simple counts of things (e.g., "15 of 20 participants").	Precision, identifying negative cases, internal generalizability.	Used to validate claims like "most participants felt..." and identify outliers.
Code Frequencies	Sandelowski / ATLAS.ti	Tallying total appearances of a code.	Showcasing labor, estimating prevalence (not just presence).	Used to show the "weight" of a theme but risks "overcounting" if not contextualized.
Source: Author (Derived from Maxwell,2021; Sandelowski,2001)				

The real qualitative researcher is not defined by an aversion to numbers, but by the reflexive use of them. It is critical to emphasize that this analysis is based on a purposive sample of 22 women farmers, and as such, the numerical data presented are not intended for statistical generalization. Rather, this quantification serves a heuristic purpose. It is designed to illustrate the relative prevalence and salience of specific themes that emerged from the interviews. The counts are based on the frequency-simple counting (Maxwell, 2021) of thematic instances across the entire dataset. Since participants' narratives often encompassed multiple topics, the contributions were not mutually exclusive. Therefore, the quantification reflects the total number of responses coded under each theme, as illustrated in the 'Motivation Factors' section that follows in *Table-7*.

The results offer an empirical foundation from which to develop hypotheses and construct survey instruments for future, larger-scale quantitative research at a regional or national level.

Table 7: Illustartion of Quantifying Process (Motivation Factors)

Respondents	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
Anya	1			1	1			1	
Cara				1				1	1
Cleo	1							1	
Elsa	1						1	1	
Eva	1			1				1	1
Hana						1		1	
Jade				1					1
Lina		1		1	1			1	
Mia			1						
Mila	1			1					
Nia			1		1				
Nia	1		1						
Noa	1				1	1			
Orla							1	1	1
Rose				1			1	1	1
Rose								1	1
Lily	1	1					1	1	
Thea				1			1		
Total	8	2	3	8	4	2	5	11	6
Percentages	16.33	4.08	6.12	16.33	8.16	4.08	10.20	22.45	12.24

A - Education and Experiences; B - Spiritual Connection; C - Having access to the Property/Land; D - Sustainable and local food production; E - Passion and Enjoyment; F - Peer group Support and mentorship; G - Flexible business alternative to work from home; H - Environmental stewardship; I - Healthy life style

Source: Author

3.12: Researcher Subjectivity Statement

As the primary research instrument in this qualitative study, it is essential to articulate my own positionality. I entered this research from the perspective of an "outsider," a position that fundamentally shaped my engagement with the participants and

the data. My academic journey is multidisciplinary, encompassing architecture, environmental planning, and rural sociology. While I am from India, my entire education was conducted in English, allowing for fluid and nuanced dialogue with participants.

My professional background includes work with a non-profit in India focused on rural development, which provided a valuable lens for understanding systemic rural challenges. However, I remained acutely aware that this experience was situated in a different socio-cultural context. Crucially, I have no personal history in farming, nor have I ever lived in a rural community. This experiential distance required me to approach the research with heightened critical awareness and humility.

To bridge the gap between my perspective and the participants lived realities, I embedded rigorous verification techniques into my methodology. I consistently practiced respondent validation, whereby I would restate my interpretation of their narrative and ask for confirmation or correction. This technique, combined with reflexive memoing, was my primary tool for ensuring that I was representing their experiences with accuracy and integrity. I acknowledge that I began this study with a framework influenced by my understanding of women farmers in India. I actively worked to bracket this perspective, ensuring that the findings were emergent from the data itself, rather than imposed by preconceived comparisons.

3.13: Trustworthiness of Research and its Methodology

Establishing trustworthiness in a qualitative study requires a different approach than quantitative research, as it cannot be measured numerically. Instead, trustworthiness is demonstrated through adherence to criteria such as credibility, transferability,

dependability, and confirmability (Lincoln & Guba, 1985). This study also ensured data saturation was reached, meaning the data collected was sufficient to validate the resulting theory (Charmaz, 2006).

Credibility and Confirmability: Credibility and confirmability were established through several methods: a) Through prolonged engagement and data triangulation, each interview lasted approximately one hour, allowing for in-depth conversation. To ensure that the findings were grounded in the participants' own words data analysis focused on minimal researcher interpretation. Information was triangulated by cross-referencing interview data with the participants' public social media pages and podcasts. b) Through member checking, throughout the interviews, interpretations of the participants' statements were consistently clarified and verified with them in real-time to ensure accuracy. c) Through peer debriefing, the thematic analysis was reviewed by a peer researcher, who independently agreed with approximately 75 per cent of the initial themes and their interpretations, strengthening the validity of the analysis. d) Through reflexivity, the researcher-maintained memos, particularly noting the time limitations encountered with women farmers, to acknowledge and account for potential influences on the data collection process.

Transferability: Transferability refers to the extent to which the findings can be applicable in other contexts. While this study does not claim universal generalizability, it facilitates transferability by providing a thick description of the research process. The meticulous process of theme extraction is detailed in Appendix 5. The meticulous and transparent methodology for theme extraction, along with the detailed analytical

framework developed, offers a clear model that can be adapted for similar studies in different settings.

Dependability: Dependability, or the consistency and repeatability of the findings, was established through a detailed and transparent research process. The meticulous documentation of the theme extraction process (see Appendix 5) creates a clear audit path, allowing others to follow the methodological steps and understand how the conclusions were drawn from the data.

3.14: Ethical Concerns

This study was conducted with strict adherence to ethical principles to ensure the protection, dignity, and confidentiality of all participants. Key measures related to participant recruitment, data collection, data management, and researcher positionality are as mentioned below:

Participant Recruitment and Informed Consent

Before conducting any interviews, participants were provided with a consent form (see Appendix 2). This document clearly articulated the voluntary nature of their participation, their autonomy to withdraw from the study at any time without penalty, and the procedures for data handling. Due to funding constraints, no monetary incentives were offered for participation. To respect participants' time and comfort, all interviews were scheduled at a location and time of their choosing, typically lasting about an hour, though some were conducted in two sessions. Participants' requests to designate parts of the conversation as "off the record" were honored, and these portions were neither recorded nor included in memos. Upon completion of the transcription, all original audio files and associated data were permanently deleted from the third-party server to protect

participant privacy. Data was solely handled by me and provided to supervisor on demand.

Data Analysis, Verification, and Confidentiality

Support for the dissertation manuscript was sought from the University of Missouri's Writing Center. However, to protect the anonymity of the participants, the data analysis chapter, which contained direct quotations, was intentionally withheld from this editorial review process. Finally, the AI tool Gemini was utilized for proofreading and language editing of the author's own writing. Strict protocols were followed to ensure that raw data and direct participant quotes were not shared with the AI service. Its use was confined to refining the author's analytical paragraphs to safeguard the confidentiality of the original interview data.

Researcher Positionality and Trustworthiness

As an international researcher from India, I recognized my positionality as an outsider to the rural American context. My extensive experience with rural communities in India provided a valuable foundation, yet I remained vigilant to bracket my prior experiences and avoid imposing assumptions. A reflexive approach was maintained throughout the research process. To enhance the trustworthiness and validity of the findings, a process of continuously checking with the respondent was employed. After each interview, I briefly shared my interpretation of the significant information from the conversation with the participant to verify that their perspectives were captured accurately. This iterative process was particularly crucial for navigating potential cross-cultural misunderstandings. Furthermore, with participant consent, publicly available information, such as their social media activity or podcasts, was reviewed to develop

more informed follow-up questions. While permission was also secured to use participants' photographs, a decision was made not to include them in the final research write-up.

3.15: Conclusion

This chapter has detailed the comprehensive research methodology employed to investigate the experiences of women farmers within Sustainable Agrifood Systems (SAFS) in the Midsouth region. The study is founded on constructivist ontology and an interpretivist epistemology, asserting that reality is socially constructed and that knowledge is derived from the subjective, lived experiences of the participants.

A qualitative exploratory instrumental case study approach was implemented, allowing for an in-depth and flexible inquiry into the research problem. The analytical process was guided by a hybrid inductive-deductive framework, integrating Kabeer's Social Research Approach (SRA) and Feminist Agrifood Systems Theory (FAST) to interpret the data. These frameworks facilitated a nuanced examination of how gender relations and institutional dynamics within the household, community, market, and state impact women farmers.

Primary data was gathered through semi-structured interviews with twenty-one women farmers, who were identified using purposive and snowball sampling techniques. The data was subsequently analyzed using a systematic, multi-phase thematic analysis supported by NVivo software, which involved both open (inductive) and closed (deductive) coding to generate themes directly from participant narratives while being informed by the theoretical frameworks.

The chapter also acknowledged the study's limitations, including logistical challenges in recruitment and a lack of racial and ethnic diversity in the final sample. The researcher's positionality as an "outsider" was addressed through reflexive practices and respondent validation to ensure the trustworthiness and credibility of the research. All ethical considerations were addressed through protocols approved by the Institutional Review Board (IRB).

Having established the philosophical, theoretical, and methodological foundations of this research, the subsequent chapter will present and discuss the findings that have emerged from the analysis of the data.

CHAPTER 4: FINDINGS

4.1 Introduction

The analytical boundary of this investigation is conceptualized as the dynamic interactions between women farmers and institutional structures within SAFS. The synthesized theoretical framework developed for this analysis is designated as the Gender Relation Framework for Women Farmers in Sustainable AgriFood Systems (GRFWF) (*refer figure 7*), which provides a comprehensive lens for examining the complex interplay between gender relations, institutional dynamics, and sustainable agricultural transformation.

As noted in Chapter 2 and 3, I synthesized four methodological frameworks to create a comprehensive analytical strategy (See Figure 1) that guided my coding and analysis. Here I will report the findings. This chapter include five sections - Understanding the sociological Interacting Entities; Intersectionality of the Women Farmers relationships; Emerging Themes and its Interpretation, Perception of Women Farmers on Their Contribution Within SAFS; Defining Achievement - An Extension of Fast Principles; and Quantifying of Qualitative Themes.

4.2 Understanding the Sociological Interacting Entities

Women participants in the semi-structured interviews demonstrated multifaceted institutional engagement when strategically positioning themselves and their agricultural enterprises within the Sustainable AgriFood Systems (SAFS) of the Mid-South region. While Kabeer's Social Research Approach (SRA) framework identifies four primary

institutional spheres that are source of resources—household, community, state, and market—the experiential findings reveal a more complex institutional landscape. The data indicate that women farmers establish and maintain relationships with additional institutional categories, including educational institutions (including both private and public institutions), financial institutions, non-state organizations, and a specialized category of land access institutions, as delineated in the subsequent analysis (*Table 4.1*). The 'state' in this analytical framework denotes the government bodies that manage and execute agricultural development programs. The entities identified in the semi-structured interviews, I roughly employ a synthesized framework that bridges sociological and economic institutionalism adopted from Oliver Williamson's concept of hierarchy (2000) for institutional analysis, and the sociological stratification of micro, meso, and macro processes (Serpa & Ferreira, 2019) within structural constraints of institutional levels *(Table 8).* It helped me in developing understanding of the 'interacting entities' in the study. This overlaying of sociological and institutional theories posits that the "Interacting Member" in the study is not merely a synonym for a resource user, but a distinct meso-level phenomenon where social capital is generated, serving as the critical transmission belt between macro-level state policies and micro-level economic behaviors of the women farmers. Although the scope of the study does not include the economic analysis, the literature advanced the rough idea, which also inspires me to do the detailed analysis on economics of institution in the future study.

Table 8: Sociological Levels of Interacting Entities

Interacting Entities (from interviews)	Interacting Units (from interviews)	Institutional level	Description & institutional logic
State bodies	USDA, FSA, NRCS Research centers	Macro	These entities define the formal "rules of the game" (laws, subsidies). They operate at Serpa & Ferreria's macro level of "systemic interdependence", setting the constraints for all lower levels.
Market	Wholesale markets, Corporates, Livestock auctions, Input & infrastructure	Macro	Relations here are anonymous, and price based. Williamson classifies this as the level of continuous adjustment. The social relation is low; the transaction is dominant.
	Farmers markets, Food hubs, Lease markets, Food trucks, social media	Meso	These are embedded markets identified in interviews as relying on trust and reputation (social capital). They function as meso structures that organize local exchange.
	Online market / digital platforms *(identified relation: "connecting consumers directly to small farms"; "shortening supply chains")*	Meso	Digital platforms are not just "markets"; they are governance structures that define *how* exchange happens. They lower transaction costs (search and information costs) and enforce contracts through rating systems (reputation).
	Farm stands, Restaurants, Florists, Direct/online sales	Micro	Specific transactions of resource units. Serpa & ferreira classify these direct interactions as micro level "interaction".
Community & social	Farming community (collective); Women farmers (network); Neighbors; Community gardens; social media	Meso	These are "interacting members" who solve collective action problems. Serpa & ferreira explicitly identify this as the "constitution of groups" or meso level.
	networks) *(identified relation: "intermediary path for social capital"; "trust mechanism through user reviews")*		Functions as a "digital institution" for interacting members. It bridges the "digital divide," allowing isolated micro-agents (farmers) to access macro-resources. It creates organizational social capital by making reputation visible.
	Christian Sects; Moms / students; wwoofers (volunteers); Customers	Micro	While acting as individuals (micro), "wwoofers" and "moms" are often motivated by norms (sustainability, care) rather than profit. They operate on the logic of "phatic standardization".

Non-state bodies	Farmers associations like National farmers union, Missouri farmers union	Macro	These bodies advocate for changes to the rules. They represent the "normative standardization" of the sector at a systemic scale.
	Non-Profit Organizations, Missouri farmers union, Nonprofit food systems, Food banks, Cooperatives	Meso	Co-ops are hybrid governance structures. They lower transaction costs for members. Identified in interviews as key "catalysts" for local action.
Educational	Universities (system level)	Macro	Creators of codified knowledge and certification rules.
	Extension Office, County Extension, MU Extension Council, City Council Universities' extension programs, Kerr center, Schools / career centers	Meso	Identified as the transmission mechanism between the state and the farmer. These bodies facilitate the "play of the game" by translating macro policy into local practice. They represent the meso level of "organizational grouping". These entities distribute knowledge. They function as the "organizational grouping" that connects abstract research to applied practice.
Financial	Local banks	Meso	Local banks rely on "soft information" (relationships) rather than just credit scores. This fits Williamson's definition of governance that economizes on bounded rationality.
Household	Family / kinship, Parents / grandparents, Children	Micro	The household is the primary unit of deep cultural embedding. It operates on timescales (generations) and is the foundational "micro" unit of social analysis.
Resource units	Land, Crops / produce, Water volume, Timber / fodder	Micro	The flow of benefits. Distinct from the "resource system" (meso). These are the units appropriated by users.
Source: Author (derived from Williamson,2000; Serpa & Ferreira, 2019)			

Further, based on the theoretical frameworks of Williamson (2000) and Serpa & Ferreira (2019), and analyzing the interview information, social media and online markets function as Meso-Level institutional resources. They act as "connectors" or "intermediaries" that bridge the gap between individual actors (Micro) and broader systemic forces (Macro).

The scholarships further suggest that many institutional entities are actually hybrid structures that transcend a single level of analysis. For instance, an Extension Office functions as a State body (Macro level) that intervenes at the Community level (Meso Level) to influence Household decisions (Micro Level). Failure to recognize these cross-level functions often results in policy misalignment. This preliminary synthesis serves as the foundation for a more comprehensive sociological-economic institutional analysis, which is not in the scope of this study.

4.3: Intersectionality of the women farmers relationships

Further, intersectionality of women farmers was arranged according to identified institutional interacting entities. A rough analysis of positioning the woman farmer through Williamsonian and Micro-Meso-Macro frameworks reveals a system in tension, where Macro-level institutional passivity and Micro-level 'triple role' burdens create significant constraints. Despite these structural invisible constraints, the Meso level emerges as a sphere of agency, where women leverage digital platforms and alternative food networks to bypass traditional barriers. Strategic support for the visibility of the capacity of the women farmers, requires redefining agricultural policy to include social infrastructure, such as childcare and broadband, and formally recognizing care work. Ultimately, realigning institutions to accommodate the intersectional 'Mom' identity and time constraints is crucial for unlocking the potential of women farmers as drivers of sustainable agrarian change.

Another critical dimension of the structural situation is the phenomenon of institutional embeddedness and dual roles. Individuals within these interacting

institutions often belong to the farming community themselves; for instance, bank personnel may also be farmers. In my related study (Hendrickson et al., 2025[14]),

The analysis of the "Woman Farmer" through the Micro-Meso-Macro and Williamsonian conceptual frameworks is as shown in the *Table 9*.

Table 9: Interactional Roles of Women Farmers at Sociological Levels of Interacting Entities

Interacting Entities	Williamson conceptual Level	Intersectional Role	Institutional Friction/Opportunity
Household	Resource Allocation	Wife, Mother, Daughter-in-law	Friction: Intra-household bargaining; appropriation of labor by partner. Opportunity: Kinship support for childcare.
Farming Community	Embeddedness	Neighbor, Community Member	Friction: Social sanctioning/surveillance of gender roles. Opportunity: Bonding social capital; mutual aid.
State Bodies (USDA, FSA)	Institutional Environment	Applicant, Head of Household	Friction: Bureaucratic invisibility; bias in lending/support. Opportunity: Policy reform for "gender-transformative" aid.
Market	Governance	Entrepreneur vs. Price Taker; market educator	Friction: Middlemen exploitation; barriers to entry in wholesale. Opportunity: Niche markets (CSA, Florist) valuing "female" attributes.
Online Communities	Governance	Influencer, Digital Mom	Friction: Digital divide; "Digital Double Burden." Opportunity: Bypassing middlemen; building bridging social capital.
Educational	Institutional and Governance	Parent, Student	Friction: School schedules constraining farm labor hours. Opportunity: Knowledge transfer; pipeline for future female farmers.
Land Ownership	Institutional Property Rights	Landowner vs. Tenant	Friction: Patrilineal inheritance norms; lack of collateral. Opportunity: Lease markets; urban gardens as entry points.
Source: Author			

[14] https://mospace.umsystem.edu/items/01206189-475f-486e-883e-4ffa8152ec9a

We found that bank loan officers were often organic farmers as well. In rural communities, those staffing key agricultural institutions are frequently active participants in the agrarian economy—serving as farmers, landowners, and competitors for the same limited resources that the women they serve are attempting to access.

This dual identity of resource providers can create a profound conflict of interest. For example, when a bank officer evaluates a woman's application for a land loan, he is not merely assessing creditworthiness; he may be evaluating a competitor for a parcel of land he wishes to rent or purchase for his own operation. Similarly, when a male extension agent decides which farmers to invite to a technological crop demonstration, his tendency may be to contact his associated peers—farmers with whom he socializes—who are predominantly other men. This social dynamic can lead to the casual dismissal of women farmers and their exclusion from critical information networks.

Since the scope of the current study did not include the perspective of these institutional actors, these specific nuances could not be fully captured. However, this highlights a potential avenue for future study: understanding this duality and its consequences for women and other underserved farmers. Therefore, it is critical to examine the multifaceted roles of women farmers in relation to these institutional structures, specifically to gauge the severity of constraints and the quality of the enabling environment. To do so effectively requires precise indicators; consequently, developing scientific parameters to measure these factors is a valuable direction for future research.

4.4: Emerging Themes and its Interpretation

Thus, the findings display the relationships between women farmers interviewed (participants), and the identified 'interacting entities' specifically considers household,

state, community and market as institutions. For my study SRA's institutions are called 'interacting entities'. Table 10 list down all the emerging themes based on the interpretation of the semi stricture interviews.

The resources required for women's strategic positioning within Sustainable Agri-Food Systems (SAFS) encompass both tangible and intangible assets. Within food systems, the primary tangible resources comprise land, labor, and capital. Conversely,

Interacting Entities	Themes
Household	Decision-Making Patterns and Autonomy Among Women Farmers
	Labor Division and Care Responsibilities Among Women Farmers
	Role distribution for Farm Business Management
	Work-life Balance and Family Integration
	Adaptation Strategies and Operational Constraints
	Support Systems and Partnership Dynamics
Community	Gendered Experiences and Identity Challenges
	Building Community Through Customer Relationships: Non-Transactional Bonds and Value-Based Connections
	Mentorship and Systemic Knowledge Sharing
	Community Integration for System Transformation
	Building Community Through Leadership: Seasonal, Institutional, and Consensus-Driven Engagement
	Adaptive Community Building: Gender-Inclusive Mentorship Philosophy
	Strategic Community Relations Management: Balancing Agricultural Vulnerability
	Changing dynamics and Community Transformation
Market	Land Proximity and Urban market advantage
	Market Diversification as Survival Strategy
	The Premium Pricing Paradox
	Direct-to-Consumer Relationships as Core Strategy
	Scale and Labor Constraints
	Innovation in Market Access
	Market Education and Consumer Awareness
	Farmers' Markets: Mixed Relationships
	Community Building and Local Food Systems
	Gender-Specific Market Challenges
State	Gender-Based Treatment Disparities
	Loan availability: Farm Scale and Type Bias
	Strategic Navigation and Success Stories on development resources
	Knowledge and Information Gaps

	Policy Participation Barriers
	Relationship-Dependent Outcomes
	Indirect Policy Barriers
	Policy opportunities perspectives
Source: Author	

Table 10: List of Interacting Entities and Emerging Themes

intangible resources include the enabling policy environment and market access mechanisms. Drawing upon empirical findings regarding gender dynamics in relation to resource-providing institutions, stakeholder engagement, and women farmers' participation, the subsequent analysis examines these interconnected elements.

4.4.1: Household Resources: Gendered Roles and Agricultural Enterprise Management

Decision-Making Patterns and Autonomy Among Women Farmers

The participants experiences describe distinct patterns of decision-making autonomy and role distribution among women farmers based on their partnership status and operational arrangements. Five primary configurations emerge from the analysis on operations and management: 1) Single women (Full time on farm); 2) Jointly (both partners full time on farm); 3) Jointly (women employed off farm as well); 4) Jointly (Both partners working off farm as well); 5) Women full time on farm (partner working off farm). Each configuration presents unique challenges and opportunities regarding decision-making authority, financial autonomy, and operational control.

Decision-Making Burden and Autonomy in Single Farm Operations

Single women farmers experience both the burden and freedom of complete decision-making autonomy. The data reveals a paradoxical relationship between independence and overwhelming responsibility. One participant articulated this

challenge, *"I get extreme decision fatigue. I mean, I get so burnt out from making decisions and having to make all of the calls and figuring out every single little thing on the farm" (Nia)*. This observation underscores the psychological toll of comprehensive farm management responsibility, where *"all of the weight of everything that I need to do is put on me and it becomes extremely overwhelming" (Nia).* The absence of collaborative decision-making structures in single-operator farms creates operational vulnerabilities, particularly in the delegation of complex decisions. While these farmers maintain connections with agricultural family networks for consultation, the daily operational decisions weight remains with the farmer, with employee roles limited to *"more basic tasks, a lot more grunt labor" (Nia)* rather than meaningful participation in farm management decisions.

Financial Autonomy and Collaborative Decision-Making in Off-Farm Partnership

Women farmers whose spouses work off farm demonstrate distinct patterns of financial autonomy coupled with selective collaborative decision-making. The economic separation creates clear spheres of influence, as exemplified by one participant's account, *"the farm income is all income I spend. My husband never sees any of it. He, most of the time, doesn't even know what our farm income is until we do taxes at the end of the year" (Elsa)*. This financial autonomy extends to operational decisions, with collaboration reserved primarily for significant capital investments, *"if it's a big purchase, like some kind of a farm equipment, my husband and I will do it together" (Mia).* This model appears to provide some women farmers with substantial operational freedom while maintaining partnership consultation for major strategic decisions, while this could also be interpreted as decreased autonomy, but I will be oriented to shared strategic decision

making. The financial independence inherent in this arrangement enables autonomous resource allocation for both farm operations and household needs, with one participant noting that farm income covers *"groceries," "gas," "homeschooling," and "extracurricular activities" (Elsa).* Although this was not common phenomenon, this was more her pride in having that income capacity from farming to allocate resources for other than farming expenses.

Negotiated Authority and Complementary Decision-Making in On-Farm Partnerships

The most complex decision-making dynamics emerge in partnerships where both individuals are actively engaged in farm operations. These arrangements require continuous negotiation of authority and expertise recognition. One participant described this dynamic, *"I would lead, I lead the decision making on the overall business. But there are certain aspects where he leads to decision making" (Lina),* illustrating the compartmentalized approach to farm management authority. However, this model also presents significant challenges when partners have divergent business philosophies. One participant experienced operational tension due to fundamental differences, *"a disconnect between what I see as our business goals and just the way that he operates... he was just really excited to grow food. It was more like, I want to run, I want to run a business" (Noa).* Conversely, successful on-farm partnerships demonstrate high levels of collaborative decision-making and mutual respect. One participant emphasized the egalitarian nature of their partnership, *"he sees me as an equal partner. We like in our day to day and how we work together. We do everything together and make decisions*

together" (Orla). The most successful partnerships appear to combine collaborative decision-making with clear recognition of individual expertise areas.

Educational Capital and Decision-Making Confidence

The shared experience of the respondent suggested that educational background significantly influences decision-making confidence and partner dynamics. One participant explicitly linked her educational credentials to decision-making authority, *"not only my experience but my education gives me the foundation for making these decisions without self-doubt or insecurity. I am very comfortable making choices and determining directions for our farm" (Rose).* This educational capital appears to legitimize decision-making authority within partnership structures, enabling women to receive *"100percent support"* from partners who *"entrust"* them with farm decisions (Rose).

Seasonal and Life Stage Adaptations

Several participants described assuming expanded decision-making roles, particularly when their husbands reduced their involvement in farm management. One farmer expressed satisfaction with this transition: *"He[husband] stepped back kind of towards the end of the season…I have our manager and I are like, now we have two women running the farm, and it's kind of great…our manager and I are taking care, like making, doing the decision-making at this point" (Noa).* This pattern reflects what participants described as their husbands' trust in their agricultural expertise and entrepreneurial judgment, allowing for independent management of routine business decisions.

Labor Division and Care Responsibilities Among Women Farmers

The intersection of agricultural labor and domestic care responsibilities creates complex operational dynamics for women farmers across different partnership configurations. This theme provides insights into how women farmers navigate the competing demands of farm operations, household management, childcare, and eldercare responsibilities. The data suggest distinct patterns of labor distribution, care burden allocation, and business development trajectories that are fundamentally shaped by partnership status and family circumstances.

Triple Burden of Care Work in Agricultural Operations

Women farmers consistently demonstrate management of multiple, simultaneous care responsibilities that extend beyond traditional farm operations. The data reveals a pattern of "triple burden" encompassing agricultural production, household management, and family caregiving.

One single farmer exemplified this challenge while serving as a primary caregiver, *"I was both of their caregivers for a total of three years as their primary caregivers with Alzheimer's and dementia. So, the first two years that I was starting my farm, I was also a caregiver, a primary caregiver, and that was very difficult. I mean, I was just not sleeping. I was trying to build a business and care for my grandfather as best as I could."(Nia)* This intersection of eldercare and agricultural entrepreneurship demonstrates the complex temporal and emotional demands placed on women farmers, where business development occurs simultaneously with intensive caregiving responsibilities. The physical and psychological toll of managing these competing demands illustrates the gendered nature of care expectations within agricultural contexts.

Gendered Labor Division in Off-Farm Partnership Models

The domestic sphere reveals similar gendered divisions, with participants describing clear internal and external boundaries. One farmer articulated this arrangement explicitly: *"she's the mom and she takes care of the kids, and she takes care of the house, and I take care of everything outside the house…I am running a business…also manage our house finances" (Anya).*[15] This configuration assigns comprehensive outdoor agricultural operations to women while maintaining traditional expectations for domestic labor and childcare. The intensity of this labor arrangement is further emphasized by temporal demands, *"I could easily work 70 or 80 hours a week but I also have a family" (Anya).* This farmer is very progressive and educated in keeping herself updated with the market scenarios, technologies, participating in policy making boards etc.and she is successful; she has built her brand in the market and community. The demand for her produce is sufficient enough to earn extra money by working during weekends, but she chose to spend time with her family instead. As a woman, she may like to spend relatively more time with her family children, than chilling out with friends as generally men would prefer. May be is relatively more sensitive towards her family, being a woman herself, she wants to spend time with her family like any mom.

Another participant described the limitations imposed by inadequate support systems, *"it's a little difficult when I'm by myself, because it's a big job...if I had someone that was helping, if I had more help, and I was able to sit on top of it better, I could sell more" (Mia).* This observation directly connects labor constraints to economic limitations, suggesting that traditional support structures may inadvertently limit women's agricultural productivity and income generation potential.

[15] The farmer Anya is same gender couple. She looks after the farm operations entirely. Partner works off-farm. The comment seems patriarchal, but the tone did not.

The seasonal intensity of agricultural work compounds these challenges, with participants describing periods of extreme time pressure during peak growing seasons. One farmer detailed the physical toll: *"there's inside things that have to be done, but, you know, laundry and all that kind of stuff, but no, I just, you know, and then when it's cooler, I spend about eight hours outside[on farm] every day. I mean, it's like, it's a job[8 hour job]" (Mia).*

Transition Dynamics and Economic Sustainability in Partnership Farming

The interviews illuminated complex transition processes through which farm operations evolve from supplementary income to primary household support. One participant described this progression, *"it is now this my husband just probably less than a year ago he was able to quit his job and transition to working here full time. So, it definitely took a while to build up to this point" (Mila).* This transition represents a significant economic milestone where farm operations become sufficiently profitable to support multiple full-time positions. However, the economic sustainability of these operations is often constrained by substantial childcare costs, *"we have a four-year-old and a two-year-old, and yeah, we pay for daycare and that is where all our money goes, to childcare" (Mila).*

This observation highlights how care responsibilities continue to impact agricultural profitability even when adequate labor support is available, suggesting systemic challenges in balancing family formation with agricultural entrepreneurship. Agriculture is more physically demanding with uncertain health insurance benefits, make

the care responsibilities more challenging. In a case couple could not decide on having kids at the right age (Eva)

> *"Yeah, health care in rural communities, that would be a game changer for women, yeah, especially women farmers, right? Free health care or help child care, free child care for women farmers, including women that do other things too, right? That would be a game changer. Health insurance would also be a game changer, like good health coverage that people understood and could get access to would be a game changer for women farmers." (Eva)*

Also, another perspective is such farms are showing the satisfactory profitenough to support the cost of family care. It is trade-off between following the passion about being business woman and devoting 100 percent for home care. This is a good balance and adaptive strategy.

Age, Physical Capacity, and Role Negotiation in On-Farm Partnerships

On-farm partnerships reveal complex negotiations around physical labor capacity, particularly when significant age differences exist between partners. One participant described these dynamics, *"I'm younger and he's older, it can be challenging with the amount of physical work that needs to be done, and him not being able to do it all sometimes, and me having to do a little bit of it. So, there could be some tension there" (Lina).* This statement illustrates how physical capacity differences can create operational tensions and require continuous renegotiation of labor responsibilities. The participant's diplomatic response suggests the sensitive nature of these negotiations while acknowledging the practical implications for farm operations. The evolution of role specialization emerges as a response to these capacity differences, *"I've kind of taken on more of that operations manager role, and he's in charge of the animals and I'm in*

charge of everything else" (Lina). This division suggests how partnerships adapt to individual strengths and limitations while maintaining operational efficiency.

Men in Transition: Navigating Changing Roles

Despite women's engagement in intensive agricultural labor, traditional boundaries around domestic responsibilities demonstrate remarkable persistence. One participant explicitly described the continuation of gendered domestic labor division, *"Not, not physical responsibilities. After, after a certain point of time…Um, he picked up more of the financial responsibilities, but not physical responsibilities in regard to house or kids" (Elsa).* This statement reveals a critical distinction between financial contribution and physical domestic labor participation, suggesting that male partners may increase economic support without corresponding increases in hands-on domestic work. This persistence suggests that agricultural entrepreneurship by women does not automatically translate to domestic labor redistribution within households.

The reproduction of traditional gender roles appears strongly influenced by intergenerational modeling and socialization patterns. One participant provided detailed insight into how childhood observations shape the husband's role expectations, *"my husband grew up with a stay-at-home mom with it [expected roles], and his father. His father was a doctor who worked a lot, you know, and his mom took care of the house and took care of the kids. And so that's what he saw growing up" (Elsa).* This narrative illustrates how parental role modeling creates lasting frameworks for understanding appropriate gender behaviors and responsibilities. The participant further explained how this childhood observations translate into contemporary role expectations, *that has definitely defined the role that he sees for himself, too. You know, he is a provider, and*

very much fits that role" (Elsa). The "provider" identity described here represents a traditional masculine role, that emphasizes economic responsibility while implicitly excluding domestic labor participation. This context may create structural barriers to equitable domestic labor distribution, as male partners view domestic work as outside their appropriate role boundaries.

In contrast to traditional arrangements, some participants described intentional efforts to create equitable domestic labor distribution. One participant explicitly articulated an egalitarian approach, *"We try to, we try to split it all up at the end of the day, like I'm not in charge of taking care of everything to do with the house of kids. He does at least half as well" (Jade).* The repetitive phrasing *"we try to"* suggests that equitable distribution requires conscious effort and ongoing negotiation rather than occurring naturally. The specification that the partner *"does at least half"* indicates quantitative awareness of domestic labor distribution and suggests active monitoring of equity. This approach represents a departure from traditional assumptions about women's natural responsibility for domestic work, instead framing household management as shared partnership responsibility. The phrase *"I'm not in charge of taking care of everything"* explicitly rejects the traditional model where women assume primary responsibility for domestic coordination and execution from the male partners. This rejection suggests conscious resistance to gendered domestic labor expectations and active construction of alternative partnership models. This phenomenon may be more specific to the occupations, where both the partners are subjected to parallel work pressure for financial responsibilities, and managing sustainable farm enterprise is one of them.

The information indicates that agricultural entrepreneurship alone does not automatically transform domestic arrangements, highlighting the need for intentional partnership negotiations around household responsibilities.

Role distribution for Farm Business Management

Complementary Role Arrangement

In farm operations, couples typically establish complementary role arrangements leveraging on their strengths based on either their interest or skills. One participant reflected on how these arrangements developed: *"trying to figure out, like, are these roles that we have kind of divided because that's our actual interest, or because that's what we've kind of, you know, the path of least resistance, like these are the things that we have an easier time doing" (Orla).* Other quotes illustrate leveraging based on skills, *"he's a really good communicator, so it's good to have him on my team for that aspect" (Orla); "I tend to be more... attuned to customer relations than X[husband] does"* also described as *"I have more of like the bigger picture in mind... nurturing those relationships" (Cleo).*

Women Frontiers in Comprehensive Business Administration and Planning

Women farmers demonstrate significant leadership in operational management, frequently serving as the primary coordinators of crop planning, market strategies, and regulatory compliance. Their comprehensive business administration roles encompass diverse responsibilities, as one participant detailed, *"that's my job, I do a lot of the admin work, I do the bookkeeping, I do payroll, I do, like, yeah, grant applications. I do things like, let's see, like, you know, when we're trying to get have organizational systems, I'm the one who, like, research them and tries to implement them" (Noa).* Although this role

may not be very specific to sustainable agriculture, it is relatively more demanding for some producers, for example, the paperwork – involved in obtaining any kind of organic or adjacent organic certifications for marketing their produce at premium prices.

Further, participant Jade demonstrates how maintaining direct involvement in core business functions—particularly payroll and finances—serves as both a learning mechanism and control point during growth phases. This represents a frontier approach where business owners use administrative tasks not just operationally, but strategically to maintain intimate knowledge of cash flow, spending patterns, and business health, *"but as far as, like payroll and all that I do... it kind of helps me keep my hand on on the whole thing, you know, yeah, to know what, what we're spending, what we can afford to spend, that kind of thing, it's easier if you're looking at it all the time"(Jade)*

She further captures the practical reality of scaling: beginning as a *"one-man show"* and gradually delegating specialized functions as the business can afford them. This reflects a nuanced understanding of business planning where growth isn't just about revenue, but about the deliberate, financially sustainable development of organizational capacity, *"I think, like you have to be pretty good size to be able to afford all the special jobs, right for the to begin with, your one-man show who does everything, and then you slowly can fit up things"(Jade).*

Further challenges in hiring, *"...gotta be people you infinitely trust."* before delegating financial functions highlights how relationship capital and risk management intersect in small business administration. This is particularly relevant for women entrepreneurs who may face additional challenges in building trusted networks and support systems.

Further, she articulates a classic entrepreneurial challenge—moving from working *in* the business (hands dirty, executing tasks) to working *on* the business (strategy, customer acquisition, process improvement). This transition represents a frontier in business planning where the owner must consciously shift their role and resource allocation.

> *"We're just not at the point, probably this year, where I can work on the business and a little less in the business, like my hands aren't dirty all the time. I'm out finding new customers or, I mean, watching YouTube videos and how to improve what we're doing."(Jade)*

The commitment to free learning resources and continuous improvement *"You know, anything, anything you can gather information from that's free, I'm all over"*, demonstrates adaptive business administration, using available tools to build knowledge and capacity without significant capital investment, which is often crucial for women-owned businesses that may face funding barriers. *"I have a part time accountant who maybe works six hours a month to kind of do the big picture stuff, like for taxes and such" (Jade).* This approach shows strategic use of professional expertise, outsourcing high-level technical work that requires specialized knowledge while maintaining control over day-to-day operations. It's a cost-effective model that balances professional guidance with hands-on management.

Men's source of Technical Knowledge Transfer, Infrastructure Development and Logistics

The shared experiences reveal patterns of technical knowledge transfer and infrastructure development within farming partnerships. One participant described how technical expertise contributed to operational capacity, *"My husband was a silo*

builder...We have a cleaner that my husband made – he made his own cleaner and then we clean it[seed] and save it" (Nia). This example demonstrates how partners' pre-existing technical skills translate into farm infrastructure and operational advantages. The gradual development of farming operations is evident in the progression described, *"we did not farm at first, it was rented out and then we slowly bought some equipment, and then we started farming" (Nia).* This incremental approach suggests strategic resource management and risk mitigation in agricultural development.

> *When we first started the farm, and my husband has always worked off the farm, but before we had kids, and when our kids were really young, then he did[support on farm in building structures]. He would come home, and I used to tell people he was in charge of structures on the farm. Basically, he would ask me, what do you need, you know? And I might need a high tunnel or a greenhouse, or a place to store food or something, or a place to store tractors. .... So he would build stuff, that's what I would tell people his role on the farm is, it's structures, and mine is everything else. (Elsa)*

Another mentioned logistic support, "*right now my husband and we drive six hours of into Missouri to go get our potting mix. A certified organic potting mix. That is what we need, because there's very little that can be found locally, right here that I can use in organic production. So, we drive six hours to get a trailer load of product".(Elsa)*

Division of Role by Produce Type

In cases involving multiple agricultural products gender-based preferences emerged in my sample, with women gravitating toward vegetable production while men managed livestock operations. One participant described this division: *"we started out raising animals and also running a vegetable farm. And the vegetables I was mostly in*

charge of, of course, my husband was helping too, but I kind of was in charge of the veggies and he was in charge of the animals, and then we helped each other" (Noa).

The traditional division of field work versus administrative work becomes evident in participants' descriptions of their partnerships. One farmer explained: *"the way we've done it the last few years is I have been in charge of sales and harvest and admin, and then he does all the field work and growing" (Noa).* However, these arrangements demonstrate adaptability when circumstances change, with the same participant noting that as her husband stepped back, she began *"taking on more of an active role in the field."*

Economic Dynamics and Financial Arrangements

The economic structure of these farm operations reveals significant dependency on off-farm income, typically provided by the spouse's employment in other sectors. Participants frequently acknowledged that their farming enterprises functioned as supplemental income sources rather than primary household support, although their farm expenses were taken care by the income from the farm. One participant candidly described her situation: *"I don't make that much…my husband is a financial advisor, and so he has a job, and so he is the main breadwinner…I don't sell enough to. I would not sell enough to support myself currently. Now, I could probably do that if I had some more help, and I pushed it harder" (Mia).* The challenge of achieving financial viability while managing farm operations independently emerged as a common theme. The same participant explained how limited labor affected her earning potential: *"if I had someone that was helping, if I had more help, and I was able to sit on top of it better, I could sell more. But it's a little difficult when I'm by myself, because it's a big job" (Mia).* Some

participants described operations that supported both partners full-time, though this required significant development over time. One farmer noted: *"This is my full-time job and my husband's full-time job. We also have a website, online store where you can order our stuff online. That's what he manages. So, we both are supported full time [and] we have four employees." (Mila).* This economic arrangement creates complex dynamics around financial independence and business growth, with participants often expressing reluctance to utilize household funds for farm investments while working toward greater self-sufficiency.

Adapting to Lifecycle Change in Work-Life Balance

The intersection of childcare responsibilities with farming operations presents substantial challenges for women farmers. Participants consistently described maintaining primary caregiving responsibilities while managing farm operations, often requiring significant adaptations to work schedules, production systems and physical health.

Childcare and Parenting Responsibilities:

One participant described the dramatic impact of having children on their operation: *"That's been a tough thing to figure out before we had the baby. We have managed a lot of farms together, and it's always been pretty even distribution. Of like we had things pretty divided well." (Orla).* However, after having a baby, she explained: *"since we had the baby, it's been, I mean, we had a baby in April, so I was out on maternity leave [away from farming]for all of the spring, which was really hard, because*

then [husband] had to take on all of the things that I usually do, and we ended up just kind of dropping a lot of things, and we intentionally cut our production back significantly" (Orla). She further emphasizes the extended physical challenge well beyond the immediate postpartum period, *"nursing a baby has been a big physical challenge to like, have the strength and, yeah, after having a baby, I was so weak that it's taken a long time, and it's still taking time, to be back to my normal self about being able to lift things and get on, like, bend down low onto the ground and stand up again, my legs, like core strength is so weak from that." (Orla).*

Another participant explained*, "For me as a farmer, right? I'm in a position right now, you know, 10 years ago, I was selling $100,000 worth of food a year. Right now, at this stage in life, I'm selling $30,000 worth of food a year because the homeschooling had to come first. And so, something had to give. And that give was on the farm side." (Elsa).* In four of the cases the children were homeschooled, partly before moving to higher classes. The women also mentioned about the support that they get from the children when they are available at home. (Hana)

Adapting to Family Responsibilities:

The necessity of reducing farm operations to accommodate family responsibilities has emerged as a common adaptation strategy. One participant described making difficult choices: *"I had a baby, and that's when we dropped our CSA, because I was running that my husband basically took on all of my role in the garden, and it was just too much. And after the first year, we realized, like, we had to drop something, so we sold all of our animals" (Noa).*

Women Farmers and Operational Constraints as Mother

Women farmers employ various adaptive strategies to manage the competing demands of agricultural production and family responsibilities. Mothers with infants developed specific strategies to continue farm work while managing childcare.

One participant explained how she adapted her activities: *"[My husband] has stepped up into more of a farming role, and I've been more into office stuff, things that take a little bit, or things. I can, I can pick up, and I can come and go from, like weeding, I have been doing more of that because I can. It's like not a project that has to be finished right away. I go into the farm, and I do something for a little while, and then when I need, I leave, and I can do stuff like that, or it is more things that you can do with like a baby and a baby carrier".* However, even these adaptations came with limitations, *"both do a little bit of that, but it's just harder to move around. Whenever you can't, if you're like wearing the baby, it's harder to bend and do that thing." (Orla).*

Another participant takes her kids on farm, while she is working, *"My kids were always pretty much on the farm with me, and we just worked, worked our way around it.(Hana)"* This could be challenging in switching between two roles of mom and farmer simultaneously. This may also deprive children of timely education.

Support Systems and Partnership Dynamics

Successful integration of farming and family life depends heavily on support systems, including extended family networks, spousal cooperation, and community assistance. The quality and consistency of spousal support varies significantly among participants, with some describing collaborative partnerships while others manage with more limited assistance. One participant described how her husband's other employment affected their farm partnership: *"He's a financial advisor... he has clients that he's taking care of all the time…he helps, obviously…doing a lot of grass cutting, when he can, he helps me" (Mia).*

Extended family members, particularly mothers-in-law and grandparents, in two distinct cases provided crucial childcare support that enables continued farm participation. One participant acknowledged this essential support: *"my mother-in-law came down, and she had been here doing the bulk of childcare for us" (Orla).* This assistance becomes particularly critical during intensive farming periods when both parents need to focus on agricultural work.

The participant described how role flexibility within partnerships could accommodate changing family needs: *"I did [took a leave from farming] for the first year of each of my kids' lives there. They're six and three now, and so they actually go to school now. So we, you know, during the school day, I can work…my husband just recently took a step back from the farm. So, he's actually temporarily doing some more of the domestic things that I usually do, and I'm working more" (Noa).*

The evolution of support arrangements often reflects changing life circumstances and priorities. One participant described how she navigated the decision between hiring farm help versus childcare: *"from like a quality-of-life standpoint, working farmers markets is like – my husband was gone every Saturday after working six days a week, and I was working four days a week, and yeah, and then childcare. I was doing all the childcare on Saturdays. By Sunday, my husband was so tired I still was doing all the childcare...I can either hire someone to replace me on the farm, but, like, no one's going to do the work the way I do it. Or I can hire childcare for the same amount, and I can go do – I'm like a person and a half on the farm, because I just know it so well, I don't have to train anybody" (Noa).*

4.2.2 Gender Relations Perspectives: Community as Resources

These resources demonstrate that women farmers derive both tangible and intangible benefits from their community relationships, with emotional support, social validation, and opportunities for broader impact serving as crucial sustaining forces in their agricultural work. These relationships reveal how women farmers can create

sustainable operations by accessing geographically distant but value-aligned communities that provide both market access and emotional support, creating motivation and sustainability that extends beyond simple economic transactions.

Gendered Community Experience and Psychological Adjustment

Adding to the performance pressure are reactions from male farmers in the area. Participant Lina posits a direct link between the increasing prominence of women in the field and a reactionary sentiment from men, as illustrated *"backlash from white men feeling like they're losing their place,"* which manifests as "anger" and "hate" when *"women become more prominent in a field that has typically been dominated by men." (Lina).* This perception of a gendered backlash is a significant external stressor that shapes her professional experience. Contrasting with these external pressures is a powerful internal narrative of professional reclamation and empowerment. Participant Lina recounts a significant personal evolution, moving from a position of self-doubt to one of earned authority. She notes that early in her career, she *"felt a little bit like an imposter,"* a common psychological barrier for women entering male-dominated professions. However, she now asserts her right to the title, stating, *"I feel like I've earned my scrapes and bruises to be able to be called a farmer." (Lina).*

This journey of overcoming imposter syndrome culminates in the embrace of an activist identity. The participant reframes her role beyond simple production to that of a *"community food activist or activator."* She acknowledges a desire for leadership and action, stating she wants to be a "change maker and visionary within our food system." (Lina). This demonstrates a clear progression from securing a professional identity to

leveraging that identity for broader systemic change, marking a transition from being a participant in the food system to becoming an agent of its transformation.

Women farmers establish credibility through consistent demonstration of agricultural competence rather than relying on gender-based assumptions. This theme reveals how participants leveraged product excellence to overcome initial skepticism and build sustainable community relationships. The cultivation of trust through quality output serves as a mechanism for transcending traditional gender barriers in agricultural commerce,

> *"I definitely have built up a great amount of trust and relationship in the community, and people know that I grow a very good product, and they want to support me... your brand, your name, can only get you so far if you grow a piece of shit product, you know people are not going to pay a high dollar for something that they do not trust is going to be good quality every time that they buy it" (Anya).*

Participants encountered persistent assumptions regarding their agricultural capabilities, with community members frequently questioning whether male partners conducted primary farming operations. These interactions reveal embedded cultural beliefs about gender-appropriate roles in agricultural contexts, manifesting through direct inquiries about marital status and male assistance. Furthermore, interactions with institutional agricultural support services demonstrated potential gender-based dismissiveness that participants struggled to definitively attribute to discrimination.

> *"I've had a number, like a handful of experiences where I can't count anymore, where some men will come and they'll be looking around, and be like, so are you married? And I you're, oh, you know, you must have a man helping you around the place, because these are mostly men's jobs. And I was like, whoa. I literally just got off the tractor in front of you." (Nia)*

"every time I've gone in there [USDA Office], just kind of, I think he just prefers to work with cattle farmers, but he just kind of, it feels a bit dismissive when I go in there, and I can't say that it's because I'm a woman, but it's definitely crossed my mind. Like, is this, why is he just, like, not taking me seriously, right now?" (Nia)

The data explains a significant tension between participants' self-identification as independent agricultural producers and community perceptions that position them as auxiliary figures ("farmer's wife"). This identity negotiation demonstrates how women farmers actively work to establish professional legitimacy through visible agricultural engagement and community presence. The distinction between customer recognition and peer acceptance emerges as a critical factor in identity validation.

"I get that a lot. Yes, definitely the farmer's wife." (Orla)
"I feel like our community and the people that we farm are like our actual customers. They're really receptive and like they understand me as a farmer, not like just being the farmer's wife." (Orla)
"I mean, well, I'd say within the very first season of farming, people saw that because, you know, we were, we're out there physically working" (Cleo)

Mostly participants operated within demographically homogeneous agricultural communities characterized by conservative social values and male dominance. The traditional agricultural sector, dominated by older male producers, creates specific challenges for women seeking professional recognition. However, specialized sectors such as organic production demonstrate greater receptivity to female leadership, suggesting sectoral variation in gender acceptance patterns.

"definitely in rural America, a typical farmer is a 60-year-old man in the produce industry, which is where I find myself, organic produce. A lot more female leaders in produce, even though typically like large sale [farm

operations] produce operations, they're typically men... this community is very conservative, very male dominated agriculture." (Lina)

Participants Lina demonstrated awareness of their relative privilege within intersectional frameworks while acknowledging ongoing gender-based challenges. White women farmers in this study recognized their position within broader social hierarchies and expressed commitment to supporting more marginalized agricultural producers. The analysis suggests that while white women face credibility challenges in farming communities, they simultaneously recognize advantages afforded by their racial and educational positioning.

Lina articulated this intersectional understanding, stating: *"I do have a pride in this fact that, like, you know, we are a minority, and especially like I always want to lift up women who are in minority populations, to help them, because I know their voices are even more marginalized than my own."* She continued by acknowledging her own relative privilege: "*obviously, as growing up an educated woman, white woman, I have a little more opportunity that are just gifted to me through society, through just being a white woman, but I think I also have to fight a little bit for some credibility in the farming community."* This reflection demonstrates how participants navigated the tension between experiencing gender-based marginalization while recognizing racial and educational advantages that position them differently than women of color in agriculture.

Participants encountered subtle but persistent challenges when engaging in agricultural support institutions and extension services. These interactions were characterized by ambiguous dismissiveness that participants suspected might be gender-related but found difficult to definitively attribute to discrimination. The theme suggests systemic barriers that operate through interpersonal interactions rather than explicit

policy exclusion. *"I can't say that it's because I'm a woman, but it's definitely crossed my mind. Like, is this, why is he just, like, not taking me seriously, right now?" (Nia)*

The analysis reveals a significant distinction between customer acceptance and agricultural peer recognition. Direct consumers demonstrated greater receptivity to women farmers acceptance, while agricultural community acceptance lagged behind consumer acceptance. This differential reception suggests that market relationships may provide more equitable spaces for women farmers compared to traditional agricultural peer networks. *"I feel like our community and the people that we farm, are like our actual customers. They're receptive and like they understand me as a farmer, not like just being the farmer's wife" (Orla)*

Participants described a temporal progression from initial skepticism to established professional recognition within their agricultural communities. This evolution demonstrates how sustained agricultural engagement and proven competence gradually overcome initial gender-based assumptions. The theme suggests that professional legitimacy for women farmers requires extended demonstration periods compared to their male counterparts.

> Interviewer: *"So do you think you are identified as a farmer in your community and region?"*
> Farmer: *"Yes, definitely, yeah…I think I haven't had any problems being perceived as the farmer recently, certainly not recently." (Cleo)*
> *"I would say that I don't think that I have noticed any difference in the way that people interact with me now compared to then. I don't, I didn't. I noticed no difference." (Anya)*

The experience shared by the participants describes significant emotional costs associated with persistent gender-based assumptions and the continuous need to prove agricultural competence. Participants expressed frustration with ongoing biases and described the emotional burden of navigating gender-related challenges in their professional contexts. This theme illuminates the psychological toll of operating within male-dominated agricultural environments. *"I mean so and then he understands, I guess he's understanding of it, but it's somehow just like never, I guess, yes, it's an issue with other people and their bias biases, but, yeah, it bothers me a lot." (Eva)*

The persistence of traditional domestic arrangements alongside women's agricultural entrepreneurship suggests that gender role expectations in the domestic sphere may be more resistant to change than those in the productive sphere. This resistance may reflect deeper cultural associations between femininity and domestic caregiving that transcend economic role changes.

Changing Dynamics and Community Transformation

Collectively, these quotes suggest that the experience of women farmers is not one of monolithic sexism. Instead, they navigate a complex landscape of gender relations where they often face an initial burden of proof, needing to validate their presence through economic success. However, there is a noticeable, positive trend of being recognized as experts, particularly among younger generations of men. The support they receive from community can be ambiguous, sometimes taking the form of well-intentioned but patronizing "tokenism" that highlights their gender as a novelty.

> *But I wouldn't say that as a blanket statement—there are plenty of responsible, nurturing men out there who are great organic farmers and stewards of land….I*

will say that I notice more men allowing themselves to see me as an expert or authority in some areas. (Lina)

The respondent *Lina* avoids generalizations *"I wouldn't say that as a blanket statement"* and points to a significant change, *"I notice more men allowing themselves to see me as an expert or authority."* The phrase *"allowing themselves"* is critical; it implies a conscious or subconscious shift in a power dynamic, where men are beginning to concede epistemic authority probably in sustainable farming area, to a woman.

So, it's like, if anything tipped the other way, that probably the men that I – you know, someone who's in their 60s that doesn't want to change how they're doing life, and then meets all these young women doing this thing, this job. That's probably who would have the most snub nose to taking new information. Or what do you know that I don't you know. I don't really see a lot of that. If they think it, they don't say it. But like I said, the conferences are surprisingly young. Who is the most interested. So maybe that has already shifted quite a bit. Nobody's ever said it to my face, (Jade)

She identifies a specific demographic—older, traditional men—as the most likely source of a *"snub nose*" attitude or skepticism "*what do you know that I don't*". However, she importantly notes, "*I don't really see a lot of that,"* suggesting that overt, confrontational sexism is less common than she might have expected. Further, her observation shared that agricultural conferences are *"surprisingly young,"* leads her to believe that the resistance from an older generation of farmers may be fading. This points to a generational cohort effect, where younger men entering agriculture may hold more egalitarian views.

I think maybe in the beginning they didn't take me seriously, but now that they can, you know, I can show them. No, look, I'm making money and I am serious, or I wouldn't be doing this. Now that I've got some experience in me, it's like I'm proving to them that I'm I'm feasible, valid. But I think in the beginning it was

nobody had ever done what I'm doing in this area, and they didn't know what to make of it (Lara)

sometimes the support is sort of this, like, kind of go girl mentality, like, even from men, even from, like, old men, it's like, oh, we have a woman. We have a girl farmer. You know, it's kind of like this community pride thing that might actually be like an advantage. (Leal)

Perhaps the most complex theme is the nature of the support women receive. It can be genuinely helpful but is sometimes rooted in gendered novelty rather than pure professional respect. She describes support from men, even older men, as a *"go girl mentality."* While this is framed as a potential "*advantage,"* it is also a form of tokenism. The phrase "*oh, we have a woman. We have a girl farmer"* suggests she is being celebrated for her identity as a woman in a male-dominated field, rather than solely for her skills as a farmer. This is a classic example of benevolent sexism—a subjectively positive but stereotyped view that can still be patronizing and reinforce gender hierarchies. It creates a *"community pride thing"* that, while beneficial, still marks her as different.

Overall, these narratives show a transition away from overt exclusion toward a more nuanced reality of conditional acceptance and benevolent sexism, while also pointing toward a future of greater genuine equality.

Building Community Through Customer Relationships: Non-Transactional Bonds and Value-Based Connections

<u>Non-transactional reciprocal community system:</u>

It is found that women farmers gain the primary motivation through community connections, as it is illustrated by a farmer, *"the incredible community connection that we*

have with our customers, the amazing feedback that we get, the appreciation, the connection" (Cleo). The farmer identifies community connection as *"the main thing that I feel keeps me going,"* indicating that access to this appreciative customer community serves as a primary resource for maintaining her farming operation. The *"positive interactions"* provide psychological support – an intangible resource as motivation, that help maintain her commitment to farming. She further notes that the community connections provide professional fulfillment and satisfaction as expressed *"they just couldn't get that doing something else".* This demonstrates how emotional and social community resources can be as crucial as economic ones for sustaining agricultural enterprises.

The community further serves as a vital source of emotional and motivational energy as illustrated by a participant *"what I get from the community is energy to do the work... I get energy from the community. I get motivation" (Lina)*. This suggests that community relationships are not merely economic but serve as essential sustaining forces that enable the farmer to continue her demanding agricultural work.

Women farmers get their identity as a farmer from their community. The community provides crucial validation of both the farmer's products and their identity as farmers. *"What I get from my community of customers is appreciation for the products and us as farmers and just care"(Lina).* Further, the farmer's ability to remember past customers who *"were with us for a couple years, and then they moved"(Lina),* demonstrates relationships that transcend immediate geographic proximity and current business connections, suggesting enduring community bonds that persist beyond active economic engagement. These relationships suggest women farmers are community

integrators who build deep, sustained, multi-faceted connections that serve both individual and collective goals for food system transformation.

The chemical free produce became the reason for customers coming to women farmers and knowing about their farming practice. This inquisitiveness developed into personal connections, who recognized the value of her chemical-free produce, as illustrated by a participant, *"friends and neighbors wanted"* her produce because *"they knew what I was growing wasn't sprayed with anything (Jade)".* This created a community-based market that valued her farming practices. The phrase *"it's hard to find that"* indicates she fills a specific community need for truly chemical-free food. The farmer establishes her community relationship on a foundation of genuine self-presentation: *"I would like to think of myself as a genuine person, so I give them myself presented in a genuine way"(Lina).* The relationship operates as an exchange of authenticity.

Women farmers cultivate deep personal relationships and draw a clear distinction between different types of customer relationships: *"we know our customers. We don't know our wholesale customers that much, but we know our [direct] customers" (Lina).* This intimate knowledge extends to personal details: *"Like I could name every single one of my customers right now. I know their first and last names. I probably know if they have kids or whatever" (Lina).* This demonstrates how women farmers cultivate relationships with their direct community customers that transcend typical commercial transactions, "*people from past, you know, CSAs that maybe were with us for a couple years, and then they moved or whatever, I still remember them"(Lina).* These detailed, personal

relationships provide women farmers with a sense of meaningful connection and community belonging that extends far beyond anonymous market transactions.

Transparency and Accountability

Women farmers believe in maintaining the trust of the customers and promote transparency in economic relationships. A participant demonstrates how her farm serves as both a food source and an educational resource. This accessibility transforms her farm from a simple production site into a community gathering place, as described *"open door policy" creates a unique community resource where transparency builds trust and engagement. The ability for customers to "come out here and walk around"* and for children to *"pick something off the ground and eat it (Jade)".* The relationship is built on deep familiarity and trust - *"They knew what I was doing. They've been out here"(Jade).* This hands-on engagement creates a community resource network based on direct experience rather than marketing claims. Community members become informed advocates because they've participated in the farming process themselves.

Urban Customer Base Encouraging and Sharing Values on SAFS

Urban customer base of women farmers represents a community resource that specifically values her organic certification and farming practices. Unlike her rural neighbors as a customer base who may not prioritize farmers'organic methods for paying premium price;her urban customers actively seek out and support her certified organic products. This creates a sustainable market based on shared values around food production, proximity to urban markets, and environmental stewardship.

A participant describes she operates as a bridge between rural production and urban consumption, driving *"to an urban area to do our marketing"* where *"the majority of them are in Tulsa (Cleo)."* This geographic relationship allows her to access urban customers who *"definitely care about the organic certification,"* creating a market for her specialized farming practices that may not exist in her immediate rural community. This demonstrates how women farmers can strategically access market across geographic boundaries.

The farmer serves as an educational resource by teaching customers about seasonal alternatives - *"If you want spinach in June and July, then you get Malabar spinach." This educational approach transforms potential customer disappointment into learning opportunities, strengthening community relationships through knowledge sharing about sustainable farming practices" (Lara).*

Local Food Security

As per FAO four components of 'Food Security' are – availability, nutrition, accessibility, and stability. Women farmers contribute to community food access improvement and to the resources of their neighborhood food security by providing accessible nutritious fresh food. The farm (Mila) serves as a community resource by addressing local food access challenges, as illustrated, "*while not in a food desert necessarily"* the farm provides an alternative to *"only like packaged processed foods"* available at the convenience store. It is also observed in the remote This positioning of the women farmers may create community value that extends beyond simple market transactions to include improved neighborhood food security.

Mentorship and Systemic Knowledge Sharing

Experiences shared about the reciprocal relationships where participant shared her expertise with the students from the schools and colleges, while students provide labor assistance during busy seasons like spring planting. The hands-on teaching approach - *"they've watched me do it, and I gave them the tools"* (Lina). Also illustrated by another participant that she mentors *"several new, young organic farmers" and includes them in "support/supply networks"* (Rose). This creates a resource-sharing system where experienced farmers transfer knowledge while building collaborative business relationships. However, she also experiences the challenges of mentorship when mentees *"become successful and then sour toward you over business dealings,"* highlighting the complex dynamics of peer relationships in competitive agricultural markets. The labor involved in educating and mentoring is not rewarded in such situations.

Research investigation also that NRCS in certain situations directed new farmers to experienced women farmers, as illustrated - *"when they have somebody newcomer, they send them to me, and they say, go talk to her. She'll show you."* This systematic referral process demonstrates how her farm has become an established community resource for practical education about high tunnels and working with government programs. *(Elsa).* Her approach to mentoring involves sharing both successes and lessons learned - *"explaining what I would do differently, or what I would do the same."* These relationships demonstrate how women farmers can evolve from isolated beginners to central community resources, leveraging institutional partnerships to create systematic support systems for other farmers while fulfilling a sense of community obligation based on their own positive experiences with resource access. What incentives the government agencies provide for mentoring were not there when I interviewed but now Transition to

Organic Partnership Program (TOPP) have provision for funding mentorship, though focused on organic certification.

The findings also illuminates that women farmer provided educational resources through *"tons of tours and school groups, and field trips."* This positions her farm as a community learning center where people can understand food production processes. The educational component strengthens her relationship with the community while building long-term support for her farming practices. *(*Jade)

The participants also were found to serve as a community resource for aspiring farmers, particularly women. She's provided support *to "two younger than me, women who started a farm,"* including hosting them for *"workdays together"* and offering ongoing guidance. Her approach is inclusive, *"anytime anyone's reached out to me, I have invited them and tried to help as much as I could,"* demonstrating her commitment to building the local agricultural community *(Leal).*

The participant was also found to maintain connections with other farmers in her community, creating an informal network mostly through digital groups, for problem-solving and knowledge exchange. The phrase *"we kind of communicate"* and her accessibility to this peer group to *"call one of them to ask"(Mia)* suggests ongoing, accessible, informal relationships rather than formal consulting arrangements, who are always available to answer their queries. This peer-to-peer support system allowed farmers to share experiences, troubleshooting challenges, and learn from each other's successes and failures.

Furthermore, another participant volunteered to develop a neighbor network. She has successfully mobilized community members as active participants in farm operations

through *"volunteer workdays"* where *"people are here a lot."* This represents a sophisticated resource-sharing system where community members contribute *"a lot of volunteer hours"* in exchange for their food source and farming education. The volunteers become invested stakeholders who have *"planted the plant"* and *"harvested the plants" (Jade).* Although managing volunteers is a big job, but I found women farmers were more appreciative about the free labor that they could manage for their farmwork

Community Integration for System Transformation

Informal mentorship:

Perhaps most significantly, four of her (Anya) former employees have purchased land and houses in her community, creating a local network of connected farmers. This represents a transformation from employer-employee relationships to peer-to-peer community networks, where resources like fresh vegetables are shared weekly and social connections are maintained. This pattern suggests that women farmers often build their own resource networks through mentorship and community creation when formal support structures are limited, particularly in regions where they may be underrepresented in traditional agricultural organizations.

formal support groups:

Building Community Through Leadership: Seasonal, Institutional, and Consensus-Driven Engagement

Women farmers having professional education, working on related off-farm jobs, provide additional avenues for engagement and influence beyond their farm operations, allowing them to pursue systemic change through multiple channels as suggested: *"...why I like to have an off farm job, is because I engage in a totally different way than what my farm does, and I can be part of creating those kinds of solutions"(Lina*). This dual

approach allows her to impact community through both direct agricultural relationships and broader professional engagement, maximizing her potential for systemic influence. These relationships reveal women farmers as deeply embedded community members who create intimate, sustained connections that serve both personal sustenance and collective transformation goals.

The finding also suggest that women farmers have provided the employment opportunities in the community. The farmer (Anya) has employed over 40 people in 14 years, many of whom were young individuals. This demonstrates how established women farmers can serve as crucial resources for newcomers to the field. The fact that she maintains relationships with former employees shows the lasting impact of these mentoring relationships.

The farmer (Mila) has actively built community support before seeking official approval, *"talking with all the neighbors and the surrounding community"* and holding *"neighborhood meetings, just kind of explaining what we wanted to do."* This grassroots approach created a foundation of support that materialized during the formal approval process when *"people came and they supported us"* at city council meetings. This demonstrates how women farmers can strategically mobilize community resources through transparent communication and inclusive planning. Mila alao serves as a resource for other aspiring urban farmers, noting *"I think we've had a lot of people contact us that want to do something similar, but they're just not sure about how to go about it or in their city."* This positions her as a pioneer whose experience becomes a community resource for others interested in urban agriculture development.

Adaptive Community Building: Gender-Inclusive Mentorship Philosophy

"I personally want to see, and I've experienced this with a lot of other women farmers. I want to see a better food system. I want to see a stronger food system, one that's focused on equity and care and health. And so in order to see those things happen, I need to engage"(Lina). The community provides women farmers with both the motivation and the platform to work toward broader systemic change in food systems, connecting their individual farming practices to larger social goals.

4.4.3 Market Relationships: Community Integrated as A Core Strategy

Land Proximity and Urban market advantage

Her (Mila) urban farming operation leverages location as a competitive advantage, noting *"we're located in the city so we have like super close access to our markets, whereas big farms out in the country they have to drive sometimes hours right to get to get to their markets."* This positioning transforms urban constraints into community assets, providing *"another access to fresh food"* in an area where *"your other closest food option is on the corner and it's a convenience store."*

"things that come a little bit easier for us are marketing I think our location is pretty good we live on a busy highway, we're easy to find if we want to be found, you know and we're not far from Little Rock, we're within an hour of Little Rock you know which is where of main markets and our main main restaurant customers are.(Elsa

Market Diversification as Survival Strategy

Women farmers demonstrate sophisticated market diversification strategies to maintain financial viability, as illustrated by a participant Anya, *"I sell wholesale, I sell retail, I sell at two big farmers markets on Saturdays, when the Farmers Market here in*

Columbia, when it has a Wednesday market, I sell at that Wednesday market. I sell the restaurants, and I sell now to some pretty big wholesale customers"(Anya), and the participant Lina, *"We have wholesale and retail style outlets, and we sell through the Kansas City Food Hub, which is a cooperative of farmers. And then we also sell to Whole Foods. And then we have our CSA, the Community Supported Agriculture, online sales" (Lina).* This multi-channel approach reflects both opportunity and necessity emphasizing that women farmers cannot rely on single market streams for adequate income. This also is related to the changing responsibilities of women farmers during different phases of their lifecycle, mostly after becoming mothers, as illustrated by the participant, "*I had a baby, and that's when we dropped our CSA" (Noa).*

> *"Started as a CSA. It started as a more traditional CSA. It's what's in the box this week. But we actually and truthfully software was what allowed us to move to a custom model. So now behaves much more like like Amazon or any online market where you just pick and choose like, they want three heads of Romaine and you know, two packs of kale and a pack of carrots. They can put that instead of us saying, Well, you get Romaine and kale and carrots".(Jade)*

The Premium Pricing Paradox

Many women farmers position themselves in premium markets but face significant challenges, as one participant articulates this tension

> *"I charge a prime, premium price for the product that I grow, and it has priced me out of, you know, some, some of the restaurants that I used to sell to like, they have budgets, and I understand that. And there are more growers now that have come up, you know, in the mid Missouri area, selling in and around Columbia."(Anya).*

Another participant faces a similar challenge with cut flowers, *"I could sell to larger distributors... but they would give me, like, 20percent of what I could get selling it*

directly to a florist. And I don't have that kind of markup"(Nia). This creates a fundamental tension between maintaining quality/sustainability standards and market accessibility.

Direct-to-Consumer Relationships as Core Strategy

Women farmers consistently emphasize building direct relationships with customers. As described by a participant,

> *"It is always encouraging when we see more organic practices popping up, and more consumer support for them. It's very rewarding when you work hard to grow things, and they sell out…or become part of a favorite dish. It's also rewarding to have built a following, a customer base who is devoted to supporting your farm/business/mission." (Rose).*

Women farmers preferred staying near by the urban proximity to be near the customers who value the sustainably grown produce, can directly reach out to the farm and are ready to pay the premium price, as illustrated, *"my farm stand is on the farm, and this is kind of based on observation of what people tell me, but probably half of that is going to people within just a few miles of the farm, because a lot of our customers live right near the farm."(Leal)*

Scale and Labor Constraints

Women farmers frequently identify labor and scale as primary market limitations, as explained by a participant, *"if I had someone that was helping, if I had more help, and I was able to sit on top of it better, I could sell more. But it's a little difficult when I'm by myself, because it's a big job." (Mia).* This labor issue has led to a scaling challenge as described by a participant, *"I've kind of hit my limit with how much I personally can do on my own...last year, I was spending four days a week just driving. I would harvest*

flowers in the morning and drive it all around."(Nia). Such experiences are shared by the single women farmers, and women farmers with their partners employed off farm.

Innovation in Market Access

Women farmers demonstrate significant innovation in reaching customers, as described by a participant about their operational adaptation, *"we found out that delivering to people was doors was the best way to get customers... Now they can choose what goes into it and how much and we take it on Thursdays right to their door"(Lara).* Women farmers are contributing to creating integrated local food systems, as illustrated by the participant, *"what we can't grow or produce we found other local producers that are doing it more than organic as well. So obviously we can't do everything. But I found someone else who could do potatoes"(Jade).*

> *"we would grow it organically anyway. But if I had to sell to my rural neighbors, I could not stay in business, selling organic. You know, I couldn't demand the price point that I need to be able to continue doing this. And so, for us anyway, you has really been about building a customer base over the last 13 years. That is asking for organic food, you know, and, and we've been consistent, and we've been selling now for 13 years, we have a very good customer base, very solid customer base". (Elsa)*

Market Education and Consumer Awareness

Women farmers often take on the role of market educators. Cara identifies awareness gaps: *"people just aren't aware yet. There aren't enough people aware yet that that is the way it's raised [with high chemical inputs]."*

Rose describes this challenge: "*I can get tomatoes at Walmart for 99 cents a pound*" comment, as well as *"what does organic even mean [to the customers]but we navigated it and built a very solid customer base."*

The farmer's sustainable agriculture education directly informs their diversification strategies and risk management approach, *“one of my majors is a sustainable agriculture. And a lot of what we talked about is diversification so that when uncontrollable events happen, you have other resources” (Hana)*

The pandemic transformed customer relationships from transactional to collaborative partnerships focused on food security*, “I do think we'd help rounded out here” (Hana).* The farmer demonstrates sophisticated awareness of their limitations and complementary (not exclusive) role in regional food security, *“it was like everybody kept asking, Are you guys, okay? Are we you know, can we get our food from you guys? And we were like, Yeah, we're still producing normally. And I don't know that we can be expected to be the exclusive like food providers of a region…we've been talking to our customers about where the future is, we don't want to be victims of the overspray. And trying to promote that, like we are working to secure this food production so that you don't have to worry about this again. Once you look it up” (Hana).*

Farmers’ Markets: Mixed Relationships

Farmers markets represent both opportunity and limitation as shared by the participants. One participant left markets strategically, *"we were at the farmers market for nine years, and we just and we quit this best day of our lives”.(Lina).* Another participant moved beyond markets at went online, *"We have pulled completely out of farmers markets, and we are doing everything online" (LARA).* Yet another participant transitioned to retail, *"we used to sell at the local farmers markets here. But since we opened up our grocery store, we don't do that as much" (Mila).*

The structural barrier of the farmers market as described by a participant Hana, emphasizes that viable farmers markets require sufficient population density to support both farmer participation and customer foot fall,

> *"you have to have enough customers for farmers to show up in this region. Most of the counties aren't big enough. It's like backyard gardeners that can go to those more…there's a scaling problem. I mean, if you want this to be a career that that has a livable wage for it, you have to have population. And that's that's the misguided policy that I think a lot of smaller rural areas are fighting". (Hana)*

Participant further describes that farmers markets serve higher-income customers rather than addressing food insecurity, contrary to common policy assumptions, *"we've talked a lot with people in our knowledge of farmers markets is everybody's like, this is the solution to food insecurity and nutrition. And it's like that's not the customer base who comes. And anytime you put a farmers' market in a low income area, it actually turns out really poor for the farmers".* Rural development policies promoting farmers markets don't account for economic realities. Further she talks about the ethical tensions between serving the farmers market, the farmer faces conflicts between potentially more profitable distant markets and serving their local community,

Community Building and Local Food Systems

Women farmers consistently emphasize and have realized their role in building local food systems. A participant demonstrates this vision, *"we saw the need for more and easier access to local food choices... this grocery store, it's open seven days a week, so our community has easier access to local food."(Mila).* This participant is describing a community-driven food access initiative—likely a local foods grocery store or co-op. The

tone is matter of fact but proud. They identified that people wanted local food but faced barriers (inconvenient hours, limited availability), and they solved it with permanent, accessible retail infrastructure. This represents a practical, sustainable approach to food systems rather than something temporary or niche. The speaker sees this as a community victory that serves real needs.

Another participant expresses optimism, *"we have some great land to work. I mean, there's not much soil here, but there's some food hubs popping up that can really help. And, I mean, I don't see why. Why not? Like, I think we have the potential to have better food systems all over the country." (Lina).* This participant is trying to balance realism with possibility. She acknowledges serious limitations but are inspired by emerging support systems and believes that with the right infrastructure and determination, local food production can thrive even in unlikely places. There's an element of hope, pragmatism, and perhaps a bit of "why not us?" determination.

Gender-Specific Market Challenges

Women farmers reveals their experiences that how gender affected market relationships, as illustrated by a farmer, *"when all that was geared directed at him, like he's the one who must be doing the farming, because he's a man. I don't think I realized at the time how, like, just how I was missing out on a source of motivation". (Leal).*

Participant is describing a context where resources, support, training, or encouragement *"all that was geared directed"* were automatically aimed at a man in their life—a partner, with the assumption that *he* should be the one doing agricultural work *"farming"* simply because of his gender. Participant is realizing that in hindsight, these gendered assumptions weren't just unfair, they were personally costly. By being

overlooked or excluded from these resources and expectations, the speaker lost out on motivation. This reflection also shows growth in awareness, the participant didn't recognize at the time how being sidelined affected her but now sees clearly how the absence of encouragement and resources meant missing out on potential passion or purpose.

The relationship between women farmers and the market reveals a complex negotiation between economic necessity, environmental values, community building, and personal sustainability. Their approaches demonstrate both the challenges of operating in conventional market systems and the innovative strategies they develop to create more sustainable and relationship-based economic models.

4.4.4 State Institutions' Relationships: Development Resources, and Policy Interventions

The relationship between women farmers and state institutions emerges as multifaceted and often contradictory, characterized by both significant barriers and notable successes. The data reveals systemic challenges rooted in gender bias, farm scale discrimination, and institutional design flaws, alongside individual success stories that demonstrate the potential for positive engagement.

Gender-Based Treatment Disparities

The findings described several indicators of gender-based discrimination in interactions with agricultural officials and institutions. Participants reported experiencing dismissive attitudes from government agency representatives, though they acknowledged the difficulty of definitively attributing such treatment to gender bias. One participant described her interactions with a Natural Resources Conservation Service (NRCS) agent,

"I can't pinpoint that, that is why [being women farmer] I have not had much success talking with my NRCS agent. But every time I've gone in there, I think he just prefers to work with cattle farmers, it feels a bit dismissive when I go in there, and I can't say that it's because I'm a woman, but it's definitely crossed my mind, like, is this, why is he just, like, not taking me seriously, right now?" (Nia).

The women shared information also indicated differential treatment based on gender within farming partnerships. Participants observed that male partners received more favorable reception from government agencies compared to their female counterparts. One participant articulated this disparity, *"I think working with the government agency like NRCS and FSA like I think that they are a lot more receptive into talking with [husband] than they are me... in general, I felt a little bit more like scrutiny, like there they don't think that, you know, being a woman, but also being like a market farmer... makes them not really take me very seriously" (Orla).*

Furthermore, participants identified the psychological dimensions of these interactions, particularly regarding women's confidence when engaging with authority figures. One participant reflected on the broader implications of gender socialization, *"if a woman is not raised to believe in herself, she's going to have a hard time with authoritarian figures, especially men, I would assume, when they're trying to, like, understand something" (Lina)*. This observation suggests that gender-based barriers extend beyond institutional practices to encompass internalized dynamics that may affect women's engagement with agricultural support systems.

Systemic Challenges: Farm Scale and Type Bias

The finding suggest systemic challenges related to the institutional recognition and legitimacy of small-scale farming operations. Participants encountered initial skepticism from Farm Service Agency (FSA) personnel regarding the viability of their enterprises. One participant described overcoming this resistance through the provision of comprehensive financial documentation, *"We were getting a lot of resistance from our FSA people initially, until I was able to bring in all the actual financial numbers and show them that I had business experience... initially it felt like they didn't really even want to look at my paperwork... they didn't really think that I would qualify, because a lot of really small farms don't necessarily [qualify]" (Orla).*

The findings also indicated a fundamental economic misunderstanding among agricultural loan officers regarding the value proposition of vegetable production systems. One participant illustrated this disconnect, *"the agricultural loan officers gets into a little bit of the, you know, the overspray stuff. Those guys have no idea what this land is worth as vegetables. Like you tell him that this 50 by 100 square block is $30,000 of lettuce, like they raised their eyebrows" (Hana).* This observation suggests that institutional knowledge frameworks remain oriented toward traditional commodity production models.

Furthermore, participants identified structural incompatibility between existing institutional designs and the operational characteristics of small-scale, diversified farming systems. One participant articulated this institutional mismatch, *"I still struggle with the FSA office in my county, because they don't know how to, I'm a, I'm a square peg, you know... they're used to like corn and soy, and they want me to report everything. The moment I put a seed in the tray... I won't ever fit into that. And I can't believe I'm not that*

I'm the only farmer that doesn't fit into that... small farmers can't take part in these programs because we don't fit" (Lara). This finding highlights the exclusionary effects of institutional frameworks designed around conventional agricultural models.

Strategic Navigation and Success Stories on Development Resources

Despite the challenges, participants also reported positive experiences with institutional support systems, particularly when leveraging available identity-based categories and programs. The data revealed that certain participants successfully utilized designated disadvantaged farmer classifications to access resources. One participant explained the scoring advantages associated with multiple identity categories, *"Well, one of the questions they ask is, are you a disadvantaged farmer? and women are considered in the category of disadvantaged farmer. So, you get more points for being a woman... you also get more points for being certified organic, and you get more points for being a beginning farmer" (Anya).*

The findings also documented instances of substantial financial support received through government programs. One participant detailed their decade-long experience with Natural Resources Conservation Service (NRCS) funding*, "over the course of 10 years, I probably received about $75,000 worth of grants from the NRCS to put that infrastructure in place... from the moment that I walked into our NRCS office, those guys were fantastic to me. They said, they said, sit down and let's see how much money we can get you" (Elsa). "Yes, all four of our tunnels actually are EQIP tunnels. Yeah, we have we have. We have one small tunnel thats not an EQIP tunnel, but we have four high tunnels that are EQIP tunnels. We also got an EQIP grant to put irrigation and irrigation system*

in throughout our farm." This example illustrates the potential for positive institutional relationships when supportive personnel are encountered.

Furthermore, participants reported generally favorable ongoing relationships with multiple agricultural agencies. One participant characterized their institutional interactions as predominantly positive, *"I mean, we work with the NRCS and the FSA and this Oklahoma Department of Agriculture, and I think we have a mostly positive relationship with all of those entities" (Cleo).* These findings suggest that while systemic barriers exist, individual experiences with institutional support can vary significantly based on local implementation and personnel attitudes.

Male-Dominated Institutional Culture

As highlighted by the participant, there is observation of persistence gap between policy intensions and lived reality in agricultural spaces, particularly regarding gender representation. At the federal level explicit efforts are there to include women, recognize them as farmers, provide resources, on the other hand at the local level entrenched social patterns are observed

> *"So the one hand, there's definitely a focus from the federal level and institutional level to include more women. Yet on the local level, there's still very much this notion that, like the women are the wives of the farm and the men are the farmers of the farm"(Cleo).*
>
> *"And I still see that like playing itself out in conferences, and maybe it depends on the type of conference, but like, if it's a conference focused on sustainable agriculture, that you're not going to see that"(Cleo).*

This statement of not seeing "farmers as men" in conferences focused on sustainable agriculture signifies more acceptance of women farmers in sustainable agrifood system, as compared to conventional farming.

“But if it's a conference that's like more sort of just like agriculture in general, and embracing both conventional and organic farmers, there's much more likely to be a tendency to see the farmers as men. And I think that still plays out in terms of local like conservation district representation or FSA representation."
” “cooperative boards are always male, and you know, their stories and their magazines might feature women farmers, but they their administrative branches still look very male, very old, Male, very white, male, and that seems very antiquated." (Cleo)

This statement articulates a clear frustration with tokenism in the agricultural sector. Cleo points out that while women are increasingly visible in media narratives “showcasing", they are not yet accepted into the actual decision-making hierarchy of cooperative boards.

Women Perceive Left Behind in Receiving Information

The data revealed significant informational barriers that impeded farmers' access to available support programs. Participants identified knowledge limitations among local agency representatives as a primary constraint. One participant illustrated this gap between program availability and agent awareness, *"USDA has so many programs...USDA official that's in the county level, might not know two of them... if I don't ask my local guy, Hey, I heard about a pollinator strip subsidy... Oh, I don't know about that. I'm gonna have to look that up" (Lina).* This finding suggests that the decentralized nature of program administration may contribute to inconsistent information dissemination.

The findings also documented systematic communication failures regarding program availability and timing. Participants reported delayed awareness of relevant support opportunities, as one participant explained, *"I feel like it's always a little behind*

what is needed, right? Like a lot of the grant information or loan stuff has really only presented itself to us in the last year or two, and we're on year seven... I don't think they're communicating what they have very well" (Jade). This temporal disconnect between program availability and farmer awareness indicates structural deficiencies in outreach mechanisms.

Furthermore, participants described an reversed educational dynamic wherein farmers assumed responsibility for training agency personnel about their specific needs and circumstances. One participant articulated this burden, *"I mean our NRCS, it's, it's taken a lot of, I feel like training for us, from us to help them to figure out what we need... we are the ones that are kind of guiding them in helping them to help us" (Orla).* This finding reveals an unexpected redistribution of expertise wherein farmers must educate institutional representatives about program applications relevant to their operations.

Relationship Building Challenges

The data revealed considerable variability in individual agent performance and its impact on farmer experiences with institutional support systems. Participants identified agent motivation and career stage as significant factors influencing service quality. One participant observed, *"it depends on the government official...really, really depends...they're kind of like waiting to retire, and that's what it's like in especially in rural areas, like you get a USDA job, you're going to stay there till you retire" (Lina).* This finding suggests that individual agent characteristics may substantially influence institutional effectiveness at the local level.

The findings also emphasized the critical importance of personal relationships in facilitating successful interactions with agricultural agencies. Participants noted that the

absence of established connections could create barriers to accessing support services. One participant explained, *"it's a lot about relationships and so that woman farmer calling the USDA [office], she might not have any relationship with those people and not feel comfortable... if that person's having a bad day on the other end of the line, that person, that woman, may never call back to that office ever again" (Lina).* This observation highlights how interpersonal dynamics and relationship-building capacity significantly influence farmers' willingness to engage with institutional support systems, particularly for women farmers who may face additional barriers in establishing professional relationships within male-dominated agricultural institutions.

These findings underscore the importance of individual agency personnel in mediating institutional outcomes and suggest that service delivery effectiveness depends heavily on personal characteristics and relationship-building capabilities beyond formal policy structures.

Authoritarian Relationships and Women's Confidence

The experience shared by a participant, highlights how agricultural support systems may be designed around assumptions (farm size, communication styles, insider knowledge) that create barriers for small-scale and potentially women farmers who may not employ aggressive advocacy tactics with the state people.

> *"And I do think that's probably more like a male trait or a male skill. Maybe it was just not me. So I just once there was this. This is just kind of confusing to me. The paperwork wasn't confusing in itself, but it was confusing to me what they wanted. It felt like they wanted something on the application, that I felt like no one was telling me that did feel a little bit like I wasn't in the club or something." "There. They just kind of meet you where you are, but yeah, with NRCS, I just felt like I was not speaking the same language as them, and I think it was more about*

my size of my farm than about being a woman. But I do think that, you know, my husband was so forceful, he would just keep, you know, if he didn't understand why they had said, Oh, this doesn't qualify, he would just keep saying some, keep repeating himself. And so he got the answer he wanted." (Leal)

Leal reflects on navigating agricultural bureaucracy, questioning whether certain approaches come more naturally to men, *"And I do think that's probably more like a male trait or a male skill. Maybe it was just not me."*

She describes a frustrating experience with an application process, *"So I just once there was this. This is just kind of confusing to me. The paperwork wasn't confusing in itself, but it was confusing to me what they wanted. It felt like they wanted something on the application, that I felt like no one was telling me."* This led to a feeling of exclusion, *"that did feel a little bit like I wasn't in the club or something."*

Regarding her interactions with NRCS she explains, *"with NRCS, I just felt like I was not speaking the same language as them, and I think it was more about my size of my farm than about being a woman."*

However, she contrasts her approach with her husband's more persistent style: "But I do think that, you know, my husband was so forceful, he would just keep, you know, if he didn't understand why they had said, Oh, this doesn't qualify, he would just keep saying some, keep repeating himself. And so he got the answer he wanted.

Policy Participation Barriers

The data revealed significant economic barriers to meaningful participation in agricultural policy-making processes. Participants identified the unpaid nature of volunteer board positions as a structural constraint that effectively excluded small-scale farmers from policy influence. One participant, despite achieving national recognition,

described their experience with the National Organic Standards Board, *"I won the National Farmer Organic Farmer of the Year... the USDA nominated me to sit on the National Organic Standards Board... I lasted one year because the work that they require of you as a volunteer board member was more than a full time job, and I said, Screw you guys. You're not gonna pay me for my time" (Anya).*

The findings also reflect systemic representation issues within agricultural policy-making bodies. The same participant detailed the demographic composition of board members and their economic circumstances, *"the other people that sit on that board are either retired, or they have jobs with industry, or there was one woman that works for a gigantic, 1000s of acres farm growing carrots, and their companies pay them to be on the board" (Anya).* This observation highlights how the volunteer structure of policy-making bodies systematically favors individuals with independent financial means or institutional support, thereby limiting the representation of small-scale farmers who cannot afford to participate without compensation.

These findings suggest that current policy-making structures inadvertently create economic barriers that exclude the very stakeholders most directly affected by agricultural policies, potentially resulting in policy frameworks that do not adequately reflect the needs and perspectives of small-scale agricultural producers.

4.4.5 Non-State Entities for Accessing Resources

As it is identified that there are several other 'interacting entities' beyond the institutions as suggested by SRA framework adopted for analysis. As it is illustrated by the participant Hana, when her farm portion was over sprayed, she approached a research center, "*when we did get overspray, we had the research centers here in Princeton, and*

they came out they sent the soil guy, they sent the weed guy, they sent the biologist, entomologist in the horticulture, horticulturist all out all wanted to see the different aspects".(Hana)

Similarly, she is also working in NGO and contributing to the agricultural community in providing training for business startup*, "I'm currently working at a nonprofit out of Paducah that does entrepreneur training. Oh, startup businesses". (Hana)*

Another illustration is the participant Lina's relation with the educational institute, Lincoln University Extension. It is interesting to note how she sees full time farmer*, "I'm not a full-time farmer. I mean, I am, typically, a full-time, 40 hour a week farmer. But, I mean, that's not really a full-time farmer…. the full time farmers are, like, 60 to 80 hours a week".*

She is working off farm *"I work off the farm three days a week, and have worked off the farm ever since we started the farm,"* with her work focused on *"farmer education."* She specifically mention, *"I worked for Lincoln University Extension"* and later *"started working for a community action agency, developing their food program, Food Systems program."(Lina)*

She explains this off-farm work has helped her navigate through USDA agency, as a mutual support, "*A couple of extension agents I developed relationships with, but like, as a single woman going into my USDA office and trying to get a loan, I'm not sure I would have gotten that much help, because they might not have understood what I was trying to do".(Lina)*Lina is a educated, enterprising and progressive farmer, participating in policy decision making, by the virtue of her knowledge gained and more than 15 years

of experience in agricultural business management. As it is illustrated "*I'm a member and a board member of the Missouri Farmers Union and part of the National Farmers Union…I co direct the Heartland Regional Food Business Center, which is supposed to help coordinate all those resources for our farmers. So, we're supposed to know, but this is a new initiative., I work in the nonprofit like, that's nonprofit food systems (Lina)*

Participant Nia, illustrated her relation with community college which is based on mutual gains, she provides the students agricultural knowledge, and she in return gets students to work on her farm,

> "*this year I I work with a college Crowder college nearby. It's a community college, it's an agriculture focused college. And let's see, this spring, I had three part time employees, I guess one of them, well, they're all part time employees. And then this fall, I just have one. There's less to do…I enjoy working with the school down the road and the different schools. I have homeschool groups. So I would say, on some level, I'm an educator. I have, I primarily hire late teen, early 20 year old women who are interested in agriculture, and so that is really fulfilling".(Nia)*

4.2.6 Women Farmers' Relationship with Land Resource

The participants identify a systemic misalignment between alternative farming systems and traditional credit institutions for purchasing land for farming. This institutional illegibility, described as 'not fitting the mold', drastically increases transaction costs, forcing farmers to rely on sympathetic individual officers or more flexible instruments like microloans. Beyond credit, the narrative highlights structural barriers to entry the land market excluding them being small size farmers. Incurring high land costs, heavy administrative burdens (record-keeping), and environmental threats from conventional neighbors (overspray), has constrained women farmers specifically.

Gender Perspectives on Land Acquisition

Participants indicated that there has been positive change in the gender-related barriers to land acquisition: *"many years ago, it would have been much more difficult for a woman to purchase land or a car or have a credit card... but... things have gotten so much better for women, and the laws have changed, and it's all about equality" (Mia).* Another participant reflected that women buying land for the purpose of farming is more of a challenge than actually purchasing land, *"I don't feel like there are any issues for women trying to purchase land... perhaps barriers exist just in the social acceptance of women trying to be farmers on their own... it is not the 'norm" (Rose).* She further reflected on income inequality impact on land purchase, *"barriers likely exist in income inequality, therefore making land acquisition more difficult".*

Family Land as Primary Access Point for Women Farmers

The dominant pathway to land access among these women farmers is through family connections. The land is accessed primarily in three ways: First, inheritance through marriage, *"when my husband and I got married, it's his family land that we live on" (Rose), "my husband inherited it. He was born and raised here" (Lily).* This demonstrates how family networks serve as crucial informal institutions for land access. Second, Family leasing arrangements, "*"I started on my grandparent's land that they had cattle on at about an eighth of an acre, quarter of an acre... I've been fortunate that I'm able to access family land and lease, and right now I have a 10-year lease."(Nia).* Third, both wife and husband doing jobs, saving money and going ahead with the purchase of the land as illustrated by Elsa where husband works off-farm, "*I was unwilling to take on debt to get this started… that made my farm grow more slowly than if I had taken on debt*

in the beginning and gotten a big jump start, but that was the way we chose to go about this. My husband and I both definitely don't like to take a lot of risk, and so we grew this farm slowly over many years to get to where we're at" (Elsa)

Community as an Alternative to Land Access

Despite these challenges, participants identified several innovative approaches to land access that circumvented traditional purchasing or formal leasing arrangements. These creative solutions included informal agreements, as one participant described, *"the one young woman farmer... was doing kind of a trying to farm on urban land that wasn't occupied and just giving the owners... a share of the produce" (Leal).* Community-based opportunities emerged as another significant pathway to land access. Participants reported that community recognition of their farming identity facilitated informal land-sharing arrangements. As one participant explained, *"I've had people offer me land... because they see me being a farmer, and their farm is... two miles that way, and nobody's using it" (Jade).* Similarly, another participant noted, *"the first five years we were on, like leased land, or just land that our friends let us use" (Eva).* This participant further elaborated on the role of community trust in accessing land, *"it went well in terms of finding land to grow on without purchasing it was fairly easy, just because, as being a part of the community, people sort of trusted us to experiment" (Eva).*

The data also revealed that landowner characteristics and values influenced land access opportunities. Participants noted that older female landowners demonstrated receptivity to sustainable agriculture practices. As one participant observed, *"it was challenging, but ultimately, it was a woman who really cared about her land and her property, who gave us the opportunity to find a permanent spot" (Eva).*

Furthermore, regional characteristics presented both constraints and opportunities for land access. One participant described the paradoxical nature of land availability in their area, *"there's so much unused land still that's either kind of under gray... but I've had people offer me land... because they see me being a farmer... So, I think there's probably opportunity here in this specific area, just because we're not a big... the land isn't super great for like, broad acre farming" (Leal).*

Financial and Systemic Barriers

Several structural challenges emerged from the data analysis. Regarding land acquisition, one participant noted that short-term leasing arrangements presented fewer barriers compared to land purchases, *"land lease was not [hard] but if I had been looking to buy land, that was harder... somebody that wants to put in a short-term lease for a year or two, that was much easier" (Lara).*

Limited land access and difficulties in securing financial support for land purchases emerged as significant barriers, particularly for small-scale and beginning farmers. As one participant observed, *"Land access is definitely a problem in our region for farmers, especially young people who are interested in learning how to farm" (Noa).* Another participant elaborated on the competitive nature of the land market, *"I don't know that gender plays a role in that. But it was really difficult, because, yeah, it was like anytime something came up for sale, and even if we thought we would be able to afford it, someone would come swoop in and pay cash for it" (Eva).*

Additionally, participants identified restrictions imposed by conventional row crop operations on agricultural land use diversity. One participant explained, *"there's just*

a restrictive class of row croppers that only know how to use their land for row cropping that obstruct it for everyone else" (Hana).

The findings also revealed a lack of accessible knowledge regarding loan approval processes for small-scale farmers, particularly women engaged in sustainable agriculture practices. One participant detailed their experience, *"we were trying to use the FSA loans to do that, and it was really challenging to find someone who would work with us on those" (Eva).*

Further participant shared her perspective on accessing FSA loan perspective states not suitable for women since it is not for small farmers, and women are small farmers.

> *"…one thing that I find is regarding this FSA thing, and it may not be very specific to women, but still mostly since women farmers are small farmers, so those problems are impacting more. It is impacting the women power more. That is my perspective. (Hana)*

Women farmers demonstrated self-resiliency in generating financial resources in overcoming financial obstacles. Some follow debt avoidance strategies, as this woman explained: *"I waited tables for the first four years that I was farming. I would wait tables in the morning, and I'll come home and farm in the afternoon because I was unwilling to take on debt to get this started"(Elsa).* Women farmers also used employment at a garden center as land access tool, *"so that I could buy this farm so then a bank wouldn't look at me like... had 10 heads and they would give me a loan" (Lina).*

The participants shared additional constraints related to land access for sustainable agriculture practitioners, specifically the challenge of securing parcels free from chemical contamination by neighboring conventional operations. One participant

articulated this concern, noting the prevalence of chemical agriculture and its implications for organic certification*, "you can't go anywhere without being surrounded by chemical agriculture in Missouri. And... I'm farming certified organic, and so this is great... because I don't have neighbors that are spraying. So, it's really great, but it does mean I'm a lot farther away [from the urban center and markets]" (Anya).* It's clear that while historical legal barriers to women's land acquisition have significantly diminished, contemporary challenges persist primarily through social acceptance and income inequality rather than direct gender discrimination. Women farmers predominantly access land through family connections, including inheritance through marriage and informal family leasing arrangements, which serve as crucial pathways to agricultural participation. Community-based solutions have emerged as innovative alternatives, with informal land-sharing agreements facilitated by local recognition of women's farming identity and community trust networks. Financial and systemic barriers remain substantial, including competitive land markets, limited access to agricultural loans, and difficulties securing chemical-free parcels for sustainable agriculture practices. Women farmers demonstrated resilience by employing debt-avoidance strategies, supplemental employment, and creative approaches to overcome these structural obstacles while establishing their agricultural enterprises.

4.5: Positioning of Women Farmers in the SAFS in the Mid-South Region

Women farmers in the Mid-South navigate challenges and strategize their enterprises to position themselves within the SAFS. They achieve this through their specific choice of produce, farming goals, and community integration efforts. This section also highlights their perception on their contribution in SAFS in the region.

4.5.1: Produce Wise Contribution of the Women Farmers in the Mid-South

Interviews with women farmers in the Mid-South revealed that they were predominantly vegetable growers. Their motivation for choosing vegetable production over other agricultural enterprises, such as grains or livestock, is rooted in a strategic assessment of several key factors.

Economic and Market Advantages

A primary driver is the favorable economic structure of vegetable farming. Participants highlighted the *"rapid return on investment",* which provides quicker and more consistent income compared to long-term crops. As one farmer explained, *"You grow it, you harvest it, you sell it... and then you have income right now, whereas a fruit tree you plant and you wait five years" (Anya).* This enterprise also presents a *"lower barrier to entry",* requiring significantly less upfront capital and land compared to commodity crops, which allows for a more accessible start-up. In the words of another participant, *"You can kind of do what I'm doing with very few toys to begin with, like, very little put in" (Jade).* Furthermore, women are drawn to the *"direct-to-consumer marketing"* channels common in vegetable production, a realm where they feel they excel. One farmer noted, *"women shine in that face-to-face marketing realm" (Cleo).*

Operational and Lifestyle Flexibility

Vegetable cultivation offers significant logistical and lifestyle benefits. For farmers balancing off-farm work or living at a distance from their land, the ability to *''automate systems and select low-frequency harvest crops"* is crucial. As one respondent who lives two hours from her farm explained, *"we've had to pick crops that only need to be harvested once a week" (Orla).*

This contrasts sharply with the demands of animal husbandry, which participants described as all-consuming and a barrier to taking vacations (Orla). Plants are seen as less urgent, whereas livestock can create immediate crises requiring constant supervision. Finally, *“crop diversity serves as a built-in safety net”,* mitigating the risk of total farm loss. One farmer stated, *"when you have a great diversity of crops growing, they're able to offset any slowdown that you may experience" (Cleo).*

Regional and Perceived Strengths

The physical environment of the Mid-South, with its *“favorable climate and accessible irrigation”(Hana)* , makes the region well-suited for seasonal vegetable production Beyond these practical considerations, one farmer articulated a perceived alignment between the demands of specialty crop farming and women's multitasking abilities, theorizing, *"because we've been tenders of the children for so long, we're just able to juggle more... and so I think that's appealing to women is to be in sort of a retail... specialty crop... business" (Lina).*

4.5.2 Perception of Women Farmers on Their Contribution Within SAFS

Situating FAST Principles Within Institutional Domains

The resulting matrix (Tables 4.3a and 4.3b) offers a comprehensive analysis of the agency of women farmers within each context, illustrating the specific strategies, challenges, and opportunities they encounter as they navigate these distinct environments. An integrated analysis, utilizing a matrix that combines the principles of Feminist Agrifood Systems Theory (FAST) with the institutional domains of the Social Relations Approach (SRA), reveals that the applicability of FAST principles varies significantly across different contexts *(Tables 11 and 12).*

Table 11: Matrix of Integration of FAST and SRA for Analysis

SRA Relations	FAST Principles					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Household	√	√	√	√	√	X
Community	√	√	√	√	√	√
State	√	X	√	√	√	√
Market	√	√	√	√	√	X
(1) Increasing gender equality on their farm; (2) Asserting an identity as a farmer; (3) Gaining greater access to resources; (4) Shaping new food and farming systems (5) Negotiating roles in agricultural organizations; (6) Forming women-centered farming organizations						
Source: Author						

At the household level, for example, Principles 5 and 6 of FAST are not directly applicable. Similarly, at the state level, Principle 2 appears less feasible, as state institutions are often not readily accessible to influence by individual farmers—a finding illuminated by the broader analysis of gender relations. While Principle 6 is evident at the market level, it tends to operate within informal rather than formal institutional structures. Notably, the community is the only domain where all FAST principles are fully operative. This finding strongly suggests that community-based approaches and collective action are particularly potent tools for enhancing the sustainability of women farmers.

FAST as a Framework for Valuing Women's Contributions

The FAST framework provides a robust lens for analyzing the contributions of women farmers by explicitly valuing their ”ways of knowing and working in agriculture”. This perspective emphasizes a holistic approach that integrates personal, economic, and environmental sustainability; forges strong connections across the food system; and builds collaborative networks for mutual support and education (Sachs et al., 2016). The theory thus positions women not merely as victims of a patriarchal system but

as strategic actors and innovators whose practices generate novel models of farming and, in the process, new theoretical insights. This has profound implications for policy and practice, suggesting that the most effective interventions will be those that recognize, support, and scale up these existing, women-led strategies for transformation, in institutionalizing women farming organizations .

Table 12: Matrix of Integration of FAST and SRA for Analysis (Information)

SRA Relations	FAST Principles					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Household	Gender equality is most evident in farm-related decision-making but less so in the division of domestic chores and childcare.	Women farmers report that community members and customers often defer to their husbands, who do not always correct this perception, necessitating direct confrontation within the household.	Access to resources at the household level includes shared land, finances, and business responsibilities, as well as support for labor and infrastructure.	New systems are shaped by balancing shared farm responsibilities and business management with household duties.	In the government offices, men were playing the role of communicating to conclusion. Another case buying farm equipment, men were found to be seriously listened then women.	Not applicable
Community	Increased gender equality is observed more frequently among the younger generation within the community.	Single women farmers, or those whose husbands work off-farm, report a more frequent need to confront community members to validate their identity as farmers.	Key resources gained from the community include customer loyalty, reliable labor, and the trust, respect, and motivation that stem from local support.	Women shape the food system by building deep bonds, mutual support, and trust with their customers.	A few participants raised concerns through NGO-led interventions; however, this was not a prominent theme among the sample.	Women farmers rely heavily on online peer groups for information sharing and mutual support.
State	Observed in isolated cases. Most women farmers are hesitant to engage with state agencies due to past experiences of dismissive responses.	Not observed/not feasible.	Participants did not report receiving significant support from the state, citing difficulties in accessing small loans and information. Also, except one interview where proactive women farmer mentioned about Annie project (she heard). Lack of information on any women prioritized programs.	Women contribute to state-level systems by providing support to agencies like the NRCS through training new farmers.	Participants declined board positions in state-led organizations when they felt their presence was tokenistic, their contributions unacknowledged, and their time uncompensated. They are consequently selective about participating in government events.	No participants mentioned the existence of, or their involvement in, any state-sponsored organizations for women in agriculture in the mid-south region. Few were involved in organizations working for sustainable agriculture.
Market	Participants perceive that husbands can negotiate better prices. At farmers' markets, women reported that male managers often dominate decision-making and disregard their suggestions.	Participants assert their farmer identity by emphasizing the high quality of their produce.	Access to digital tools for creating online markets has been transformative, with adoption surging since the COVID-19 pandemic.	Innovations include expanding market reach through digital platforms and collaborative selling, where their farms act as distribution hubs for other local producers.	Women who own farm stores have formed supply and distribution relationships, collaborating with other local farmers to sell produce.	Not applicable

(1) Increasing gender equality on their farm; (2) Asserting an identity as a farmer; (3) Gaining greater access to resources; (4) Shaping new food and farming systems (5) Negotiating roles in agricultural organizations; (6) Forming women-centered farming organizations

Source: Author

Therefore, this study proposes the addition of a seventh FAST principle to capture this dynamic: **Defining Success and Achievement within SAFS**, which is discussed in detail in the following section 4.4.

4.4 Defining Achievement - An Extension of Fast Principles

Positioning of the women Farmers is the Indicative of their Achievements. Achievements are the outcomes of an agency by women farmers interviewed. These achievements included both tangible and intangible. The women farmers interviewed shared their realization on their achievements and also based on my perspectives, the discussion below reveals significant achievements.

Pride in Representing Women Farmers

Some women farmers interviewed acknowledged their role as minorities in agriculture and they take pride in representing women in farming, directly address the gendered dimensions of their farming experience, as *illustrated "I do have a pride in this fact that, like, you know, we are a minority, and especially like I always want to lift up women who are in minority" (Lina); "...showing the face of female farmers, as you know, not on the sidelines, but as operators of the farm..."(Cleo); "I see this often with not just women, but women, probably more often, where I want to tell people, man, when you get to be in charge, it like it feels really good..." (Leal)*

They have also expressed that being women farmers, they have found themselves in advantageous position, *"Like being a female has been beneficial, because I... think I've had some opportunities that I wouldn't have had otherwise because of the desire for diversity and inclusion for women." (Cleo)*

Intrinsic Values Beyond Financial Gains

Participant women farmers have consistently emphasized that their motivation stems from personal contentment rather than financial incentives. *"The reason we do it is certainly not money, because, you know, we just we chose this lifestyle." (Cleo)"There are many things that are more important than money." (Anya)"It's true in other professions, it is like that, right? You don't get paid a lot, but there's this other like sense of..." "fulfillment" (Lina).* They find deep satisfaction in their work and the environment they're creating for their families. *"I love my job, yeah. I love where I live, yeah. I love where my kids are growing up". (Anya).* They see the value and potential for small scale agriculture as illustrated

Further, Lina articulates clear philosophical motivation for her work both on and off the farm. She expresses her broader goals, *"I want to see a better food system. I want to see a stronger food system, one that's focused on equity and care and health."* Crucially, Lina explains that achieving this vision requires working beyond just their own farm operation, *"...and so in order to see those things happen, I need to engage."* She deliberately chooses to maintain off-farm employment because it allows her to contribute differently, *"which is why I like to have an off farm job, is because I engage in a totally different way than what my farm does…I can be part of creating those kinds of solutions."* This dual approach—farming and working in food systems education/development—allows them to be part of systemic change: "and I can be part of creating those kinds of solutions."

Mila expresses enthusiasm for urban farming, stating, *"I love urban farming. I think there's a lot of potential for small scale agriculture..."* The additional context explains their motivation, *"this is because they value the local food systems."* Mila's

perspective suggests they see urban and small-scale agriculture not just as niche operations, but as having significant "potential" to strengthen local food networks, build community resilience, and create more sustainable, equitable food systems within cities and towns.

Pride in Quality Products and Commitment to Excellence

Women farmers interviewed took considerable pride in producing high-quality goods, often emphasizing their organic practices and superior taste. *"I'm very, very proud of my berries... I brag on them all the time, because they're so... my berries are organic, and they are full of flavor, and they're amazing". (Mia).* They understand that their reputation depends on consistently delivering exceptional products. *"We have established ourselves as trustworthy, responsible producers and suppliers of fresh organic produce". (Rose). "People know that I grow a very good product... your brand, your name, can only get you so far if you grow a piece of shit product..." (Anya)*

Empowerment Through Farm Ownership and Autonomy

As illustrated in the quotes, farm ownership by the participants provided women farmers with sense of ownership, and value the empowerment that comes from being in charge of their operations, *'I feel like very motivated that I know I can fix it. I'll figure it out... I really like that. And I think it's, it's changed my life to be the one in charge in many ways". (Leal).* feel freedom to make their own decisions, *"And that freedom is is pretty rare. I think I just think it's, it's a kind of a gift..." (Leal*). "The farm definitely gave me a level of autonomy that that I don't necessarily feel, that I have right now..." (Elsa). Women feel control over their financial decisions, *"I give myself a salary." (Nia)*

"At the center of my beliefs, feelings of autonomy, value, worth….is the core fact that I am a farmer. I am a craft brewer. I am a chef. I am a business owner, job creator and strong, tax paying community member". (Rose)

Gaining Recognition and Respect Over Time

The Women farmers participated have described about gaining respect and recognition as they establish themselves over longer time in their farming enterprise. They report that initial skepticism has given way to acknowledgment of their expertise and commitment, *"I think in the beginning, I really faced a lot of people that just didn't believe that I was serious... But now that I've been doing this for 10 plus years, I don't see that as much." (Hana)*

"We've been in it long enough now that we have kind of earned it. People take me seriously." (Noa)

The interview participants have further emphasized earning credibility through their persistent efforts on their own. *"There's a lot of respect given to me now that I've been working on this for like, 20 years." (Lina), "This is our 21st season that we're in, so at this point... nobody questions our commitment or our ability..." (Cleo).*

Building Trust-Based Customers Relationships

The women farmers interviewed, strongly emphasized the importance of community connection and customer relationships. The appreciation for their produce that they received was their biggest rewards. *"The biggest one... is that the people who are buying my food tell me that it's really important in their lives." (Leal).* For them building trust with their customers and relationship with their community, is the greatest motivation that keeps them going despite of challenges, as illustrated in the quotes. *"I definitely still have built up a great amount of trust and relationship in the community..."*

(Anya) and "The main thing that I feel like keeps me going is just the incredible community connection that we have with our customers..." (Cleo). Building strong relationships with customers emerges as a crucial element of success. These farmers emphasize the importance of trust and community support in sustaining their businesses.

Learning, Adaptation and Personal Growth

The women farmers interviewed expressed about their increasing confidence level, through self-educating themselves, by reading, attending conferences. *"I went to every conference that's out there, I read everything I could read. I'm not afraid to talk to other farmers that are making it" (Lara).* Their continuous learning and gained knowledge have made their interaction with other farmers better. They have acknowledged that their confidence level is getting better with continuous learning and finding solutions for little things. *"The more I learn, the less I feel like I know sometimes, but I do feel more confident in certain things..." (Nia); "One little thing after another... that I just had to learn... the more little ones that I surmounted, the more confident I felt." (Leal).* These farmers actively pursue education and skill development, attending conferences, reading extensively, and learning from other successful farmers to improve their operations.

Financial Sustainability and Business Acumen

Women farmers interviewed demonstrated that through farming in their sustainable manner, has provided them financial sustainability, and they have acquired business acumen as illustrated in the quotes. *"We gross about 140,000 a year. And I feel like I know we can do a lot better than that, even, but I feel really good about that number" (Noa); "Yeah, I'm making my whole living, and my parents who are retired from*

their main job work part time for me..." (Leal); "It does that and then leaves a good income for me that I can either choose to just have for my income or reinvest a part of it..." (Leal)

Environmental Stewardship and Social Equality

Women farmers interviewed, many have expressed commitment to environmental stewardship and social equity, viewing their farming practices as part of broader efforts to address inequality and environmental challenges. *"We don't really believe in making a lot of money because there's so much inequity around the world and within the United States..." (Cleo).* They have realized the contribution made by their small scale farming efforts to make the people aware of the negative impacts of commercial monoculture farms on the environment. *"I think there's a lot of potential for small scale agriculture... especially in the south when we didn't more traditionally large commercial monoculture farms. I mean, we can see how we can see the negative impact that's having on the environment." (Mila)*

Lina describes the gender landscape she encounters in her food systems work, *"I'm interacting with a lot of nonprofits, and most of those people, those drivers of change, are women, not necessarily women farmers, but they are women."* She note that these women in leadership positions naturally understand and support women farmers, *"...and so that perception of like, trying to help women, like they get it, you know, like they want to help women farmers too."* Regarding the broader agricultural sector, Lina observes progress, *"...in terms of like, just like conventional agriculture, I think men are getting used to the idea that, you know, women land like women farm owners are just as good as they are."*

This reflects broader trends of women taking leadership roles in sustainable agriculture, food justice, and community development while gradually gaining recognition in traditional farming spaces.

This section concludes by providing various themes based on ‘Gender relation’. It has developed the integrated FAST and SRA matrix for micro-level analysis. Following chapter is trying to bridge this analysis with quantitative analysis. The following Chapter further discusses the finding in numbers to have key components, that could be probed in detail for policy suggestions.

4.5 Quantifying Qualitative Themes

As detailed in the methodology chapter, the quantification of themes is employed solely to summarize thematic patterns and identify key motifs. Although this quantification is achieved by analyzing the frequency of codes or themes, it differs from the 'Mixed Research Method' frameworks often discussed in the literature reviewed to understand ‘quantification of qualitative information’. Instead, the use of numbers here is intended to provide a holistic understanding of the prevalence of specific situations and lived experiences, rather than to conduct a statistical analysis. This section highlights key findings that warrant further investigation, inform potential policy recommendations, or represent newly emergent concerns. The analysis is based on 22 semi-structured qualitative interviews, with all metrics presented as weighted averages.

4.5.1: Motivation for Women Farmers Within SAFS

Figure 15 shows the factors of motivation, which is based on an analysis of 49 qualitative codes on motivation. The data reveals a distinct hierarchy among various factors of motivation.

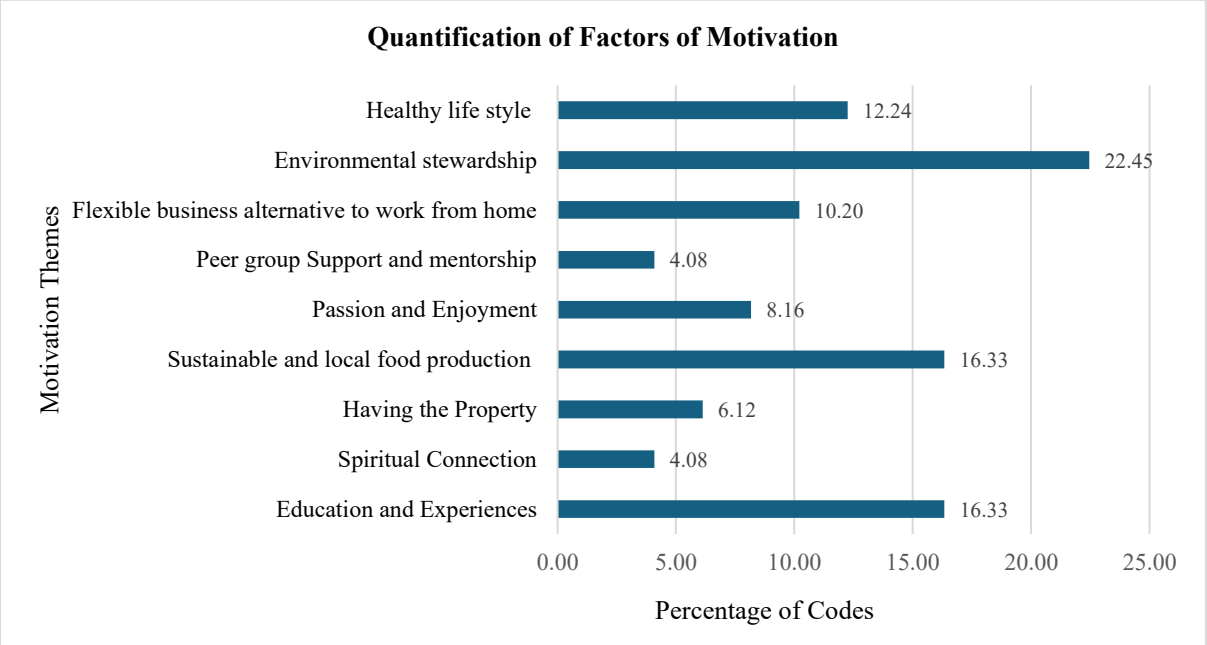


Figure 15: Quantification of Factors of Motivation

The most significant driver is “environmental stewardship”, which constitutes 22.45 percent (n=11). Following this, two themes are tied as the next most frequent motivators: “sustainable and local food production” and “education and experiences”, with each accounting for 16.33 percent (n=8 each). A lower cited motivating factors includes the pursuit of a “healthy lifestyle” at 12.24 percent (n=6), the desire for a “flexible business alternative to work from home” at 10.20 percent (n=5), and intrinsic “passion and enjoyment” at 8.16 percent (n=4). The least cited themes were “having the property” represented 6.12 percent (n=3 codes), while “peer group support and mentorship” and “spiritual connection” were the least cited motivation factors, each comprising 4.08 percent (n= 2). The heirarchy of the motivation factors does not mean

that those factors are not significant. There may be other reasons, such as access to property (land) is highly motivating factor, but women have barriers in accessing this resource. Overall, the findings indicate that motivations related to environmental and sustainability values are considerably more prominent than social or personal incentives within this sample.

Although having the property is essential, but women farmers have followed various other alternatives to gain access to land, at least for the purpose of gaining training and farm experience. *Figure 16* analyses the typology of land access among the women famers.

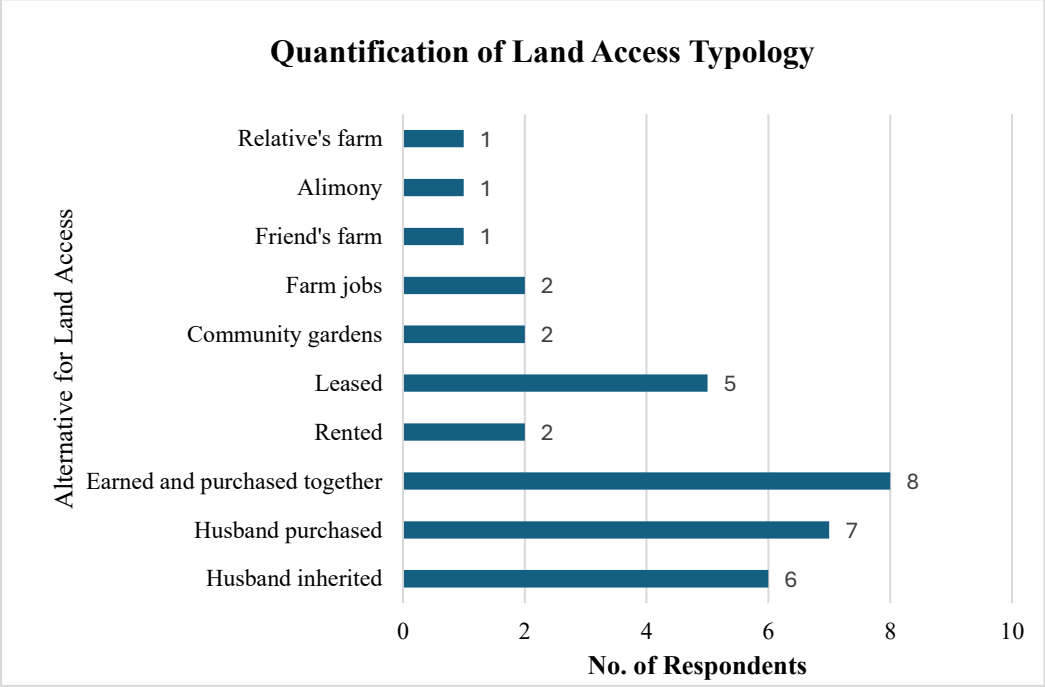


Figure 16: Quantification of Land Access Typology

This percentage is based on the percentage of the respondents. The most significant finding is the heavy reliance on spousal relationships, which accounts for a combined 60percent of all access methods. This is broken down into three main categories: land that was "Earned and purchased together" (23percent), land the

"Husband purchased" (20 percent), and land the "Husband inherited" (17 percent). Other notable methods of access include leasing land (14 percent) and utilizing community gardens or farm jobs (both at 6 percent). Smaller percentages are attributed to renting (5 percent) and accessing land through a friend's farm, a relative's farm, or as part of an alimony settlement (all at 3 percent each). Overall, the chart demonstrates that while various pathways to land access exist, access through a husband or partner is the predominant method for this group.

These findings point to several key policy recommendations. Educational programs tailored to women farmers should be a primary focus, with a curriculum specifically designed to enhance their business and financial acumen. Furthermore, to address a significant structural barrier, it is crucial to develop institutional policies that formalize and improve women's access to land.

4.5.2: Challenges for Women Farmers in SAFS

Figure 17 shows the factors of challenges. The number of codes for challenges in the study is 52. The most prominent finding is that a significant plurality of respondents, 39 percent, are actively "Fighting for credibility." This indicates that the primary experience for many is a struggle to be recognized and validated as farmers. Following this, three distinct categories represent 15 percent of the respondents:

a) Those who have "Transitioned from an earlier attitude," suggest an evolution in their self-perception.
b) Those who "confidently" affirm their identity as a farmer.

c) Those whose husbands identify them as farmers privately but do not "make efforts to endorse it in the community," highlighting a gap between household and public recognition.

The remaining categories, each at 8 percent, include women who still primarily identify as a "Farmer's wife" while acknowledging their farming contributions, and those who feel they must provide "evidence through physically farming on ground" to prove their status.

Overall, the chart illustrates that for women farmers, identity is not a simple status but a dynamic and often contested process, with a large portion actively seeking validation while others navigate various stages of self-acceptance and external acknowledgment.

The data reveals two challenges that are significantly more prominent than others, “Work-life balance “and “Cultural barriers”, each accounting for 13.46 percent (n=7). This suggests that socio-cultural pressures and the difficulty of balancing farm work with other life responsibilities are the primary obstacles for the group studied.

“Major Structural Constraint” and “Scale and Labor constraints” are the next major issues, representing 11.54 percent (n=6) of cited quotes. This points to difficulties in expanding farm operations and securing adequate help.

Challenges with lower citation identified were, “Economic and Institutional Hurdles”, “The Premium Pricing Paradox” and “Not comfortable reaching out to government” are equally ranked at 9.62 percent (n=5). This highlights a dual problem, difficulty in getting fair prices for products and a simultaneous reluctance or inability to engage with official support systems.

"Access to Resources", the need for "More women participation beyond kitchen garden" and the difficulty in "Getting small loans" were coded at 7.69 percent (n=4 each), indicating that expanding roles and accessing capital are notable barriers.

Other key factors were identified, though they were mentioned less often, issues like "Non clarity on women status as disadvantaged" having 5.77 percent (n=3), and "farming Tools and equipment", "Lack of trust on consistency", and "Not being taken seriously" at 3.85percent (n=2) represent more specific problems. The least frequently coded factors, all at 1.92 percent (n=1), include "Gender-Specific Market Challenges", "Tedious paperwork", "NRCS funding is not in advance", "No meaningful participation in policy making" and a "Lack of equality and appreciation"

Overall interpretation suggest that the dominant issues are "socio-cultural" and "structural", which together account for 20 of the 52 total quotes. Economic and institutional barriers form a strong secondary set of problems. The specific numbers highlight that while many issues exist, the conversation is clearly dominated by a few key, overarching challenges. Hence, it was found that challenges were not different from the previous studies, but severity of the challenges have reduced, as evident in various interviews.

A critical finding is the absence of provisions for women farmers' meaningful engagement in policy formulation and incentive design. Participation mechanisms must be adapted to ensure they do not necessitate prolonged absences from the farm, which currently jeopardize women's economic productivity.

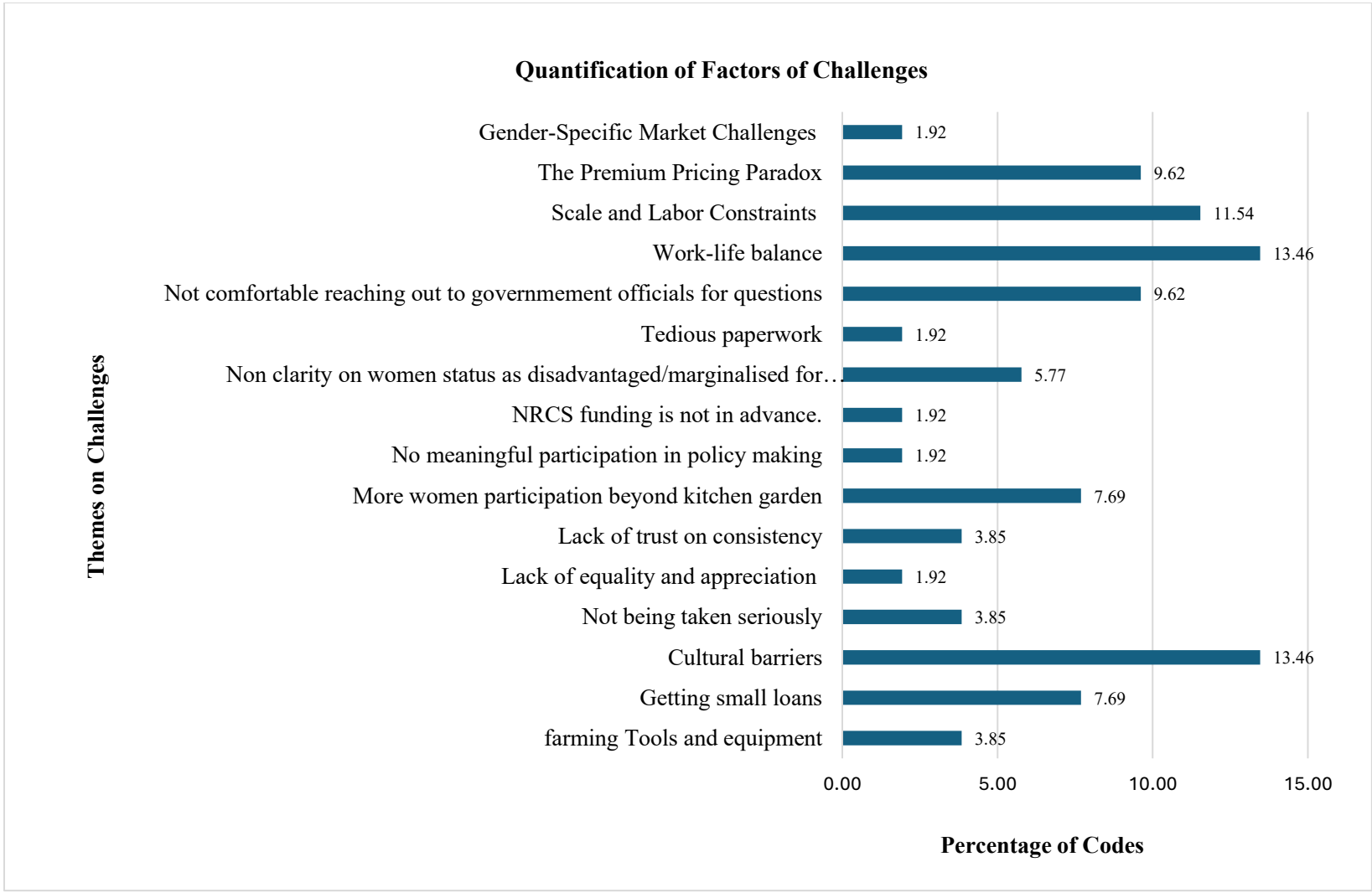


Figure 17: Quantification of Factors of Challenges

4.5.3: Perspectives on Positioning of Women Farmers in SAFS

Regarding positioning of women farmer produce wise, as shown in the *Figure 18*, is quantified based on the number of respondents.

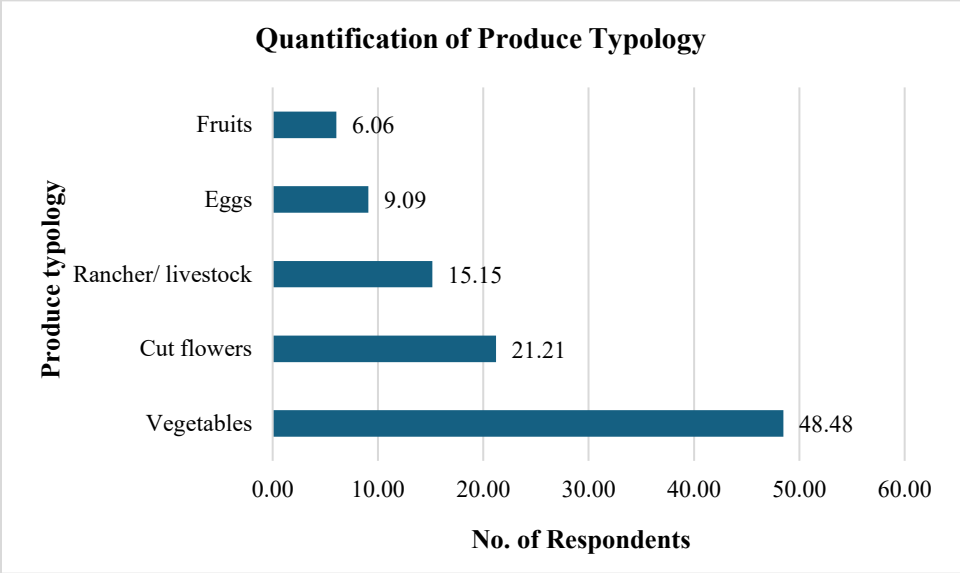


Figure 18: Quantification of Produce Typology

Women farmers best position themselves or find their niche area are as illustrated vegetables (49 percent) is the dominant category, half of the participants were found to be into vegetable production and business. This indicates that vegetable farming is the primary produce. Cut flowers (21 percent), is the emerging niche are for women farmers. This is a significant portion, suggesting a strong focus on horticulture. 15 percent of the respondents were on livestock business; remaining produce belonged to Eggs (9 percent) and fruits (6 percent).

Figure 19 quantifies the thematic frequency of achievements attributed to women farmers based on a total of 94 qualitative codes. The data reveals that the most significant contributions are centered on an ethic of care and stewardship.

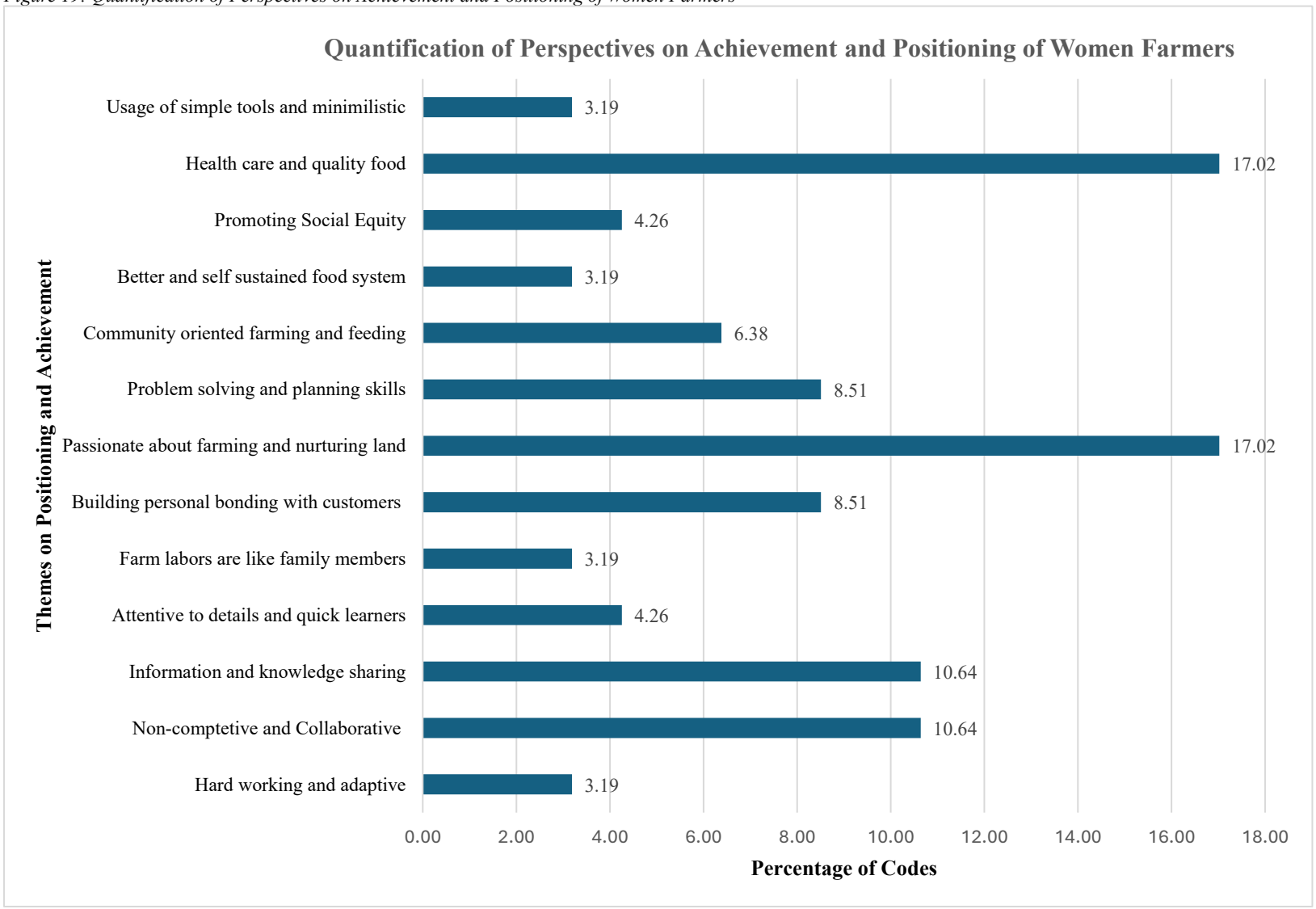
Two themes are prominently represented, each accounting for 17.02 percent (n=16) are a focus on 'Health care and quality food' and being 'Passionate about farming and nurturing land.' This strong dual emphasis suggests that the primary perceived achievement of women in SAFS is linked to their roles as providers of nutritious food for the community and the environment.

Further, cluster of themes highlights the importance of social capital and collaboration. 'Information and knowledge sharing' and having a 'Non-competitive and Collaborative' nature are equally significant, both at 10.64 percent (n=10 codes each). These are followed by practical skills, where 'Problem solving and planning skills' and 'Building personal bonding with customers' each represent 8.51 percent (n= 8 each), underscoring their capabilities in farm management and direct marketing.

Less frequent, yet still notable, themes include 'Community oriented farming and feeding' at 6.38 percent (n=6 codes), followed by 'Promoting Social Equity' and being 'Attentive to details and quick learners', each at 4.26 percent (n=4 codes). The least frequent themes, all tied at 3.19 percent (n=3 codes each), include 'Usage of simple tools and minimalistic' approaches, contributing to a 'Better and self sustained food system,' fostering familial relationships where 'Farm labors are like family members,' and being 'Hard working and adaptive.'

Women farmers in SAFS are defined primarily by their contributions to ecological stewardship and community well-being rather than conventional economic metrics. While they are increasingly drawn to low-investment niche markets like cut flowers, their participation is hindered by a lack of accessible information.

Figure 19: Quantification of Perspectives on Achievement and Positioning of Women Farmers



4.5.4 Quantifying Gender Relations Within Interacting Entities

The percentages are for the purpose of summarizing the findings and no standard generalization is expected. The percentages are those of codes/themes cited by the respondents. These themes are discussed in detail in Section A of this chapter.

Gender Relations: Household

Figure 20 provides a thematic breakdown of household dynamics from a dataset comprising 59 qualitative codes. The analysis reveals that discussions around gender relations are predominantly centered on the nature of partnerships and the negotiation of roles and power within the farm enterprise.

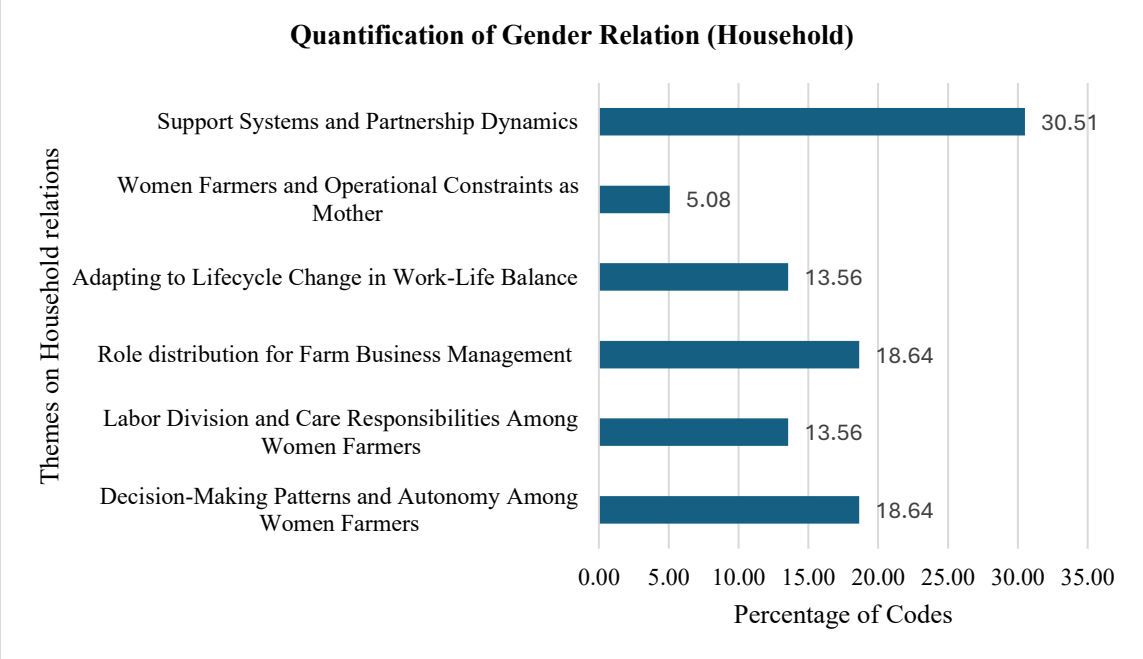


Figure 20: Quantification of Gender Relations Household

The most significant theme by considerable margin is 'Support Systems and Partnership Dynamics,' which accounts for 30.51 percent of the codes (n= 18). This

finding underscores the critical role that spousal or partner relationships play in the lived experiences of women farmers.

Following this, two key themes related to farm management and autonomy are equally prominent. Both 'Role distribution for Farm Business Management' and 'Decision-Making Patterns and Autonomy Among Women Farmers' represent 18.64 percent of the codes (n=11 each). The equal weight of these themes suggests that the negotiation of control and responsibility in the farm business is a central aspect of household gender relations.

A third tier of themes focuses on the division of labor and life-course adaptations. 'Labor Division and Care Responsibilities Among Women Farmers' and 'Adapting to Lifecycle Change in Work-Life Balance' are also tied, each constituting 13.56 percent of the data (n= 8).

Finally, the least frequent theme is 'Women Farmers and Operational Constraints as Mother,' making up only 5.08 percent of the codes (n=3). While the constraints associated with motherhood are acknowledged, they appear as a less dominant topic compared to the broader dynamics of partnership and farm management. However, this is a critical deciding factor for farmers for having kids.

Overall, the data indicates that household gender relations for this group are primarily framed through the lens of partnership negotiations, shared decision-making, and role distribution in the farm business, rather than focusing narrowly on traditional domestic roles or the constraints of motherhood.

Gender Relations: Market

Figure 21 illustrates the key themes associated with women farmers' engagement with market systems, based on a dataset of 47 qualitative codes. The analysis shows that strategic adaptation and direct, relational marketing are the most significant aspects of their market interactions.

The most frequently cited theme is 'Market Diversification as Survival Strategy,' representing 19.15 percent of the data (n=9 codes). This suggests that employing multiple market channels is a primary tactic for economic resilience. Closely following is the importance of 'Direct-to-Consumer Relationships as a Core Competency,' which accounts for 17.02percent of the codes (n=8), highlighting the value placed on personal connections with customers.

A significant cluster of three distinct themes are tied, each representing 12.77 percent of the codes (n=6 each): 'Farmers' Markets: Mixed Relationships,' 'Innovation in Market Access,' and 'Scale and Labor Constraints.' This grouping indicates that while farmers' markets and new access methods are key areas of activity, they are equally impacted by fundamental structural limitations.

Other themes include 'The Premium Pricing Paradox' at 10.64 percent (n=5 codes) and 'Community Building and Local Food Systems' at 8.51 percent (n=4 codes). Less frequent, but still relevant, are 'Infrastructure related challenges' and 'Market Education and Consumer Awareness,' which are tied at 6.38 percent (n=3 codes each). The least prominent theme is 'Gender-Specific Market Challenges' at 2.13 percent (n=1 code), suggesting that challenges may be framed more often in economic or structural terms than explicitly in terms of gender.

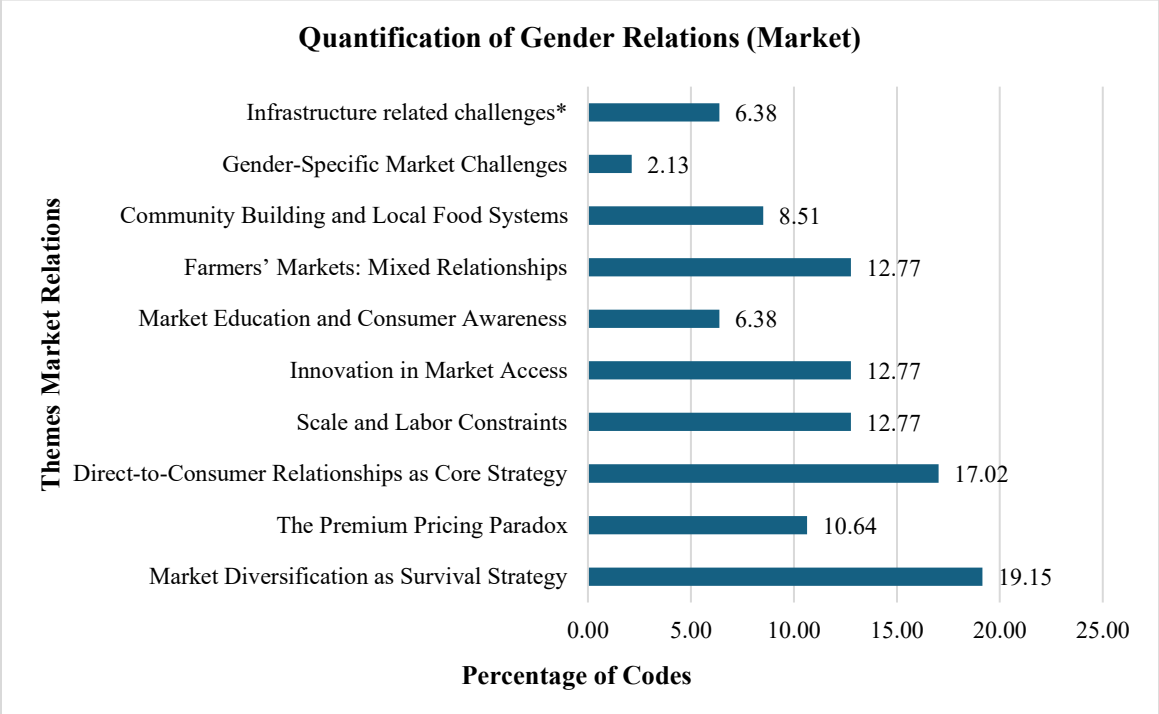


Figure 21: Quantification of Gender Relation Market

In summary, women farmers' market relations are characterized by proactive, relational strategies to ensure viability. Their success is heavily influenced by their ability to diversify and build direct connections, while simultaneously navigating structural constraints related to scale, labor, and market access.

Gender Relation: Community

Figure 22 presents a thematic analysis of women farmers' community engagement based on 75 qualitative codes. The data indicates that their community relations are actively and strategically constructed, with a strong emphasis on leadership and the development of robust networks.

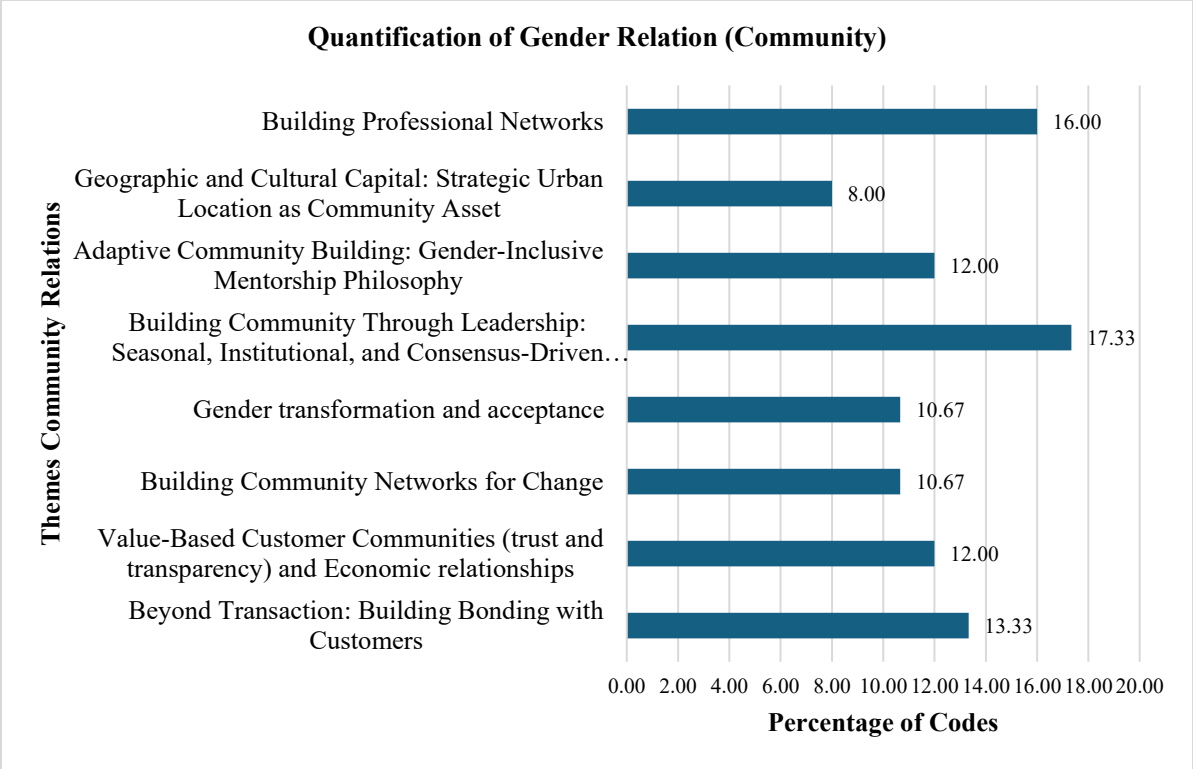


Figure 22: Quantification of Gender Relations Community

Figure 23: Quantification of Gender Relations Community

The most significant theme is 'Building Community Through Leadership...,' which accounts for 17.33 percent of the codes (n=13). This is closely followed by 'Building Professional Networks' at 16.00 percent (n=12 codes). Together, these two prominent themes highlight a proactive approach where women farmers establish influence and create vital professional support systems.

Further, themes emphasize the depth and quality of social and economic relationships. The theme 'Beyond Transaction: Building Bonding with...' customers constitutes 13.33 percent of the codes (n = 10), showing a focus on relational rather than purely transactional engagement. This is followed by two tied themes at 12.00 percent (n = 9 codes): 'Adaptive Community Building: Gender-...' and the creation of 'Value-Based

Customer Communities (trust...).' These findings point to the importance of fostering deep, meaningful connections that build social capital.

Themes explicitly oriented towards social change and empowerment are also prominent. 'Gender transformation and acceptance' and 'Building Community Networks for Change' are equally represented at 10.67percent (n= 8 codes each), underscoring a commitment to leveraging community networks for broader social progress. The least frequent theme identified is the strategic use of 'Geographic and Cultural Capital,' which makes up 8 percent of the codes (n = 6).

Overall, the chart demonstrates that for the women farmers in this study, community is not a passive context but an actively created space. Their engagement is characterized by leadership, the formation of impactful professional and social networks, and the cultivation of value-based relationships that support both their businesses and a wider agenda of social change.

Gender Relation: State

Figure 23 outlines the primary themes governing the interactions between women farmers and state-level institutions, based on an analysis of 45 qualitative codes. The findings indicate that this relationship is primarily characterized by the pursuit of financial resources and the experience of systemic and interpersonal discrimination.

The most frequently occurring theme is 'Government Grant Programs and Funding', which accounts for 24.44 percent of the codes (n=11). This underscores the critical role of state funding in the viability of their farm operations. The second most prominent theme is 'Gender-Based Treatment Disparities', representing 20.00 percent of

the codes (n = 9), highlighting that direct experiences of discrimination are a significant aspect of their interactions with state entities.

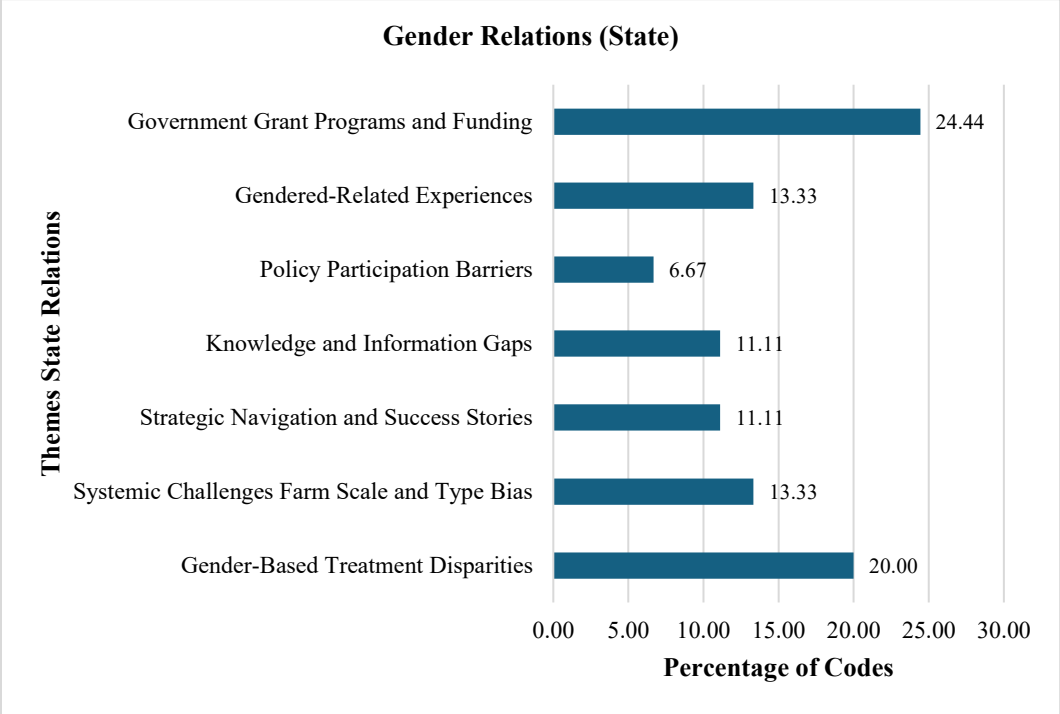


Figure 24: Gender Relation States

Figure 25: Gender Relation States

Further concerns include two themes, each constituting 13.33 percent of the codes (n=6 each):'Gendered-Related Experiences' and 'Systemic Challenges Farm Scale and Type Bias'. This pairing suggests that women farmers face both broad gender-related issues and specific systemic biases that may disadvantage smaller-scale or alternative farming models.

Next, themes related to knowledge and agency were equally represented. Both 'Knowledge and Information Gaps' and stories of ‘Strategic Navigation and Success' account for 11.11 percent of the codes (n=5). This points to the concurrent challenges of

accessing necessary information and the proactive strategies women develop to succeed despite these barriers.

The least frequent theme was 'Policy Participation Barriers', representing 6.67 percent of the codes (n = 3). This suggests that while navigating existing state systems is a major focus, direct participation in policy formation is a hurdle because of no incentive participation expected from the women farmers. Also, in the Mis-South, there may be limited number of women farmers being at that level of experience to contribute in policy decisions.

Overall, the data portrays women farmers' relationship with the state as fundamentally dualistic. The state serves as an essential source of financial resources, yet it is simultaneously experienced as a sphere of significant gender-based discrimination, systemic bias, and informational hurdles. Their engagement is therefore a continuous negotiation between seeking institutional support and confronting institutional exclusion.

4.5.5 Adoption feasibility of FAST Principles

Figure 24 illustrates the prevalence of various Feminist Agrifood Systems Theory (FAST) principles among 49 respondents. The data clearly indicates that engagement is most significant in the broad, transformative work of creating new systems and in the personal act of identity assertion.

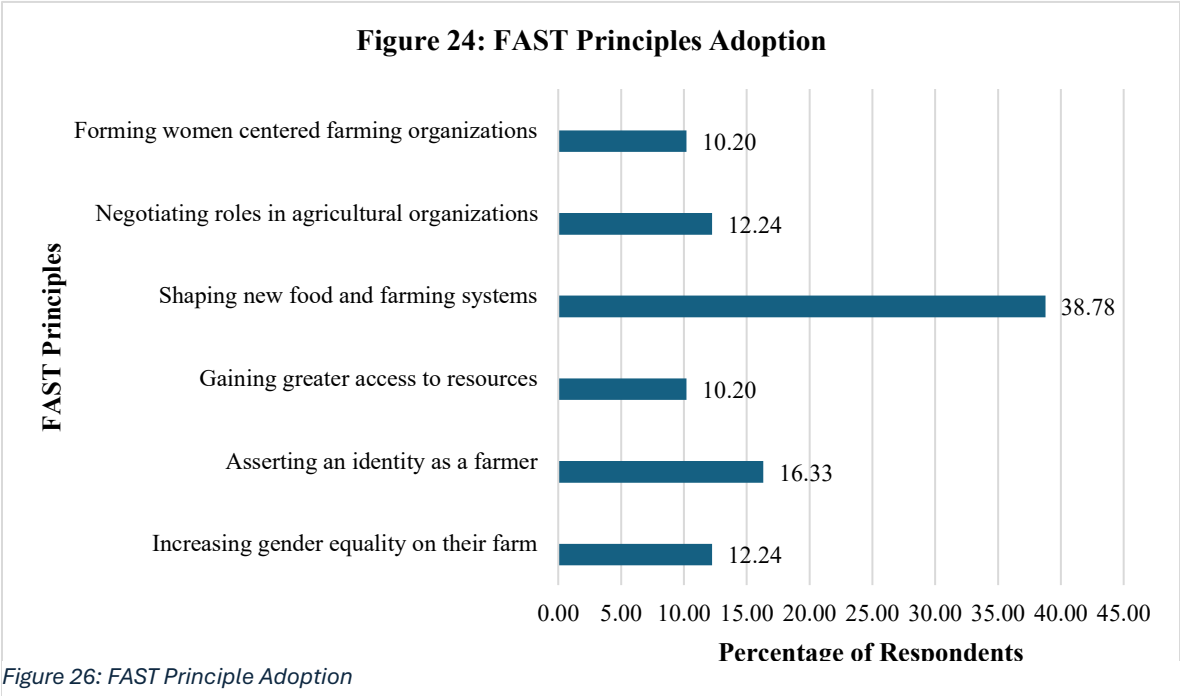


Figure 26: FAST Principle Adoption

Figure 27: FAST Principle Adoption

The most widely adopted principle is overwhelmingly 'Shaping new food and farming systems,' cited by 38.78percent of respondents (n=19 participants). This suggests a primary focus on participating in and building alternative agrifood networks that challenge the status quo.

The second most common principle is 'Asserting an identity as a farmer,' mentioned by 16.33percent of respondents (n= 8). This highlights the fundamental importance of self-identification and the struggle for recognition as a foundational element of empowerment in the agricultural sector.

Following this, two principles focused on reforming existing structures are tied, each cited by 12.24percent of respondents (n= 6): 'Negotiating roles in agricultural organizations' and 'Increasing gender equality on their farm.' These themes represent tangible actions taken to achieve equity within established organizations and within the household.

The least frequently adopted principles in this dataset are also tied, each mentioned by 10.20percent of respondents (n = 5):'Forming women centered farming organizations' and 'Gaining greater access to resources.'

In conclusion, the data suggests that the adoption of FAST principles by these respondents is most pronounced at the macro level of systemic change and the deeply personal level of identity. Actions aimed at negotiating roles or forming specific organizations, while present, are less prominent than the overarching goal of building new, more equitable food systems.

Conclusion

The central conclusion of this analysis is that achieving a truly sustainable food system is inseparable from achieving genuine gender equity. The barriers holding back women farmers are not merely "women's issues"; they are systemic weaknesses that inhibit the resilience, diversity, and ultimate success of our entire agricultural landscape. Supporting women farmers—through targeted policy reform, redesigned support services, and a cultural shift that recognizes their invaluable contributions—is therefore not simply a matter of social justice. It is a fundamental and pragmatic prerequisite for building the healthy, equitable, and sustainable food future that their work so powerfully envisions.

CHAPTER 5: DISCUSSION AND CONCLUSION

The purpose of the study was to understand the motivation and barriers of the women farmers in the mid-south region of the United States. For positioning themselves in the sustainable agrifood systems, these motivation and barriers were to be understood in the context of their relationships with the ecosystem of the food system, with all the actors, institutions, and resources.

5.1 Paradox and Flawed Proxy for measurement of Sustainability

The findings highlight that adoption of sustainable agriculture and rise in female participation into farming is not related. Here adoption was measured by the numbers of farmers who have USDA certification. It was found that due to several pull and push factors, women orient themselves to the farming adopting sustainable agricultural practices, not necessarily opting for USDA certification.

The Flawed Proxy: At the heart of the measurement problem is the conflation of a specific regulatory standard with a broad philosophical approach. The USDA National Organic Program (NOP) provides a legally enforceable definition of "organic," but it is not, nor was it ever intended to be, a comprehensive measure of "sustainability"(Zimmerman, 2020)[16]. Using certification data as a proxy for the adoption of sustainable practices creates a distorted picture of the agricultural landscape. It privileges a single costly, process-based verification system, over a multitude of outcome-based practices, thereby rendering invisible the efforts of countless farmers who

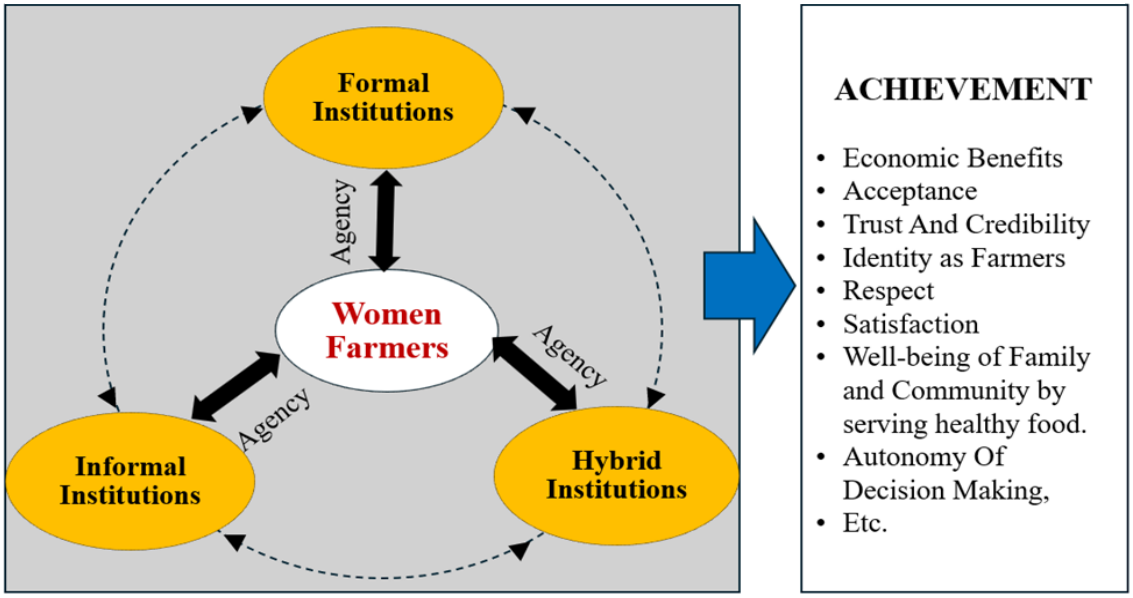
[16] https://news.climate.columbia.edu/2020/02/05/organic-sustainable-food/

are deeply committed to ecological stewardship but operate outside the formal certification framework. This measurement gap is not gender-neutral; it disproportionately obscures the work of women, whose entry into agriculture is often characterized by operational models and value systems that do not neatly align with the National Organic Program's structure.

5.2 Gendered Sustainable Agriculture Pathways (GSAP) Model

A comprehensive conceptual framework for analyzing gender relations in sustainable agriculture and food systems was developed, called GSAP Model *(Figure 25).*

Figure 25: The Gendered Sustainable Agriculture Pathways (GSAP) Model



Source: Author

Figure 28: The Gendered Sustainable Agriculture Pathways (GSAP) Model

Figure 29: The Gendered Sustainable Agriculture Pathways (GSAP) Model

Based on the insights derived from the research findings and the deeper understanding of the theoretical base on SRA, FAST, and North's "Institutions", necessitated revision of the analytical framework which was derived from the integration of SRA and FAST. This revised conceptual framework is structured around three core, interdependent components: Institutions, Agency, and Achievement.

Institutions as a Source of Resources

Institutions are the formal and informal structures, norms, and social relationships that constitute the environment in which women farmers operate. These structures function as the source of critical resources, capital, and information, which can either enable or constrain the agricultural and entrepreneurial activities of women. The dynamic relationship between women farmers and these institutions is central to defining their professional trajectory and outcomes. These institutions can be classified into three distinct categories:

Formal Institutions: These are officially sanctioned organizations governed by explicit rules and procedures. They include State and Governmental Bodies: NRCS, FSA, USDA, and university extension services. Financial and Educational Bodies: Banks, credit agencies, universities, and agricultural training centers. Non-State and Civil Society Organizations: NGOs, farmers' unions, non-profit food systems, and food banks.

Informal Institutions: These are uncodified, socially shared rules, norms, and practices that guide behavior. They primarily include Household: The domestic unit (e.g., husband, partner, parents) where key decisions regarding labor and resource allocation are often made. The Community: Local social networks comprising neighbors, customers, volunteers, and other community members.

Hybrid Institutions: These entities blend elements of formal and informal rules. They include The Market: All platforms for commerce, such as wholesale and retail markets, farmers' markets, CSAs, restaurants, and direct/online sales channels. The Farming Community: Peer-to-peer networks, including women-centric farming groups (both in-person and online), cooperatives, and other producer associations. Land Tenure Systems: Mechanisms for land access, including family ownership, lease markets, sharecropping agreements, and community gardens.

Agency Adopted by Women Farmers in SAFS

Agency refers to the capacity of women farmers to act purposefully and make autonomous choices to navigate the institutional landscape. It is the ability to translate personal and professional objectives into deliberate action. Within this framework, agency is exercised through several key strategies: Bonding: Building and reinforcing social ties and support networks. Strategizing: Formulating and executing deliberate plans to access resources or overcome barriers. Bargaining: Negotiating with actors across various institutions (e.g., family members, market gatekeepers, service providers) to secure favorable terms. Adapting: Modifying farming practices, business models, or goals in response to institutional opportunities and family or community constraints.

Achievement Social and Economic

Achievement represents the multifaceted outcomes resulting from the exercise of agency within the broader institutional context. These outcomes serve as indicators of success and empowerment and extend beyond purely economic measures. Key areas of achievement include Economic Benefits: Attaining financial stability, profitability, and

business growth. Social Capital and Recognition: Earning acceptance within the farming community, establishing credibility and trust with customers, and affirming their professional identity as farmers. Personal Empowerment: Gaining autonomy in decision-making, achieving personal satisfaction, and enhancing the well-being of their family and community.

5.3 The Findings and their Interpretations

The role of women in Sustainable Agriculture and Food Systems (SAFS) is characterized by a profound and persistent paradox in the United States. On one hand women farmers are entering the agriculture sector with a clear sense of purpose, driven by a powerful set of post-materialist values centered on environmental stewardship, community well-being, and personal fulfillment resonating with the findings (Sachs et. al, 2016) and (Kiosow, 2025)[17]. On the other hand, this agency is continually constrained by a formidable array of deeply entrenched structural, economic, and socio-cultural barriers. They are not merely participants but active architects of a new food paradigm, leveraging collaborative networks and direct-to-consumer models to build a more resilient and equitable food system. The central argument advanced is that while women are at the vanguard of shaping a more sustainable agricultural future, their transformative potential is fundamentally tethered to and constrained by legacy systems of patriarchal land tenure, inflexible economic institutions, and pervasive cultural norms. This chapter seeks to dissect this central paradox by analyzing and interpreting the findings from a study of 20 women farmers in the Mid-South region of the United States.

Source: Author

[17] https://www.thomasnet.com/insights/how-women-are-changing-farming/

Drivers of Motivation

The motivations compelling women to enter SAFS in the mid-south, are indicative of a significant shift in agricultural paradigms. The findings suggest that their engagement is not primarily dictated by conventional metrics of profit maximization or large-scale commodity production. Instead, it is fueled by a complex and deeply personal interplay of intrinsic values, the pursuit of social connection, and a desire for a holistic, sustainable lifestyle. This pattern suggests that for many women, farming is a deliberate and conscious choice, a form of "values-based entrepreneurship" that seeks to integrate personal, economic, and ecological well-being.

The research findings place a remarkable emphasis on social and educational drivers for encouraging women participation in SAFS. The single most influential motivator, as measured by weighted average, is "Peer group Support and mentorship" at 61.11 percent followed by "Education/Internship/farming job" at 44.44 percent. This prioritization of community and knowledge over purely economic incentives is a critical finding. The high value placed on peer networks aligns with a body of research that documents how women in agriculture often create alternative support systems that emphasize collaboration and peer-to-peer education, frequently in contrast to more traditional, hierarchical agricultural extension services (Sachs et. al, 2016; Brasier et al.,2014, Trauger et al.,2008). This suggests that women are not just seeking a career; they are seeking a community. The promise of a supportive, collaborative network appears to be a powerful "pull" factor, drawing them into a sector where they can learn and grow with others who share their values.

This interpretation is reinforced by the other prominent motivations. A commitment to "Sustainable and local food production" (33.33 percent), "Environmental stewardship" (22.45 percent), and fostering a "Healthy lifestyle" (12.24 percent) are all central to their decision-making process. These motivations resonate strongly with the principles of feminist political ecology (FPE), a framework which posits that individuals' gendered experiences and social positions shape their relationship with the environment and resource management (Agarwal, 1992). FPE asserts that environmental access, use, control, and knowledge are gendered processes, meaning they are shaped by the socially constructed roles, responsibilities, and power relations between men, women, and other gender identities (Rocheleau et al., 1996). The core of its argument is that one cannot understand environmental problems or craft just solutions without analyzing the underlying gender dynamics that influence how nature is managed and experienced. FPE scholarship suggests that women, often responsible for household nutrition and community health, are more likely to prioritize practices that ensure long-term ecological stability and social well-being. The motivations identified in this study are a direct reflection of this ethos, positioning these women as key agents in the development of more sustainable and multifunctional agricultural systems, with alignment with the research (Sachs et. al, 2016).

Furthermore, findings, the emergence of "Flexible business alternative to work from home" (27.78 percent) and "Passion and Enjoyment" (22.22 percent) as significant drivers, challenges the historical narrative of women entering agriculture primarily as "farmer's wives" or as a constrained, last-resort option. This aligns with research documenting a profound transformation in which women are increasingly identifying as

farmers by deliberate choice, often transitioning from other careers mid-life to pursue a profession that aligns more closely with their personal values (Trauger, 2007; Ball 2014; Sachs et. al, 2016). The high value placed on "Education/Internship/farming job" (44.44percent) reinforces this trend toward “professionalization of women centered farming”. Unlike traditional agricultural models where knowledge is often passed down through patrilineal inheritance, these women are actively seeking formal training, internships, and prior work experience. This proactive pursuit of knowledge is not merely about skill acquisition; it is a foundational act of self-identification as a professional farmer. It signals a departure from the role of a secondary helper and a move toward that of a skilled, knowledgeable, and independent producer or integrate with Co-operative. This deliberate preparation underlines the fact that they are not simply "falling into" farming but are strategically and intentionally building careers in the sector.

Structural and Systemic Barriers

While motivated by a powerful vision for a creating new kind of agriculture systems, women farmers operate within a landscape of systemic and interconnected barriers. The challenges they face are not isolated, procedural problems to be solved, but are deeply embedded in socio-cultural norms, economic structures, and institutional biases. The research findings fascinatingly demonstrate that the most significant hurdles are not related to farming but to gender. These barriers can be categorized into three intersecting domains: the socio-cultural pressures of the “double burden”, the economic realities of a system not designed for their scale or model i.e.’small farmers’, and a sense of alienation from the very institutions meant to support them.

<u>The Double Burden:</u>

The most prominent challenges identified in the study are "Work-life balance" and "Cultural barriers," both cited by 43.75 percent of respondents. This finding is critical, as it locates the primary source of struggle within the socio-cultural sphere. This is not a challenge of soil fertility or pest management, but of societal expectations and gender roles. This "double burden" or "dual role" is extensively documented in the literature, describing the expectation that women manage the full scope of farm labor while simultaneously retaining primary responsibility for unpaid domestic work, childcare, and elder care (Kelly, 2024)[18]. This conflict between the long hours required to run a farm and the societal expectation to manage household duties is a major source of stress and a significant constraint on their time and energy (Annes et. al, 2020; Kaur and Kaur, 2024).

The research findings reflect that these pervasive cultural barriers manifest in various ways. They are reflected in the feeling of "Not being taken seriously" (12.50 percent of responses) and a "Lack of equality and appreciation" (6.25 percent). Research confirms that women in agriculture often face resistance from male colleagues and community members and must navigate a culture where farming is traditionally associated with masculinity aligns with the research (Sachs et. al, 2016). They are often forced to contend with stereotypes that question their capabilities and authority, creating pressure to prove themselves in a male-dominated field that aligns with the research (Smyth et. al, 2018). These dynamic forces women to navigate the conflicting expectations of being both an "authoritative leader" on the farm and a "nurturing caretaker" at home, a tension that encapsulates the core of the socio-cultural challenge

[18] https://blog.mdpi.com/2024/03/04/women-agriculture-food-security/

(Smyth et. al, 2018). These deeply ingrained norms not only add a layer of psychological stress but also have tangible impacts on the economic viability of their enterprises.

Economic Viability and Market Realities

The socio-cultural pressures described above are not separate from economic challenges, they are often their root cause. The research findings reveal a direct causal pathway from the constraints on a woman's time and social standing to the economic hurdles she faces. The challenge of "Scale and Labor Constraints" (37.50percent of responses) is a direct consequence of the work-life balance issue. When a significant portion of a woman's day is consumed by unpaid care work, her capacity to expand farm operations is severely limited. This time poverty makes it difficult to scale up production or manage hired labor effectively.

This inability to scale, in turn, aggravates "The Premium Pricing Paradox" (31.25 percent of responses). Sustainable and organic farming methods are often more labor-intensive and have higher input costs. Without the ability to achieve economies of scale, these higher costs are difficult to absorb, and farmers struggle to command a premium price in the market that is sufficient to ensure profitability (Eti, 2025). This is further complicated by challenges in market access, where small-scale producers, particularly women, may lack direct channels to consumers and be forced to sell to middlemen who capture a large portion of the final value.

These operational struggles directly impact their ability to secure financing. The difficulty in "getting small loans" (25.00percent of responses) is a logical outcome for a farm that is struggling with scale and profitability, as lenders may perceive it as a higher-risk investment. This finding is consistent with a vast body of research that highlights a

persistent gender gap in access to credit, financial services, and other productive resources (Kaur and Kaur, 2024). Structural inequalities and gender stereotypes can hinder women's access to the capital necessary to purchase land, equipment, and inputs, creating a cycle of undercapitalization that reinforces their inability to scale and achieve long-term economic viability (Dabkiene, 2025; Heifer International, 2025[19]).

Navigating Institutions

The third domain of challenge relates to the interaction between women farmers and state institutions. A striking 31.25percent of respondents reported being "Not comfortable reaching out to government officials for questions". This suggests a significant barrier of trust, intimidation, or alienation from the very systems, such as the USDA's Natural Resources Conservation Service (NRCS) or Cooperative Extension, designed to provide support. This discomfort is compounded by a "Non-clarity on women status as disadvantaged/marginalized for programs" (18.75percent), "Tedious paperwork" (6.25percent), and a sense of having "No meaningful participation in policy making" (6.25percent).

This feeling of institutional alienation is supported by research indicating that despite efforts at gender mainstreaming, agricultural policies and programs often fail to create meaningful changes at the local level (Dabkiene, 2025). Rural development programs frequently fail to challenge the entrenched cultural norms that marginalize women, and powerful agricultural lobbying groups can shape policy in ways that prioritize other interests over gender equality (Dabkiene, 2025). The data from the thematic analysis of gender relations with the state reinforces this point, with

[19] https://www.heifer.org/blog/why-are-women-important-in-farming.html

"Government Grant Programs and Funding" (24.44percent) and "Gender-Based Treatment Disparities" (20percent) emerging as the most dominant themes. This indicates that the primary interface with the state is experienced through the lens of accessing resources and navigating unequal treatment. The institutional processes are often perceived as inaccessible, non-inclusive, and misaligned with the realities of their farming operations, leading to a systemic disconnect that leaves many women feeling unsupported and unheard.

Land Access and the Primacy of Spousal Relationships

Land is the foundational asset in agriculture, and the mechanisms through which it is accessed fundamentally shape a farmer's autonomy, security, and identity. The research findings on land access reveal what is arguably the most critical structural factor influencing the lives of the women in this cohort: an overtly reliance on spousal relationships. A combined 60percent of all land access methods are mediated through a husband, including land that was "Earned and purchased together" (23percent), "Husband purchased" (20percent), and "Husband inherited" (17percent). This single statistic positions marital status as the primary gateway to a career in farming for most of these women. However, the emerging all other forms of access, such as leasing (14percent) or renting (5percent), suggested by the women farmers such as ‘forming land trust’, provides idea for innovation in this regard.

This mode of access to land functions as a double-edged sword. On one side, it provides the essential, and often only, entry point into farming. In a context where women own less than 15percent of the world's land and face significant barriers to purchasing it independently, a partnership can be the key that unlocks access to this

critical resource (Kelly, 2024). However, on the other hand, this dependency institutionalizes structural precarity that can challenge a need for a woman's long-term security, autonomy, and professional identity. The academic literature on gender and land tenure is full of evidence of this vulnerability. For a majority of women globally, access to land is not a direct, individual right but a secondary one, contingent upon their relationship with a male relative—a husband, father, or brother (FAO-IFPRI, 2018)[20] . This means their rights are inherently insecure and can be threatened or completely lost in the event of divorce, separation, or the death of a spouse (Deusen, 2021)[21]. However, in a similar situation of divorce one of the interview participants took charge of land on her name as alimony.

This structural reality creates a state of what can be termed "unwarranted empowerment." The findings on household gender relations presents a positive picture, with "Support Systems and Partnership Dynamics" (30.51percent) and "Decision-Making Patterns and Autonomy Among Women Farmers" (18.64percent) ranking as highly significant themes. This suggests that within the context of their partnerships, many of these women experience a high degree of mutual respect, shared goals, and autonomy in day-to-day and business management decisions. They feel empowered in their lived, daily reality. However, this felt empowerment is contingent and not legally absolute. Because the foundational asset—the land—is often legally or customarily controlled by their spouse, their decision-making authority is ultimately granted or shared, not

[20] https://openknowledge.fao.org/server/api/core/bitstreams/4966d50c-233b-43a9-8fa7-8d43263dd082/content
[21] https://www.esri.com/about/newsroom/arcuser/if-more-women-owned-land-more-people-might-be-fed

independently owned. This underlying precarity creates a fundamental tension between their internal sense of partnership and their external structural vulnerability.

This tension is not merely a legal or economic issue; it strikes at the very core of their professional identity. In agriculture, identity is inextricably linked to the land; the farmer is defined by their relationship to the land they work in (Shortall, 2014; Hammersley et. al, 2021). When a woman's legal or customary claim to that land is derivative—when she is, in a structural sense, farming "his" land—her claim to the identity of "farmer" is also rendered secondary and contestable. This structural arrangement provides the fertile ground for the identity crisis observed in the study. It directly explains why so many women must actively fight for external validation and why the struggle to be seen as a farmer, rather than a "farmer's wife," is so central to their experience. The fight for credibility is, in essence, a fight against the social and cultural implications of their insecure and dependent land tenure.

Identity, Credibility and Positioning in the Agrifood Systems

For the women farmers in this study, professional identity is not a static, conferred status but an ongoing, dynamic process of negotiation, struggle, and strategic construction. Confronted with a traditional agricultural system that often renders them invisible or relegates them to a secondary status, they are actively counterfeiting an alternative identity. This new identity is powerfully rooted in value-driven practices, a collaborative ethos, and community-oriented market strategies. By doing so, they are not only asserting their own legitimacy but are also carving out a unique and defensible niche within the broader agrifood system, effectively redefining what it means to be a successful farmer.

From Farmer’s Wife to Farmer: The fight for Credibility

The most substantial finding related to identity is that of a significant plurality of the respondents, 39percent, describe their status as "Fighting for credibility". This single phrase encapsulates the central struggle for recognition in a field where the role of "farmer" has been historically and culturally coded as masculine (Smyth et. al, 2018). This is contrasted with the 15percent who "confidently" affirm their farmer identity and the 8percent who still primarily see themselves as a "Farmer's wife," albeit one who acknowledges her contributions. This spectrum of self-perception highlights the transitional nature of women's roles and identities in agriculture.

This struggle for credibility is well-documented in literature. For decades, women's substantial labor on farms was often devalued or made invisible, categorized as "helping" or simply part of their domestic duties as a spouse (Farhall and Rickards, 2021). The data reflects a conscious and ongoing effort to break free from this paradigm. The very act of claiming the title of "farmer" is a significant political and personal statement. Research shows a profound shift occurring over the last few decades, with women increasingly seeing themselves as farmers, not just as the wives or daughters of farmers (Shortall, 2014). This process is intertwined with the "doing" of farm work; as women take on more tasks traditionally associated with masculinity, such as operating machinery or managing finances, it can influence their own gender self-perception and fortify their professional identity (Sachs et. al, 2016). The 39percent who are "fighting" are on the front lines of this identity transformation, actively challenging the sexism they face and demanding recognition for their skills, knowledge, and labor.

Values-Driven Positioning: Collaboration, and Direct to Consumer Strategies

In response to the struggle for legitimacy within the conventional agricultural system, these women are strategically positioning themselves in an alternative arena where their values and skills are not just recognized but are a primary asset. The data on their positioning factors is overwhelmingly clear: their identity is rooted in purpose and relationships, not just production. The two most significant factors are a commitment to "Health care and quality food" and being "Passionate about farming and nurturing land," This purpose-driven mission forms the foundation of their brand and identity.

This foundation is built upon a distinctly collaborative and community-oriented ethos. "Non-competitive and Collaborative" and "Information and knowledge sharing" are tied as the next most important positioning factors. This directly challenges the competitive, individualistic model that often characterizes conventional agriculture. Instead, they position themselves as community builders and educators. This collaborative spirit extends directly to their market strategy, which is highly relational. A significant portion position themselves by "Building personal bonding with customers".

This approach aligns perfectly with research identifying women as leaders in the development of alternative food networks and direct-to-consumer (DTC) models, such as farmers' markets and Community Supported Agriculture (CSA) programs (Sachs et. al, 2016). Studies show that women-run farms are more likely to sell directly to local consumers, and women manage a disproportionately high percentage of farmers' markets. The produce wise dominated by vegetables (49percent) and the emerging niche of cut flowers (21percent), is also well-suited to these smaller-scale, high-value, direct-market channels. By focusing on a model that values relationships, transparency, and quality, they are building a form of social and cultural capital that provides an alternative basis

for credibility. Instead of fighting for recognition within a system that devalues them, they are building a new system, a new market and a new community, where their credibility is self-evident and their contributions are celebrated.

5.4 A Framework for Empowerment: The FAST Principles in Theory and Practice

The adoption of the Feminist Agrifood Systems Theory (FAST) principles provides a powerful lens through which to measure the collective agency and empowerment of the women in this study. The FAST framework values women's ways of knowing and working in agriculture, emphasizing personal and environmental sustainability, creating connections throughout the food system, and developing collaborative peer-to-peer networks (Sachs et. al, 2016). The differential adoption rates of these principles among the study participants are highly revealing, highlighting both a profound sense of individual agency and the precise locations of the most persistent structural barriers they face.

The most significant finding is the universal adoption of one core principle: was found that respondents are actively engaged in "Shaping new food and farming systems". This is a remarkable testament to their collective sense of purpose and agency. It indicates that every woman in the cohort, regardless of her specific circumstances, sees her work as part of a larger, transformative project. This finding is the practical manifestation of the value-driven motivations and positioning strategies discussed previously. It aligns perfectly with their stated commitment to sustainable food production, environmental stewardship, and community health, and it confirms the literature that positions women farmers at the forefront of alternative food movements.

They are not just farming; they are consciously and collectively building a different kind of food system from the ground up.

In contrast to this universal expression of agency, the adoption rates for other FAST principles are significantly lower, and this pattern illuminates the constraints on their empowerment. The principle of "Gaining greater access to resources" has one of the lowest adoption rates, because of lack of access to resources in the Mid-South region. This is not an indication of a lack of desire but a direct reflection of the formidable economic and institutional barriers. They are unable to "gain access" because the system is structured in a way that limits their access to land, credit, and capital. The low adoption rate is a measure of the barrier's strength, not their lack of effort.

Similarly, the low adoption of "Forming women centered farming organizations" reveals a fascinating and critical discrepancy. The study's motivation data clearly shows that "Peer group Support and mentorship" is the single most important driver for these women. They deeply value and seek out informal connections and collaborative networks. However, the formal, institutionalized expression of this value, creating their own organizations, is rarely actualized. This gap can be explained by the immense pressure on their time and resources. The "Work-life balance" challenge points to a condition of severe time scarcity. While every woman is exercising agency on her own farm and in her own marketing ("shaping new food systems"), the additional "second shift" of formal organizing, administration, and institution-building requires a surplus of time, energy, and resources that most simply they do not have. Their empowerment is currently being channeled into daily practice and survival, not into the political and organizational work that could challenge the structures that constrain them. This

highlights a critical challenge for empowerment, fostering the transition from informal networks to formal organizations that can advocate for systemic change.

5.5 Limitations and Future Research Directions

This study provides valuable insights into the experiences of women in sustainable agriculture; however, its limitations highlight several important avenues for future inquiry. This section outlines the primary constraints of the current research and proposes directions for subsequent studies to build upon its findings.

5.5.1 Research Limitations

The conclusions drawn from this study should be considered in light of several key limitations related to sampling, methodology, and scope.

Sample Homogeneity: The study's demographic profile is predominantly composed of enterprising white women. Consequently, the findings may not be generalizable to the broader population of women in agriculture. Specifically, the sample lacks representation of women farmers of color and individuals operating under "constrained choice" scenarios, whose experiences, challenges, and motivations may differ significantly.

Methodological Constraints: The use of a mixed-mode interview approach (in-person and online) presents a methodological limitation. Online interviews, while convenient, preclude the observation of non-verbal cues, which can introduce subtle biases or limit the depth of interpretive analysis. Furthermore, two interviews were terminated prematurely, resulting in incomplete data. While the thematic analysis remained robust due to data saturation from the complete interviews, the quantitative

calculations (e.g., percentages) derived from the sample were impacted by this missing data.

Limited Scope and Potential of the Study: As a primarily qualitative study focused exclusively on women, this research offers a limited view of partnership dynamics. While the importance of household and spousal relationships emerged as a key theme, the study's design could not fully explore the complexities of household decision-making, labor negotiation, gender roles, and succession planning without incorporating the perspectives of other household members. Consequently, the study did not capture the counter-perspectives within 'interacting entities'.

Conceptually, there is scope to understand the economics of 'gender relations' within these 'interacting entities'—specifically the levels at which they function and interact—based on institutional theories such as Williamson's 'Level of Hierarchy.' Additionally, an interesting finding was the duality of resource providers in rural communities, who are often competitors for the same resources as the farmers they serve. How these dynamics impact women or disadvantaged farmers offers another realm for potential exploration. Methodologically, this study could be further expanded using 'Mixed research method' and understand the causal relationship between themes.

5.5.2 Directions for Future Research

The limitations of this study underscore the need for further research to develop a more comprehensive and nuanced understanding of women's roles in agriculture. The following areas are proposed for future investigation:

Quantitative and Mixed-Methods Expansion: Future research could build upon the emergent themes of this qualitative study by developing a quantitative survey instrument.

A large-scale, national-level survey would allow for broader generalizability. Advanced statistical techniques, such as Structural Equation Modeling (SEM), could then be employed to formally test the relationships between key factors identified in the current study, such as access to resources, farmer identity, and economic success.

Longitudinal Studies: A longitudinal research design is needed to track the evolution of women's farmer identity, business trajectories, and economic outcomes over time. Such studies would be particularly valuable for examining the impact of critical events, such as securing independent land tenure, on farm investment, risk-taking, and self-perception as a farmer.

Comparative Analysis: Comparative research is essential to distinguish between the challenges and opportunities that are unique to Sustainable Agriculture and Food Systems (SAFS) and those that are universal to women in all forms of agriculture. A study comparing the motivations, business models, and barriers faced by women in SAFS with their counterparts in conventional, large-scale agriculture would yield critical insights for targeted policy and support programs.

Dyadic and Household-Level Research: To overcome the limited scope of the current study, future research should adopt a dyadic approach that includes the perspectives of male partners, spouses, and other relevant household members. This inclusive methodology is crucial for gaining a holistic understanding of the complex negotiations and dynamics governing household decision-making, the division of labor, the performance of gender roles, and the intricate process of succession planning.

In addition to above mentioned, future research which are largely based on the limitations of the research, the GSAP model itself provides a huge scope of applying this model in the regional and the global context.

5.6 Discussion and Conclusion

5.6.1: Implications of Policy and Practice

The findings of this study, when contextualized within the broader literature, yield a set of clear and urgent implications for policy, agricultural support practices, and future academic inquiry. The initial recommendations of the report to focus on educational programs and improve land access are valid but insufficient on their own. The interconnected nature of the challenges faced by women in SAFS necessitates a multi-pronged, holistic approach. Interventions that target one barrier in isolation are likely to have limited and unsustainable impacts.

Policy Implications

First, land tenure reform is paramount. As discussed in earlier sections, reliance on insecure, spousal-mediated land access is a root cause of both economic precarity and the crisis of professional identity. Policies must be designed to actively promote and legally secure women's independent rights to land. This includes reforming inheritance and marital property laws to ensure women's claims are protected in cases of divorce or widowhood, providing legal aid to help women navigate these processes, and designing land formalization programs that mandate joint or individual titling for women (Myers and Fella, 2013; Evelyn, 2014)[22]

[22] https://openknowledge.worldbank.org/entities/publication/6e906156-3781-535c-98fa-83f9a4b0553a

Second, financial support mechanisms must be redesigned. The "tedious paperwork," lack of clarity on eligibility, and discomfort with government officials reported in the study point to a system that is misaligned with the needs of its target users (Eti, 2025). Government grant and loan programs, such as those offered by the NRCS and other USDA agencies, should be streamlined to be more accessible to small-scale producers. This could include creating specific funding pools for women farmers, offering smaller and more flexible loan products, reducing bureaucratic hurdles, and exploring mechanisms like advance funding to help overcome initial capital barriers for sustainable practice adoption.

Third, there is a critical need for institutional culture change within agricultural agencies. The finding that nearly a third of women are not comfortable approaching government officials is an indictment of the current institutional climate. Mandating comprehensive, ongoing gender-sensitivity and equity training for all staff at agencies like the Cooperative Extension Service and the NRCS is a necessary first step. The goal should be to transform these agencies from intimidating bureaucracies into genuinely supportive and inclusive partners for all farmers, recognizing the unique challenges and contributions of women in the sector (Dabkiene, 2025).

Practical Implications for Extension and Support Organizations

Non-governmental organizations (NGOs) and university extension programs are uniquely positioned to bridge the gap between policy and on-the-ground reality. Their prime most priority should be to facilitate and fund the networks that women themselves identify as their primary motivation for farming. Instead of focusing solely on the top-down delivery of technical information, these organizations should act as conveners,

providing resources for women-centric conferences, funding for peer-to-peer mentorship programs, and support for the creation of online and in-person communities where knowledge can be shared collaboratively (Sachs et. al, 2016).

Second, business and technical training must be holistic. Curricula for women farmers must go beyond financial planning and agronomy. They need to integrate modules on strategic planning for work-life balance, navigating legal issues around land tenure, accessing community resources like childcare, and developing skills for advocacy and leadership. This approach acknowledges that for these women, business success is inseparable from personal well-being and social context (AGDAILY, 2024; Wheeler and Nye, 2024)[23].

Third, these organizations should support market innovation. Given that women are strategically positioning themselves in DTC and other alternative market channels, support programs should provide targeted resources and training in these areas. This could include workshops on digital marketing, support for establishing online sales platforms, and assistance in navigating the logistics of CSA models and farmers' market participation (Kiosow, 2025)[24].

5.6.2: Theoretical Interpretation and Implications

To comprehend the understanding of “gender relations” the underpinning frameworks adopted were, the Social Relations Approach (SRA), pioneered by Naila Kabeer, and the Feminist Agrifood System Theory (FAST) developed by Carolyn Sachs and her colleagues. When combined, these two frameworks were found to be among the

[23] https://www.agdaily.com/news/study-reveals-challenges-of-farm-life-and-family-balance/
[24] https://www.thomasnet.com/insights/how-women-are-changing-farming/

most influential for analyzing gender dynamics within development and agrifood systems. While both theories are rooted in feminist scholarship and aim to expose and challenge gender inequalities, they offer distinct yet complementary perspectives. The SRA provides a broad, macro-level framework for understanding how gender is constructed through social institutions, while FAST offers a more focused, meso-level analysis of how these gender relations manifest specifically within the context of agriculture and food systems. When the two frameworks are converged together, they come up with their shared obligation to a feminist and social constructionist perspective. Both reject essentialist views of gender and emphasize the ways in which social, economic, and political forces shape gender identities and roles. They also share a common goal of empowering women and transforming unequal gender relations. Since their primary unit of analysis is at two levels, it provides an opportunity to build comprehensive understanding and then narrow down to specific levels. This difference in focus can be seen as a matter of scale, with the SRA providing the larger picture of the women empowerment and FAST is offering a detailed micro level to a particular sector.

Where FAST gave me answers for *'what ought to be the output of actions'* by women farmers in sustainable agrifood system, SRA gave the answers on *'with whom'*, *'why'* and *'how',* can women farmers achieve these outcomes. Analysis supports that actions by the women farmers are leading to all the FAST principles with varied degree of weight. Through the findings, the study suggests 'Defining Achievements' by the women farmers' as another principle to be added to the FAST which is derived from SRA**.**

The analysis reveals a nuanced structure of gender relations within the U.S. agrifood system, which can be conceptualized through the lens of Douglass North's institutional economics. North (1990) posits that institutions consist of both formal constraints (e.g., rules, laws, constitutions) and informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct). This framework is instrumental in understanding the current landscape for women farmers. The findings indicate that the success and resilience of women in sustainable agriculture are predominantly sustained by informal institutions rather than by robust formal support structures.

This reliance on the informal sphere is manifested in several ways. The strength of women farmers often derives from relational networks and social capital, such as peer-to-peer mentoring and community bonding, which provide crucial knowledge transfer and psychosocial support. Research (Sbicca and Rissing, 2020) on women farm interns highlights how these informal learning environments and networks are essential for navigating a male-dominated field, fostering a sense of belonging and professional identity. However, critical aspects like land tenure often remain within these informal arrangements, lacking the security of institutionalized ownership. Furthermore, the participation of women in formal policymaking bodies is frequently on a voluntary basis, rather than through compensated positions, which devalues their contribution and limits their influence. The current policy environment concerning women farmers remains nascent and fragmented, largely driven by state-level or non-profit initiatives rather than cohesive federal policy, underscoring a significant gap in the formal institutional framework.

This dynamic can be further elucidated through Naila Kabeer's (1999) Social Relations Approach (SRA), which conceptualizes empowerment through the interplay of Resources, Agency, and Achievements. Within this model, resources (preconditions) are leveraged through agency (the process of transformation) to produce achievements (outcomes). The present study suggests that the agency of women farmers is channeled primarily through informal relational networks due to deficiencies in formal resources like secure land tenure, access to capital, and equitable policy representation. As emphasized in a study (Quisumbing and Pandolf Elli, 2010), a review of gender and agriculture, secure control over resources is a critical precondition for agency. For any policy intervention to effectively empower women farmers, it must bridge the gap between the informal networks where their agency is currently most potent and the formal structures that control critical resources. Areas where this distinction is particularly blurred, such as market access and landownership, represent key sites for institutional reform.

While Kabeer's SRA provides a powerful lens for analyzing structural constraints and empowerment processes, the Feminist Agrifood Systems Theory (FAST) offers a complementary perspective. FAST places a greater emphasis on how women actively contest and reshape the agrifood system through their engagement in sustainable agriculture and local food movements (Allen & Sachs, 2007). The findings highlight women not just as actors navigating constraints but as transformative agents building alternative food futures. Whereas the SRA is adept at diagnosing the institutional and relational barriers limiting women's choices, FAST illuminates the praxis of their

agency—the tangible ways they challenge patriarchal norms and create more equitable food systems from the ground up.

In conclusion, viewing the Social Relations Approach and Feminist Agrifood Systems Theory as mutually exclusive paradigms is unproductive. A more robust analysis emerges from their synergistic application. The SRA can be employed to map the institutional landscape, identifying the formal and informal constraints that shape women's empowerment pathways. Concurrently, FAST can be used to analyze the specific strategies, innovations, and collective actions through which women exercise their agency to transform those very structures. Together, these theoretical tools provide a comprehensive and nuanced framework for understanding the challenges and advancing gender justice within the agrifood sector.

5.6.3: Toward Institutionalized, More Equitable and Sustainable Agrifood Systems

The evidence presented in this chapter paints a vivid and complex portrait of women in sustainable agriculture. They are not passive victims of circumstance but are dynamic agents of change, the very architects of a more resilient, community-focused, and ecologically sound agricultural paradigm. Their motivations are rooted in a deep-seated commitment to health, stewardship, and collaboration. Their business strategies are innovative, relational, and responsive to a growing consumer demand for transparent and local food systems (Kiosow, 2025). The universal commitment among the study's participants to "shaping new food and farming systems" is a testament to their collective vision and transformative potential (Farhall and Rickards, 2021).

However, this potential is being actively and systematically constrained. The progress driven by their agency is continually impeded by the inertia of legacy systems.

They are hampered by patriarchal structures of land ownership that render their access to the most fundamental agricultural asset precarious and dependent (Myers and Fella, 2013). They are challenged by inflexible economic and institutional frameworks that fail to recognize or support their unique scale and business models (Dabkiene, 2025). And they are burdened by pervasive socio-cultural norms that demand a "double shift" of farm and domestic labor, while simultaneously questioning their credibility and authority as farmers (Kelly, 2024; Techo, 2025).

The central conclusion of this analysis is that achieving a truly sustainable food system is inseparable from achieving genuine gender equity. The barriers holding back women farmers are not merely "women's issues"; they are systemic weaknesses that inhibit the resilience, diversity, and ultimate success of our entire agricultural landscape. Supporting women farmers—through targeted policy reform, redesigned support services, and a cultural shift that recognizes their invaluable contributions—is therefore not simply a matter of social justice. It is a fundamental and pragmatic prerequisite for building the healthy, equitable, and sustainable food future that their work so powerfully envisions.

5.6.4: Towards Research Methodological and Theoretical Approach

A key theoretical contribution of this study is the proposal to add a new principle to FAST, Defining Achievements,' derived from the application of SRA to the participants', and methodological contribution is developing a Gendered Sustainable Agriculture Pathways (GSAP) Model. This model has comprehensive scope that can be customized in any scale.

Conclusion

In conclusion, this study offers multifaceted contributions to policy advocacy, future research directions, and the advancement of qualitative methodologies. By comprehensively situating women farmers within Sustainable Agrifood Systems (SAFS) in the Mid-South, the research highlights their emerging potential and underscores the transformative role of digital technology and relevant education in validating agriculture as a viable career path for women.

While the study provides a robust overview of these dynamics, it also reveals significant scope for future investigations to drill down into the nuances of specific 'interacting entities' that a broad landscape study cannot fully capture. Finally, from a methodological perspective, this work reflects on the immense analytical effort required for deep qualitative inquiry. The richness of data obtained from 22 participants suggests that this sample size was substantial; thus, future researchers should carefully calibrate their cohort sizes to balance the breadth of data with the intense labor required for rigorous qualitative analysis.

APPENDICES

Appendix 1: IRB Approval Form

Institutional Review Board
University of Missouri-Columbia
FWA Number: 00002876
IRB Registration Numbers: 00000731, 00009014

310 Jesse Hall
Columbia, MO 65211
573-882-3181
muresearchirb@missouri.edu

May 22, 2025

Principal Investigator: Garima Srivastava
Department: School of Natural Resources

Your Annual Exempt Form to project entitled Exploring Women's Perspectives of Gender Relations in Sustainable Agrifood Systems: A Case Study of Women in Organic and Organic Adjacent Farming in Mid-South Region, United States was reviewed and approved by the MU Institutional Review Board according to the terms and conditions described below:

IRB Project Number	2102969
IRB Review Number	454885
Initial Application Approval Date	May 20, 2024
Approval Date of this Review	May 22, 2025
IRB Expiration Date	May 20, 2026
Level of Review	Exempt
Project Status	Active - Exempt
Risk Level	Minimal Risk
HIPAA Category	No HIPAA

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All study changes must be IRB approved prior to implementation utilizing the Exempt Amendment Form.
3. Major noncompliance must be reported to the MU IRB on the Event Report within 5 business days of the research team becoming aware of the deviation. Major noncompliance are deviations that caused harm or have the potential to cause harm to research subjects or others, and have or may have affected subject's rights, safety, and/or welfare. Please refer to the MU IRB Noncompliance policy for additional details.
4. The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date to keep the study active or to close it.

5. Maintain all research records for a period of seven years from the project completion date.

If you are offering subject payments and would like more information about research participant payments, please view the MU Business Policy and Procedure Manual.

Please view the MU HRPP/IRB policies describing IRB exempt and other requirements.

If you have any questions or concerns, please contact the MU IRB Office at 573-882-3181 or email to muresearchirb@missouri.edu.

Thank you,
MU Institutional Review Board

Appendix 2: Consent Form

Email draft

Hi _____,

Greetings!

This email is regarding your consent to participate in an interview for a study researching the challenges and opportunities of being a certified organic producer in the Mid-South region (MO, AR, TN and OK). This research could offer insights into specific policy supports; agricultural research, organic processing infrastructure development, and market development needed in the region. As a part of the research team, I will be taking interview. During this conversation, I will be asking you about your farm, challenges you have with organic farming and marketing, and about opportunities you see for organic in the region. This information may be used for educational and outreach purposes.

We anticipate that this interview will last for about 60-75 minutes. Your participation in this research interview is entirely voluntary, and you can discontinue your participation at any time for any reason without any prejudice.

Please find the card below, for you to contact us if you want to discuss the research or have any concerns about the research process.

> *If you would like to contact the principal investigator of this study to discuss this research, you may contact Garima Srivastava at the University of Missouri at 573-882-7463 or hendricksonm@missouri.edu. If you want to talk privately about your rights or any issues related to your participation in this study, you can contact University of Missouri Research Participant Advocacy by calling 888-280-5002 (a free call) or emailing MUResearchRPA@missouri.edu. If you are interested in the results of the research and haven't received them, please contact Garima Srivastava.*

We shall be thankful for your kind consideration.

Regards,
Garima Srivastava

Appendix 3: Interview Protocol

Interview Questions

This study is concentrated in a region we are calling the Mid-South (parts of MO, AR, TN and OK). As you probably know, there are a lot fewer organic and sustainable operations in this area than in other parts of the country. I am interested in finding out about the challenges and opportunities in practicing organic/sustainable agriculture in this region. I am particularly interested in the experiences of women farmers. I would like you to keep this region and women producers in this region, in mind as we go through the interview.

1. I would like to start by having you briefly describe your farm, including how big it is, how long you have been farming, and how you became involved in organic farming.
    a. *What is the nature of the land access (owned/rented)? How did you acquire the land access?*
    b. *In general, how easy is it for women and beginning farmers in the region to access land?*
    c. *What kind of agricultural production do you think that women farmers are most comfortable with? Why?*

2. On your farm, who makes decisions about the farm operations – like when and what to plant, what animals to keep, about labor, farmland use planning etc.? Who makes decisions about farm finances, arranges for financing or handles participation in government programs?
    a. *Can you tell me a little bit if you feel a sense of autonomy in making these decisions? Do you feel sure about the course you are taking? Can you explain a bit?*
    b. *How are the rewards (income, wealth) from the farm used? Who is involved in deciding that?*

3. I would appreciate some information about your experience with your transitioning processes and organic operation. We are specifically interested in hearing about some of the challenges you face with farming organic/natural/regenerative in this region. How did

you learn about the technical skills of farming in a sustainable manner? How did you manage the financial requirement, agricultural planning, record keeping etc.

a. *What about the information outreach? Who helps you with the relevant information on organic operations, government schemes, programs etc. How do you keep yourself updated with the information?*
b. *What kinds of preparation did you have to do? What kinds of support did you get? Who provided support for you?*
c. *Kinds of biophysical barriers related to weather, soil, weeds &pests, etc.*
d. *Input barriers related to seeds, fertilizers, transportation, storage etc.*
e. *Market barriers related to price, demand, selling outlets etc.*
f. *Have you had to do anything to protect against spray drift? Has this changed recently? Have you had any problems with establishing buffer strips?*
g. *How are these challenges changed since you have been farming organically >2 years, How have you tackled most of your challenges? Are they addressed fully/partially?*
h. *Can you describe your work-life balance a little bit? Can you describe any support you get from your family, friends, neighbors and community or government?*
i. *What kind of challenges do you experience from the family and farming and non-farming communities in managing work life balance?*
j. *What kind of rewards do you experience from your farming life? With whom do you share those rewards?*
k. *What are your expectations from all the support systems available (home, community, state, market), Any suggestions to meet these expectations?*

5. I am interested in finding out what roles you play on the farm, in your family and in your community. Can you describe them? What responsibilities do you have? How do you manage/integrate the role of farmer versus the role you play in your family?

5. What type of engagement do you have with the community, institutions, government? Could you share your experiences with the kinds of resources you have to access to

sustain the agrifood systems in your region? (information, financial, inputs, markets, infrastructure)

a. Can you offer examples or specifics?
b. Do you feel you are treated fairly in accessing resources? Why or why not?
c. *What are those factors that give you a sense of peer bonding, autonomy in making decisions, suggesting ideas, and confidence in sharing agricultural practices?*

6. Has organic farming been good for you and your family? For your community? Are you overall satisfied, Explain.

7. Describe the factors that encourage you to farm or those that discourage you from farming. What are the coping mechanisms? How do you position, place, or identify yourself in the sustainable agriculture and food communities (caregiver, farmer, leader, educator, community mobilizer, etc.)?

8. What potential do you see for women farmers in sustainable agrifood systems in this region? Are there factors encouraging women farmers in this region specifically, to join farming?

a. Do you see any change in women participation in SAFS in this region? What? (increase in number, education, confidence, inclusive, representing their voice etc.)

b. Do you see any transformation in gender dynamics at home and in the farming communities (men attitude, their acceptance of women farmers, acknowledgement of women's agricultural knowledge)

9. Would you like to share anything, which I might have missed, but is important to the experience of women farms in this region?

10. Are you willing to answer some demographic questions?

In what category is your age? (15-35), (36-50), (50-65), over 65

Education: What's the highest level of education you've completed?

Do you consider yourself a full-time farmer? Does anyone in the family work off the farm?

What percentage of your household income comes from your organic farm? *<25percent, 25-50percent, 50-75percent, >75percent*

Appendix 4: Profile of the Participants

Participants	Solo / partner	Produce	Age	Farming years	Family status	State	Certification Status
Anya	Solo	Vegetable and cut flowers	35-40	10-15 years	Partner (Queer)	MO	USDA Organic
Cara	With partner	Rancher	25-30	5-10 years	Married (Straight)	MO	None
Cleo	With partner	Vegetable	35-40	10-15 years	Married (Straight)	OK	USDA Organic
Elsa	Solo	Vegetable	35-40	10-15 years	Married (Straight)	AR	USDA Organic*
Eva	With partner	Vegetable and cut flowers	30-35	10-15 years	Married (Straight)	MO	Was in the process of USDA Certification
Hana	Solo	Rancher	35-40	5-10 years	Married (Straight)	OK	USDA Organic
Jade	Solo	Vegetables and egg	30-35	10-15 years	Married (Straight)	OK	USDA Organic*
Lara	Solo	Vegetable	50-55	10-15 years	Married (Straight)	KY	USDA Organic**
Leal	With partner now divorced	Vegetable	35-40	5-10 years	Single	OK	USDA Organic
Lina	With partner	Vegetable and livestock	35-40	15-20 years	Married (Straight)	MO	USDA Organic
Mia	Solo	Vegetable and fruits	55-60	5-10 years	Married (Straight)	KY	None
Mila	With partner	Vegetables and flowers	35-40	10-15 years	Married (Straight)	AR	CNG
Nia	With partner	Grains	50-55	15-20 years	Married (Straight)	MO	USDA Organic
Nia	Solo	Cut flowers	30-35	5-10 years	Single	AR	None***
Noa	With partner	Vegetables and flowers	35-40	10-15 years	Married (Straight)	TN	None
Orla	With partner	Vegetable and cut flowers	25-30	> 5 years	Married (Straight)	AR	USDA Organic
Rose	With partner	Rancher and egg	35-40	5-10 years	Married (Straight)	AR	CNG
Rose	With partner	Vegetables and egg	55-60	10-15 years	Married (Straight)	AR	USDA Organic
Lily	With partner	Vegetable and cut flowers	35-40	5-10 years	Married (Straight)	AR	CNG
Thea	With partner	Vegetables	60-65	10-15 years	Married (Straight)	OK	Surrendered
Thea	Solo	Vegetable	65-70	< 20 years	Partner (Queer)	MO	USDA Organic
Zoe	With partner	Rancher	50-55	5-10 years	Married (Queer)	MO	None

Appendix 5: Coding: Dissertation: Gender Perspective on Gender Relations

(Open and Close coding)

Thematic Open and Close Coding

Themes/Codes	Files	References
Access to land	17	45
Achievement	15	57
Certification	17	47
Challenges and solutions	12	44
Spray drift	1	9
Community	16	81
conventional	1	2
Farming	2	2
Non farming	1	1
Defining sustainable Agriculture	14	70
Educating customers	1	2
Demographic details and farm profile	16	96
Educational institutions	7	19
Farming Practice	6	17
Gender perspectives	10	56
Agricultural relational Myth	2	2
Communication	4	5
community pride	3	9
Complementary support	3	5
Coping mechanism	6	12
Cultural barriers	7	24
Educational	5	10
Expectation	7	12
farm size	1	1
Farming characteristics	5	16
Diversification	1	1

Themes/Codes	Files	References
Strength	1	1
Financial and other resource	4	14
Identity	5	11
Multi tasking	1	1
Planning ang management	5	14
Policy	2	4
Race	1	1
Sharing	3	4
Technology	4	11
women characteristics	8	15
Gender transformation dynamics	11	20
Government and Private	16	115
Information	6	10
Household	18	88
Decision making	14	26
Identity	6	10
Intersectionality of Roles	4	12
Loan perspectives	1	1
Market	17	84
Demand	1	1
Farmers market	3	5
Inputs	4	5
Labor	3	7
Networking	1	1
Price	5	10
Quitting farmers market	3	4
Men role shift	2	3
Motivation of farming	17	33
Policy opportunities	11	40

Themes/Codes	Files	References
Farmers market	1	1
Positioning in SAFS	10	14
test	0	0
Why vegetables	6	14
Women participation	13	34
Day care	1	1
Institution	1	2
Insurance	2	2
Work life balance	11	24
Younger farmers	3	3

Close Coding on Feminist Agrifood Systems Theory (Fast) Principles

Themes-FAST	Files	References
1-Increasing gender equality on their farm	12	43
2.Asserting an identity as a farmer	14	55
3. Gaining greater access to resources	13	63
4.Shaping new food and farming systems	15	158
5.Negotiating roles in agricultural organizations	8	20
6. Forming women centered farming organizations	5	12
Multiple	8	53

Open Coding on ‘Interacting Entities’

Identifiers – Interacting Units	Files	References
W1.Relations	1	43
W10.Relations	1	46
W11.Relations	1	25

Identifiers – Interacting Units	Files	References
W12.Relations	1	25
W13.Relations	1	34
W14.Relations	1	27
W15. Relations	1	28
W16.Relations	1	29
W2.Relations	1	35
W21.Relations	1	5
W22.Relations	1	27
W23.Relations	1	34
W3.Relation	1	57
W4.Relations	1	44
W5.Relations	1	16
W6.Relations	1	67
W7. Relation	1	38
W9.Relations	1	33

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VITA

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