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**An examination of capacity building for sanitary and  
phytosanitary measures for women in Sub-Saharan Africa:  
Empowerment theory at the individual, organizational, and  
community levels**

Lisa De Leon

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Pepperdine University  
Graduate School of Education and Psychology

AN EXAMINATION OF CAPACITY BUILDING FOR SANITARY AND  
PHYTOSANITARY MEASURES FOR WOMEN IN SUB-SAHARAN AFRICA:  
EMPOWERMENT THEORY AT THE INDIVIDUAL, ORGANIZATIONAL, AND  
COMMUNITY LEVELS

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Philosophy in Global Leadership and Change

by

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December, 2022

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This dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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## DEDICATION

To my Lord and Savior, Jesus Christ, for giving me strength beyond my natural ability to persevere through the most difficult season of life that occurred simultaneously with my Ph.D. program. Your grace was sufficient, and your strength made perfect in my weakness (2 Corinthians 12:9). It is by no personal fortitude that I have reached this accomplishment, but only because I held on to my faith in you and you sustained me.

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## VITA

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## ABSTRACT

Knowledge and application gaps exist for women farmers in Sub-Saharan Africa who are key agricultural players for economic growth and food security. This study examined capacity development for Sanitary and Phytosanitary (SPS) measures and empowerment of women farmers considering Rappaport (1984) and Zimmerman's (1995, 2000) lenses of empowerment theory. The central research question was, how does capacity development for sanitary and phytosanitary measures empower women at the individual, organizational, and community levels in Sub-Saharan Africa? The study employed an embedded mixed methods design collecting data via an electronic survey from 23 Sub-Saharan women farmers; 22 from Ghana and one from Nigeria. Findings showed optimism about the future of farming and individual ability for success, notwithstanding male support. The participating women farmers expressed variations in perceived support from men, the government, and policies associated with food safety and farming. Cultural influences including gender and family dynamics did not show significant variation in responses. These women reported scarce use of technology as a resource and expressed preference for learning from other women farmers. Qualitative data revealed 20 themes grouped into four key areas: farming motivations, individual empowerment; food safety; and effects of the COVID-19 pandemic. The most common themes focused on personal agency as well as barriers to needed resources. These farmers did not express any specific impact of the pandemic on their own individual farming activities nor significant negative influence from cultural or family norms. Knowledge of SPS measures specifically were absent for these woman farmers although food safety importance was evident. Study conclusions were that the SPS measures/food safety education program as currently available does not benefit women. Second, individual empowerment is present among these women farmers despite limited support, and

they have optimism for the future of their farms. Recommendations include increasing community mentoring programs and further development of technology access along with training to emphasize the value for gaining access to support and ensuring food safety. Increased visibility of community and government officials could help promote trust and support the adoption of innovative strategies for ensuring food safety and economic opportunities for future women farmers.

## Chapter 1: Introduction

### Background

Women contribute to society in Sub-Saharan Africa in numerous areas, but possibly none as significant as their role in agriculture. Smallholder farming is the predominant source of livelihood for both men and women throughout Africa (Clover, 2003) and is often considered the best path to agricultural development (Jayne et al., 2016). Increasingly, in many areas throughout the Sub-Saharan region, medium-sized farms of 5-100 acres are becoming a very large and significant sector of farmed land (Jayne et al., 2019). Women also undertake much of the agricultural work throughout the region (Palacios-Lopez et al., 2017) at a rate of 60%-80% in most countries (*A synthesis report of the Africa Region—Women, agriculture and rural development*, n.d.).

Women farmers are vital contributors to food security for both their families and communities. As one anonymous quote aptly expresses, “If you teach a man to farm, his family will eat. If you teach a woman to farm, the whole community will eat.” Furthermore, agriculture is the employment option that many youth in the region look to for income (Alobo Loison, 2015). Therefore, sustainable agriculture has a profound effect on the well-being of citizens throughout Sub-Saharan Africa, as well as the potential to positively impact their futures by bringing them out of poverty and food insecurity (*World Bank*, n.d.).

Policy makers understand the important role agriculture plays in helping citizens across Africa achieve food security and eradicate hunger. As women farmers are major contributors within the industry, they must be empowered to reach those goals by having the resources and opportunities (Uduji et al., 2019) they often lack. Some of these resources are access to training to learn how to increase crop production, knowledge of best practices for raising plants and

animals safely for human consumption, and adequate inputs to operate the farm at an acceptable level. The United Nations (UN) has emphasized women's empowerment in agriculture, and has joined with organizations, such as the International Fund for Agriculture Development to give women more influence in shaping policies, increase their economic involvement, as well as increasing food security and land ownership (*The role of women in rural development, food production and poverty eradication 2013*). This effort additionally supports the UN's Sustainable Development Goals (SDGs), such as SDG 1, No Poverty, and SDG 2, Zero Hunger by 2030. Thus, in order to achieve these goals, policy makers recognize the vital connection between food safety standards, such as the Sanitary and Phytosanitary (SPS) measures enacted by the World Trade Organization (Roberts, 2014) and smallholder (Avendaño et al., 2012) to medium-sized agricultural operations.

In January of 1995, the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) was established with the World Trade Organization as a means of informing, setting standards, and helping governments and agricultural producers apply food safety, animal and plant health regulations to their businesses (*The WTO agreement on the application of sanitary and phytosanitary measures (SPS agreement)*, n.d.). The purpose was to make plant and animal products safe for human consumption on both an international and national basis, and to avoid exporting unsafe products to other regions. The African Union (AU) recognizes that these measures are critical to support from a policy level to advance food safety in agriculture and make timely progress toward fulfilling SDG goals. Thus, the AU implemented a few key supports in the form of policies, frameworks, and actionable goals to make progress toward the SDGs.

Agreements and programs at the AU level, such as the Malabo Declaration of 2014 (African Union Development Agency, 2014) the Comprehensive Africa Agriculture Development Programme (CAADP), and most recently, the African Free Continental Trade Area (AfCT; Pasara & Diko, 2020), were introduced to provide policy support and frameworks to ensure concrete, measurable progress is made toward fulfilling SDG and AU goals. Particularly, they are a means to ensure food safety standards are met and trade is fairly conducted by providing more oversight throughout the supply chain (*Why the United States and Africa should lead a collaborative, rules-based approach to food security*, n.d.).

These agreements and frameworks encourage increased investments in agriculture across the continent for farmers to access technology and increase productivity (*Implementing the 2014 Malabo Declaration on Agriculture through mutual accountability AUC hosts the 3rd CAADP PS Leadership Retreat*, n.d.) as well as provide necessary political support and evaluation for programs, and financial assistance – all of which are often lacking. The anticipated outcome is stronger government accountability, backing for agricultural programs, and visible results (*Africa's commitment to end hunger by 2025*, n.d.) such as a substantial increase in safe food products for trade, which generates increased income and reduces hunger.

However, despite policy efforts by governments and at the policy level to increase food safety and security in agriculture using SPS measures, a gap still exists regarding the effect of SPS measures on farmers and their impact on capacity development in agricultural trade. This is primarily due to a lack of data around their application (Grant & Arita, 2017), and data related to women especially sparse.

Existing data reports that women's lack of compliance with food safety standards is attributed to their marginalized status in agriculture (Anunobi, 2002; Lado, 1992). This includes



gender inequalities, insufficient resources, and small operations (Henson, 2018). This also presents a problem, as the food supply continues to remain precarious despite existing measures and regulations to protect food products and promote domestic and export trade. This is particularly true of food sold domestically.

The domestic food supply across Sub-Saharan Africa is unsafe. As a matter of fact, the sub-Saharan region holds the highest per capita rate of food borne illnesses in the world (Awah, et al., 2013). According to the World Health Organization, 91 million people in sub-Saharan Africa experience acute food-borne illnesses and there have been 137,000 deaths as a result (McDonnell, 2019). This is attributed, in part, to the fast-changing pace of cross-contamination and food safety regulations and the rate of population growth (*World food safety day, 2020*).

However, this is no surprise as food product inspections and agencies that surveille diseases place most of their attention on the safety of products produced for international sale, opposed to the domestic, due to their potential to accrue the highest revenue. For the most part, little or no attention is placed on the safety of the domestic food supply (Kolié, 2020). The food inspections that regulatory agencies conduct domestically are minimal. The reason for this is that the domestic population does not demand food products that are safe and high quality. (Kolié, 2020). As a result, the cycle of foodborne illness continues as most people in Sub-Saharan Africa purchase their food from informal markets. In fact, the informal sector accounted for 39% of Gross Domestic Product (GDP) in 2010 (Grace et al., 2010). These informal markets are known to offer fresh produce and food sourced from animals that are subject to microbial contamination, making them unsafe or questionable to eat (Roesel & Grace, 2014). It is important to note, as well, that women are the primary traders at these informal markets where the local population purchases food (Roesel & Grace, 2014).

Farmers managing farms of 5-100 acres (Jayne et al., 2016), regardless of gender, are often unaware of or unable to apply SPS measures unless they are involved in trade at the country level. This is attributed to existing barriers to SPS compliance, such as low awareness, poor access to experts with technical and scientific knowledge, limited channels to access information, and an overall low understanding of SPS standards (Shafaeddin, 2006). As a result, women especially do not operate at a high standard to safety regulations (Goeb et al., 2018) as they are more susceptible to those types of issues from the onset.

Few studies have compared the safety of food products sold in the formal and informal markets. Those that do, often find that food sold in this sector is not safer than that which is sold informally. For instance, in the case of milk and meat products in Kenya, the food sold in the formal sector was no better, or worse, at meeting standards than food sold in the informal sector (Roesel & Grace, 2014). This hints at the lack of compliance with SPS measures regardless of sector that must be addressed, beginning at the policy level. However, Roesel and Grace (2014) warn that it is important to base policy on evidence rather than perceptions, to avoid prejudices that may unfairly impact those who are already in poverty selling at these markets.

To further complicate the lack of compliance, the region does not possess a strong capacity to ensure that SPS measures are carried out (*Food safety in Africa: An important deliverable for AUDA-NEPAD*, 2020) and regulations are followed (Grace, 2015). Government level resources are insufficient to ensure compliance. A lack of assessment and documentation regarding the food safety procedures that women (and men) use to produce their products exists (Arias-Granada et al., 2021), so the state of the food supply is not well known. This is problematic as plant diseases alone contribute to huge losses in money, at a rate of more than \$220 billion, and around \$70 billion for pests (Prasanna et al., 2022).

Additionally, there is a lack of communication regarding food safety measures. An instance of this is when claims against the safety of products sold by producers are filed, a straightforward means of providing them feedback or giving them opportunity to challenge formal opposition claims are unavailable (Kolié, 2020). This leads to further paucity in compliance. Even if food safety regulations were applied, and assessment and documentation were produced confirming an acceptable level of compliance, the tendency for many women farmers would be to err on the side of incompliance due to an inability to meet prohibitive costs. This is particularly true given the fact that these administrative costs would be passed down to the consumers, who are likely unwilling to pay additional costs for safe food products, particularly in the informal sector (Wagacha & Muthomi, 2008). This perpetuates the lack of compliance for farmers. As a result, these consumers end up worse off than others, and do not have access to a consistently safe food supply (UNCTAD, 2016).

Women experience notable issues in adhering to SPS standards that is often attributed to a skill gap and lack of access to resources opposed to men (Henson, 2018). Because of these disadvantages, women are left vulnerable and unable to trade freely. Knowledge of food safety and standards is even more critical for these women producers who are less likely to be compliant (Woldemichael, 2020). By the same token, issues also exist and complicate trade for women trading in the export market.

Women encounter trouble complying with SPS measures that exclude them from trading beyond the informal scale (UNCTAD, 2016) and taking their farming businesses to the next level. This is attributed to high costs associated with compliance because, “the mean investment costs of compliance to product standards can be as high as 124% of firms’ sales for Sub-Saharan

Africa” (Kareem, 2017, p. 2). This, in turn, further places women with small to medium sized farms at a disadvantage.

Moreover, SPS measures are more likely to negatively affect exports as they add transaction costs such as application fees, inspections, and certificates, along with the cost for preparing the documentation and ensuring it is submission ready (Makong, 2020); due to these increased costs many women farmers find themselves excluded from opportunities to trade in larger, more lucrative markets. As a matter of fact, women farmers farms do not proactively implement SPS measures or food safety standards for a variety of reasons, such as prohibitive costs of trading on a larger scale in high-value markets (Henson, 2018), and the high standards attached to inter-country trade (Andersen & van der Ven, 2016). Gaps in education for women (Carr, M., & Williams, M., 2010) that include low levels of literacy or illiteracy are also contributing barriers (Mbithi, 2013) to understanding SPS measures which are technical and increasingly complex (Demaria et al., 2018). This proves especially problematic for women who do not possess high levels of formal education or training.

To further complicate the issue, the path to undertake SPS measure training, or agricultural training in general, is not straightforward for women. Various entities have attempted to provide more accessible agricultural training using learning tools such as videos, mobile apps on smartphones, and e-Learning modules to varying levels of success. For a mobile app to be successful, it must provide access to “useful, relevant, information and services” (Qiang et al., 2012, p. vi). This includes agricultural training as well as supplemental information to the training, such as prices, weather, and pest information. One reason apps and videos are excellent tools for learning is that they allow farmers to learn while working on their farms and

to directly apply the new information (Henze & Ulrichs, 2016). This type of learning on the job provides a more relevant and valuable learning experience for women.

In a study by David & Asamoah (2011), video was used as a learning tool to increase women farmer's agricultural knowledge. The use of video for learning provided the participants with a simple tool to disseminate knowledge that required no special skills to use. Although the use of video as a learning tool was successful in removing the complexity of the information, the level of adoption among the women's farmers after a year still did not increase (Zainal et al., 2020). However, it is important to mention that the video instruction did prove beneficial in other areas that warrants future research. For example, knowledge diffusion increased, as well as a strong sense of community and social assets in which participants continued to share knowledge and information months after the training concluded (Zainal et al., 2020).

Additionally, mobile apps are slowly becoming used more frequently throughout the AU to increase agricultural knowledge and collaboration for farmers. One reason they are proving beneficial is that they enable users to actively engage in a larger community, and exchange information quickly and easily that they might not otherwise have time or opportunity for, using peer-to-peer mentoring and knowledge sharing to strengthen their farming businesses, such as food safety and SPS measure knowledge. Although agricultural apps are shown to improve productivity when farmers use them (Okonkwo et al., 2019); despite their benefits, they are still not commonly used due to lower smartphone ownership, especially in more rural locations (Henze & Ulrichs, 2016). As a result, app usage adoption remains slow. This is the reason why many farmers still do not frequently engage in learning using apps to improve agricultural knowledge (Misaki, 2021). A contributing factor to this is that some apps are only available for use in the country they originated in and not throughout the AU (Okonkwo et al., 2020). Thus,

women experience an even deeper lack of access to technology (Amine & Staub, 2009) for learning. In order for technology to be most effective, apps and smartphones must be more readily available (Okonkwo et al., 2020) for women. When women gain access to technology and learn to navigate educational apps, knowledge increases and a greater sense of belonging to the online community occurs (Abubakar & Dasuki, 2018).

Many consider social media to be a ubiquitous training tool that is widely available in a digitally savvy world to help farmers increase their agricultural knowledge, yet this tool is not without issues. Scholars tout the increased access to agricultural community of practice groups online as a means of simply and quickly sharing information (Banda et al., 2016). While this innovation appears promising in theory, particularly in the area of community building and strengthening trust, the fact remains that most farmers do not have access to social media or understand how to use it. Women farmers also perceive a lack of access to social media in relation to men.

Women farmers do not use social media to learn about agriculture at the same rate as men. Male farmers are viewed as having more time to use social media and access social media more than women to find agricultural information. One study found that male farmers used social media at a rate of 91% compared to women farmers (Balkrishna & Deshmukh, 2017), and that they use it more effectively (Balkrishna & Deshmukh, 2017). As a result, women perceive having less time to access social media for learning. This type of attitude perpetuates a disempowering mindset for women.

Furthermore, some farmers are unwilling to take risks and use technology to acquire new agricultural information. Farmers exhibit levels of distrust when using technology that is unfamiliar and may greatly impact their farming operations. One study showed that farmers

preferred not to take perceived risks on uncertain outcomes that result from using technology as a learning tool, such as using a smartphone (Batchelor et al., 2014).

Women, in particular, experience this distrust of technology as a result of lower levels of education, whether or not they participate in farming organizations, and if they own a smartphone (Krell et al., 2020). Women prefer and trust relationships with people over technology as a means of receiving new information. In fact, both men and women show a preference for face-to-face relationships to using technology for farming information. These in-person relationships are shown to foster a higher level of trust opposed to a mindset of mistrusting information received from a device (Molony, 2006).

E-Learning also proves to be problematic in the pursuit to advance women farmer's agricultural knowledge. Problems such as inadequate access to the Internet and low bandwidth to appropriately run apps (Mahenge & Sanga, 2016) is a hinderance to technology adoption for farming education by women. Because women must take time from an already impoverished time allotment for learning (Wyche & Olson, 2018), the inability to access learning online is frustrating (Hara & Kling, 1999). In short, women do not have the access to mediums of technology or the ability to confidently locate the agricultural information they need; and information on food safety and SPS measures are no exception. Thus, there is not a "one size fits all" approach to agricultural education, and even more so for complex SPS measure and food safety compliance learning (David & Asamoah, 2011) for women farmers.

Apart from SPS measure education, there are other problems that exist with SPS measures. First, SPS measures may act as barriers to trade due to inspections and restrictions that temporarily pause imports to protect an importing country from receiving diseases and imported

pests. While this temporary pause may be viewed as positive in that it prevents entry of imported pests, it also delays the transaction and wastes time, especially if the products are untainted.

A second barrier occurs when standards are implemented as of means of restricting certain chemicals to protect the population from disease or sickness, but the originating country must pay millions of dollars in costs in order to export products. For women in particular, these cause barriers that restrict trade in the area of exports, especially due to their financial impact (Langyintuo, 2020; UNCTAD, 2016) and a women's inability to produce the finances needed to overcome these barriers.

A third barrier is that women are traditionally underrepresented in technical and scientific research; as a result, the perspectives and needs of women farmers remain unaddressed (Wakhungu & Bunyasi, 2010). Women farmers experience unique issues in farming. Most of the issues are related to conflicts between managing households and running a full-time farming operation without adequate help at home which restricts time available for farming and furthering one's agricultural education. This is referred to as time poverty (Blackden & Wodon, 2006).

Another issue women farmers face is a lack of finances to appropriately run their farms. This includes a lack of finances to purchase appropriate equipment, tools, and inputs, and to secure loans when necessary (Ouédraogo, 2001). Inequities also exist in the earning potential of men and women within the same households, with the men often earning more. Therefore, they have the ability to exert more control over resources (Kiewisch, 2015). These issues are the result of a significant gender gap affecting women throughout the region (Ali et al., 2015).

Gender has a profound effect on activities related to agriculture (Wekesah et al., 2019) and impacts roles that women play, the tasks they perform, as well as colors their interpersonal



relationships within the field (Wekesah et al., 2019). This is partly due to cultural norms that often perpetuate inequalities (Tuwor & Sossou, 2008), such as the idea that women only farm to provide food for the family and men are the ones who farm for commercial purposes (Farnworth & Colverson, 2015). These types of mindsets and attitudes contribute to disempowerment for women farmers.

However, it is important to consider the fact that empowerment manifests differently for women of different cultures and regions. There is no one empowering solution that is “right” for every country and culture (Sidani & Reese, 2018). As a matter of fact, many women throughout Sub-Saharan Africa currently run successfully farming operations and manage them well (Egbedi, 2019) in spite of a perceived lack of empowerment from those looking in from the outside, judging cultural norms from their own cultural, political, or socio-economic perspective (Akinola & Tella, 2013).

As a result, empowerment is often misunderstood, depending on the context from which it is viewed. The Protocol to the African Charter on Human Rights expresses that women should have the right to live in a manner in which culture does not adversely affect or harm them (*The interplay between gender and culture: How the African human rights system sought to accommodate universality and cultural relativity of women’s rights*, 2020) which provides a beginning foundation to empower women.

### **Statement of the Problem**

A challenge exists in designing strategies, policies, and projects within cultural boundaries that benefit both men and women in the private and public sectors (Food and Agriculture Organization of the United Nations, 2011). The impact of cultural and society norms on women must simultaneously be considered, as they often result in restricted access to training,

land, and farming resources, and are left to tend to household work or unpaid agricultural activities (*Breaking the “grass ceiling”: Empowering women farmers*, 2018.; Woldemichael, 2020).

Cultural norms and roles for men and women sometimes pose a barrier to a true sense of equality for women. For instance, men may view fetching water or collecting firewood as women’s work (Hyder et al., 2005) increasing a busy woman’s workload. In more rural areas, gender is still the determining factor for assigning workload (Amine & Staub, 2009). These types of practices and attitudes continues to enable marginalization of women.

However, the complexity with cultural norms is that they are often used to establish and dictate standards for what is deemed normal behavior (Foucault in Sheridan et al., 1975). Thus, in a particular society, a behavior that would be considered unacceptable in another society, is viewed as normal and consequently, accepted and not questioned. This type of accepted marginalization is even more far reaching as it affects women’s ability to own and manage land.

Traditionally, land rights in the region favor men (Djurfeldt et al., 2018); as a result, a woman’s ability to manage her land is limited. Although women in the region produce over 80% of the food, only 13% own their land (Gaddis et al., 2018) and hold the ability to control what is done to it and on it. A disempowering mindset exists within the culture in which women are seen as crop owners and not landowners, as well as viewing a woman’s position in relation to the men in their lives, i.e. mothers, wives, daughters, and sisters (Kevane & Gray, 2008). This attitude is linked to both culture, as well as antiquated practices dating back to the colonial era that favored men in land ownership for cash crop cultivation and gave them access to prime plots of land (Snyder, 1981) to earn the most money.

As a result, women are unable to exercise the level of control over the land and what is produced on it—not only to be compliant with standards, but to produce healthy crops that yield the best financial benefits for themselves and their families. This problem is rooted in a lack of representation of and giving voice to women. This remains the case despite gender equality laws that have been increasingly implemented since the 1970s to empower women (Akinola, 2018). Women often gain access to land rights from the men in their lives, such as husbands or other relatives and are in a precarious state, either “secondary or diminishing” (Kevane & Gray, 2008, p. 33).

To overcome persistent inequities, women must have increased participation in policy formation and implementation on a level equal to men to ensure equitable land ownership rights and the ability to make decisions (Odeny, 2013) about how that land is farmed. It is especially important to measure and evaluate policy to ensure that the intended changes are implemented and a woman’s decision making ability and land quality are connected (Chigbu et al., 2019).

The true measure of progress, however, is not simply a matter of giving women an opportunity to be heard and then evaluating the data to see if women are more empowered; rather, it is simultaneously about the changing of norms, beliefs, and institutions where a lack of empowerment is still present (Konte, 2020). Thus, reinforcing and increasing gender equality is crucial; without it, economic growth and social change will not reach its full potential (Ouida et al., 2017). This study will provide greater insight to capacity development for women in agriculture and the state of their empowerment.

### **Purpose of the Study**

This qualitative study seeks to explore the way capacity development in SPS measures empowers women in Sub-Saharan Africa at the individual, organizational, and community

levels. It will examine: How does capacity development for sanitary and phytosanitary measures empower women? A sub question is: What are the attitudes and perceptions of these women regarding SPS measures? The literature review in Chapter 2 elaborates on the existing research that has been conducted regarding women in agriculture in Sub-Saharan Africa, their empowerment, and self-efficacy as a result of SPS measures. However, to preface the study, the role of the researcher and study assumptions will be first be stated.

### **Role of Researcher and Study Assumptions**

The researcher's role in the study is both that of student and growing professional in the field. During a short-term teaching opportunity in Uganda, the researcher was able to experience the culture first-hand, observe interactions between men and women, and even attended a dowry ceremony. The memory of women walking down the rust-orange, dusty roads in their colorful, traditional dress and sandals, with baskets atop their scarf-clad heads to the community ovens or market, made an indelible mark.

The experience of attending a celebration at a school in Uganda where offering chicken on the menu was considered a "special treat" for the locals, furthers the desire to empower women in agriculture so they can grow and produce abundant crops, raise and sell healthy livestock, and earn a wage that provides a comfortable standard of living; All for the purpose of allowing them to find their way out of poverty and hunger. As a burgeoning researcher in the field of international development and agriculture, these memories are even more meaningful in pursuit of enabling women to change and improve their lives for the better.

Thus, the researcher will use reflexive practices to minimize the impact of any hidden assumptions or bias. Moreover, the researcher additionally assumes that women in the study across Sub-Saharan Africa will 1. have been affected by their gender as they participate in

agriculture due to common cultural implications and practices, and 2. have been impacted in some form by SPS measure requirements. Next, delimitations of the research will be presented.

### **Delimitations of Research**

This research study focuses only on the sub-Saharan region of Africa, because women in the region rate consistently lower in agricultural productivity than their male counterparts (Doss, 2018), and often experience unintended consequences related to standards compliance. For instance, women are unable to meet strict standards for selling their goods to larger supermarkets, while male-owned businesses have the ability to meet the costs of complying with standards; as a result, these businesses owned by women are unable to participate in the value chain (United Nations, 2019). They are also unable to meet standards required by buyers due to the small size of their businesses, networks, and lack of access to resources (United Nations, 2019).

However, there is an opportunity to provide these women, and those connected to them, with insight to better understand the extent to which these issues affect their empowerment as a means of putting a process in place to improve the situation. Some potential outcomes of these efforts are improved training opportunities, increased knowledge of agricultural methods and practices, and greater opportunity to be equal contributors both in and outside the home, in the community and beyond. Therefore, the guiding theoretical framework for this study will be Empowerment theory to gain greater insight as to the level of empowerment these women experience in their agricultural work, particularly as it relates to SPS standards.

### **Theoretical Framework**

The situation will be explored through the primary lens of Empowerment theory. Empowerment is defined as the “multi-dimensional social process that helps people gain control

over their own lives. It is a process that fosters power in people, for use in their own lives, their communities, and in their society, by acting on issues that they define as important” (Page & Czuba, 1999, Abstract). Julian Rappaport is credited as being one of the first to advance the issue of empowerment in his 1984 book entitled *Studies in Empowerment* (Rappaport, 1984). Empowerment then became recognized as a theory around 1995 with seminal works by Zimmerman and Perkins in psychological empowerment (Perkins & Zimmerman, 1995).

Empowerment theory examines issues from social, political, and economic viewpoints. It views empowerment from the perspective of the individual in her environment and acknowledges the influence and connection of communities and other individuals. It also suggests that resolutions to problems takes place simultaneously at various levels, such as between people and communities (East, 2016).

Empowerment theory consists of empowering processes and outcomes. For instance, empowering processes help people obtain the necessary skills to solve problems on their own and make independent decisions. Empowered outcomes relates to how empowerment is carried out and the resulting consequences of that individual’s pursuit in the community for greater control (Zimmerman, 2000). However, to deeply understand how empowerment occurs, it must first be defined at its various construct levels.

## **Definitions**

According to Zimmerman (2000), the multi-level construct of empowerment is one in which each level relies on the additional levels (Zimmerman, 1995). It consists of three constructs: Individual empowerment, organizational empowerment, and community empowerment which are defined as follows:

- *Individual empowerment*: Individual empowerment is a construct which consists of how an individual perceives their personal control over the environment around them, their proactiveness in how they approach life, and the manner in which they understand social and political issues around them (Zimmerman, 1995). Moreover, empowerment is a key component at the individual level (Perkins & Zimmerman, 1995) as it affects the manner in which an individual acts and interacts at the other levels.
- *Organizational empowerment*: Organizational empowerment consists of “processes and structures that enhance members’ skills and provide them with the mutual support necessary to effect community level change” (Zimmerman, 1995, p. 582).
- *Community empowerment*: The construct of community level empowerment includes a group of individuals collaborating in an organized manner with the goal of obtaining a better life for those in the community, as well as working with agencies and organizations within that community to preserve a certain standard of living (Zimmerman, 1995).

Next, the significance of the study will be stated.

### **Significance of the Study**

This study holds significance due to the lack of data regarding SPS measures and their effect on capacity development in women farmers, as well as the attitudes and perceptions of these women and their empowerment at the individual, organization, and community levels. Despite huge agricultural potential throughout the region (Shimeles et al., 2018), the significant role women hold in agriculture, and the efforts made to support women farmers at various levels, gaps still exist in understanding why women continue to experience disempowerment as farmers.

There is specifically a lack of research reporting how SPS measures affect women and their involvement in agricultural business.

Therefore, the rationale for this study is to promote a greater closure of existing gaps present at various levels in understanding how SPS measures affect women farmers. It will add to the body of knowledge in women's empowerment and potentially help uncover the reasons why gender gaps still exist for women farmers in Sub-Saharan despite SPS measures and other standards that have been implemented as a means of ensuring consistent, safe agricultural outputs from farmers of all genders, all with the end goal of eliminating hunger and poverty (Mkwambisi et al., 2011); as well as provide insight directly into SPS measures and their impact on capacity development. Next, a summary of Chapter 1 will be given before the literature review is presented in Chapter 2.

### **Summary**

There is still much work to be done in empowering women and increasing their capacity for success in the field of agriculture. Chapter 1 presented an overview of the current state of affairs for women in agriculture in Sub-Saharan Africa. It also presented reasoning to support further inquiry into the effects of SPS measures on women farmers and their empowerment at various levels.

Next, Chapter 2 examines relevant literature in the field as it pertains to women and empowerment. The chapter will begin with an overview of empowerment theory and how it relates to women. This discussion includes a closer look at the effect of power and culture on women. The chapter will also review the literature regarding community development. Then, findings from the literature regarding food safety and SPS measures and their impact on agricultural business in the sub-Saharan region of Africa will be examined.



After this, Chapter 3 focuses on the study's design and research methodology. The chapter is structured as follows: the chapter begins by discussing the research purpose and research question, research methodology, the researcher, target population and sampling method. Next, data collection and procedures, interview protocol and reliability, human subjects' considerations are stated. After this, the proposed analysis, means to ensure internal study validity are explained. Finally, the plans for reporting the findings are shared.

## **Chapter 2: Literature Review**

The literature review will provide an examination of existing literature to better understand the theoretical construct of empowerment, as well as review the current state of women's empowerment in relation to SPS measures in Sub-Saharan Africa. This chapter will give an overview of empowerment theory, SPS measures, food safety and agricultural business in Sub-Saharan Africa, specifically as it relates to women, and Roger's diffusion of innovation theory. The research question at the forefront of this study examines how capacity development for SPS measures empowers women in Sub-Saharan Africa. The literature shows both areas of connection, as well as opportunities for future research in the field.

The goal of this chapter is to show interdependence between empowerment, self-efficacy, community development, and SPS measures through a review of the literature on the topic. Theoretical frameworks will organize the literature review. First, a foundation for the study will be established by discussing empowerment theory. Second, the literature review will explore the concept of power as it relates to empowerment. After this, community development will be examined. Then Roger's diffusion of innovation theory will be examined. Finally, literature regarding The SPS Agreement will be explored.

### **Empowerment Theory**

To thoroughly examine the issue of empowerment, the term must first be examined as defined in the literature. Scholars hold various viewpoints regarding the definition of empowerment and state that it has become an "overused buzz-word" in society and lacks clear definition (Perkins, 2012, p. 207). The reason for this is that the concept is rooted in various fields such as psychology, politics, and feminist theory, and has both political and psychological implications (Gutiérrez, 1990). As a result, it manifests differently depending on the individual in

question and the setting they are in (Koelen & Lindström, 2005). However, at its essence, empowerment is the ability to fulfill or perform a task (Heldt & Schimdtke, 2017). For the purpose of this study, empowerment as defined by the two main scholars at the core of the theory, Rappaport, and Zimmerman, will be used. (Rodrigues et al., 2018).

In his seminal work on empowerment, Zimmerman (Zimmerman, 2000) defines empowerment as “a value orientation for working in the community and a theoretical model for understanding the process and consequences of efforts to exert control and influence over decisions that affect one’s life, organization functioning, and the quality of community life” (p. 43). Although empowerment is often referred to by policy makers, it is more than a social policy; it is also an approach that can be taken to solve problems that are a result of lack of power (Rodrigues et al., 2018). Perkins and Zimmerman (Perkins, 2012) further detail empowerment as a process that is both intentional and ongoing in a community where individuals respect and care for each other and get increased control and access to resources; additionally, it provides a process which allows individuals greater control over their lives, increase their ability to freely participate in their communities and gain a greater understanding of their environment. Empowerment occurs for both individuals and groups. Individual empowerment relates to an individual’s personal choice, and empowerment in groups refers to member’s behavior collectively, as well as their social and cultural norms (Huis et al., 2017). Therefore, empowerment is an enablement that takes place at both the individual and group levels and occurs as a process. Thus, the literature presents a concrete definition and understanding of the meaning of empowerment; however, the definition of empowerment as it relates to international development specifically should also be considered as the foundation for this study is constructed.

Eyben and Napier-Moore (2009) assert that development begins with the words used to envision it; therefore, it is important to state the meaning of empowerment in the context of both international development and women. Cornwall (2016) states that this is crucial because entities working within the field such as NGOs, banks, corporations use the “buzzword” in various ways and take liberty in how they apply it (Cornwall, 2016). However, The World Bank’s definition of empowerment provides a core definition for the term. The entity defines empowerment as “the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives”(“Empowerment and poverty reduction: a sourcebook,” 2002, p. xviii). Wallerstein and Duran (Wallerstein & Duran, 2006), after performing a review of literature in the field, writes that empowerment in development consists of both changes at the community level as well as psychological empowerment, and these changes occur on multiple levels in an individual’s life. Therefore, as a complete concept, empowerment in international development for women is concerned with increasing abilities and assets for underprivileged women, to give them greater ability to take control over their lives and outside factors that influence them; as well as enabling them to recognize opportunities, make individual and collective choices, and take action as a community to reach goals (Eyben & Napier-Moore, 2009). For the purposes of this study, the definitions of empowerment as it applies specifically to international development and women should remain at the forefront. Despite this concrete defining of empowerment, an issue exists in understanding how to measure it.

### ***Measuring Empowerment***

A gap exists in understanding how empowerment occurs for people at different levels, and how to measure it (Folbre, 2006; Laverack & Wallerstein, 2001; Mosedale, 2005; Taylor,

2000). Hennink et al. (2012) confirms this and states that most of the body of literature does not provide enough empirical research showing how individuals at the center of the growth and development increase their empowerment in order to develop programs that address a lack of empowerment. Narayan (2005) asserts that this research is critical in order for it to be supported and taken seriously at the policy level; however, this is often easier said than done.

One reason why measuring community empowerment is challenging is because measuring social interactions is difficult (Laverack & Pratley, 2018). This is due to the fact that measurements are often dependent on context, which further poses problems in applying a general measurement of empowerment (Laverack & Pratley, 2018). Thus, the “right” survey and interview questions must be asked during research studies. Pradhan (2003) finds that the best way to measure the socio-economic dimension of empowerment is through qualitative research incorporating a quantitative component. Jakiela (2013) concurs with Pradhan in an article by the Center for Global Development and asserts that to truly measure women’s empowerment, quantitative research such as questionnaires should be used and developed to be “locally appropriate” and use “concrete” measures to comprehend gender dynamics and empowerment barriers at a local level context.

### ***Method to Measure Empowerment***

Although some researchers question or underrate the accuracy of qualitative studies in favor of the quantitative (Hammersley, 2017; Pole, 2007), there is much value in the qualitative as a valid means to measure empowerment. As Jakiela (*We can’t measure women’s empowerment the same way everywhere—but should we try?*, 2018) reasons: even quantitative researchers take time to have conversations with people in the field to understand the problems they face and institutional issues that may magnify those problems. Choy (2014) concurs and

writes that, although quantitative research is considered reliable due to its data collection and examination, it fails to consider human factors such as “identities, perceptions, and beliefs that cannot be meaningfully reduced to numbers or adequately understood without reference to the local context in which people live” (Choy, 2014, p. 102). Thus, qualitative data often proves to be more insightful (Brennen, 2012). Choy (2014) further posits that the strength in conducting qualitative research to assess cultural issues is its ability to inquire into an individual’s personal beliefs, values, and assumptions as a means of understanding their actions (Choy, 2014).

Therefore, to more accurately research empowerment at various levels, the World Health Organization suggests that future empowerment research use a mixed methods approach (Laverack & Pratley, 2018) to provide more concrete insights.

To ensure a thorough, comprehensive study, studies should measure an individual’s empowerment at each level: individual, organization, and community, for more concrete results. First, at the individual level (Stromquist, 1999a) there should be an examining of an individual’s ability to be involved in making critical decisions. Next, at the organizational level, there is a need to measure the characteristics an organization possesses which lead to empowerment for its members (Peterson & Zimmerman, 2004). Last, at the community level, researchers should seek to learn if women’s organizations and publications exists, if awareness exists regarding rights, and if others view women as equal contributors with an equal presence to men in politics and the community (Stromquist, 1999b). Kabeer (2011) expands on this and states that women’s empowerment should be measured in a way that shows her ability to question an inferior status, take deliberate actions to wield control and power over their lives, and possess the ability to ask for improved status within all types of relationships; in short, to function on an equal plane with

men. Thus, this approach to measurement provides a more well-rounded, comprehensive result than merely focusing one level.

Conversely, opposing views exist regarding the ability to accurately measure and track empowerment (Malhotra et al., 2002). Some state that empowerment is difficult to measure due to an inability to reach consensus over the meaning of power (Uphoff, 1989). While others posit that an individual's oppressed condition may inaccurately color their perception of their empowerment when it is guided by thinking related to societal norms (Luttrell et al., 2009), ultimately resulting in a view that their situation is fair and unable to change (Mosedale, 2005). A question remains as to whether internalized values and perceptions around empowerment are, indeed, that of the individual, or merely learned and accepted from others. Nonetheless, scholars do appear to agree, that in order to obtain the most accurate measures, both social and economic factors should be included as part of the research (Richardson, 2018).

To make progress toward reaching the UN's SDGs with agriculture as a catalyst (Kanter et al., 2018), studies into empowerment in agriculture must be comprehensive. This comprehensive approach must include measures that are "robust, inclusive, comparable over time and space, multi-dimensional, and able to measure and monitor the impact of agricultural interventions on women's empowerment" (Alkire et al., 2013, p. 72). Because individual-level empowerment for women is directly impacted by their environment, it must be considered in more detail. Now that the definition of empowerment as both a theory and in relation to international development has been established, and measurement of empowerment has been discussed, empowerment will be examined at its various levels: the individual, the organizational, and the community.

### ***Individual Level***

Scholars take the stance that personal empowerment at the individual level is a positive, internally generated construct (Stromquist, 1999b). Stromquist (1999a) states that empowerment is a resource that comes from within an individual and its amount is unlimited (Stromquist, 1999b; Wallerstein, 2002). Kasmel and Tanggard (2011) define Individual empowerment as a construct giving individuals freedom of choice in pursuing goals. Perkins and Zimmerman (Perkins & Zimmerman, 1995) assert that individuals who are empowered at the individual level exhibit behaviors such as greater participation in groups and feelings of control and efficacy in various situations. Thus, empowerment is a construct that deals with internal ability to perform tasks, pursue goals, and exhibit more power in taking control of situations.

Not only is empowerment internally generated, but an individual's values contribute to and impact empowerment at this level (Rodwell, 1996; Seibert et al., 2004), which in turn affects the collective environment. Steg (2016) confirms this by suggesting that internal values affect the goals that individuals set and influence their behavior indirectly. However, some scholars additionally note that individuals may internalize societal values and norms (Luttrell et al., 2009). Therefore, a question remains as to whether the value is indeed that of the individual, or merely learned and accepted from others.

Personal control is another factor present in individual empowerment (Lee & Koh, 2001; Lord & Hutchison, 1993). Peterson and Stunkard (1989) write that an individual's personal beliefs contribute to the level of personal control they exhibit in making positive events occur in their lives and avoiding the negative. They further assert that behavioral change undergirds personal control. As a result, psychological factors such as behaviors and changing those



behaviors are important contributors to a person's ability to be empowered and affect change in their environments.

Conversely, scholars such as Riger (2002), question whether personal control is as important as high level, overarching issues that are systemic in nature that contribute to a lack of power and outcomes of a more negative nature. In essence, an individual's level of personal control is not as critical as outside factors that may oppress or inhibit an individual from increased empowerment. Therefore, scholars suggest that more research is needed on individual-level empowerment to understand personal control and inhibiting factors that influence it. For the purpose of this study, this includes environmental factors that affect personal empowerment in agriculture.

Environmental factors impact women's empowerment in their agricultural pursuits. Although women contribute almost equally to agricultural activity, they face issues which prevent them from being equally empowered, such as separate plot cultivation from men or only gaining access to small plots of land (Malapit & Quisumbing, 2015; Saito et al., 1994), the inability to cultivate cash crops in the same capacity as men (Malapit & Quisumbing, 2015; Savané, 2019), and gender gaps in property ownership (Gaddis et al., 2018). All of these factors limit a woman's potential and continue to keep them in subordinate roles and relationships to men.

In addition to farming responsibilities, many women must simultaneously ensure that household tasks are tended to, often without help. This additional workload impacts her energy and productivity levels, leaving little opportunity for rest (Hyder et al., 2005). However, even if women are able to take control and overcome these environmental factors to work productively, scholars warn that their individual empowerment may have negative consequences in their

relationships with the men in their lives due to cultural norms. Thus, along with “external” environmental factors such as property ownership and separate plot cultivation, community and cultural norms must change for women if they are to avoid negative consequences as a result of their increased empowerment (Dalal, 2011; Rajendran & Raya, 2011). Therefore, it is clear that influential factors from other fields which give insight into psychology, culture, anthropology, and even leadership would prove beneficial in truly understanding women’s empowerment at the individual level, especially regarding a woman’s empowerment in agriculture and her pursuit of compliance with food safety measures. This is especially true due to the fact that food safety decisions are primarily made with public health in mind, but do not take into consideration insights from other fields which may affect it (Jabbar & Grace, 2012).

For women to be empowered, certain conditions must exist. Some of these conditions are that a woman must experience a higher level of well-being, ability to access resources, increased levels of self-respect and self-esteem, possess more opportunities to make decisions and exhibit “bargaining power,” as well as greater control over their lives (Alemu et al., 2018, p. 311). These conditions lead to greater assertiveness. This is key, because when women have the ability to assert themselves, the need to rely on others is lessened and they find themselves more able to make their own decisions and decide how resources will be used, which provides them a better opportunity to function on an equal level with the men around them (Haque et al., 2011). Scholars refer to this personal ability as agency.

Agency is connected to individual empowerment. It is an individual’s ability to exert influence over oneself by their own actions and is proactively initiated (Schunk & DiBenedetto, 2020). Bandura (2005) further posits that agency is an intentional action and individuals possessing it are self-motivating, self-organizing, self-reflecting, and self-regulating. Agency

consists of three dimensions: the ability to set goals, one's perceived control over themselves and their personal abilities, and the ability to take action on personal goals (Donald et al., 2020), and all of those things occur as the result of a process. Therefore, empowerment consists of both agency and process (Narayan, 2005). A process must take place that takes women to increased equality, ability to take action, or to the freedom to make choices; and agency includes the women involved in the process as major players with an important role in achieving the change (Narayan, 2005). This is why process is important to empowerment on more than one level. In addition to agency, other contributing factors to women's empowerment such as autonomy (Alkire et al., 2013; Hall, 2013; Vaz et al., 2016) and self-esteem (Patterson, 2004) are pinpointed in the literature. However, even if women experience this process and are empowered at the end of that process, that state of empowerment may not be long term.

Scholars seem to agree that empowerment is not a permanent state of being (Greasley et al., 2005) and the path to empowerment is not always straightforward (Webster et al., 2020). Cornwall (2016) concurs and states that empowerment is not always long term, women are not all empowered by the same means, and empowerment in one area does not necessarily lead to increased empowerment in other areas. Additional research is recommended that considers a woman's current state in life and her level of empowerment as a means of more closely examining how social and cultural issues impact empowerment (Moonzwe Davis et al., 2014), and how these issues affect their ability to remain empowered. However, one proven way to encourage sustained empowerment is with self-efficacy.

Self-efficacy is a key component of empowerment. Contrary to the belief of some, self-efficacy is not a result of empowerment, but a means of achieving continued empowerment. According to Bandura (1997), who is considered the father of social cognitive theory or self-

efficacy theory, self-efficacy is the “perceived capabilities for learning or performing actions at designated levels” and an individual’s self-efficacy relates to how that individual perceives the actions they are able to perform (p. 11). The ability to believe in oneself and have a high degree of self-efficacy is important to empowerment, and an individual’s perceived ability to perform an action affects motivation in various situations (Ozer & Bandura, 1990). However, simply possessing self-efficacy is not enough. An individual must also have the ability to carry out an action, as well as execute it (Bandura, 1982). As a result, when an individual possesses self-efficacy and couples that with action, their levels of empowerment levels grow (Rawlett, 2014) and not vice versa (Conger & Kanungo, 1988). The literature states that additional research is needed regarding self-efficacy and empowerment as there is a lack of examining the “empirical connections” that exist within empowerment and self-efficacy at the individual level. This is especially true of research which examines “vulnerable populations,” due to the potential for them to benefit the most from growing their levels of empowerment as a result of self-efficacy (Rawlett, 2014, p. 8). However, there are factors beyond personal empowerment and environmental influences that affect a woman’s empowerment, such as relationships and interactions at the organizational level.

### ***Organizational Level***

Empowerment in organizations affects both individuals and the communities in which they live (Schulz et al., 1995). Perkins and Zimmerman (1995) refer to organizational empowerment as a means to help individuals develop their skills and influence their communities, set goals, and make decisions as a group (Schulz et al., 1995). This connection between individuals and groups facilitates collective empowerment and change (Speer & Hughey, 1995). According to Sigler & Pearson (2001) a connection exists, in some instances,

between organizational culture and the manner in which empowerment is perceived. Thus, there is an opportunity for deeper research into empowerment at the organizational level (Maynard et al., 2012; Peterson & Zimmerman, 2004; Spreitzer, 1995) This holds true of organizational empowerment in agriculture as it relates to women as well.

Organizational empowerment is a key factor to women's empowerment in agriculture. As such, support is needed in the areas of disseminating knowledge about agricultural methods and teaching business acumen at the organizational level, as well as understanding how organizations encourage empowerment. One study points out the need for individuals in academia, industry, and government agencies to help provide solutions for food safety problems and teach farmers why food safety is important (Garcia et al., 2020). This type of capacity building often occurs and is led by NGOs (Miller & Razavi, 1995), community groups, universities, and other stakeholders to disseminate new knowledge and best practices (Reij & Smaling, 2008).

Knowledge dissemination is critical to producing increased empowerment. Babu et al. (2016) refer to the work of Timmer (2014) and state that transformation in the agricultural sector will not take place unless knowledge is acquired and put into practice (Babu & Jayachandran, 2017). By doing so, there is a greater opportunity to help women obtain the necessary business skills needed to take their farm operations from a subsistence level to one where high value crops for exports are produced (Babu et al., 2016). Stringfellow et al. (1997) confirms that farmers should take advantage of cooperative groups and work with other local partners to problem solve from their collective knowledge. Gbetibouo (2009) further agrees and asserts that farmers may be influenced by their associations with others in the field, as well as by the perceptions of their peers in farming.

Moreover, disseminating knowledge at the organizational level will likely prove beneficial in ensuring that new knowledge is properly applied by various stakeholders throughout the agricultural chain. This is especially critical in ensuring that these stakeholders have the capacity to comply with policies and regulations. Thus, organizations have the opportunity to play a positive role in advancing food safety practices for farmers (Aworh, 2021). However, the literature also states that some organizations that promote the production of livestock and agriculture mostly support men and hold biases towards women (Perez et al., 2015) which may prove problematic. Without key organizational support, empowerment will not reach levels needed to truly enable women to succeed in agriculture. Not only is organizational empowerment vital, but empowerment at the community level is equally so.

### ***Community Level***

Scholars concur that empowered communities consists of both empowered individuals and empowered organizations which give its citizens a voice in making decisions, as well as providing opportunity for myriad perspectives (Perkins & Zimmerman, 1995). Zimmerman (2000) writes that empowerment at the community level refers to collective action taken to better the lives of its citizens and, at the same time, further the connections between the community and agencies or organizations. Gibbon et al. (2002) concurs and states that community empowerment occurs as a process that allows members of the community to take advantage of community assets and supports in order to improve their lives. However, differing opinions exist regarding how empowerment at this level should be viewed, whether emphasis should be placed on understanding program empowerment, individuals within those programs, or both. A perspective exists that research should not focus as much on program capacity as people, and states that several dimensions of a person's experience should be examined, not only the way they react to

factors at a community level (Riger, 2001). However, Zimmerman (2002) refers to another study conducted and states that the results showed a reciprocity between sharing in a community with other like-minded individuals and levels of personal power. Thus, scholars are divided on whether the proper measurement of community empowerment is one that examines the efficacy of programs or individuals, or its intertwined effect on both. Furthermore, agriculture is a community that exists within larger communities of people; as such, closer examination into its empowerment at the community level is needed.

Communities impact individuals and organizations in many ways. They have the ability to affect entities and individuals inside with access to resources on a social, economic, and political scale (Schulz et al., 1995). However, additional research is needed to examine policies and the measure of empowerment they encourage within various communities on differing levels. This is particularly the case due to variations in cultural norms in relation to women that affect policy implementation. The intention of policy makers may be noble; however, the fact remains that public policy still offers a weak support system to address women's issues as they relate to agriculture and suggests that an in-depth analysis into problems women experience in different countries is needed to design effective, successful policies (Evers & Walters, 2000). Furthermore, in some countries in the region, women who are the head of the household may face community-level discrimination (Muzari et al., 2012) that inhibits empowerment despite it being enacted at the policy level. These things are important to consider, as empowerment at one level, tends to affect empowerment at other levels.

### **Empowerment Interconnected**

Some scholars assert that each level of empowerment is connected and affects the other levels (Schulz et al., 1995). This interconnectedness consists of shared activities and

collaborating with others (Rolvsjord, 2006). The link between levels is further understood using Friere's concept of conscientization (Freire, 1985) in which he posits that the high importance of understanding the realities an individual faces, then they must involve themselves in activities that promote transformation for themselves, and then others (Sleeter et al., 2004, p. 82).

Although Friere refers specifically to education, it may also be used as a means of linking all three levels of empowerment as it includes, "a sense of identification with a group, of shared fate with that group, and of self and collective efficacy...and a belief that effective action is possible, and the capability (skills and resources) to develop effective strategies for action" (Israel et al., 1994, p. 153). However, others continue to oppose the notion that empowerment is connected at its various levels (Jiang et al., 2011). Even if empowerment is connected at each level, gaps remain in understanding whether appropriate conditions exist to foster women's empowerment and promote them to assert themselves in various situations (Alemu et al., 2018; Stromquist, 1999b). Adding to this complexity over interconnectedness is the ambiguity--and seeming subjectivity--of the meaning of empowerment for different people and cultures.

### ***Cultural Factors and Empowerment***

Scholars write that empowerment looks different for various cultures (Sidyani, 2018) and enforcing empowerment is a challenge. This is especially true across the Sub-Saharan region of Africa. In this region, men are still likely to be the primary decision makers, even if a women is considered empowered to a certain degree (Makama, 2013; Rathgeber, 2000). Geleta (2014) affirms this and states that empirical evidence exists showing that men hold dominant roles in making decisions, even in more liberal communities where women are allowed a certain level of control in business due to the heavily-patriarchal nature of many cultures throughout Africa (Geleta, 2014). The issue with these specific types of patriarchal social systems is that they allow



men to hold an exclusionary position of power over women keeping them from owning land or obtaining loans. However, in general, care must be taken when using and applying the term *patriarchy* and presumptuously making it synonymous with disempowering women.

A patriarchal society, at its essence, is one in which a man is the head of the household. In this type of social order, a man is not only responsible for offering protection for his family as its head, but he must also care for and provide them with clothes, a home, and food (Cain et al., 1979). Over the last century, however, particularly among feminists in Western societies, the term *patriarchy* is equated with a negative and profoundly disparate power relationship between men and women (Fourshey & Jaksch, 2021). Patriarchy in itself, is not interchangeable with demeaning behavior. Instead, negative mindsets and practices around patriarchy throughout Sub-Saharan Africa are more closely connected to pervasive cultural norms and attitudes within that patriarchal structure that are accepted but should be called into question. Johnson (2004) confirms this and writes that the bigger question that should be asked is: “what kind of society would promote persistent patterns” of demeaning behavior toward women? (Johnson, 2004, p. 25). The presence of a man as a head of household (organization or governmental office for that matter) does not arbitrarily imply that his behavior will be demeaning or disempowering due to his gender or his position of power. The fact is, within his role as a leader, a man has a choice: to encourage, empower, or disempower the women in his life and sphere of influence. This is where change must occur, and new ways of thinking promoted. Kabeer (1999) confirms this and states that men have the ability to provide women with opportunities, as well as the potential to block their ability to advance. Societies throughout Sub-Saharan Africa may continue to embrace a patriarchal structure; however, opportunity exists for men as leaders of their households and

beyond to enable and support women farmers as individuals and provide an atmosphere where they can grow, excel, and advance in business and in life.

To initiate this change, Essian and Upkong (Essien & Ukpong, 2012) assert that both genders should question traditional practices that tend to disempower women. Mosedale (2005) summarizes the situation by stating that, due to cultural norms, development agencies can only be facilitators of empowerment for women and help build favorable conditions for empowerment to occur, but they are unable to mandate. Women know best how their communities work and understand what makes them feel and be more empowered; as a result; allowing them the opportunity to determine their own course of action as it relates to increasing their level of empowerment is important (Huis et al., 2017). However, the proverbial ball remains in the man's court, as they are many times, the "gatekeepers" for gender equality, and must have a willingness and openness to approach relationships with women differently (Connell, 2005, p. 1802). Hence, effort should be made to educate men as a means of introducing change to "redress" their role in various gender inequalities (Greig, et al., p. 1) that disempower women, such as the inability to own land or access loans.

Adding to this, empowerment does not necessarily need to be experienced on a grand scale to be considered meaningful. Small changes may lead to bigger changes. For instance, Sell and Minot (2018) posit that simply having a say in intra-household decisions can be considered meaningful and empowering (Sell & Minot, 2018). There is a need for future research examining how community norms influence decision making in women (Sell & Minot, 2018) and to what degree changes need to be made for a women to feel more empowered. However, increased access does not indicate a more comprehensive level of empowerment. For instance, greater access to microcredit may be empowering (Ganle et al., 2015; Pitt et al., 2003); but simply

gaining access does not indicate a reduced cultural pattern of women's subordination to men (Ganle et al., 2015) in business dealings.

Cultural gender issues that place women in a subordinate position to men affect women. Practices such as brideprice, patriarchal systems of inheritance, and polygamy (Longwe, 2000) should be considered in their impact on women. This is due to the fact that a woman's identity is constructed based on those types of cultural norms, traditions, and customs (Adjei, 2015). If women are to truly experience empowerment in their agribusiness in the Sub-Saharan region, they must work together in an effort to remove the structural barriers that cause gender inequities (Young, 1993). One way to approach this is politically.

Political philosophy and the manner in which a society views human rights may contribute to levels of empowerment. Tengland (2007) states that people in Western countries are mostly able to be self-empowered and experience and achieve high levels of empowerment without additional backing from other groups. This may be due, in part to, the political and philosophical underpinnings of Western culture and democracy. Hill (2003) concurs and writes that "democracy contributes to the advancement of social goals for women by helping to identify, articulate, and advance social goals that will further those freedoms...and of building channels through which they can more effectively enter the social choice process and shape social institutions to advance their welfare" (p. 130). Thus, women must have the opportunity to actively contribute to the political process to support their endeavors.

Civil liberties and the ability to allow citizens discuss issues with political leaders, bring attention to issues in the media, and garner support from policy makers for their causes (Harris, 2014) are also necessary components; because in order for successful change and social transformation to take place for women, women must have equality that allows them to engage

in political issues and exercise rights (Harris, 2014). Turner (2005) concurs with this idea and states that a group's values and beliefs give definition to what is fair or unfair, what should continue to be allowed and what should be pushed back against. Therefore, levels of democracy and political involvement and freedoms impact empowerment. However, the fact should be emphasized that cultural change must simultaneously occur to sustain empowerment. One way this might occur is using the process of cultural diffusion.

Cultural diffusion is a method in which a society's cultural norms can be influenced and changed. It was first defined by Franz Boas, a pioneer in American Anthropology in the late 1800's (Boas, 1937). Boas asserts that culture has a profound impact, as it is a powerful method of influencing others. Cultural diffusion takes place when the cultural attributes from one society are intentionally shared with another in an effort to influence cultural norms and increase empowerment (Idang, 2018). Thus, it may prove beneficial to observe successful interventions from other regions and cultures to understand if they might provide greater empowerment for women throughout the sub-Saharan region. However, to truly affect change, it must move beyond the wider group level and external influence and find its way back to the individual. A change must occur within an individual as it is connected to one's own perception of external factors affecting their situation.

Empowerment is influenced by an individual's self-perception of their environment and themselves. This includes whether they feel empowered or oppressed as a result of external factors. Mosedale (2005) concurs and asserts "when people are oppressed, their own perceptions of their situation are shaped by the ideology which supports the oppression they face. Various aspects of their situation may be considered by them to be not only unchangeable but fair" (p. 253). Ganle & Dery (2015) attribute this, in part, due to cultural norms. Cornwall and Edwards

(2016) recommend that attention be given to “women’s own voices, analyses, experiences” (p.

8). Thus, there is a need to further examine the issue of women’s empowerment and more closely consider their lived experiences to obtain firsthand insights. In fact, a lack of power is at the crux of why women experience reduced empowerment.

### **Power and Society**

Power and disempowerment are important theoretical concepts linked to empowerment. Scholars have differing views on the meaning of power. Scholars view power from both a social and political viewpoint, and from an individual and community viewpoint (Crumley, 2008). Russell (2004) writes that levels of power possessed by individuals and organizations vary depending on the society in which they live. Read (2012) states that power is collective, and the meaning is influenced by the manner in which a group collectively views it, and how they believe it operates. This viewpoint is more prominent in Western cultures and the United States, in particular (Giddens, 1968), where individuals have the capacity to incite or resist change (Read, 2012) and influence others (Turner, 2005). However, differing views exist as to whether power is an internal capacity to affect change or if it is an external force imposed on individuals or groups.

Opposing definitions of power hold a more negative viewpoint asserting that power is a force outside an individual that creates inequity (Giddens, 1968) leading to inequality (Beland, 2009). This view of power is often referred to as being coercive, and is especially linked to European sociologists and Marxism (Giddens, 1968). One of the most well-known and oft-cited definitions of power is that of German sociologist, Max Weber. Weber (as cited in Uphoff, 1989) defines power as “the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rest”

(Uphoff, 1989, p. 299). Uphoff (2005) states that Weber's definition is "the most widely cited and influential analytical treatment" on power, and is both "meticulously reasoned and carefully worded" (p. 220). Warren (1992) asserts that "most social scientists have found Weber's definition acceptable" as it defines power as "an expression of the wills and capacities of individuals" and "a potentially conflictual relationship between dominant and subordinate individuals" (p. 19). Consideration must be given to the role of power imbalances and their possible effect on individuals and groups, and between men and women. However, other existing viewpoints minimize the influence of men and their power in relation to women, stating that power relates more to an individual's self-determination and self-efficacy. This positive perspective is more aligned with scholars such as Bandura who believes that power is more closely associated with an individual's capacity to produce an action (Bandura, 1979). Finally, it is worth mentioning that power is also "not an all or nothing thing" and people are empowered and disempowered to varying degrees in different areas of life (van Oudtshoorn & Thomas, 1995, p. 25). Next, the literature regarding community development as a catalyst for increased empowerment will be examined.

### **Community Development**

Communities are more than structures and neighborhoods, but they are a collective group of people who share like traits, issues, and similar capacity for future improvements (Meade, 2021). A community may be defined as a "...territory or place...social organizations or institutions that provide regular interaction among residents, and...social interaction on matters concerning a common interest" (Green & Haines, 2015, p. 2), and a deliberate push to construct shared assets for the purpose of greater capacity for an entire group of residents collectively as means to improve their lives as a whole (Green & Haines, 2015). Thus, communities are groups

based on many commonalities, such as culture, goals, and similar experiences (Ife, 2009). However, scholars vary in their opinions regarding whether commonalities help or hinder change.

Although commonalities may help individuals assimilate better into groups and share more similarities with other members, they may also hinder growth. When individuals only interact with people who are the same as them, growth is stunted due to lack of exposure to experiences or ideas different than their own, which often “challenge existing preconceptions and suggest alternatives” (Ife, 2009, p. 15). Thus, there is an opportunity for further research to examine the effect of cultural commonalities and their effect on change in communities. There are other factors that influence community development. Two such factors are human rights and governmental support.

Policy makers must be involved in supporting community development and its connection to human rights. The reason for this is that, despite enacted treaties and laws, issues related to human rights within communities continue to persist. Often, these inequities are not a result of a lack of understanding about others, or a lack of legislation or rules, but are due to a deficient understanding of people and supporting human rights for all individuals; thus, these issues must be approached at the policy level to strengthen and build communities (Hannam, n.d.) and understanding among different types of people. Therefore, entities such as the UN suggest that inequalities must be addressed in context of the specific country, their economy, and political capacity to build better communities (United Nations, n.d.) and increase empowerment for citizens.

Once communities move beyond inequalities and further develop, there appears to be a positive chain reaction in empowerment. For example, Goldin (2019) explains that as incomes rise

and people consume more as a result of development, it leads to greater connectivity and permeates into individual action. There is a close connection between growth of cities and increased development, as people are able to achieve more collectively than individually (Goldin, 2019). In essence, development breeds more development, which leads to increased empowerment. To further encourage development, communities need specific contexts in place a means to operate and grow. This is referred to as opportunity structure.

Opportunity structure, according to Alsop and Heinsohn (2005) is “the formal and informal contexts within which actors operate” which includes “laws, regulatory frameworks, and norms governing behavior” (p. 6). When all of these things are in place, they give structure to a community and help guide various processes and policies to further contribute to development. This is especially true due to the fact that infrastructure and framework are both necessary for implementing successful policies that lead to increased development (Craig, 2002). However, there is a lack of data on empowerment as it relates to development to verify if these types of structures provide opportunity for empowerment at the community level. The World Bank emphasizes this and states that while many theories exist in understanding the relationship between community building and empowerment, yet few specific indicators exist pointing to outcomes (Alsop & Heinsohn, 2005). However, Stöhr (1980) pinpoints a lack of empowerment in communities that is attributed to a reduced ability to interact on a larger scale. Although this holds somewhat of a negative connotation, a positive aspect is present, in that communities have a greater potential for small-scale interactions on an interpersonal level, as well as a stronger group identity and “active” participation in their culture (p. 9). Thus, it may prove advantageous to better understand how this core strength may be used to the community’s advantage and examine resulting outcomes.



There are other contributing factors of a more concrete nature that lead to community development. In general, communities that provide open access to information, rules that are clearly defined, and appropriate financial support to citizens are better able to work as a collective group to meet local issues as they partner with local organizations and governments to both increase and build a community's infrastructure (*Community-driven development*, n.d.). This suggests that greater levels of empowerment and support from policy makers positively influences community development. Specifically, there are a few indicators that may be used to measure growth. Indicators such as GDP (Goossens et al., 2007; Kubiszewski et al., 2013) increased learning (Kirk, 2004), and improved health and education (Duflo, 2012; Laverack, 2006; Mehra, 1997) may be used to better understand how well a community is growing. First, GDP will be examined.

GDP is often looked to as an indicator of increased development (Goossens et al., 2007) in a specific location because of its strong connection to human welfare in the areas of literacy, health, nutrition, and the ability to use technology to communicate (Goossens et al., 2007). There are advantages in using GDP as an indicator of developmental progress. To begin, it is easy to measure. Second, the data is not subjective, but concrete and cannot be exaggerated (Nussbaum, 2008). However, it is important to note that while increased GDP may indicate positive development, it does not necessarily mean an increase in well-being is simultaneously occurring (Kubiszewski et al., 2013).

Further, at the time of this writing, the COVID-19 pandemic is still ongoing. As a result, GDP is significantly affected in the Sub-Saharan region (Ofori-Atta, 2020). The World Bank states that the impact of the pandemic on the Sub-Saharan region is "severe" and especially affects vulnerable populations, such as women, those employed in the informal sector, and those

living in poverty (*Overview*, n.d.). Thus, more time is needed to understand whether the economic contraction for the region is a temporary or not. In addition to GDP, another indicator of community growth is increased learning.

Increased learning is another indicator of community growth that is often looked to as a means of understanding the level of growth in a community. Kirk and Shutte (2004) state that building capacity in a community consists of increasing learning for the purpose of bringing about transformative change and helping individuals view themselves and the issues they face from different perspectives. As individuals learn more, and change and grow, more collaboration take place, which leads to goals accomplished for the community. Relative to Sub-Saharan Africa, capacity in education is specifically key to increasing development in Africa, especially to ensure that individuals take advantage of and understand how to properly use its abundant natural resources and physical capital (Nafukho, 2013). A lack of education is connected to poor management of land (Chigbu et al., 2020); however, when resources are properly utilized, the result is wealthier, more developed communities. Thus, learning and expanding one's knowledge is vital to personal growth as it leads to growing communities. Next, the literature regarding SPS measures as a means of achieving a safe food supply and facilitating increased trade will be examined.

### **SPS Measures**

Food safety impacts all members of the agricultural community as they hold the common responsibility as a community for producing and selling safe food products. Goode (1957) states that professions are communities within a community; and no physical location exists for these communities; rather, the members involved are connected by common values and identities (Goode, 1957). The agricultural community is no different. Therefore, one way to ensure

commonalities in food safety and trade is by adhering to standards, such as those included in the SPS Agreement.

The SPS Agreement is an agreement that sets common standards for the application of food safety and animal and plant health regulations for fair trade purposes globally (Henson & Loader, 2001). The SPS agreement is part of a treaty that was introduced in the Final Act of the Uruguay Round of Multilateral Negotiations in April 1994 (*Understanding the WTO agreement on sanitary and phytosanitary measures*, n.d.). The SPS Agreement, as well as the General Agreement on Tariffs and Trade (GATT) contributed to the formation of the treaty that birthed the World Trade Organization as an entity in January of 1995 (*Understanding the WTO agreement on sanitary and phytosanitary measures*, n.d.). The World Trade Organization website defines the measures that are part of the SPS Agreement as,

...any measures applied: to protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food; to protect human life from plant- or animal-carried diseases; to protect animal or plant life from pests, diseases, or disease-causing organisms; to prevent or limit other damage to a country from the entry, establishment or spread of pests. These include sanitary and phytosanitary measures taken to protect the health of fish and wild fauna, as well as of forests and wild flora. (*The WTO agreement on the application of sanitary and phytosanitary measures (SPS agreement)*, n.d.)

Therefore, SPS measures were designed to protect and set standards for fair trade practices on a global scale, as well as to provide developing countries an entry point to trading in markets in developed countries (*Stronger open trade policies enable economic growth for all*, 2018). Although the standards are international, the World Trade Organization allows countries

flexibility within those standards as long as they are based on science (Peel, 2012), recommendations, and guidelines (Epps, 2008). Moreover, the standards should only be applied only to protect plant, animal, and human lives and should not be used as a barrier to trade without justification (*The WTO agreement on the application of sanitary and phytosanitary measures (SPS agreement)*, n.d.). However, in spite of these measures intended to protect the food supply and those involved, unintended consequences sometimes occur.

Although SPS measures were intended to ensure healthy animals, plants, and food safety for trade, they often result in barriers to trade or even lead to illegal trade. Arita et al. (2015) confirms this and reports that in agriculture, the barrier to trade most frequently mentioned are the SPS measures (Arita et al., 2015). One reason for this, as Coslovsky (2014) writes, is that, although global trade increases opportunity, it also allows exporters to experience increased attention over meeting standards that they are unable to comply with. Thus, due to this high level of attention, and at times, “excessive” regulations, negative results are produced. For instance, one study reports that excessive regulations led to an increase in illegally exported animals (Hueston et al., 2011, p. 311). Another consequence reported by the FAO explains that SPS measures have caused the domestic price of food across Sub-Saharan Africa to be higher by 13% (FAO, n.d.) due to the administrative cost of applying and ensuring they are carried out.

Furthermore, to avoid complying with SPS measures, traders may select informal trade channels as a means of circumventing their restrictions (World Trade Organization, 1998). These informal channels are likely to heavily include women traders who are not as likely to be aware of or comply with SPS measures or demand that others apply them. In short, both anecdotal evidence and reported data report that SPS standards both impact and hinder trade, especially for the formal market, and sometimes substantially (Roberts, 1998).

At the inter-country export level, SPS measures may put the exporting country at a disadvantage in several ways. First, SPS standards have become increasingly strict, and that stringency has increased unequally in different countries with unequal standards (Melo et al., 2014). For instance, if the exporting countries standards are not as sophisticated, the importing country has the upper hand, so to speak, as that country has the responsibility to supply the scientific evidence for not purchasing a product, which may be used to their advantage to close trade with the country (Lunn, 2006). Another study states that importing countries often err on the side of caution, and officials in the importing country operate on the principle of “when in doubt, keep it out,” while export officials operate from the thinking that, ‘if it’s good enough for our people, it’s good enough for the world” (Hueston et al., 2011, p. 311).

Regarding women specifically, the literature further states that women in the region are likely to participate in the formal sector at lower levels (Asongu et al., 2020), especially due to the inability to achieve compliance with SPS standards, particularly for participating in trade with higher income countries. Several reasons exist as to why higher income countries have higher SPS standards, First, standards tend to be more selective (Murkomen, 2006), restrictive, and demanding as a country’s income rises (Ferro et al., 2013). This is due to an increased level of societal awareness in some countries and a higher level of concern from citizens regarding where the food came from, and how it was produced and processed. The literature further confirms that wealthier households typically consume goods of higher quality (Ferro et al., 2013). Thus, there is a connection between income and societal awareness as they apply to the demand for the application of food safety measures. Therefore, despite provisions within the SPS Agreement intended to protect consumers and traders alike, small-scale farmers may experience constraints that prevent them from operating equally to other producers and on the same scale. It

may be possible, then, to surmise and speculate that strict, excessive regulations that comprise SPS standards prevent women from moving beyond their current farm status and trading in more lucrative export markets. The literature notes that another challenge in applying SPS measures is that they may inadvertently promote protectionism.

Scholars assert that although SPS measures were created to protect animals, plants, and provide food safety, another unintended consequence has been an increase in protectionism (Trachtman, 2002; Victor, 1999). Naoto (2014) writes, “As tariffs and other forms of classical trade barriers are progressively dismantled through multilateral, regional, and bilateral negotiations over trade liberalization, the temptation to use SPS measures for protectionist purposes becomes stronger” (p. 2). In fact, Silverglade (2020) emphasizes that it is important for nations to avoid viewing the SPS agreement as a means to exclude other nations from trade by using food safety laws from both parties as leverage to advance their own interests.

This is one reason why the ACfTA, along with regional programs such as the AU’s Action Plan for Boosting Intra-African Trade (BIAT) (*BIAT – Boosting Intra-African Trade*, n.d.), are anticipated by so many as both put a framework and measures in place to dismantle tariffs and facilitate and promote increased trade by removing trade barriers and making the customs process less complex (Mold, 2020).

However, issues persist with African trade numbers. Despite increased potential and increased support for agriculture, the rate of intra-Africa trade was at a rate of less than 17% of total exports (UNCTAD, 2019). This number is quite low based on the potential for the continent. It additionally proves very low when compared to that of Europe’s rates, for example, at just under 70% (UNCTAD, 2019). The fact remains that when protectionism is reduced and trade is increased, economies experience greater growth (African Development Bank, 2000).

Therefore, additional research is needed to further understand the interrelationship between SPS measures and protectionism. Another prevalent issue is the lack of agreement on SPS standards and related practices, which is referred to as harmonization.

Harmonization is a process that was implemented to provide the same standards for all countries (Hathaway, 1995). It is also a means of encouraging increased institutional capacity to deal with health and safety standards (Mayeda, 2004). Harmonization is intended to increase agreement in practices and standards between countries as a means of avoiding putting one country at a disadvantage due to variations in trade standards (Urif, 2015). However, this poses an issue due to varying conditions and capacity from country to country. As a result, countries across the region often attempt to harmonize standards for regulations and laws for different products to increase growth in various agricultural sectors. The original intent is to give farmers across the region access to better products, such as seeds; the result, however, is that it often finds its way back to the desk of a policy maker who must choose between “stricter measures for quality control and the need to encourage the multiplication and distribution of lower cost seed” (Rohrbach et al., 2003, p. 317).

To remedy these types of dilemmas, harmonization should be more country dependent to address the conditions at the country (Mayeda, 2004). To support increased harmonization, countries within the AU have joined with organizations such as Codex Alimentarius (Codex), The International Office of Epizootics (OIE), and The International Plant Protection Convention (IPPC) to provide harmonization of standards, to ensure consistency in guidelines, standards, and recommendations for all members (Henson & Loader, 2001); and regional entities such as the Regional Economic Communities (REC) are in place to ensure that policies and regulations are implemented “on the ground;” however, even with these efforts, the situation still proves

complex. For instance, traders may bypass complex standards altogether and remain noncompliant due to a lack of capacity to meet them (Nurudeen et al., 2014). Besides this, levels of noncompliance often remain unchallenged due to the weak SPS regulatory frameworks throughout the region (Kolié, 2020). Furthermore, even when standards are in place, laboratories and other entities that oversee the scientific aspect of SPS measures are “generally scarce and underequipped” (Kolié, 2020, p. 7).

In addition, weak support exists from the public sector regarding enforcement of the measures (Arias-Granada, 2021); thus, little effort is made in following through. To make matters worse, many consumers perceive the entities that examine food safety institutions at a low level of competence; as a result, these entities must do a better job to provide the public with enough knowledge and information from experts, explaining in laymen’s terms, the actions currently taken to mitigate risks to put consumers at ease (Omari et al., 2018). Leaders must take into consideration the personal affect they have in this area and the impact of their leadership style on increasing the public’s perception of competency and trust.

These are more reasons why the recent African Continental Free Trade Area (AfCFTA) is so important. The hope is that it will provide “a unified food safety authority for the continent, sharing a common SPS policy framework and with the dual objective of stream-lining capacity building efforts, as well as harmonizing SPS measures across the African continent” (Molnar & Godefroy, 2020, p. 2). The effort to enforce and support harmonization with the agreement will further encourage better access to trade for women (The World Bank, 2020a). However, simply because an agreement is in place does not guarantee compliance. Capacity development will need to increase for stakeholders at various levels, such as national and region institutions (Kuhlmann, 2015), and for those involved in border trade and customs to better understand how



to ensure compliance is met, as well as for businesses to understand the how the agreement affects their trade and run compliant operations (Tsowou & Davis, 2021).

Moreover, harmonization of measures across countries is likely the primary challenge for successful implementation of the agreement due to administrative processes that vary from country to country that prove to be inefficient (Kouty, 2021), as well as problems with institutional capacity at a deficient level, lacking technical and financial resources to support harmonization (Arthur, 2019). In response to these issues, many experts are continuing to encourage the implementation of a “Africa-wide reference laboratory” as a means of supporting and harmonizing SPS standard compliance (Arthur, 2019, p. 619). All of these actions combined will continue to support increased capacity in ensuring capacity development in SPS measures. Next, the literature will be examined as it relates to programs at the organizational level.

Organizational level programs are crucial in promoting standards compliance in farming. This is particularly true of women who experience difficulty in reaching compliance with SPS standards. To remedy this issue, programs at the organizational level must be in place. For instance, one such program is the Plantwise program from the the Center for Agriculture and Bioscience International’s (CABI). This program, as an example, was implemented as important tools for educating women. This program provides access to “plant doctors” who travel to farms or other locations in town to diagnose issues (Romney et al., 2013). These types of programs are vital, as it is estimated that up to 40% of the food grown worldwide is lost to plant pests and diseases (Finegold et al., n.d.). Organizational support offers a better of means of giving farmers access to information and training is needed. However, despite the increased support at this level, the rates of women attend training and workshops (such as plant clinics) is often lower than men. This not only indicates a gap in knowledge for women regarding plant health problems (Musebe

et al., 2018), but a potential lack of access to expert knowledge for applying safety standards (Musebe et al., 2018) on a larger scale.

Moreover, programs place importance on mobile technology (e.g. laptops and tablets) to make information more accessible and within reach for farmers (Ochilo et al., 2019). These programs enable the information to reach farmers directly without the additional burden of traveling to a training. An advantage to using mobile technology to instruct is that it helps close the learning gap for women farmers, especially with technologies such as free or low costs apps, YouTube videos, mobile phones, radio, and social networks are utilized (Zossou et al., 2020); however, it is not a simple solution. Socio-economic factors are a problem in accessing and utilizing these technologies. Many women continue to lack access to technology due to a lack of finances, and if they are able to access technology, they may experience “social implications,” especially in rural communities, for attempting to increase their learning and use technology (Ochilo et al., 2019, p. 250). However, despite these factors, technology remains a promising option to teach women, especially due to the high rates of illiteracy and its effect on understanding safety information and farming best practices.

Literacy is a factor as it relates to a woman’s ability to understand and apply safety information and apply best practices. For instance, in relation to pesticide use, Dakuyo et al. (2021) writes that illiteracy contributes to a lack of knowledge in understanding best practices for using pesticides, utilizing proper safety equipment, and preparing and applying pesticides to crop. As a matter of fact, as a whole, the majority of farmers in the region do not use or understand proper pesticide use (Allali et al., 2020) which very well may be, in part, impacted by a lack of literacy. For example, the results of one study reported that 90% of producers could not read labels which put them at an increased risk for insecticide poisoning (Michozounnou et al.,

2019). Moreover, farmers with limited literacy, especially in rural areas, are vulnerable to pesticide dealers who are not licensed or qualified and provide incorrect pesticide information to farmers that may be harmful for their crops (Maden et al., 2014).

However, to combat illiteracy and better train farmers, increased methods of communication are now being used, especially in rural areas (Isenberg, 2019), such as posters, exchange visits from farmers in other locations (*Upscaling food production in Sub-Saharan Africa*, n.d.), and low-cost training videos (Zoundji et al., 2016). Conversely, some posit that literacy (Oyitso & Olomukoro, 2012), combined with increased levels of education (Jayaweera, 1997), and technical education and training (Maina, 2018) are the keys to greater empowerment. These scholars state that illiteracy oppresses women and prevents them from moving beyond their marginalized state, and that acquiring more skills and having access to more opportunities to become educated may change one's lack of empowerment (Adelore & Olomukoro, 2016). However, Longwe (2000) dissents and writes that it is not merely more education, or items such as resources, or access to credit that changes an individual's situation, but it is actually having greater control over resources that proves more crucial. (Longwe, 2000). One way for this greater control to occur is for women to have increased influence at the policy level (Adelore & Olomukoro, 2016; Longwe, 2000). Therefore, merely possessing increased levels of literacy, education, and training without the ability to exercise better control over resources may not substantially increase empowerment for women.

In addition to these differing opinions regarding literacy, education, and control, issues exist for female farmers regarding their ability to accept knowledge and training based on the gender of the person disseminating information to them. For instance, in the case of receiving plant advice, studies show that farmers prefer receiving plant health advice in home visits from

government extension workers to farms to demonstrate best practices, or by utilizing farmer groups with information days where experts would be accessible for training. However, these preferences may likely be truer for men than women, as women may not be as open to asking for advice from governmental extension workers due to a perception that only men seek their advice (Terefe, 2020).

As a result, programs must adjust their approach in trying to reach women with access to knowledge and new skills. In an effort to “shift” societal norms related to agricultural gender roles, one program used messaging and testimonies of women’s success in applying knowledge to growing plants as a means of changing the common idea that only men seek advice from extension workers (Terefe, 2020, p. 4). Despite these types of efforts, female farmers still prefer to obtain advice from other women or specifically, other women farmers (Musebe et al., 2018). For instance, women coffee farmers in Kenya who possessed more primary education than others have inspired other women to plant coffee due to the fact that they were “more likely to copy women than men” (Quisumbing et al., 1996, p. 1). As a result, the gender of individuals providing instruction and training influences learning in women and should not be discounted in its affect.

Another issue women face is that they are unable to attend local meetings or agricultural trainings to learn about SPS measures or best practices. The main reason for this is that women in the region have less time available for learning due to several contributing factors, such as household duties and caring for their husbands and children (Quisumbing et al., 1996). In fact, overall, women appear to have less access to training in general (Kareem & Kareem, 2020). Even if women do have access to training, lack of finances plays a role in hindering women’s compliance with SPS standards.

Women also experience issues related to a lack of finances that further impacts their compliance with SPS standards. This includes being unable to purchase modern inputs such as pesticides (Van Huis & Meerman, 1997) or other products recommended by experts to manage pests (Terefe, 2020). Furthermore, whether the reason is related to a lack of training or finances or both, some farmers choose not to address SPS compliance at all. Instead, they look to the government to take responsibility for pest control (Van Huis & Meerman, 1997). This situation is not ideal, as governments realistically do not have the resources or capacity to adequately manage compliance at this level. However, a potential positive in the situation is that it allows governments an opportunity to strengthen programs to disseminate knowledge, support, and provide resources for greater empowerment. Food safety regulation application and compliance apply to all genders. As such, Kareem and Kareem (2020) assert that policy makers need to provide for a “sophisticated scientific and technology transfer as well as...financial and human development assistance to women farmers” (Conclusion section, para. 4). Thus, more research is needed to better understand women’s lack of compliance to SPS measures. Moreover, it may prove beneficial look to other nations as exemplars in designing similar interventions.

Other regions and countries, such as Western Europe and the United States, have experienced success supporting women in agriculture. In the United States and Western Europe, women are involved in raising plants and agriculture and are successful due to equal opportunity, training, and regulations, and encouraging cultural attitudes. For instance, in the EU, 29% of women manage farms (*Females in the field*, 2021). To help these women experience success, the EU provides funding and gender equality programs to provide access to “modern” resources for their farms to streamline processes and make them easier (*Females in the field*, 2021). This

lessens the burden that manual labor causes and supports productivity. The same is true of the United States government's support of women in agriculture.

Women farmers in the United States also experience a high level of support from the government. According to USDA.gov, there are more than one million women involved as either primary or secondary operators in the United States, and women account for 30% of U.S. farmers (*Women farmers: One million strong*, n.d.). One reason why women farmers experience higher levels of success is due to support for gender and minorities. At the organizational level, this includes equal representation as well as encouraging them to vote in committee elections (USDA Farm Service Agency, 2014). In the United States, the Food and Drug Administration (FDA) also actively works to recognize the accomplishments of women in agriculture and support them with initiatives such as "Know Your Farmer, Know Your Food initiative" (LaVallee, 2017) which helps develop and inform food systems in the United States.

Therefore, women involved in agriculture in the both the U.S. and the EU are thriving in their empowerment due to measures provided at the organizational and political levels as a means of support. The United States, for example, recognizes the impact the SPS measures have on small and medium sized farming operations in particular; as a result, efforts are continually discussed at the policy level to provide support for farmers and eliminate barriers to trade (Froman, 2014). Based on these successes, it seems plausible that women farmers in countries across Sub-Saharan Africa may potentially benefit from increased empowerment in similar areas as well, especially in an effort to help them become more compliant with food safety measures. However, even if women are better supported in their endeavors, strong levels of trust in various capacities are needed to foster empowerment.

Women experience a lack of or low levels of trust in communities and countries across Sub-Saharan Africa (Perdomo et al., 2016). Some common areas this lack of trust often manifests in is in using technology, a lack of trust around collaborating in community cooperatives, and a distrust of leadership.

First, studies report that trust and transparency are missing when farmers use certain types of mobile technology to access farming information. One example of this is using SMS or text messaging as a means of receiving agricultural information. Sometimes the information is discarded if it appears to come from an unfamiliar sender; despite the important status of the information, such as disease or pest alerts. As a result, the information may be discarded due to a lack of trust (Krell et al., 2020). Another study found that farmers trusted some methods of mobile technology more than others, such as group chats on WhatsApp or other social media platforms to share and learn from other farmers and access important information such as weather reports (Krell et al., 2020). Therefore, it would prove beneficial to actively understand how these mediums either help or hinder access to agricultural information for women. Furthermore, a lack of trust also exists between farmers and individuals at various levels (Misaki et al., 2018), such as the organizational and community levels.

Although participating in an organization has the ability to empower and strengthen collective groups of people, the proper environment must be present to take full advantage of its strength. For instance, individuals participating in cooperatives in Ethiopia experienced a lack of trust with other members. These lower levels of trust were experienced when the cooperative was culturally diverse or the cooperative was not well-established (Tadesse & Kassie, 2017). However, when trust is strong, it increases confidence to use newly acquired information (Misaki et al., 2018). When individuals experience trust in an interaction, it builds trust. In fact, “repeated

trust” in interactions proves increase trust (De Laiglesia, 2006) over time. Moreover, there are other factors that influence trust, such as leadership style.

Authentic and transformational, top-down leadership have a positive effect on trust levels among farmers. One study showed that poor leadership was one of the key factors that inhibited farmer groups from gaining access to inputs, markets, and knowledge in rural Tanzania (Lwoga et al., 2011); however, effective leadership practices, such as increasing perception of support with authentic leadership (Hsieh & Wang, 2015; Wong & Cummings, 2009) or trust built by keeping one’s word repeatedly using transformational leadership (Hoy & Miskel, 2003) encourages those following to implement new practices and methods opposed to depending on their leaders as much (Zhu et al., 2013). Greater institutional capacity is needed to increase trust and the ability to communicate knowledge, specifically in the area of SPS standards.

Institutional capacity impacts levels of support at various levels for managing and enforcing SPS standards. An example of a program working to increase institutional capacity in this area is the TradeMark East Africa program. This program aims to provide better access to information about trade and provide a means of tracking SPS-related information. An advantage of the program is that it seeks to improve institutional capacity by implementing standards at the national level, delivering certified training to support individuals to increase their compliance. Trust is further established because farmers of all genders have the ability to participate in open conversations during workshops to discuss trade issues from across the region that are often a source of contention, as well as gender and other issues (*Standards and SPS measures - TradeMark east Africa*, 2019).

In addition to increasing trust by establishing more solid frameworks and opportunities for open conversations, increasing institutional capacity in this area gives women increased



opportunity to function on an equal level to men. This is important because women, especially small-scale operators, “face more severe impediments to trade than their male colleagues in the form of higher trade costs and more pervasive corruption, more limited access to price and market information, and more frequent harassment and abuse” (World Bank, 2020, p. 27). Thus, there is an opportunity at the organizational level to increase capacity to build trust, provide information and opportunity for increased dialogue as a means of strengthening empowerment. However, a strong, top-down method encouraging gender equality and empowerment in agriculture must always be present to continually guide this process at each level. As such, agricultural empowerment at the community level will be examined.

For gender equality in agriculture to truly take root, specific actions must be taken. First, it must be mandated, designed, and implemented at the policy level. Chege et al. (2021) confirms this and calls for a regular cadence of meetings where all players collaborate on pressing issues; for instance, strategies for dealing with pests. These types of problems require frequent communication from the top down to identify issues, create strategies to address problems, implement those strategies, and further understand and evaluate how that implementation is working, whether it is empowering or disempowering to stakeholders at all levels of the agricultural chain.

Women also need to be better represented in the setting and producing of those standards, as anecdotal evidence exists specifying the need for increased representation of women in the process, as standards do not sufficiently recognize the needs of women as they are developed (Acharya et al., 2019). Coupled with these efforts, to truly be successful, additional empirical research is needed which examines gender specifically as it relates to empowerment (Itzhaky & York, 2000), particularly in the area of women’s representation in policy. Therefore, addressing

gender issues is of critical importance (Der Boghossian, 2019) to ensure “equitable export-led development benefits” for all genders (Njobe & Kaaria, 2015, p. 22). In order to help women farmers achieve compliance with SPS standards, The World Trade Organization has recognized and emphasized the crucial need to include a gender dimension in relation to trade to both “design and implement” SPS capacity-building efforts in a way that considers women (Henson, 2018, p. 21). Although additional efforts are needed, the foundational pieces already exist to promote increased agricultural equity for women across Sub-Saharan Africa. However, even with the pieces in place to promote women’s success, if there is not an embracing of innovation and recognizing its value, efforts aimed at greater inclusivity of women will “fall flat.”

### **Roger’s Diffusion of Innovation Theory**

Roger’s Diffusion of Innovation Theory aptly explains an inability or reticence to adopt innovation or a willingness to adopt it, and the factors that influence that adoption. The theory was written by Professor Everett Rogers in his seminal work, *Diffusion of Innovation* (Rogers, 2003). Everett postulates that innovation in a particular area occurs as a process in which innovation is communicated, or diffused, to members of specific communities or social groups. Rogers defines innovation as “an idea, practice, or project that is perceived as new by an individual or other unit of adoption” (Rogers, 2003, p. 12). This concept can be applied to the adoption of the “innovation” of understanding and applying SPS measures and increasing compliance with food safety standards.

Though many resources are available to both men and women farmers in the Sub-Saharan region, women in particular do not place due urgency on the adoption of SPS measures and food safety standards (Andersen & van der Ven, 2016). When applying Rogers’ theory (2003) to the adoption of food safety, this occurs due to the fact that adopting innovation is

difficult and must be diffused by various individuals to others in their spheres of influence at different times to be effective (Rogers, 2003). Within the sphere of influence for women farmers in the Sub-Saharan region, there are not enough individuals promoting the importance of understanding and applying SPS measures. Rogers explains that technologists express that innovation will “sell itself” (Rogers, 2003, p. 7); however, this is not always the case. It would seem that this would prove especially true in relation to the production of food for human consumption, but it is not. This places importance on the individuals with the ability to make a difference in promoting the adoption of innovation in SPS measures and food safety.

Rogers posits that there are five main players in the diffusion of innovation. They are innovators, early adopters, early majority, late majority, and laggards (Rogers, 2003). Innovators are the individuals within a particular system to first adopt the innovative product or practice (Rogers, 2003). This is followed by the Early adopters who are more cautious about adopting an innovation and do not move toward adoption immediately. Early adopters are more likely to want to see positive results from others before adopting an innovation. The Later Majority is a group that does not show urgency in adopting innovation and waits until the innovation has been established and is not difficult to put into practice. This socio-economic group is comprised of individuals of lower socio-economic status. The Later Majority does not widely utilize mediums of mass media. Most of their innovation is gained as a result of interactions with peers (Rogers, 2003). Laggards are the group that is the least likely to accept innovation. These individuals wait until there is no other choice but to adopt innovation. Both the Later Majority and Laggards are resistant to change and resist recommendations from experts to innovate (Rogers, 2003). Aside from the individuals sharing and accepting the innovation, Rogers (2003) explains that four foundational factors influence the diffusion of innovation. The factors are the actual innovation,

the channels of communication used to spread the innovation, time, and the nature of the social system (Rogers, 2003). In short, conditions must be “right” for an individual to adopt an innovation.

It is also important to understand Roger’s process of adoption (Rogers, 2007). The first step in the process is knowledge. This occurs when there is exposure to an innovation and an individual understands the purpose of the knowledge. The second step in the process is persuasion. During this step, an individual discovers whether the innovation would be advantageous to adopt and considers the reasons surrounding that decision. The final step in the process is decision. This is the step where a decision is made to adopt an innovation. In order for a decision to be made, the individual “must be involved in an activity that would require him or her to make a choice between using and dismissing the innovation” (Mohammadi et al., 2017).

Rogers’ initial study examined the adoption of a new type of corn (Havens & Rogers, 1961). This hybrid corn was purported to be heartier and more resistant to pests and the elements (Rogers, 2003). The study found that the channels of communication used to spread the innovation were mass communication and seed corn salespeople (Rogers, 2007); however, research showed that mass communication methods were key to the overall introduction of the innovation, but interpersonal relationships with salespeople were more important in persuading people to adopt the innovation (Rogers, 2003). Social relationships with neighbors were noted as more important in persuading late adopters to accept the innovation (Rogers, 2003, 2007). The timing was “right” for the innovation to take hold and positively impact farmers, and the farmers were interested in the new variety of hybrid corn and viewed it as positive and impactful for their businesses and consumers.

Rogers' theory plays a vital role in understanding the lived experiences of women farmers in the Sub-Saharan region in relation to adopting SPS measure or food safety innovation when they currently do not use it or deem it as important. From this theory, questions surface such as, how does food safety innovation take hold? What is the best way for the diffusion of SPS measures to occur? Which individuals or communication tools are the best means to reach women farmers?

The theory helps determine which groups of women farmers should be focused on and when the “right” timing for that attention is. Rogers explains that in order for an innovation to rapidly spread to many individuals, those potential adopters of the innovation must see the value in the innovation as a means of solving a current problem, which motivates the adopter to exert effort in immediately learning about the innovation (Rogers, 2003).

## **Conclusion**

In conclusion, the literature review in Chapter 2 covered a broad range of information. The chapter began by detailing literature regarding empowerment theory and constructs such as power, self-efficacy, as well as community building. The chapter reviewed the current state of women agricultural workers across Sub-Saharan Africa in relation to capacity development and SPS measures at various levels, as well as Roger's Diffusion of Innovation Theory which provides greater understanding into the “how, when, why, where, and who” of adoption of innovation and its relation to SPS measures and food safety. However, it also revealed gaps which call for further research into empowerment theory and capacity building for SPS measures from a gendered perspective.

Acharya et al. (2019) writes that organizations, such as the WTO, are implementing support measures for women in agriculture such as gender-related training programs and

technical assistance for greater production, productivity, and skills to ensure their compliance with SPS requirements. However, an abundance of data related to this topic is not currently present throughout the literature, especially in relation to the perceptions and attitudes of the women these support measures target. Therefore, this study endeavors to bridge existing gaps regarding SPS measures, and the manner in which they affect capacity development and women's empowerment at various levels by providing insight from these women themselves.

### **Chapter 3: Methods**

The purpose of this research study was to explore capacity development in Sanitary and Phytosanitary Measures (SPS) and its impact on empowerment for women in Sub-Saharan Africa at the individual, organizational, and community levels. The results of the study offer insight into the attitudes, perceptions, and current state of women farmers and capacity building for SPS measures.

#### **Research Purpose and Research Question**

This study sought to explore the way capacity development in Sanitary and Phytosanitary measures (SPS) empowers women in Sub-Saharan Africa at the individual, organizational, and community levels. The central research question was:

- How does capacity development for sanitary and phytosanitary measures empower women in Sub-Saharan Africa?

The primary research question was supported by the subquestion:

- What are the attitudes and perceptions of these women of their empowerment at the individual, organizational, and community levels?

To address these questions, women actively engaged in the agricultural sector responded to an online survey which examined their attitudes and perceptions of SPS measures. Qualitative data about their experiences was simultaneously captured.

#### **Research Methodology**

The research methodology embraced a mixed methodology stance. The mixed method design provided a clearer picture of the situation at hand by utilizing more than one type of data. The researcher was drawn not only to the qualitative as it afforded the opportunity to use a “more creative, literary-style writing” (Creswell & Creswell, 2018, p. 20), but also included quantitative

data that gave a concrete view of how Sanitary and Phytosanitary measures impacts the lives of the woman and the organizations and communities in which they participate and live. These methods provided a more balanced approach to the study, especially since international development work often involves mixed methods research as a means to enhance policy and evaluation efforts (Burch & Heinrich, 2016). Therefore, the insights provided in this study were particularly salient.

### **Embedded Mixed Methods Design**

This research used an embedded mixed methods design. The embedded mixed methods design embedded one method within the other method (Creswell & Clark, 2017). The primary method for this study involved one online survey process in which quantitative and qualitative data was simultaneously collected. An advantage of the embedded design was that it only involved a single data-capture process. Reaching the targeted population posed some challenges as women farmers currently experience “time poverty” as a result of their farming and family responsibilities. The online survey mitigated this issue due to its convenience. Using the embedded mixed methods design also allowed for richer and greater insight into the women farmer’s experience by, at the same time, capturing open-ended questions. Therefore, an online survey using an embedded mixed methods design was the most feasible method to achieve this study’s purpose.

### **The Researcher**

The researcher held various perspectives and experiences that influenced the approach to the study. Two of these influential areas were the researcher’s worldview and background. The researcher’s worldview was transformative. One reason the transformative worldview lent itself so well to this study was because it emphasized examining the needs of the marginalized or



vulnerable (Creswell & Creswell, 2018) as a means of providing the participants with an opportunity to let their voices be heard and to promote change of socio-cultural norms. It was particularly useful to address issues such as oppression and power, which were at the forefront of this study (Sweetman et al., 2010), particularly due to the lack of mixed method studies in existence examining social issues. Thus, the transformative worldview provided a framework to guide action (Creswell & Creswell, 2018).

### ***Researcher's Background***

The researcher has a background in education and technology which influenced the research. The researcher worked as an elementary school teacher for a year in a multiple-level, elementary school classroom. The researcher also tutored English as a Second Language students for several years, along with teaching English and Music on short-term, overseas assignments in the Fiji Islands and Uganda for 5 weeks respectively. After receiving a master's degree in education, the researcher's career shifted into the field of technology. The researcher has worked for almost 10 years as an Educational Content Writer and Content Designer. As such, the researcher has participated in and developed surveys, and was qualified to undertake the role of developing an online survey. Moreover, the researcher continues to be involved with overseas projects at the intersection of technology and education. Due to a background in teaching and extensive travel overseas, the research held certain assumptions that were influential to the study. One of those assumptions was that women throughout Sub-Saharan Africa have the core abilities to be successful in their agricultural pursuits, given the opportunity. Another assumption was that women are most often intrinsically motivated to make their lives and their families lives better.

In order to minimize the influence of these assumptions, reflexive practices were used throughout the study. Reflexivity provided the researcher a means by which personal "biases,

values, and personal background, such as gender, history, culture, and socioeconomic status” could be thoughtfully considered to understand their effect on the study (Creswell & Creswell, 2018, p. 250). The researcher practiced reflexivity and used a journal to acknowledge and record personal assumptions and reactions to the online surveys. To minimize the effects of personal bias, the researcher bracketed assumptions. This added additional carefulness and scrutiny to the data collection and analysis by consciously allowing the researcher to put aside and write down personal assumptions, such as beliefs and values that could have tainted the perception of the research. This was done at each phase of the process. A rigorous analysis process in the form of peer debriefing was also used. The researcher analyzed and reviewed the online surveys; after this, peer debriefing was employed to confirm emerging themes. All of these measures helped to ensure an accurate study.

### **Target Population and Sampling Method**

The target population for this study was women farmers impacted by Sanitary and Phytosanitary measures across Sub-Saharan Africa. Henson (2018) claimed there was a lack of attention in the existing research exploring women’s direct experiences and perceptions regarding SPS measures and their empowerment. The World Bank (2020b) also confirmed the limited data regarding gender issues associated with SPS measures. Therefore, this study focused on exploring women’s experiences, assumptions, and perceptions specifically. The main criteria for the participants in the study were:

1. The participant must be a woman residing in the Sub-Saharan region of Africa.
2. The woman must be between the ages of 30-60
3. The woman must be a farmer of at least or over 5 acres/2 hectares
4. The woman must have farmed for a minimum of 10 years

Purposeful sampling of 23 women farmers was used. Purposeful sampling was the preferred method because it offered insights into a specific phenomenon (Onwuegbuzie & Leech, 2015) which is common in qualitative research. In this study, the desired lived experiences were those of women working as farmers in sub-Saharan Africa. The researcher collaborated with representatives from The Borlaug Institute for International Agriculture in College Station, Texas once the study was cleared by the IRB to locate women farmers in Sub-Saharan Africa to take the survey. These efforts were led by an African representative of The Borlaug Institute for International Agriculture and supported by a community farming organization in Ghana called GROW West Africa. A total of 23 participants were identified. 22 participants were from Ghana and one participant was from Nigeria.

### **Data Collection Strategies and Procedures**

The data for this study was collected using surveys comprised of both open and close-ended questions to support the embedded mixed-methods design. The survey questions were organized around four major areas. The four areas included: demographic information; personal empowerment; organizational empowerment and community empowerment. The researcher embedded open-ended questions into the survey to simultaneously generate qualitative data. The questions were constructed with the central and sub research question in mind. They also considered findings from the literature review and sought answers to existing gaps in the literature.

The process used to ensure the content validity of the survey involved sharing the survey with experts at The Borlaug Institute for International Agriculture for a peer review process to provide accuracy and reliability. The survey was thoroughly vetted with the reviewers. Based on

the feedback from the reviewers, the questions were modified as needed, and the survey protocol was updated as necessary.

An online survey was the preferred method of administration using the tool, Qualtrics. After the survey was validated and updated, it was entered into Qualtrics. A pilot process of the survey was conducted utilizing Borlaug Institute personnel to ensure reliability before it was administered to the women farmers. At this time, adjustments and refinements were made as needed to the survey protocol prior to publishing it online for the participants.

The survey was administered to the participants online at the offices of GROW West Africa. This location was chosen due to its convenience for the participants and to minimize the amount of time spent away from work. This method also allowed the women to securely participate in the survey online and ensured reliable internet access, which was not readily available at home. Local representatives approved by The Borlaug Institute were also available for the women to clarify any language-related questions within the survey at the GROW West Africa office while participating in the survey.

### **Human Subjects Considerations**

The participants were protected as they participated in the research study and were not adversely affected by their involvement (Creswell & Creswell, 2018). The research qualified as Exempt research under Category 2: Surveys, Interviews, Educational Tests, Observation (Rule, 2022). The research was approved by the university IRB (see APPENDIX) as meeting the criteria for Exempt research. After approved, the recruitment process was initiated with the Borlaug Institute. Informed consent was provided to each participant before taking the online survey. Information about the survey, such as the purpose of the survey, what the survey entailed, and how personal information would be protected was presented to the participants.

Next, they were informed that they were voluntarily deciding to either be involved in the study or not involved. After this, the participants were asked to select a checkbox indicating “I agree,” if they consented to participating in the study, then begin the survey, or to select “I disagree,” if they did not consent to the study, and close their browser to exit. The survey responses from Qualtrics and the coded data in HyperRESEARCH will remain stored in private, password-protected, cloud-based files for 5 years to provide a high level of protection and mitigate the potential of hacking.

### **Analysis Process**

The researcher followed a set process to analyze the data. The researcher employed the use of descriptive statistics to analyze the quantitative data. The researcher examined the close-ended question responses and viewed the levels of agreement and disagreement expressed by the women. Demographic data, such as size of farm and marital status was used to aid in the descriptive statistical analysis, as well as charts and graphs to provide visual representations of the data.

The qualitative data generated from the open-ended items was downloaded from Qualtrics. HyperRESEARCH software was used to identify and discover themes using Creswell’s process for analysis (Creswell & Creswell, 2018). The data was organized and prepared, which was followed by reading through all the surveys, making notes regarding possible codes. An initial code book was created within the HyperRESEARCH software to link passages of data to actual codes. As each interview transcript was coded, notes were made and codes were defined, redefined, and grouped to create themes. Reliability was solidified by reviewing the survey data multiple times to ensure that the themes and codes that emerged

coincided with the data. A peer reviewer ensured interpretations of data were accurate and reliable.

After these processes of analysis were performed for each of the qualitative and quantitative data sets, the researcher triangulated the thematic findings with the descriptive findings to arrive at the study conclusions. The process of triangulating the various sources of perspectives and data in establishing conclusions added another measure of validity to the study (Creswell & Creswell, 2018). Moreover, the researcher reported the findings using “rich, thick description” (Creswell & Creswell, 2018, p. 200) that gave a greater measure of humanity to the findings, further adding validity to the qualitative aspect of the study. This was made possible due to the use of open-ended questions within the survey to capture qualitative insights.

### **Means to Ensure Internal Study Validity**

Strategies were applied to ensure that the study was internally valid (Noble & Smith, 2015). The first method used to ensure internal study validity was to validate the survey. The Borlaug Institute provided peer reviewers who confirmed content validity of the survey questions and ensured thorough vetting to ensure validity and reliability of the process.

The researcher used a rigorous analysis process that ensured that the interpretation of the survey data was reliable. The use of the HyperRESEARCH software provided a transparent process that offered ease in peer-review of the coding and meaning-making. This ensured accurate interpretation with an overall higher quality analysis of the data than would have occurred with hand coding (Silver & Lewins, 2014).

Finally, the researcher used reflexivity. This added an increased level of accuracy and trustworthiness to the study’s findings and conclusion by allowing the researcher to be positioned within the study (Creswell & Poth, 2016) and to consider her own impact on the

research process. The researcher used a journal to acknowledge and write down personal assumptions as a means of bracketing them while interpreting the participants' survey responses.

### **Reporting of Study Findings**

The study findings are reported in Chapter 4 presenting the data from the surveys with the women farmers. The researcher used a narrative approach to report the findings including direct quotes taken from the open-ended questions that the women answered. Study conclusion and implications for future research are presented in Chapter 5.

## Chapter 4: Findings

The purpose of this mixed-methods study was to explore capacity development in SPS and its impact on empowerment for women in Sub-Saharan Africa at the individual, organizational, and community levels. The study focused on the perceptions and attitudes held by these women regarding SPS measures and food safety in general, and their empowerment as a farmer. Women farmers were recruited through The Borlaug Institute for International Agriculture and invited to participate in an online survey. The questions were comprised of both closed and open-ended questions. The central guiding research question was: How does capacity development for sanitary and phytosanitary measures empower women in Sub-Saharan Africa? The Sub-Question was: What are the attitudes and perceptions of these women of their empowerment at the individual, organizational, and community levels?

This chapter examines findings for the 23 women surveyed. The presentation of the findings begins with the demographic findings. Then the chapter is organized by six topics. Under each topic, quantitative findings are presented to exhibit the manner in which capacity development in food safety and farming empowers women farmers. Next, a thematic analysis of five open-ended survey questions exploring attitudes and perceptions of their empowerment at the individual, organizational, and community levels is presented. Finally, the chapter concludes with a summary of the findings.

Purposeful sampling of women farmers from the sub-Saharan region was used to identify women for this study with the assistance of personnel from The Borlaug Institute for International Agriculture. Twenty-three Sub-Saharan women farmers participated and completed the online survey at the office of GROW West Africa in March 2022. Of the 23 respondents, 22



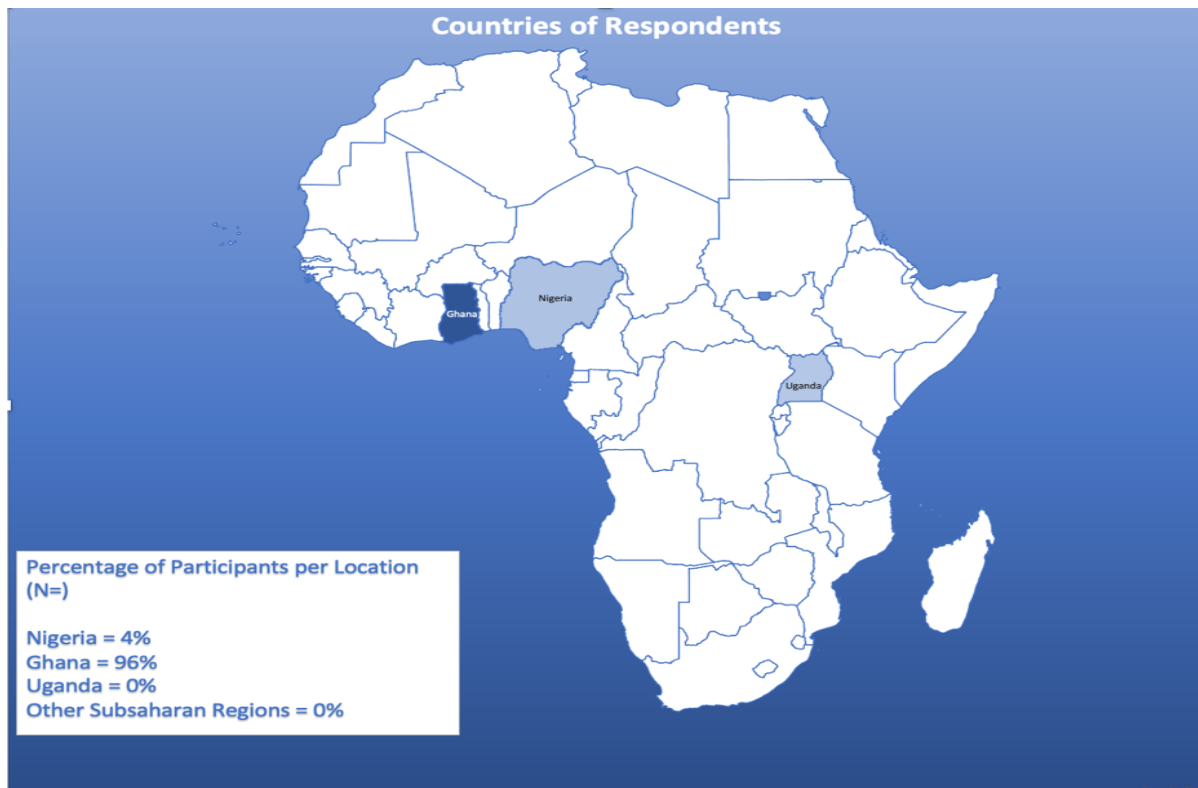
were from Ghana and one was from Nigeria. As some respondents did not answer every question, the actual number of responses to individual items is presented for each question.

### Participant Demographics

Demographic questions focused on age, country, and size of the woman's farm. The 23 respondents ranged in age from 32 years of age to 62 years of age with the median age of participants ( $N = 23$ ) at 49 years. 96% ( $n = 22$ ) of respondents were from Ghana, and only 4% or ( $n = 1$ ) were from Nigeria. No respondents from Uganda or any other Sub-Saharan countries participated in the study as exhibited in Figure 1.

**Figure 1**

*Percentage of Population per Location (N = 23)*



The majority of respondents 65% ( $n = 15$ ) were currently married, and most of the respondents in the sample have been married for over 10 years (73%,  $n = 11$ ). 27% respondents ( $n = 4$ ) have

been married for 5-10 years. No respondents had been married for less than 5 years. 35% ( $n = 8$ ) of respondents were single. Most of the farmers 78% ( $n = 18$ ) had farms between 5-10 acres in size, followed by 13% ( $n = 3$ ) with farms of 11 to 20 acres in size, while the remaining 8% ( $n = 2$ ) had farms over 20 acres in size. The respondents ranged from experienced to well-seasoned farmers, with 45% ( $n = 10$ ) having a farming tenure of over 20 years, 32% ( $n = 7$ ) having farmed for 11 to 20 years, and (18%,  $n = 4$ ) for 5 to 10 years, and 5% ( $n = 1$ ) for less than 5 years.

### **Quantitative Survey Findings**

The online survey consisted of 25 closed-ended questions with pre-established responses grouped by the following six topics: Culture; Family, Education, and Resources; Food Safety Learning; Food safety and regulations; Community and Organizations; Future of my farm. Each of the topics with corresponding survey items are presented.

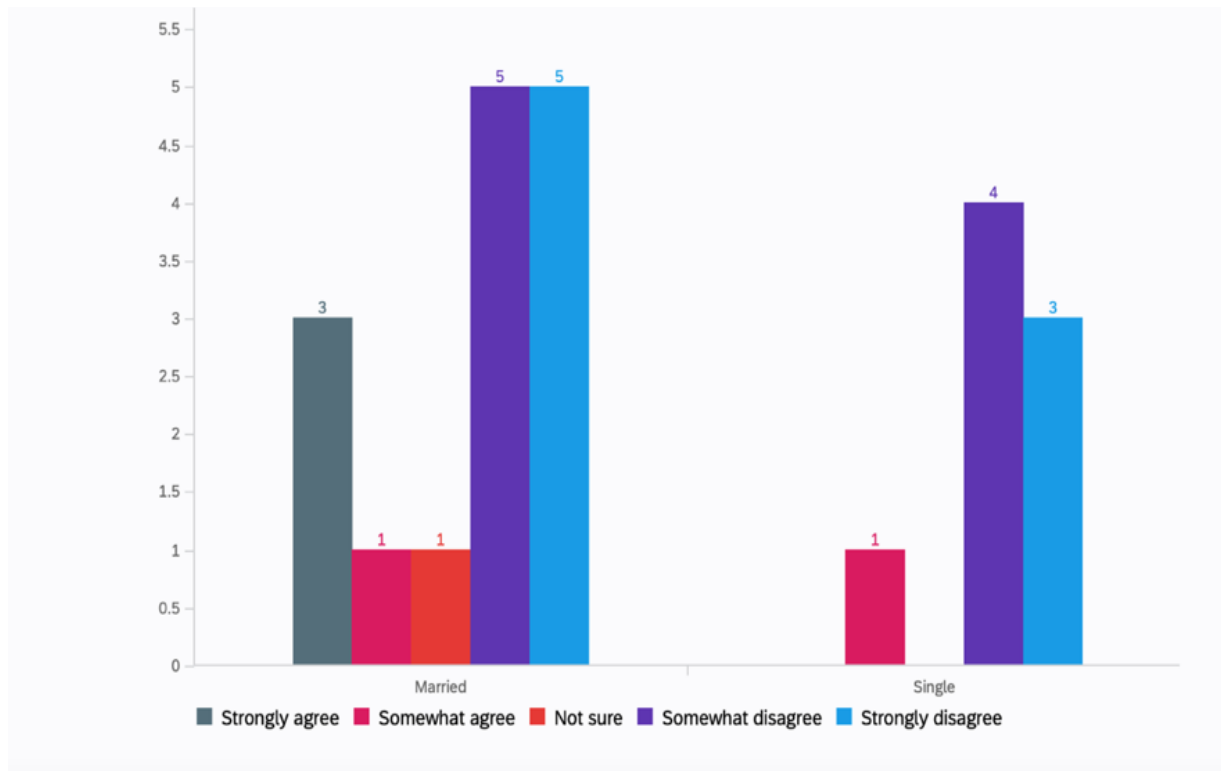
#### ***Topic 1: Culture***

Cultural influences are often described as having a disempowering effect on women farmers in the Sub-Saharan region. The respondents were asked to provide their level of agreement with four statements: My culture affects my ability to be a better farmer; My cultural traditions are important to my family; If I am going to be a better farmer, our cultural traditions need to change; and I can have an effect on my family's cultural traditions, on a 5-point scale ranging from *Strongly agree* to *Strongly disagree*.

For the first statement, "My culture affects my ability to be a better farmer," both married and single respondents expressed disagreement. Of the 15 married respondents, 33% ( $n = 5$ ) either strongly disagreed or 33% ( $n = 5$ ) somewhat disagreed. Of the 8 single respondents, 38% ( $n = 3$ ) strongly disagreed and 50% ( $n = 4$ ) somewhat disagreed.

**Figure 2**

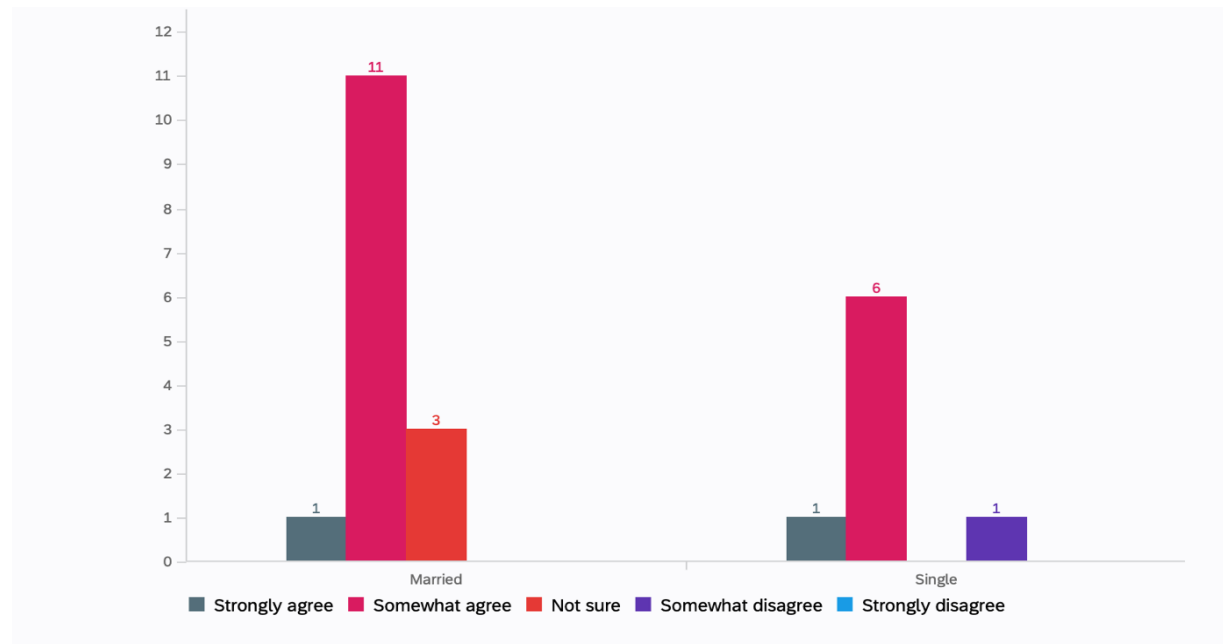
*Culture Affects Farmer's Ability to Be a Successful Farmer (N = 23)*



For the next statement, “My cultural traditions are important to my family,” an overwhelming majority of both married 73% ( $n = 11$ ) and single 75% ( $n = 6$ ) of respondents stated that they somewhat agreed with the statement at an almost equal percentage.

**Figure 3**

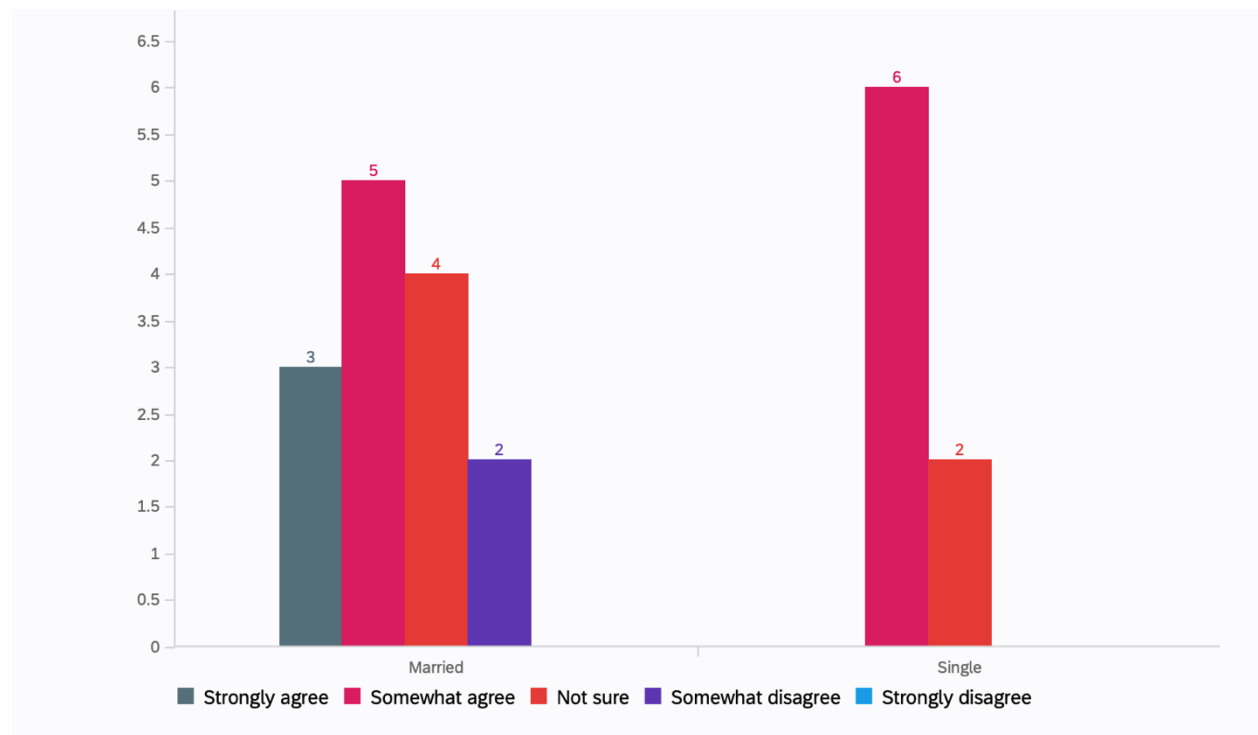
*Cultural Traditions Are Important to Farmer's Family (N = 23)*



The women farmers proceeded to provide insight into the impact of culture on their individual empowerment by providing their level of agreement with the statement, “I can have an impact on my family’s cultural traditions.” The 14 married women respondents were not strong in their level of agreement and only somewhat agreed that they could have an effect on their family’s cultural traditions ( $n = 5$ ). The single respondents also expressed a similar sentiment, with ( $n = 6$ ) selecting “*Somewhat agree*” as well. However, more variation in responses existed among the married respondents than the single.

**Figure 4**

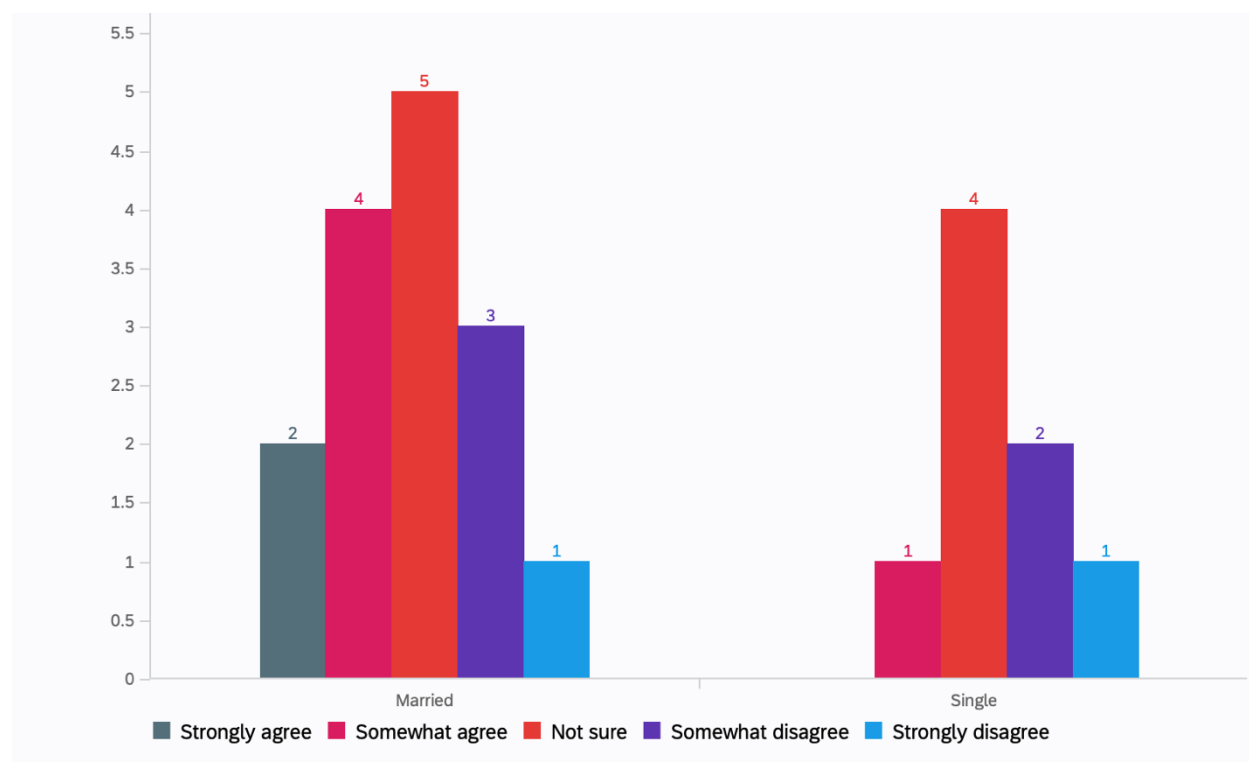
*Possesses Individual Ability to Impact Family's Cultural Traditions (N = 22)*



Subjects also communicated their views in relation to the statement, “If I am going to be a better farmer, our cultural traditions need to change.” Both married and single farmers expressed uncertainty when asked their level of agreement with the statement; Of the 15 married respondents, 33% ( $n = 5$ ) were “*Not sure*,” and 50% ( $n = 4$ ) of the 8 single respondents were also “*Not sure*” that cultural traditions needed to change to be a better farmer. However, in general, the married respondents expressed more overall agreement to the statement than the single respondents.

**Figure 5**

*Need for Cultural Change to Be a Better Farmer (N = 23)*



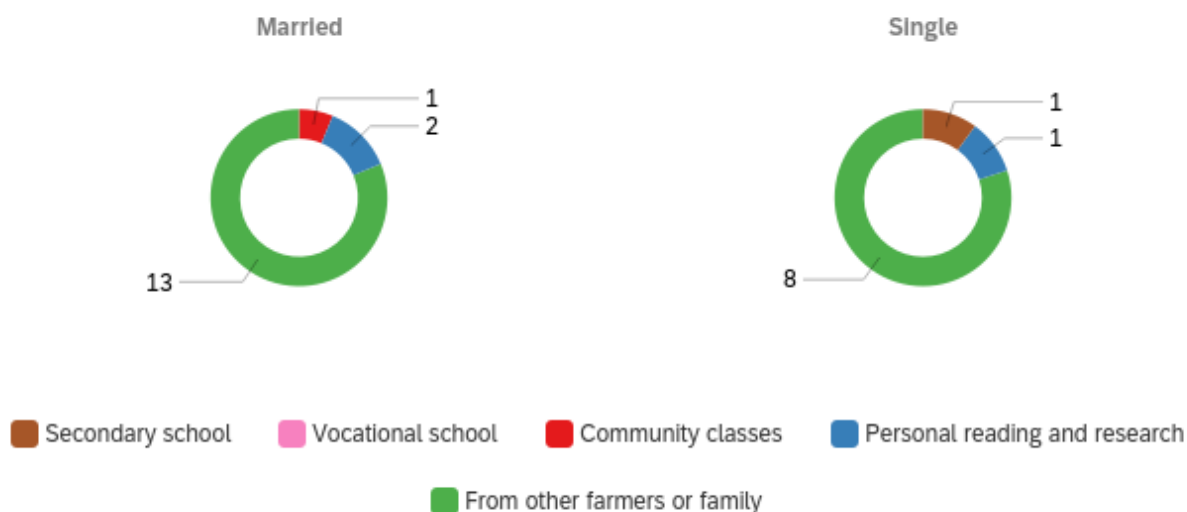
### ***Topic 2: Family, Education, and Resources***

Family, education, and resources are factors that affect levels of empowerment for women farmers, and ultimately influence their ability to apply and comply with food safety standards. In this study, these factors varied from woman to woman based on influences such as level of education.

For level of general education, half of the farmers, 50% ( $n = 11$ ) had only received a Primary School education, followed by 32% ( $n = 7$ ) who attended Secondary School, while 18% ( $n = 4$ ) attended college or university. No respondents attended vocational school. When asked to provide the main source of their farming education specifically, an overwhelming majority stated receiving their farming education from other farmers or family. This was true for both married and single respondents at 81% ( $n = 13$ ), and 80% ( $n = 8$ ) respectively.

**Figure 6**

*Farming Education for Married and Single Farmers (N = 21)*



Access to tools and inputs is also cited as an attributing factor to levels of empowerment in farming for women. This is a key component for capacity building in the application of food safety measures. The literature also stated issues with access to tools and inputs when the head of the household was male and identified as the primary decision maker in the family.

As indicated in Table 1, respondents were asked to share their level of agreement from *Strongly agree* to *Strongly disagree*, to several statements regarding their access to supplies, as well as report on whether they considered a man the head of their household. Over half, 57% ( $n = 13$ ) agreed with the statement, and ( $n = 8$ ) strongly agreed that the man is the head of the household, while also expressing agreement or strong agreement ( $n = 21$ ) that farming is more difficult for women than men.

The next statement received mixed feedback, with a little over half (52%,  $n = 12$ ) expressing adequate access to tools and inputs, stating agreement or strong agreement with the statement, “I have the tools and products I need to be a successful farmer;” while, the rest of the

respondents, 47% ( $n = 11$ ), expressed either disagreement or strong disagreement with the statement.

**Table 1**

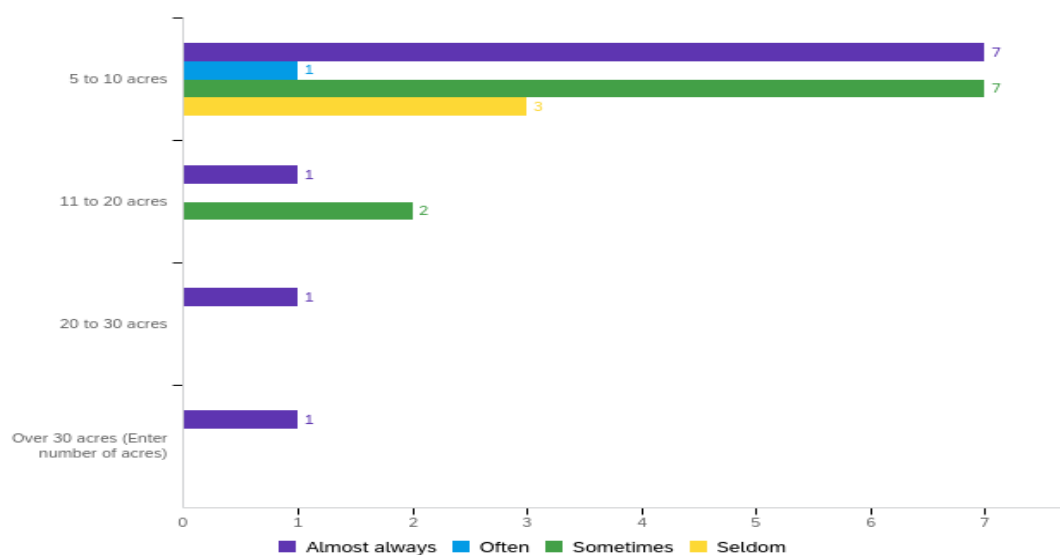
*Access to Tools, Attitudes, Perceptions–Respondents (N = 23)*

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
I have the tools and products I need to be a successful farmer	13% ( $n = 3$ )	39% ( $n = 9$ )	0% ( $n = 0$ )	17% ( $n = 4$ )	30% ( $n = 7$ )
The man is the head of the household	35% ( $n = 8$ )	57% ( $n = 13$ )	4% ( $n = 1$ )	0% ( $n = 0$ )	4% ( $n = 1$ )
Farming is more difficult for men than women	13% ( $n = 3$ )	35% ( $n = 8$ )	4% ( $n = 1$ )	0% ( $n = 0$ )	4% ( $n = 1$ )

When asked about the level of support from the men in their lives, varied results were reported. Though many women expressed that the men in their lives were almost always supportive (43%,  $n = 10$ ), almost an equal number, 39% ( $n = 9$ ) also expressed that the men in their lives were only sometimes supportive.

**Figure 7**

*Male Support of Agriculture Work by Size of Farm (N = 23)*





The women farmers proceeded to provide insights into the amount of time they possess to manage their farms and households, as well as invest in their farming education. When asked to provide their level of agreement with statements related to their households and time, a little under half of respondents 48% ( $n = 11$ ) expressed agreement at having no problems managing their household and farm; however, when the women were asked whether household chores prevented them from learning how to be a better farmer, mixed results surfaced with 48% ( $n = 11$ ) who somewhat agreed with the statement, and 26% ( $n = 6$ ) who stated that they “*Somewhat Disagree*.” Almost half 48% ( $n = 11$ ) responded that they believe more time exists for men to improve their farming education than women. When asked to state their level of agreement to the statement, “I have no problems managing my household and farm,” the women expressed a high level of agreement with 48% ( $n = 11$ ) selecting “*Somewhat Agree*,” while 39% ( $n = 9$ ) strongly agreed, with none expressing that they disagreed with the statement. Table 2 presents these details.

**Table 2**

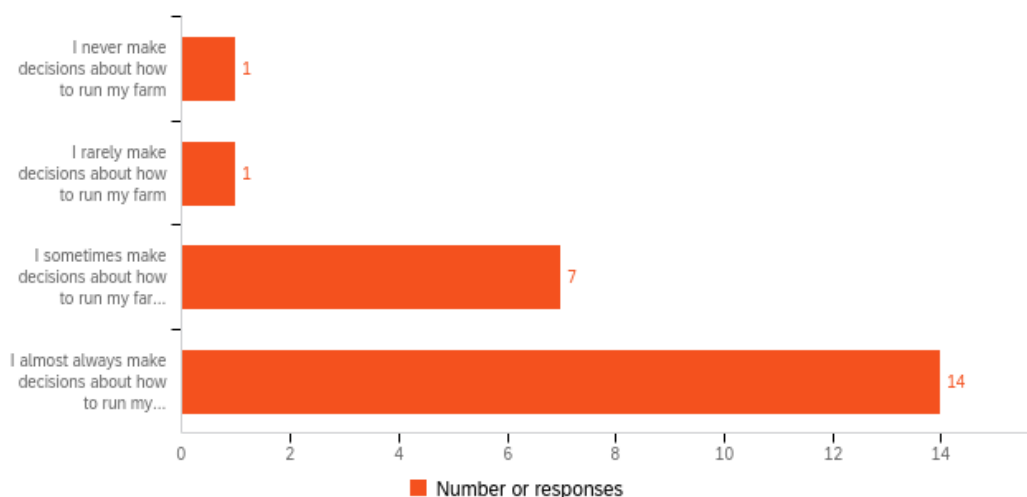
*Attitudes, Perceptions Regarding Time—Respondents (N = 23)*

	Strongly Agree	Somewhat Agree	Not Sure	Somewhat Disagree	Strongly Disagree
Household chores prevent me from learning how to be a better farmer	4% ( $n = 1$ )	48% ( $n = 11$ )	13% ( $n = 3$ )	26% ( $n = 6$ )	9% ( $n = 2$ )
Women have the same opportunities to learn about farming as men	17% ( $n = 4$ )	22% ( $n = 5$ )	22% ( $n = 5$ )	30% ( $n = 7$ )	9% ( $n = 2$ )
Men have more time than women to learn about farming	39% ( $n = 9$ )	48% ( $n = 11$ )	13% ( $n = 3$ )	0% ( $n = 0$ )	0% ( $n = 0$ )
I have no problems managing my household and farm	17% ( $n = 4$ )	48% ( $n = 11$ )	13% ( $n = 3$ )	22% ( $n = 5$ )	0% ( $n = 0$ )

Decision making and levels of empowerment are closely linked. This is important to a woman's ability to make decisions to obtain proper supplies, such as pesticides, to produce safe food products. To gain insight into this, respondents were asked about their ability to make decisions and run their farms, and well over half of respondents 61% ( $n = 14$ ) stated that they “almost always” made decisions about how to run their farm.

**Figure 8**

*Farm-Related Decision Making (N = 23)*



### ***Topic 3: Food Safety Learning***

In this section, there were six items related to food safety learning and education that endeavored to uncover whether or not the farmers know how to find information about food safety and apply it, whom they prefer learning about food safety from, how much time they put aside to learn about food safety, and finally, if they use technology as a tool to learn about food safety.

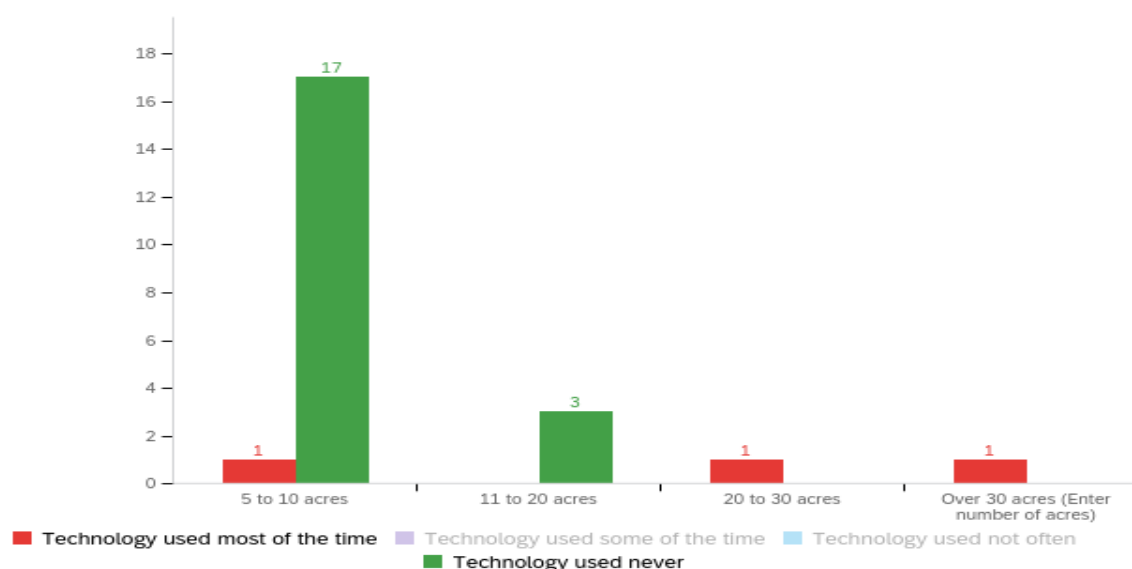
The respondents were asked if they mostly receive their food safety information from other people, technology, farming organizations, or from educational material or classes, and were able to select more than one option. Of the 23 respondents, only 4% ( $n = 1$ ) reported taking

food safety classes, and almost all of the farmers, 96% ( $n = 22$ ) specified that they receive food safety information from other farmers, with farming organizations as the next most accessed resource (65%,  $n = 15$ ). Both pamphlets or videos, and other technologies such as the Internet and apps (i.e., WhatsApp, Facebook, etc.) were only accessed by 9% ( $n = 2$ ) of the respondents for each respectively.

These findings were corroborated in another statement that asked the women to specify how often they use technology such as a laptop, smartphone, or desktop computer to learn about food safety, with 87% ( $n = 20$ ) stating that they never used technology to learn about food safety. However, 100% of respondents ( $n = 2$ ) owning farms that were 20 acres and above in size stated that they used technology most of the time, while only 1 respondent with a farm size of 5 to 10 acres indicated that they use technology most of the time. The three respondents with a farm size between 11 to 20 acres indicated that they never use technology to find food safety information.

**Figure 9**

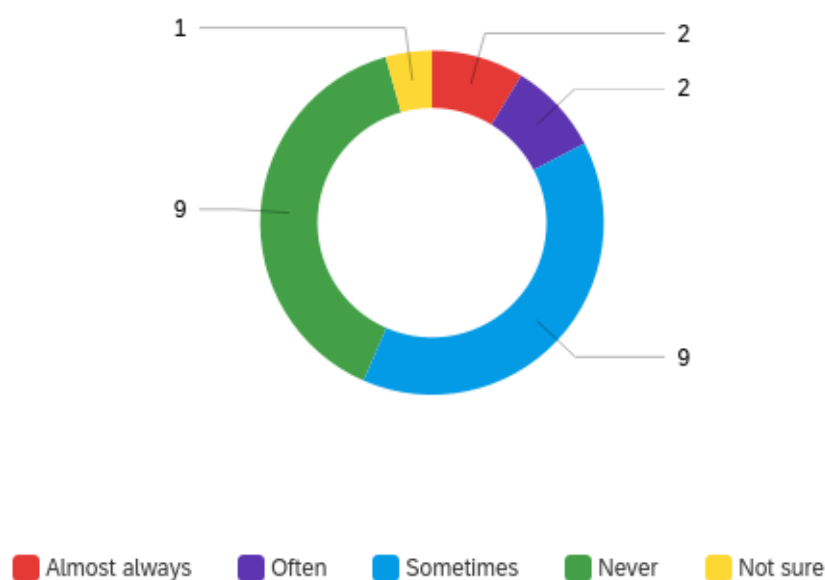
*Food Safety Education Using Technology by Size of Farm (N = 23)*



Subjects communicated insights into their overall ability to find information about food safety. Respondents were asked to provide their level of agreement to the statement, “I know how to find information about food safety,” and were given a 5-point scale to select from ranging from “*Almost always*” to “*Never*.” The findings yielded mixed feedback from both ends of the scale from the sample. There was a bimodal distribution between the number of respondents expressing that they were either never able to find food safety information (39%,  $n = 9$ ) or were only able to find it sometimes 39% ( $n = 9$ ).

**Figure 10**

*Frequency of Ability to Find Information About Food Safety (N = 23)*

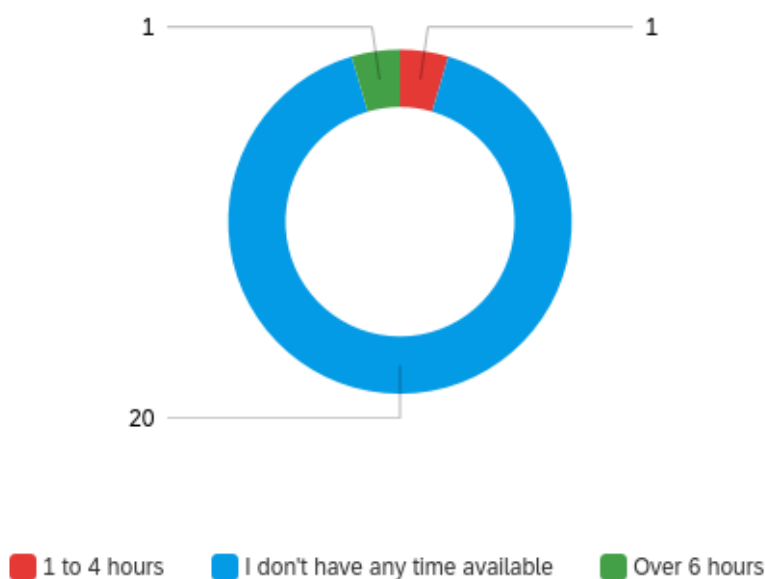


Women farmers experience high rates of time poverty that affect their ability to learn about food safety. To further examine this issue, respondents were asked to provide the range for the amount of time they set aside to learn about food safety during the week ranging from 1 to 4 hours; 4 to 6 hours; over 6 hours; or no time available to learn about food safety. The

overwhelming majority, 91% ( $n = 20$ ) shared that they don't have any time available to learn about food safety.

**Figure 11**

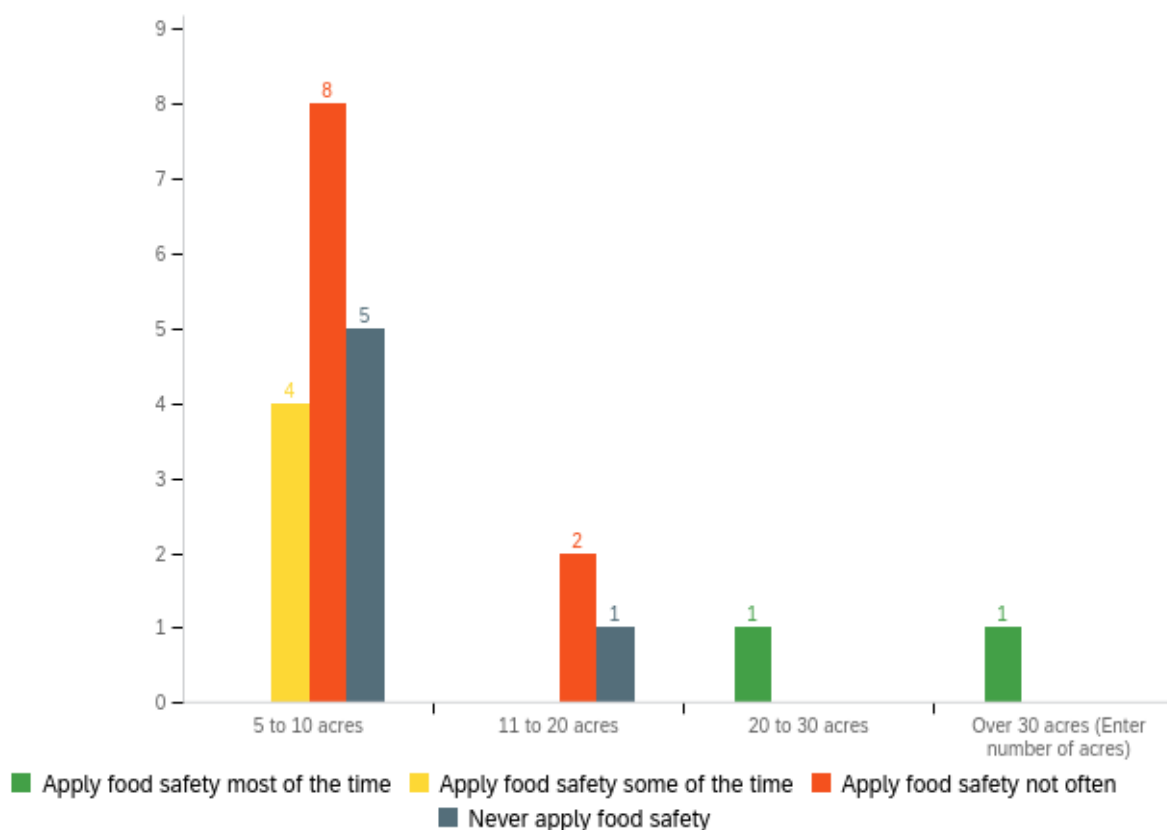
*Hours per Week Spent Learning About Food Safety (N = 22)*



To delve even deeper, the women were asked to provide the level of frequency, (a) Most of the time, (b) Some of the time, (c) Not often, (d) Never, to 4 statements specifying how often they apply food safety standards to the products they produce and sell. There was a strong positive response from the respondent owning farms 20 to 30 acres and above, stating that they apply food safety standards to their products most of the time (100%,  $n = 2$ ). The response was weaker from respondents with farms 5 to 10 acres in size (24%,  $n = 4$ ) who expressed that they apply food safety standards some of the time, while most of the other respondents with farms 20 acres and under stating that they apply food safety standards either not often or never.

**Figure 12**

*Application of Food Safety Standards by Size of Farm (N = 22)*



Additionally, women farmers experience issues understanding instructional materials on food safety. When asked to provide the frequency of how often they understand instructional materials, over half of respondents, 61% ( $n = 14$ ) stated that they never understand the materials without help from others. This was followed by 17% ( $n = 4$ ) stating that they don't often understand instructional materials. Only 13% ( $n = 3$ ) stated that they understand the literature some of the time, while only 9% ( $n = 2$ ) stated that they understand the instructional materials most of the time.

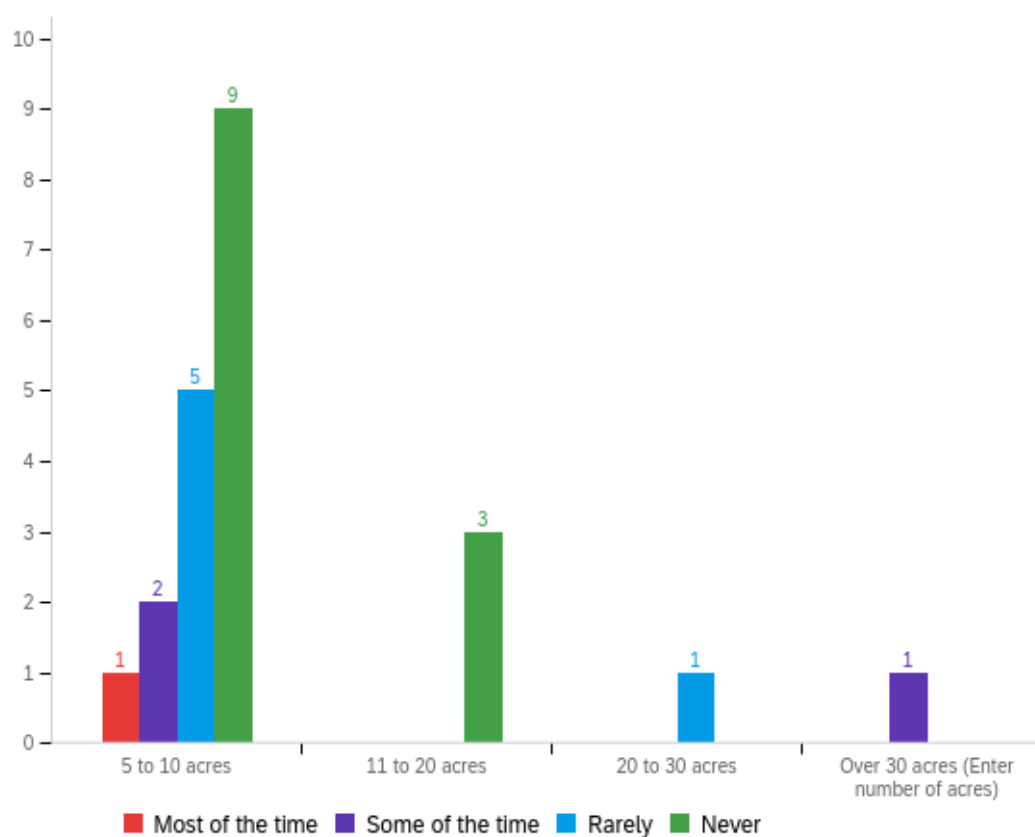
Women farmers are cited as preferring to learn about food safety from other women than men. When the respondents were asked to state their preference, 22% ( $n = 5$ ) selected “*Strongly*

*agree,*” and 43% ( $n = 10$ ) agreed that they preferred learning more about farming from other women. 13% ( $n = 3$ ) of respondents stated that they disagreed, 9% ( $n = 2$ ) strongly disagreed, and 13% ( $n = 3$ ) were not sure.

Finally, respondents were asked to provide the frequency in which agencies inspect their food products. As indicated in Figure 12, overall, respondents stated that agencies performed inspections mostly “*never*” (55%,  $n = 12$ ) or “*rarely*” (27%,  $n = 6$ ) on the range of all the medium-sized farms in the sample.

**Figure 13**

*Farm Inspection Frequency by Size of Farm (N = 22)*



#### ***Topic 4: Food Safety and Regulations***

When asked to rate their familiarity with SPS measures specifically, 95% of respondents were not at all familiar, with only 5% ( $n = 1$ ) stating that they were very familiar. Additionally, only 12 respondents addressed the next statement, “SPS measures keep me from being successful in my business,” with 100% ( $n = 12$ ) reporting that they “*never*” prevent them from being successful. Further, when the respondents were asked to provide their level of agreement with the statement, “I think it’s important to understand agricultural trade rules and food safety standards,” 19 respondents provided an answer. Of the respondents, over half, 58% ( $n = 11$ ) agreed that it was important to understand agricultural trade rules and standards. The rest of respondents expressed strong feelings stating that they either strongly disagreed (2%,  $n = 6$ ) or strongly agreed (11%,  $n = 2$ ).

#### ***Topic 5: Community and Organizations***

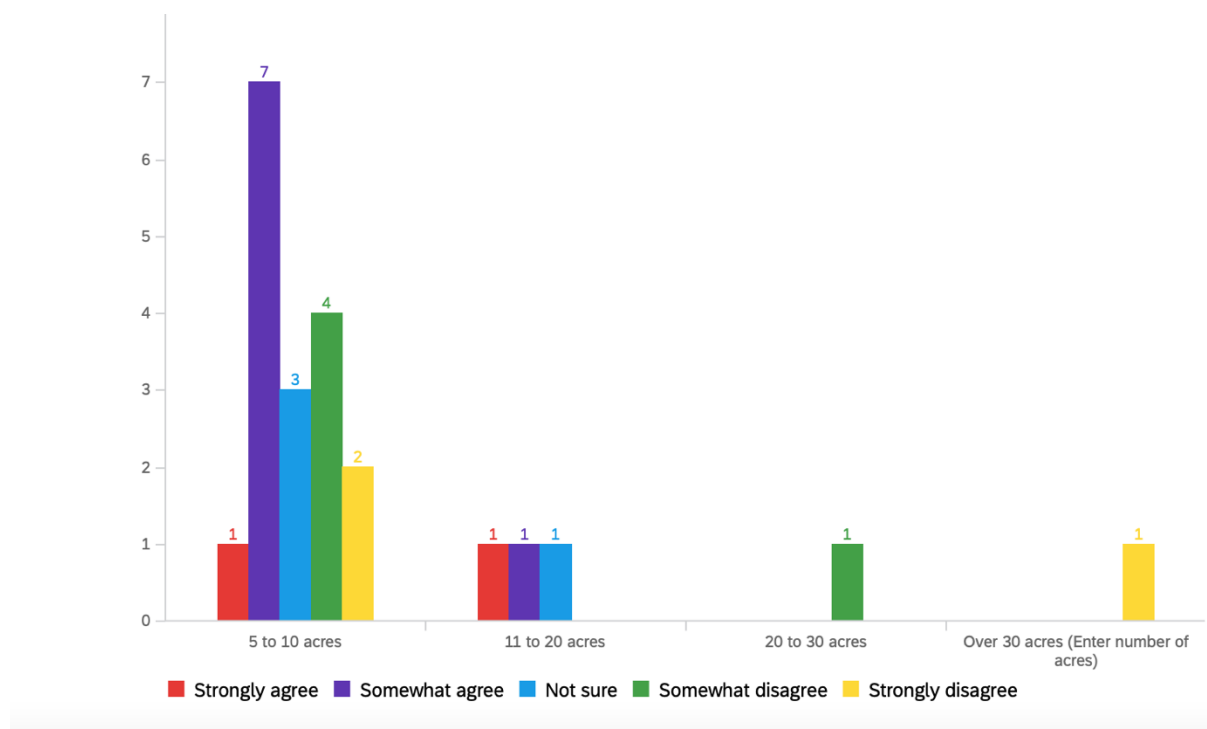
Subjects were asked to provide their thoughts regarding the level of support of local farming organizations by providing their level of agreement to two statements: (a) Local farming organizations help me be a better farmer, and (b) People in my community support my work as a farmer. For the first statement, “Local farming organizations help me be a better farmer,” 22 farmers responded. The highest number of respondents 36% ( $n = 8$ ), selected “*disagree*,” however, several respondents, 23% ( $n = 5$ ) agreed or were not sure (27%,  $n = 6$ ). Only three respondents stated strong feelings stating, “*Strongly agree*” 5% ( $n = 1$ ), and 9% ( $n = 2$ ) stated “*Strongly disagree*.” For the second statement, “People in my community support my work as a farmer,” 22 respondents provided an answer. Half of respondents (50%,  $n = 11$ ) stated “*agree*,” followed by 14% ( $n = 3$ ) who stated, “*Not sure*,” and 23% ( $n = 5$ ) who selected “*disagree*.”



In an effort to understand the level of support the women farmers experience from government entities at the local level and above, participants were asked to state their level of agreement from strongly agree to strongly disagree to three statements: (a) Local community officials understand the problems I have as a farmer, (b) Government officials support me as a farmer, and (c) Government policies help me be a better farmer. Among the participants, 36% ( $n = 8$ ) selected “*Somewhat Agree*,” and 9% ( $n = 2$ ) selected “*Strongly Agree*,” however, 37% ( $n = 8$ ) did not agree. Women with a farm size of 5 to 10 acres expressed more mixed results between strong agreement and disagreement than women with other sized farms.

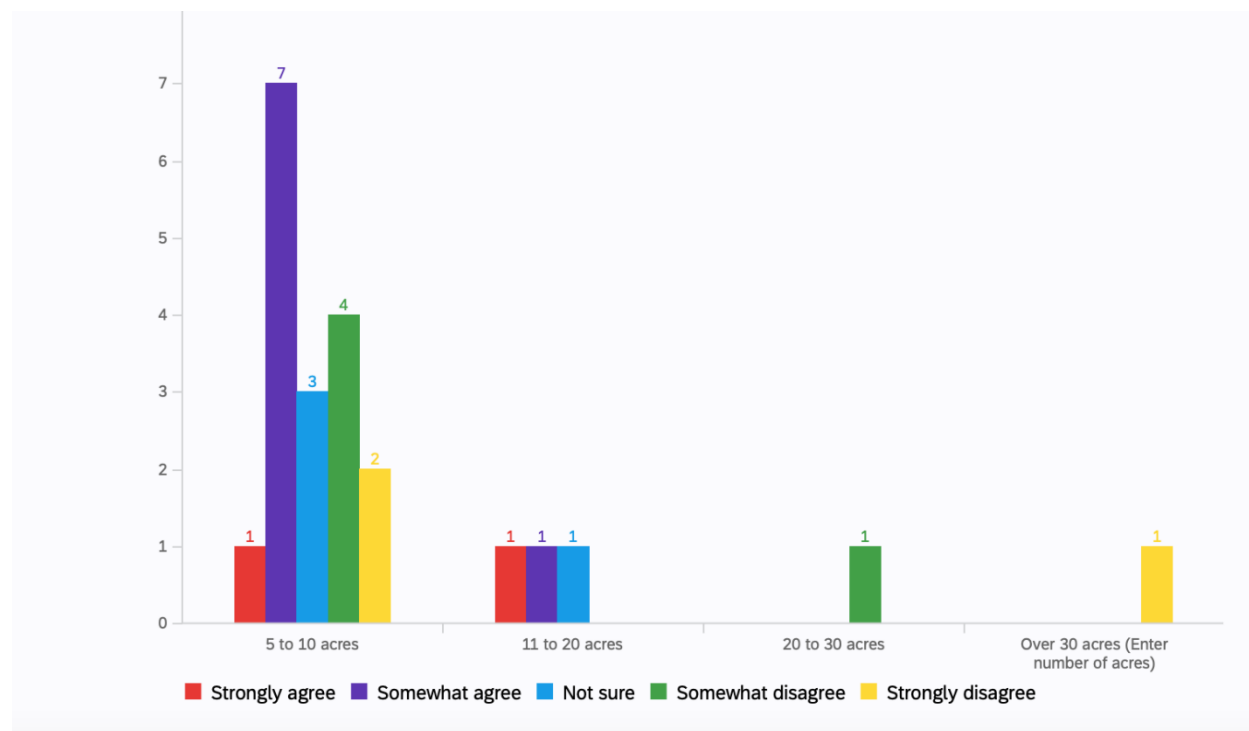
**Figure 14**

*Local Community Officials Understand Farming Problems (N = 22)*



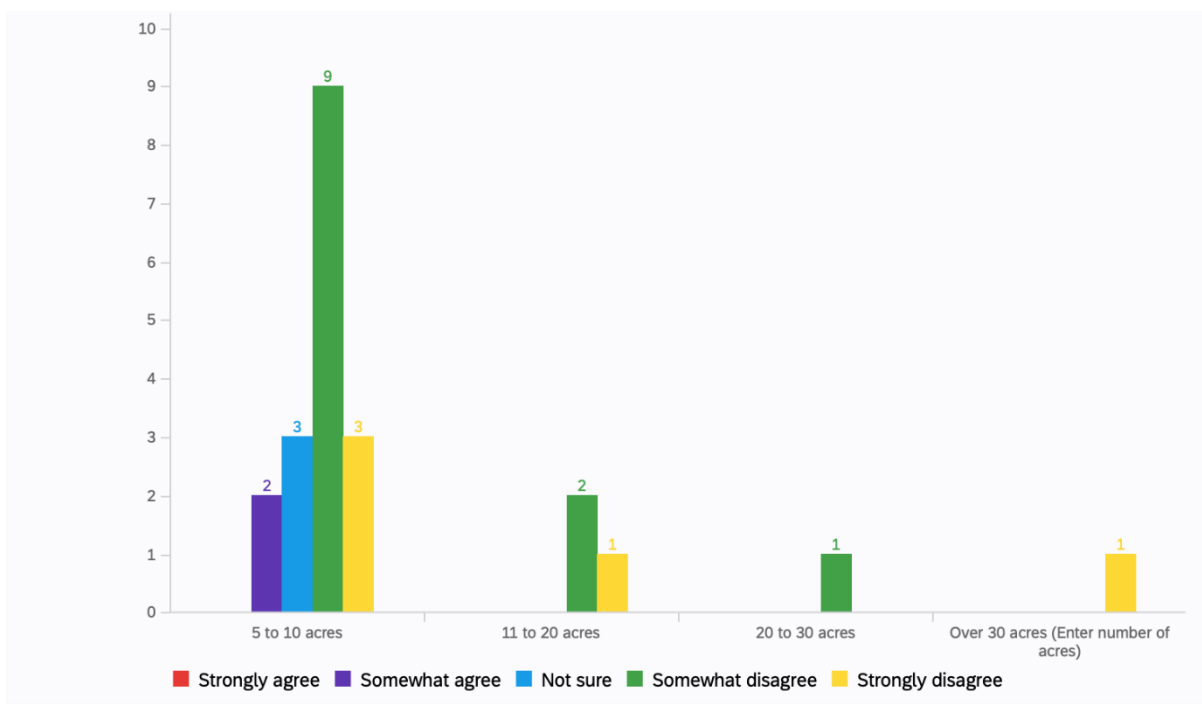
**Figure 15**

*Government Officials Support Farmers (N = 23)*



**Figure 16**

*Ability to Better Farm due to Governmental Policies (N = 22)*



### ***Topic 6: Future of my Farm***

Respondents were asked to provide their level of confidence to the statement, “Overall, I have confidence that my farming business will get better in the future.” Of the 22 respondents, 64% ( $n = 14$ ) expressed that they were either highly confident that their farming business would get better in the future, or somewhat confident (36%,  $n = 8$ ). No respondents indicated a lack of confidence in the future of their farm.

A comparison was made between the statement, “Overall, I feel I have the ability to make my farming business a success” with the statement, “The men in my life support my work in agriculture,” to examine the women farmer’s levels of empowerment in making their farming business successful. Even with a perceived lack of support from the men in their lives, the women farmers still expressed the belief that they had the ability to make their farming business

a success. Of those who expressed that the men in their lives seldom supported their work as a farmer, 67% ( $n = 2$ ) of respondents answered “*Yes, pretty sure I have the ability to make my farming business a success.*” Of the women who stated, “*The men in my life sometimes support my work in agriculture,*” 88% ( $n = 7$ ) also answered, “*Yes, pretty sure I have the ability to make my farming business a success.*” None of the women expressed a lack of ability to make their farms a success.

**Figure 17**

*Empowerment, Future of Farm, and Male Support (N = 22)*



## Qualitative Findings

The women farmers were asked to respond to five open-ended questions to capture attitudes and perceptions of empowerment levels in farming at the individual, organizational, and community levels. These five survey items were coded, resulting in 152 coded passages grouped into four themes. The four themes were Farming Motivations, Attitudes, and Perceptions; Individual Empowerment; Food Safety; and COVID-19. Twenty subthemes emerged under each theme. The themes and subthemes with frequency distributions are listed in Tables 5-8. Direct quotes from the respondents are included however the individual respondent is not named.

### *Theme 1: Farming Motivation, Attitudes, and Perceptions*

Two questions asked within the survey contributing to this theme. The first question was, “What motivated you to become a farmer? Was it a particular experience you had that motivated you to own your own farm? Explain” The second question was, “Explain one thing you wish other people knew about being a woman farmer.” From the responses to these questions, one theme emerged and revealed eight subthemes: (a) Family, (b) Family Tradition, (c) Gendered view on farming, (d) Health/organic farming, (e) Inspiration, (f) Make a living, (g) Overwhelmed, and (h) Passionate. The eight subthemes were used 56 ( $n = 56$ ) times during the coding of the participant’s responses. Table 5 lists the themes and subthemes regarding farming motivation.

**Table 3**

*Farming Motivation (N = 49)*

Thematic Category	Subthemes	( <i>n</i> )
Farming motivation, attitudes, and perceptions	Family tradition	5
	Family	13

Thematic Category	Subthemes	(n)
	Gendered view on farming	8
	Health/organic farming	1
	Inspiration	2
	Make a living	20
	Overwhelmed	5
	Passionate	2

**Family Tradition.** Family tradition is a strong motivating influence on farming for women in Sub-Saharan Africa. Five respondents stated family tradition as motivation for farming. Two of the respondents noted that due to family tradition, they have experienced a sustainable way to earn a living, and one expressed taking over their parent's established farms has allowed them to sustain their family. One participant explained that farming was the business her family was involved in and said, "My family lineage are mostly farmers, so it also made me to be one as it pays good." Another stated the simplicity of taking over the family business and explained, "My parents were successful farmers so I all i had to do was to inherit the land and sustain the family." While another shared, "I was the only surviving daughter of my parents so I had to take it upon myself to sustain the family name."

**Family.** In some cases, farms are not inherited from family; however, family members are influential in encouraging farming as a profession. For example, one farmer expressed motivation from an aunt who was a vegetable farmer and described, "My aunty influenced me to start the farming business. she motivated me to grow pepper because she said there were money in its production. Since then I have been farming and I have never stop," while others stated that a parent influenced them to become a farmer due to a lack of employment stating, "My parents motivated me since there was no job available after school."

**Husbands.** The farmer's husbands were also named as influencing a woman to enter farming. Two respondents expressed that their husbands were motivating factors to their decision

to farm, and said, “I became a farmer through my Husband. my husband made me to be a farmer. I farm because I want to support home since my husband can’t provide much,” and simply, “My husband motivated me to farm.”

**Opportunity.** Opportunity was also pinpointed as a motivation to enter farming. Three respondents stated a common motivator to farmer, explaining that farming afforded great opportunity unlike other professions, especially in spite of their skills, knowledge, or physical ability. One woman farmer described the advantages of farming and the ability to put in “little effort” to gain high yields in farming, even as a woman with disabilities.

Even though I am disabled but the little effort I put into the farm business yield very well. I grew some cassavas and the yield was so huge that those who came to buy them even gave me something more for my hard work despite my disability as a crippled women. I was schooling at a disable school and had nowhere to stay when my parents died. It’s through farming that I have been able to build something.

Another farmer described the opportunity available for farmers with little education and stated, “I dropped out of school and my mother encouraged me to engage in farming since there were more lands which could be well utilized,” while another respondent explained how profitable farming was in relation to other industries and explained,

I was in into trading but it was not helping me (not profitable). I decided to go into farming and that has helped me to take care of my children. farming is a good business and it has really helped me.

There were other responses that noted the common motivator of farming as an excellent means of taking care of the family, especially when there were no jobs. One woman expressed, “I became a farmer because I couldn’t provide to take care of them. That was how come I started

farming. So I can make money to support them.” Two other respondents explained that farming was a good profession to move into when no jobs were available, stating, “There was no other job for me after school so i was motivated to enter farming,” and “There was no job so I had to farm to also support family.”

### ***Gendered View on Farming***

Some of the respondents expressed a gendered view on farming, noting both a positive and negative view of women engaging in the profession. One woman pointed out that women can perform as well as men and stated, “Women farmers are resourceful than men farmers if given equal opportunities.” Another farmer voiced the belief that farming is a respectable profession and deserves as much effort as any other job stating, “Other woman should have the passion and devotion in farming like any other job.” A single mother and farmer expressed that, “As a woman you should work and farming has really helped me as a single mother which I’m really benefiting. I think woman can join to help them take care of their family,” while another respondent explained that hard work is important for women stating, “Every woman farmer should work hard as the men do because it pays very well.” However, another woman voiced a negative opinion about women’s involvement in farming and explained, “To me, women are not really supposed to farm. I will not recommend it anybody.”

Some of the women described other motivating factors outside of family or human influence for entering farming: One respondent stated, “Health reasons (organic),” while another described “Passion for food security and agri business” as motivators for farming.

There were also a few responses indicating emotions under the subthemes of: Inspiration ( $n = 2$ ), overwhelmed ( $n = 5$ ), and passionate ( $n = 2$ ). These themes expressed the feelings contributing to the attitudes and perceptions of the respondents in relation to farming.



**Inspiration.** Inspiration is not the same as motivation. Motivation is used in reference to the act of moving toward a goal and may be either a positive or negative action; however, inspiration is more commonly used to indicate thought leading to action and is always positive. Two respondents reported being inspired—not only motivated-- because of a family members' farming success. One respondent indicated that her father inspired her to farm and explained, "My father inspired me since he was a farmer and growing old. He encouraged me to farm so that I can take care of myself when he is no more." Another explained, "What motivated me was that my father was a great farmer and made a lot out of coffee. That inspired me to join."

**Overwhelmed.** At times, women farmers do not have the resources needed to farm at a desired level. When this occurs, women feel overwhelmed. One woman expressed that she "had to carry almost all the laborer activities on my own and borrow money for input. It really tough," while another respondent described the emotion in her statement, "I do not get the support so it's a big problem." Another respondent expressed her sentiments regarding a lack of inputs and shared, "I sometimes run out of inputs. I asked my husband to support and if he doesn't have then input dealers provides and we pay latter. But they are not enough for work."

**Passionate.** Passion is a strong emotion. Two women used the word in relation to farming. The first farmer expressed a strong, positive statement regarding her feelings about farming and expressed, "Other woman should have the passion and devotion in farming like any other job," while another woman expressed her strong feelings towards food security and work in agriculture stating that she had a "passion for food security and agri business."

### ***Make a Living***

Most of the themed responses provided deeper insight into why women choose to farm. The profitability found in farming was the most common themed response. Respondents noted

sentiments such as, “Farming is very good and profitable so I will encourage all women to engage in it,” while another offered that “There is more profit in farming so I will encourage more women to engage in farming.” The women farmers strongly expressed the idea that farming was an excellent means for women to make a living.

### ***Theme 2: Individual Empowerment***

Five survey questions were given to the respondents to answer: (a) What motivated you to become a farmer? Was it a particular experience you had that motivated you to own your own farm? Explain, and (b) Describe a time when you didn’t have the proper tools or the necessary farming supplies (such as pesticides or seeds, etc. How did you solve the problem? (c) In your own words, tell me about your experience with food safety and SPS measures in your agricultural business (d) Explain one thing you wish other people knew about being a woman farmer (e) Since the COVID-19 pandemic began, what have you had to do differently to keep your farm functioning? The responses revealed a theme of individual empowerment based on the definitions of empowerment defined in previous chapters, and seven subthemes: (a) Agency, (b) capability, (c) Increased assets/money, (d) initiative, (e) lack of personal access, (f) no issues obtaining adequate inputs, and (g) recognized opportunity. In Table 6, the themes and subthemes are listed regarding individual empowerment.

**Table 4**

*Individual Empowerment (N = 66)*

Themes	Subthemes	(n)
Individual empowerment	Agency	20
	Capability	3
	Increased assets/money	3
	Initiative	6
	Lack of personal access	19

Themes	Subthemes	( <i>n</i> )
	No issues obtaining adequate inputs	4
	Recognized opportunity	11

### *Agency*

The highest number of codes ( $n = 20$ ) emerged in regard to the agency possessed by a farmer. Each survey question provided insight in the women's agency. From the question, "Explain one thing you wish other people knew about being a woman farmer," Agency was coded eight ( $n = 8$ ) times, with one respondent stating her level of control of her situation and actions, "The knowledge and money we acquire in farming, it makes life a bit easy and its somehow fun and also makes me strong." Another respondent expressed her ability to have control over her life and support her family stating, "For me. I wish they could know the benefits gained from farming business. It's a way we support things in life," while another pointed out that "As a woman you should work and farming has really helped me as a single mother which I'm really benefiting. I think woman can join to help them take care of their family."

From the question, "Since the COVID-19 pandemic began, what have you had to do differently to keep your farm functioning?" Agency emerged twice ( $n = 2$ ), with one respondent stating her "take charge" attitude over her situation and explaining, "I stored more chemicals during the lockdown so I didn't really suffer much to keep my farm functioning." Agency emerged eight ( $n = 8$ ) times from the survey question, "Describe a time when you didn't have the proper tools or the necessary farming supplies (such as pesticides, seeds, etc.). How did you solve the problem?" One respondent shared their source of motivation for farming was related to their father's success in coffee farming and stated, "What motivated me was that my father was a great farmer and made a lot out of coffee. That inspired me to join." From the question, "In your

own words, tell me about your experience with food safety and SPS measures in your agricultural business” the one ( $n = 1$ ) farmer who responded indicated a lack of agency by stating that she had “no experience” with SPS measures and food safety.

### ***Capability***

From the question, “Explain one thing you wish other people knew about being a woman farmer,” three ( $n = 3$ ) instances of capability or lack of capability surfaced. One respondent expressed capability and shared that “Women farmers are resourceful than men farmers if given equal opportunities.” However, from the question “In your own words, tell me about your experience with food safety and SPS measures in your agricultural business,” one respondent revealed a lack of capability stating she had “no experience” with food safety or SPS measures. No other respondents addressed the question.

### ***Increased Assets/Money***

From the question, “Explain one thing you wish other people knew about being a woman farmer,” three instances of increased assets/money emerged, with the women farmers positive and optimistic about the financial aspects of farming. One respondent described the financial benefits and stated, “Farming pays a lot so I wish my fellow women will also engage in it more,” while another highlighted the profitability a farmer may experience and stated that “Farming is very good and profitable so I will encourage all women to engage in it.”

### ***Initiative***

Initiative emerged as a theme in two questions: “Since the COVID-19 pandemic began, what have you had to do differently to keep your farm functioning?” and from “Describe a time when you didn’t have the proper tools or the necessary farming supplies (such as pesticides, seeds, etc.). How did you solve the problem?” From the first question, one respondent shared

that they took initiative and showed foresight and explained, “I stored more chemicals during the lockdown so I didn’t really suffer much to keep my farm functioning.” From the second question, initiative emerged as a theme, with one respondent stating how they took initiative, “I went for loan to work on the farm,” and another commented that despite her efforts to buy inputs, she did not have the finances to grow the amount of crops she intended and explained, “I went to borrow the inputs for production and also sometimes I borrow money to buy them. sometimes I can’t grow much as supposed to,” while another farmer stated that she shows initiative by getting the advice of others and remarked, “I seek advice.” Another respondent exhibited initiative and showed her willingness to keep her farm functioning, even if it caused her more work and stated, “I prepare ahead of time, I sometimes go out to work (non-farm work) to raise money for the farm business. it’s all about planning.”

### ***Lack of Personal Access***

The literature specifies that a lack of items such as tools, inputs, land ownership, and bank loans contributes to a lack of empowerment in women farmers. From the question, “Describe a time when you didn’t have the proper tools or the necessary farming supplies (such as pesticides, seeds, etc.). How did you solve the problem?” the theme of personal access emerged and there were several common responses. One woman farmer shared, “I went for a loan to work on the farm,” while another mentioned, “I went to borrow the inputs for production and also sometimes I borrow money to buy them. sometimes I can’t grow much as supposed to.” Another farmer expressed that her lack of support had developed into quite an issue and remarked, “I do not get the support so it’s a big problem.” One woman shared that she was forced to grow a different crop due to an inability to afford her desired seeds, stating, “For example, a year I wanted to plant lots of Yam and couldn’t afford the high cost of seed yams, I

had to change to Cassava because the sticks are cheaper to buy or find.” One woman shared that she could not purchase her organic fertilizer of choice due to a lack of money: “I mostly lack organic fertilizers, but it depends on money so that has been the problem sometimes.” Another respondent described a lack of inputs and shared “I sometimes run out of inputs. I asked my husband to support and if he doesn’t have then input dealers provides and we pay latter. But they are not enough for work.”

### ***No Issues Obtaining Adequate Tools***

While some women farmers expressed a lack of personal access to various items, others ( $n = 4$ ) reported that they had no issues obtaining adequate tools. Three ( $n = 3$ ) respondents stated, “I have not encountered such problems before,” and one ( $n = 1$ ) other reported, “I have not experience that before.”

### ***Recognizes Opportunity***

Another important aspect of an individual’s empowerment is the ability to recognize opportunity. 9 individuals provided a common thread of responses that highlighted the opportunity available in farming. A few of the sentiments expressed were that “its easy to cultivate and get much income in the shortest possible time,” There is more profit in farming so I will encourage more women to engage in farming,” and “Farming is very good and profitable so I will encourage all women to engage in it.” Several of the respondents specifically mentioned the benefits afforded by farming. One respondent expressed, “For me. I wish they could know the benefits gained from farming business. It’s a way we support things in life.” Another simply said, “I wish other women farmers will understand the benefits of farming like any other job pays.” Taking care of family was also expressed as a benefit of farming. One farmer explained, “I’m really benefiting. I think woman can join to help them take care of their family.”

### ***Theme 3: Food Safety***

Within the survey, respondents were asked, “In your own words, tell me about your experience with food safety and SPS measures in your agricultural business.” There was a total of two responses ( $n = 2$ ) that revealed two subthemes that provided insight into the attitude of one of the farmers toward food safety, as well as the current state of knowledge for the remaining 21 participants in the survey. These subthemes were used twice during the coding of the participant’s responses. In Table 7, the themes and subthemes are listed.

**Table 5**

*Food Safety (N = 4)*

Themes	Subthemes	( <i>n</i> )
Food Safety	Farming practices related to food safety	3
	Lack of knowledge	1

### ***Organic Farming***

One respondent provided insight into the importance of food safety and following production and other protocols to ensure that food is safe for consumption. Additionally, the response produced insight into the importance of applying food safety measures to their organic farming business.

As an organic farmer, food safety is necessary to meet the quality of what is produced.

For us, we produce organically and try to harvest what we can process at a time, we consume out of each batch of product before selling them. We ensure we run health test on staffs in the production area and observe production protocols.

### ***Lack of Knowledge***

Only one respondent provided direct insight into the farmer's understanding of food safety measures and SPS measures specifically. This farmer stated that they had "no experience." However, 21 other respondents did not address this question, which provided valuable insights and potential implications into the current knowledge of SPS measures revealing the lack of knowledge of SPS measures.

### ***Theme 4: COVID-19***

In the survey, the women farmers were asked, "Since the COVID-19 pandemic began, what have you had to do differently to keep your farm functioning?" This survey item sought to understand the possible impact of the COVID-19 pandemic on the women's farming business and empowerment. Three subthemes emerged from this question. These three subthemes were coded 26 times throughout. Table 8 lists the themes and subthemes.

**Table 6**

*Effects Of COVID-19 Pandemic on Farming Business (N = 26)*

Themes	Subthemes	(n)
COVID-19	Pandemic affected farming activities	6
	Pandemic affected product sales only	4
	Pandemic did not affect farming activities	16

### **Pandemic Affected Farming Activities**

Respondents were asked to explain the COVID-19 pandemic's effect on farming activities. Six respondents explained that the pandemic had on an effect on farming activities. One spoke about the dismal state of affairs leading to their farm shutting down, "The farm was



shut down and nothing new was implemented.” Another alluded to the state of the market that led to a loss of food products and explained, “Market was slow and we had a lot of food wastage in farms,” while another respondent described, “The harvesting and sales periods was where I encountered problems since everyone was scared of contracting the pandemic.” One respondent highlighted the lack of help on the farm during the pandemic and its negative impact and shared, “The lockdown actually affected me much since I didn’t get laborers to work on my farm.”

### **Pandemic Affected Product Sales Only**

Four respondents reported similar experiences and explained that the pandemic affected product sales only and not farming operations. One farmer explained, “It was only the sales aspect I encountered a problem but not really on my farm activities.” Another farmer agreed and stated, “I did not encounter any problem during the farming activities, but I had a problem during the sales of my food crops in the market due to the pandemic.” A similar sentiment was expressed by another respondent who affirmed the pandemic’s effect on sales and stated, “Yes. Buyers were not coming for the produce when they were ready.”

### **Pandemic did not Affect Farming Activities**

Surprisingly, more respondents than not communicated the common theme that the pandemic did not affect their farming operations. Responses were captured from two questions: “Describe a time when you did not have the proper tools or the necessary farming supplies (such as pesticides or seeds, etc.) How did you solve?” and, “Since the COVID-19 pandemic began, what have you had to do differently to keep your farm functioning?” 16 respondents shared the following similar feedback regarding the effects of the pandemic on their farming businesses. One respondent explained no difficulties as a result of the pandemic and expressed, “I didn’t really encounter any difficulty in my farming activities during the pandemic period.” Another

farmer simply stated, “I didn’t get any problems in my farm during the Covid 19 pandemic.” One farmer aptly explained that “COVID-19 did not really affect our farming activities, though we stopped production of some product during that period, but we have resume back. Food is essential to human.”

### **Summary of Findings**

In this chapter, the demographic information and the closed- and open-ended questions provided deeper insight and understanding to the experiences, attitudes, and perceptions of women farmers in Sub-Saharan Africa and their levels of empowerment at the individual, organizational, and community levels. The purpose was to better understand how capacity development for SPS measures empowers women.

The respondents voiced uncertainty regarding the effect of culture on their farming businesses and were not sure that culture needed to change for their businesses to be successful. Married and single respondents both somewhat agreed that cultural traditions were important to their family, and married respondents reported more variation in their perceptions regarding their ability to change cultural traditions, opposed to the single respondents who overwhelmingly agreed that they could only somewhat change their family’s cultural traditions. However, both married and single respondents expressed strong levels of uncertainty regarding the need for cultural traditions to change in order for them to be a better farmer, with the single respondents expressing a higher level of overall uncertainty than the married respondents. Both married and single respondents disagreed that culture affected their ability to be a successful farmer.

Overall, SPS measures and food safety regulations are not common knowledge for the women farmers; and though the quantitative data indicated that over half of respondents agreed with the importance of understanding agricultural trade rules and food safety standards, half of

respondents also indicated that they either never apply food safety standards or apply them not often. This was confirmed by the lack of qualitative responses asking the farmers to explain their experiences with food safety regulations and/or SPS measures. It was common among subjects to state that agencies either never or rarely inspected their food products.

There were linkages throughout expressing that farming knowledge is primarily received from other farmers or family, and from local farming organizations, and the women farmers indicated a strong preference for learning about agriculture from other women instead of men. An overwhelming majority of the women stated that they do not have time to learn about food safety and believed that men have more time available for learning. The responses indicated that the women do not know how to find food safety educational materials using technology, including laptops, cell phones, desk top computer, as well as online learning modules, or using social media to learn (i.e., WhatsApp, Facebook, etc.)

There was a common thread throughout of the men in their lives being supportive or somewhat supportive of their farming businesses, and there was strong feedback from the respondents in both the quantitative and qualitative data regarding a high level of confidence in the future of their farming business, and of their individual ability to make it successful. This was also true for women who expressed seldom or only sometimes receiving support from the men in their lives.

The respondents were overwhelmingly positive about farming as a profession and one respondent explained that she considered farming “even fun at times.” A common theme from the farmers was a strong level of confidence and ability to make decisions about their farms. The quantitative responses exhibited an almost equal number of respondents who agreed (*Strongly agree* and *Agree*) that they had the tools and products they needed to be a successful farmer, to

those who disagreed (*Strongly disagree* and *Disagree*), and the respondents did not exhibit a high level of innovation in the qualitative responses when asked to describe a time when they did not have the proper tools or inputs necessary, with the farmers most often attempting to secure a loan to remedy the situation. Several women noted that they asked their husbands for assistance in this area; while several others commented that they never had experienced this type of lack of inputs or resources.

However, mixed reviews emerged when the respondents were asked about levels of support from the government, community officials, and policies intended to support women farmers from the top down. This was especially true for women owning farms in the 5- to 10-acre size range. The respondents additionally expressed mixed results regarding the support they perceived from others in their communities. The findings will be further discussed in Chapter 5. The chapter will also include a summary, conceptual foundation, implications for the findings, recommendations for the future, as well as conclusions.

## **Chapter 5: Study Conclusions, Recommendations and Future Research**

This chapter displays the information that was captured in this study, pinpointing the current state of capacity development for SPS measures for women farmers in Sub-Saharan Africa. It additionally presents the attitudes and perceptions of these women and their levels of empowerment at the individual, organizational, and community levels and relevant impacting factors.

### **Background and Significance**

Women farmers in Sub-Saharan Africa are key players in reaching the UN's SDG of Zero Hunger by 2030. These farmers are not only important to providing safe food products to their families and local communities, but they are also potential "game changers" for increasing GDP and creating greater wealth for countries within the AU. Existing research lacks insight into the current state of empowerment that women farmers experience relative to the application of SPS measures and their capacity development. Despite efforts made by the AU at the policy level to promote the application of food safety measures, specifically SPS measures, little data exists (Grant & Arita, 2017). This is particularly the case with women farmers and the efficacy or reach of SPS measures and food safety education, and the factors that influence access. However, previous research demonstrates that women's lack of compliance is due to gender inequalities, insufficient resources, and small operations (Henson, 2018).

This study's research adds to the body of knowledge on empowerment for women farmers in Sub-Saharan Africa at the individual, organizational, and community levels and examined factors that may affect a woman farmer's ability to implement SPS measures in their operations, as well as their attitudes and perceptions surrounding those factors.

The central research question for this study is: How does capacity development for sanitary and phytosanitary measures empower women in Sub-Saharan Africa? This research question was explored using a sub question: What are the attitudes and perceptions of these women of their empowerment at the individual, organizational, and community levels?

### **Theoretical Framework**

The foundation for this study was based on one primary theoretical framework, Empowerment theory, as well as other contributing constructs, such as power, capacity development in SPS measures, community building, and Roger's Diffusion of Innovation Theory. Empowerment Theory occurs at the individual, organizational, and community levels and "fosters power in people, for use in their own lives, their communities, and in their society, by acting on issues that they define as important" (Page & Czuba, 1999, Abstract). Individual empowerment focuses on an individual's perception of personal control over their environment, their initiative, and understanding of social and political influences (Zimmerman, 1995). Individual empowerment affects empowerment at the other two levels. Organizational empowerment is comprised of various processes and systems that strengthens skills of its members and provides support to affect change at the community level (Zimmerman, 1995), while community empowerment is constituted of individuals working together as a group with other agencies and entities within a community to maintain or achieve a particular living standard (Zimmerman, 1995).

The concept of power was additionally cited as a key theoretical construct linked to empowerment. The two viewpoints regarding power are that it is either an internal capacity to initiate or resist change (Read, 2012) and is based more on an individual's own self-efficacy and self-determination (Bandura, 1979), or it is an external influence that is coercive in nature,

leading to inequities in power (Uphoff, 1989). Studies revealed that due to socio-cultural norms, women in the Sub-Saharan region are often in a state of disempowerment

The literature review explored capacity development for SPS measures as a construct affecting empowerment of women farmers. Although SPS measures were developed to ensure a consistently safe food supply for trade, the measures often inadvertently prevent women farmers deficient in proper tools, resources, and funding from complying with standards and trading their products on a larger scale (Asongu et al., 2020), and growing their businesses. Studies revealed that due to a lack of compliance and oversight in food safety, the food supply throughout the region remains precarious and adds a barrier to reaching the UN'S SDG of No Hunger by 2030. This effort is compounded by education and household structures (Etim et al., 2017), particularly in relation to women.

Community building was another contributing factor linked to levels of empowerment in the literature. Communities are groups based on commonalities of goals and culture (Ife, 2009). Community building relies heavily on governmental support and ensuring human rights for all members of the community. Inequities are related to a lack of understanding and support for all people; thus, the literature called for policy makers to support community development from the top down using policy as a catalyst to strengthen and build communities (Hannam, n.d.) as a means of increasing empowerment, especially for women.

Finally, Roger's diffusion of innovation theory provided insight into why people adopt or do not adopt innovation, as well as the individuals most likely to influence and persuade others to adopt an innovation. Innovation in farming is often first embraced by farmers of large farms and small to medium farmers may not experience appropriate conditions and resources to apply

innovation such as SPS measures to their farming businesses and as a result, are considered late adopters or even laggards, waiting until there is no other choice but to adopt the innovation.

## **Methods**

This study utilized an embedded mixed-method design (Creswell & Creswell, 2018) to capture quantitative and qualitative data to examine these research questions: RQ: How does capacity development for sanitary and phytosanitary measures empower women in Sub-Saharan Africa? The sub question was: What are the attitudes and perceptions of these women of their empowerment at the individual, organizational, and community levels?

The researcher developed the online survey after an in-depth review of the literature. The survey consisted of 25 closed-ended questions and 5 open-ended questions as a means of better understanding the attitudes and perceptions of women farmers regarding themselves as farmers and their businesses and how various factors affect their empowerment at the individual, organizational, and community levels, in order to examine how capacity development for SPS measures empowers the farmers. Measures were taken to ensure study validity. The survey was validated prior to distribution with experts from The Borlaug Institute for International Agriculture to ensure that survey questions were aligned with the research questions. A pilot process of the survey was also initiated to ensure its reliability.

Women farmers from the Sub-Saharan region of Africa were recruited for the study. The women were identified for participation in the study with the assistance of The Borlaug Institute for International Agriculture and GROW West Africa, Ghana. A total of 23 Sub-Saharan women farmers participated in the online survey at the office of GROW West Africa in March 2022. Of the 23 respondents, 22 were from Ghana and one was from Nigeria.



The participants provided informed consent, then the survey was administered. The responses were collected using the online survey tool, Qualtrics. The thematic analysis of the qualitative data was completed using the HyperRESEARCH software, which assisted with the organization and interpretation of the data into codes and themes. Reflexivity was practiced and the researcher captured notes during the data analysis process to prevent personal bias and assumptions.

### **Summary of Findings**

The demographic responses, the closed-ended questions, and the open-ended questions provided insight into the women farmers capacity building for SPS measures, as well as their attitudes and perceptions of their empowerment at the individual, organizational, and community levels. Twenty-three women farmers participated in the online survey. Respondents provided their attitudes and perceptions in six different topic areas: Culture; Family, Education, and Resources; Food Safety Learning; Food safety and regulations; Community and Organizations; and Future of my farm.

The 23 respondents ranged in age from 32 years of age to 62 years of age with the median age of participants at 49 years. 96% ( $n = 22$ ) of respondents were from Ghana, and only 4% or ( $n = 1$ ) were from Nigeria. Almost half 45% ( $n = 10$ ) of respondents had been farming for over 20 years, followed by 32% who had been farming for 11 to 20 years, with the remaining respondents having farmed for less than 10 years.

The findings revealed a common attitude that minimized any negative impacts of culture on farming. Respondents stated that culture did not greatly impact the ability to successfully farm; however, uncertainty was expressed regarding the need for cultural traditions to change in order be better farmers, with single respondents expressing more uncertainty than married

respondents. All the women believed that cultural traditions were important to their families, and the majority of respondents expressed an ability to have an effect on cultural traditions; thus, indicating strong levels of individual empowerment.

A lack of understanding of SPS measures and general food safety regulations surfaced from the findings despite over half of the respondent's showing agreement with the importance of understanding agricultural trade rules and food safety standards. Half of respondents also indicated findings that aligned with the literature and expressed that they never apply food safety standards or apply them not often. Subsequent findings expressed a lack of urgency from the farmers towards food safety compliance, which also coincided with the literature, with over half (55%,  $n = 12$ ) of respondents indicating that agencies never performed inspections of their food products.

Evidence from the study indicated a preference for obtaining food safety information from other farmers opposed to formal classes or technology, with the respondents further revealing that they do not know how to find food safety information using technology. An overwhelming 91% ( $n = 20$ ) shared that they do not have any time available in their week to put aside for food safety education.

There was a common thread within the findings that the men in the farmer's lives were supportive of their agricultural work most of the time, with the greatest variation in support evidenced in the 5-to-10-acre sized farms. Subjects indicated on almost equal levels to having access to needed tools, inputs, and other resources (52%), to not having them (47%). The farmers were closely aligned in their strong optimism regarding the futures of their farm and their ability to make decisions about the farm to make the business successful. This held true notwithstanding support from the men in their lives, with this attitude of empowerment also confirmed in the

qualitative findings. This confirmed the researcher's assumptions that the women farmers would do whatever was necessary to make their farming business a success for themselves and their families.

Respondents experienced varying levels of perceived support from the government, community officials, and policies. The greatest variation in perceived governmental support existed for women owning farms in the 5-to-10-acre size range. Perceived levels of community support for the women farmers also proved inconsistent, though over half expressed positive community support for their work as farmers.

Three study conclusions were determined as a result of the analysis of the findings. These conclusions are supported by the findings and incorporate relevant discussions of the implications for future practice and scholarship. The first study conclusion is that women are not benefiting from the available education and resources for the implementation of food safety guidelines and/or SPS measures. The second study conclusion is that women exhibit a strong sense of individual empowerment despite limited family and/or community support. The third study conclusion is that women are optimistic about the future of their farms.

***Conclusion 1: Women Are not Benefiting From the Available Education and Resources for the Implementation of Food Safety Guidelines and/or SPS Measures***

The first conclusion surmises that although policy makers have put forth effort to develop food safety and SPS measure training to educate farmers, the women in this study were unable to find and access training. Education is a powerful tool for all who have access to it; however, if women do not have the ability to easily access and engage in learning, it is rendered ineffective. Various organizations have created online training, videos, and other sources of technology to assist women farmers (and all farmers for that matter) in their food safety education (Zossou et

al., 2020); yet the results of this study revealed that the women farmers do not often use technology to increase their farming and food safety knowledge, and were unaware of how to find the information online. One reason women farmers lack understanding of SPS and food safety measures is a result of very few places to access information, which contributes to an overall low understanding of SPS standards (Shafaeddin, 2006). Current methods and measures are ineffective due to non-awareness and little urgency to comply with standards. It has become apparent that women farmers need to improve their understanding of food safety to ensure better harvests and provide consumers assurance that food products are safe (Kolié, 2020). If women farmers are to become key players in the global market, SPS measures must become a regular part of farming operations and the skills gap must be bridged (Henson, 2018).

This study concurred with the literature's claim, citing a lack of awareness and application of SPS standards and food safety standards in general. Of the 23 respondents in this study, only two addressed the open-ended question asking for an explanation of their experiences with food safety and SPS measures in their agricultural businesses. One of the respondents indicated that they had "no experience" with food safety or SPS measures; the other respondent indicated strong familiarity with SPS measures and explained the importance of food safety in their organic farming operation and the measures in place ensure protocols were followed. However, the lack of the other 21 respondents addressing the question provided insight in itself, highlighting the critical state of affairs for farmers and the absence of proactive learning about food safety and its application to the products produced. This is in spite of efforts at the AU level to provide policy support, frameworks, and measurable progress toward fulfilling both AU and SDG goals (Pasara & Diko, 2020) to increase farmer's compliance with food safety regulations.

Stronger efforts must be made at the local level to work directly with farmers if these high-level goals are to be reached. Although SPS measures are not proving to be a barrier to the women farmers that were surveyed—because they mostly do not apply them—they are, nonetheless, a barrier. The reason for this is that, if women farmers are going to realize their full potential, with the ability to grow and expand their businesses to the intercountry level, efforts must be made to overcome educational barriers. As Friis-Hansen & Duveskog (2011) aptly explain, “To achieve agricultural and rural development, new methods for extension and training are needed that make better use of knowledge among farmers and provide for them a stronger voice to demand advice, services, and negotiating power” (p. 414). The examples from the United States and Europe discussed in the literature review may be used as a means of cultural diffusion to learn from their examples—both mistakes and successes—to encourage development and growth in agricultural compliance.

In addition, a lack of oversight for farming operations continues to persist in the region. This study concurred with the literature’s reporting of a lack of agency inspections for application of food safety measures within farming businesses and weak support from the public sector to enforce the measures (Kutha, 2012). Kolié (2020) stated that most product inspections by agencies were primarily performed on the safety of products for international sale rather than domestic due to the higher revenue they generate. The respondents to the survey explained that agencies either never or rarely inspect their products. This continued practice perpetuates a domestic food supply that is unsafe and replete with food borne illnesses (The World Bank, 2018). This situation is directly opposed to the UN’s SDG 2 of achieving No Hunger by 2030 and must be addressed more consistently with stronger measures in place to promote knowledge dissemination at the organizational level, and better monitor compliance at the community level.

Women in the sub-Saharan region continue to experience lower technology adoption and access than men (Shimeles et al., 2018). Throughout the literature, many tout the advantages of mobile technology to close the learning gap for agricultural instruction using low costs or free apps such as WhatsApp, Facebook, or YouTube videos (Zossou et al., 2020). The belief exists that the use of technology is particularly useful to teach farmers with low levels of literacy as it lessens the need for developed reading skills.

While this sounds viable in theory and even promising, this study confirmed low usage of technology for the women farmers in this study, with only 9% stating the use the Internet or apps respectively, to learn about food safety. Although times have progressed and technology seems ubiquitous, the overwhelming majority of farmers indicated that they preferred learning about food safety from other farmers (96%), followed by community farming organizations (65%). Farmers in the region often express a distrust of technology. This research's findings align with Misaki et al. (2018) who indicated that when trust is strong, it increases confidence to apply the new information. The respondents in this study experienced a strong level of success in their farming businesses as they receive and apply farming knowledge from other farmers and farming organizations whom they know and trust.

Until technology is more widely available or simpler to navigate for use as an educational tool, farm educators should work within the methods that have proven successful to teach farmers. Relationship building should be emphasized. Farmer to farmer instruction or instruction from local farming organizations are tools more likely to promote increased quality of the food supply for all AU citizens, beginning at the local level. Revisiting the recommendation of the O.N.E. Campaign (2014) and bringing agricultural advice and training to the woman farmer's homes may prove more beneficial for populations such as the participants in this study.

The findings also suggest that women farmers do not prioritize food safety learning due to hindering factors such as time poverty, greater perceived learning opportunities for men, and lack of finances. Acharya et al. (2019) wrote that organizations were attempting to implement support measures for women in agriculture to increase gender-related training programs, technical assistance for greater production, productivity, and skills to increase SPS compliance due to a lack of understanding of their attitudes and perceptions on the topic. However, the findings of this study reiterate the findings of Shabaya & Konadu-Agyemang (2004) who state that men generally have better access to educational opportunities, particularly in Ghana.

The women in this study expressed that while they do not experience problems managing their farms and their households, they are of the attitude that they are operating at capacity and have no additional time available to invest in food safety learning. Kes & Swaminathan (2006) explained that time poverty has plagued women farmers for many years and is no exception when it comes to having adequate time to increase food safety knowledge. This study's findings validated the literature in its explanation that household-related responsibilities or caring for the family (Quisumbing et al., 1996) are known to inhibit women from increasing their knowledge about farming and food safety.

Farming operations are often a family affair in the 47 countries comprising Sub-Saharan Africa (Moyo, 2016); however, it appears that the women farmers surveyed for this study primarily manage and work their operations on their own. Although several women in the study indicated that they inherited their farms from relatives, they did not indicate high levels of assistance from family members in performing farm work, although they did note that family members (husbands) provided aid in the areas of securing loans, additional inputs, or machinery when needed.

***Conclusion 2: Women Exhibited a Strong Sense of Individual Empowerment Despite Limited Family and/or Community Support***

Women in the Sub-Saharan region must deal with disempowering factors such as a lack of family or community support for farming. This is often attributed to the influence of socio-cultural norms or linked to a lack of resources and education (Manfre et al., 2013). However, the women in this study exhibited strong characteristics of empowerment and expressed attitudes of agency and decision-making capability, which made a robust showing in the qualitative findings. An individual possessing agency has the ability to set goals, take control over self and abilities, and may proactively pursue personal goals (Donald et al., 2020). Some women in the sub-Saharan region may not have the ability to exhibit high levels of agency due the fact that the men in their families are considered the primary decision makers (Makama, 2013; Rathgeber, 2000). However, this study found that the women surveyed exhibited high levels of decision-making ability regarding their farms, with well over half, at 61% stating that they almost always make decisions about how to run their farms.

Similarly, cultural norms and roles for men and women are often cited as the root cause of women's levels of equality throughout the Sub-Saharan region. Woldemichael (2020) postulated that the impact of cultural and society norms on women contributes to a woman's lack of empowerment as they result in restricted access to land, farming resources, and training. However, this study's results demonstrated that culture did not play as significant of a role or have an overwhelming negative impact on the respondents' success as farmers. Both married and single women farmers indicated that they did not perceive the need for culture to change in order for them to be a better farmer and were able to exhibit characteristics of empowerment within the context of culture, which was a departure from the literature. The women in the study did,



however, express the perception that farming is more difficult for women than men. Thus, the researcher recommends future studies to further examine this perception to address the root of the expressed difficulties.

Moreover, the Sub-Saharan region of Africa embraces socio-cultural norms that contribute to the lack of empowerment for women farmers and materialize in various ways, such as an inability to secure a loan or own land, especially in societies where men are considered the head of the household. The literature even specified a “deeply unequal” power relationship between men and women (Fourshey & Jaksch, 2021) in the region. However, the respondents in this study did not exhibit this unequal power relationship or negative effects of this family or social structure, though the findings showed that the women viewed the man in their life as the head of the household.

The qualitative data showed that the women farmers looked to their husbands for assistance in securing loans and inputs for their farms. The respondents additionally reported that they either strongly disagreed or somewhat disagreed that culture affected their ability to be a successful farmer. This was important to note as it indicates (at least in the population for this study) that patriarchy in itself is not a problem for women farmers and that the women possessed a high level of empowerment in spite of their position within the household. Some of the women in the study even expressed in the qualitative findings that their husbands motivated them to become farmers.

Furthermore, women farmers continue to express a lack of tools, machinery, inputs, resources (Adeniyi, 2010), and knowledge that affect their farming operations and ability to follow food safety standards. For example, Abegaz (2008) noted the prevalence of low hygienic standards in place at the family farm level due to a lack of resources. This study’s findings

concurred with a lack of resources affecting farming operations. The qualitative data yielded insight from one farmer who stated that she had to change her desired crop of choice to grow because of the high prices that she could not afford, while another could not use a preferred organic fertilizer due to prohibitive costs.

For these reasons, if women farmers are to operate their farms on a “level playing field,” stronger support at the government and policy levels, and higher levels of “follow through” at the community level are needed. Longwe (2000) advised that increased levels of education and resources are not the “end all” solutions to individual empowerment of women; instead, greater control of resources legislated at the policy level affords women increased influence. This researcher is of the opinion that support for farmers at the policy level needs to be evident and better exercised at the community level to provide women farmers with increased levels of influence as a means to initiate change. The respondents expressed the greatest levels of variation in perceived support from community and government officials in the 5-to-10-acre farm size range.

### ***Conclusion 3: Women Are Optimistic About the Future of Their Farms***

A positive outlook for the future is rooted in facets of empowerment such as a high level of well-being, ability to access resources, increased levels of self-respect and self-esteem, opportunities to exhibit “bargaining power,” as well as greater control over their lives (Alemu et al., 2018, p. 311). The respondents exhibited high levels of empowerment and expressed strong optimism about the future of their farms. In the qualitative findings, the women farmers wanted to express to the world that farming is a respectable profession worthy of the same hard work, determination, passion, and devotion as other professions. They indicated that more women should become farmers because it is a great way to make a living and take care of their families.

The respondents also showed flexibility and adaptability as a means of keeping their businesses “afloat.” The findings exhibited strong levels of confidence, agency, and positivity from the women regarding the future of their farms, with the vast majority (96%) expressing that they “absolutely” had the ability to make their farming business a success or were “pretty sure” that they had the ability to make it a success. Surprisingly, these high levels of confidence were expressed despite the COVID-19 pandemic’s devastating effect on various business sectors throughout the AU since 2020. Contrary to reports that the pandemic was severely impacting women in the Sub-Saharan region (*Overview*, n.d.), the qualitative research findings in this study revealed mixed results.

The literature stated that GDP in the region had been impacted by the pandemic. Some respondents supported this take, expressing that the pandemic affected product sales from their farming operations. Insights such as “buyers were not coming for the produce when they were ready,” and “I did not encounter any problem during the farming activities, but I had a problem during the sales of my food crops in the market due to the pandemic” surfaced from the qualitative findings. However, aside from a handful of respondents describing issues with sales during the pandemic, evidence indicated no negative impacts to their farming businesses as a result of the pandemic. Positive comments surfaced from the qualitative data such as, “I didn’t get any problems in my farm during the Covid 19 pandemic,” and “No. Covid didn’t really affect my work. it had no significant impact.”

The final study conclusion emphasizes that empowerment is a process at more than one level (Perkins, 2012). An analysis of the data showed high levels of individual empowerment for the women respondents; however, more work is needed to increase organizational and community support to increase empowerment at those levels. Therefore, the researcher

recommends for greater efforts to be placed on increasing empowerment for women farmers at the organizational and community levels, because organizational empowerment is comprised of “processes and structures that enhance members’ skills and provide them with the mutual support necessary to effect community level change” (Zimmerman, 1995, p. 582). As empowerment at one level affects the other levels, the researcher is of the opinion that local farming organizations can have a positive impact on introducing women farmers to the basics of food safety compliance and begin to increase their capacity development. Second to receiving agricultural knowledge from other farmers, the farmers who participated in this study stated that they rely on community organizations for farming knowledge. Thus, community organizations are in a position to affect greater change in increasing food safety knowledge and application.

Furthermore, local agencies and organizations within the community should develop frameworks and plans that coincide with those at the AU level to begin with the basics of food safety knowledge and SPS measures to increase knowledge and application with an end goal of healthier communities (Zimmerman, 1995). The tasks may appear overwhelming and impossible; however, the old African proverb’s advice for how to eat an elephant—one bite at a time—may prove to be a beneficial approach for improving food safety knowledge and implementation for women farmers who are mostly not practicing them.

### **Study Limitations**

Limitations existed in relation to this study. First, all respondents who took the survey were from Ghana, except for one respondent from another Sub-Saharan country, Nigeria. A larger demographic from across the Sub-Saharan region may prove to be more representative of women farmers throughout the region. Moreover, limitations may exist in truly knowing whether or not the respondents understood the intent of the survey questions as they were written. It also

appeared that only one respondent in this study was familiar with SPS measures. Thus, it may yield different results to survey women with various farm sizes who are currently trading on an intercountry level and applying SPS measures in order to gain deeper insight into their experiences with SPS measure adoption and how they grew their farming operations. These women may prove to be influential in educating other women farmers who are new to applying food safety measures to their farming businesses. While this sample did not produce great detail and insight regarding the respondent's attitudes and perceptions around SPS measures and food safety, the results did identify the continued lack of importance or urgency that women farmers place on understanding and applying food safety to the products they produce. However, although the findings were focused on a limited population from the Sub-Saharan region, the results provided much needed insight into the attitudes and perceptions of women farmers and their empowerment at the individual, organizational, and community levels as well as their capacity development for SPS measures, as these types of studies focusing on women farmers are quite minimal throughout the literature.

### **Recommendations for Future Research**

This research study provided insight into how capacity development for SPS measures empowers women and their attitudes and perceptions of their empowerment at the individual, organizational, and community levels.

### ***Support of Local Farming Organizations***

Future research is warranted as a means of further examining the effects of local farming organizations and their support for women farmers. All of the women farmers who participated in this study were connected to the GROW West Africa community farming organization. Research is needed examining the women's high levels of empowerment to learn if their

empowerment was a result of a supportive farming organization, and to learn the methods that were used to promote empowerment.

### ***Application of Roger's Diffusion of Innovation Theory to Capacity Building for SPS***

#### ***Measures***

Future research is warranted to explore adoption of innovation for farm owners of 100 acres or less to learn if those farmers—like the ones in this study—who are early adopters of and currently adhering to SPS measures, are able to persuade, promote, and influence adoption of standards among neighbors, and examine the unfolding of the adoption of innovation from start to finish. In Rogers' study, early adopters of innovation were large-scale farmers (Rogers & Ban, 1963). Future research should also examine the impact of those with larger farms who already trade on an inter-country scale to understand their current or potential impact on neighboring farms of various sizes.

#### ***In-Depth Examination of Women-owned 5- to 10-Acre Farms***

Future research is particularly appropriate to examine women-owned farms in the 5-to-10-acre size range. The data from this study yielded the highest variations in levels of agreement and disagreement regarding perceived government, community, and policy support for farms in that size range. Respondents of this farm size range also indicated the most variableness in levels of support from the men in their lives; thus, it may be beneficial to further examine more closely the effects of disempowerment and linkages in various areas.

#### ***Effects of Culture on Empowerment***

For future research studies, the researcher recommends learning more about the origins of the women farmer's source of individual empowerment and the apparent lack of negative cultural impact. Culture is a factor that points to having a "profound" impact and disempowering

effect on women farmers (Wekesah et al., 2019) due to cultural norms that perpetuate disparities for women farmers (Tuwor & Sossou, 2008). However, most of the respondents in this study indicated that the men in their lives were mostly supportive of their farming operations, and both married and single women expressed uncertainty regarding the need for culture to change to become better farmers. Because empowerment manifests differently for women of various cultures and regions, and there is no one “correct” solution for empower women (Sidani & Reese, 2018), further research is warranted into the context of a woman’s empowerment and the impact of culture on empowerment. Further exploration must be done to learn if women are empowered as a result of defying disempowering cultural practices, or if they are working within their confines. It would prove beneficial to explore this from a married or single demographic as well, particularly since there was more variation in the married women’s responses to the need for cultural change.

***Follow-up With Additional Open-Ended Questions or Semi-Structured Interview Questions***

Disadvantages exist in conducting a survey opposed to an interview. One of those disadvantages is the inability to follow up with questions to statements and answers given. Performing a deeper investigation into the empowerment of women farmers by conducting a semi-structured interview may yield more in-depth results, particularly in the areas of perceived lack of governmental and policy support, as well as to learn more about women farmer’s attitudes, perceptions, and knowledge about producing safe food products apart from SPS measures. This type of study would provide further insight into the impacts that empowerment at one level has on other levels.

## **Recommendations for Future Practice**

The researcher recommends the following courses of action to practitioners at the organizational and community levels.

### ***Educational Mentoring Programs***

Community organizations should provide one-on-one mentoring programs between farmers to increase SPS measure and food safety awareness. This method would provide a solid foundation to teach women how to grow their businesses and take their farming businesses from the local to state level by learning from a trusted mentor. Mentoring should include a business skills component to support and encourage agribusiness growth on a growing scale.

### ***Access to Technology***

Community organizations should offer access to technology at their local offices for women to use to learn about food safety and SPS measures. Farmers should have the opportunity to learn how to use technology and discover SPS measure information online as means of increasing compliance. If applicable, basic computer literacy should be available as well. As reported in this study, this type of messaging should come from other women farmers, as increasing trust in using technology will be important as countries in Sub-Saharan Africa strengthen their technology infrastructures allowing for higher technology adoption among women farmers.

### ***Provide Farmers With Easy-to-Understand Job Aides Written in Plain Language***

Organizations should provide learning materials, such as simple job aides, with engaging visuals to women farmers to help them further their understanding of food safety and SPS measures. These training tools should be comprised of short, easy to digest, “chunked” learnings that are distilled from lengthy online SPS courses and learning modules. Chunking the learning



content into more manageable pieces promotes better long-term learning by decreasing the cognitive load and increasing recall ability (Fountain & Doyle, 2012). Food safety and SPS measures are often complex, scientific, and not easy to understand. The focus for these communications should be to simplify the scientific and technical into easier to understand, conversational language, as much as the subject matters allows for. Methods of communicating such as “Plain language” (Byrne, 2008; Kimble, 1994) are often used by companies, governments, and other entities to promote understanding of complex materials. This is done by targeting a reading comprehension level of approximately 6<sup>th</sup> to 8<sup>th</sup> grade (Neuhauser & Paul, 2011). The advantage of this method is that it allows people without a high level of formal education to quickly locate the information they need, comprehend that information so they can apply it. A similar approach may prove beneficial in disseminating SPS measure education to women with limited education.

### ***Greater Visibility and Communication From Local and Government Leaders***

Officials must reach out to women farmers to improve levels of perceived support of local and state governments, especially those owning farms in the 10–20-acre farm size range to build trust and allow women farmers to express their concerns. This may be accomplished with the assistance of farm visits by government personnel, monthly open forum meetings, better knowledge dissemination about local and state-funded programs that support women operating farms of this size range. This has the potential to help women farmers grow their businesses and provide better visibility of local and state leaders to women farmers in which they specifically address issues affecting individuals with farm sizes in this range.

### ***Introduce SPS Measure Education to Young People***

The future of food safety will eventually rest on the young people of the Sub-Saharan region. Girls must be exposed to food safety education at a young age to impact their future farming practices. Community and after-school programs must be made available to the youth—both girls and boys—to ensure a new generation of farmers who prioritize food safety and SPS measures and understand the importance of their application for a safe food supply and prosperous, inter-country business operations.

### **Closing Comments**

Women farmers continue to play a key role in advancing the UN's SDG goal 2, Zero Hunger by 2030 throughout Sub-Saharan Africa. As key players, it is crucial to ensure that these women are equipped with the proper resources, training, education, and support needed to produce safe food products both locally and on the export market. More effort must be made beginning at the community level, up to the governmental level to educate women farmers on best practices for food safety at even a rudimentary level of understanding. This will accomplish two things: First, it will ensure a safe, healthy food supply at the local level. Second, it will help position women farmers to think about expanding their businesses on a larger scale to increase profitability, and the elements that need to be in place to operate at that level.

The African Union (AU) has made positive efforts to educate farmers across the Sub-Saharan region on SPS measures; however, more work is needed at the local level to reach women farmers, in particular, with the knowledge and resources needed to be compliant. Higher levels of compliance may be achieved when women receive food safety and SPS measure education in easy to understand, short, digestible chunks, ideally taught by other women whom they trust. Literacy levels must be taken into consideration when developing and delivering this

training as the subject matter tends to be technical. If the materials are unclear or difficult to comprehend, it is less likely that woman farmers will consider implementing food safety measures. Equally important, the women farmers must have better access to loans, equipment, and tools to implement food safety measures and operate compliant farming businesses.

This study reaffirms the researcher's beliefs that when women farmers exhibit strong levels of empowerment, their potential for success is limitless. However, this success hinges on the continued support of policy makers, community organizations, educators, and family members to help position women farmers to truly make a difference. Frustrations stemming from a lack of time to engage in food safety learning must be addressed.

The results of this study solidify the critical role of women farmers in supplying their communities with safe, healthy food products. It also confirms women's ability to be empowered and attain lofty goals for their farming businesses. Huis et. al (2017) made the poignant statement that women should be allowed to "set their own agenda" (p. 9) within the parameters of their cultural practices and communities. When this agenda is set and supported with the appropriate education, tools, and support needed to continue to grow their empowerment at the individual, organizational, and community levels, women farmers will thrive on a positive trajectory towards greater agricultural success.

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## APPENDIX

### IRB Approval

**Pepperdine University**  
**24255 Pacific Coast Highway**  
**Malibu, CA 90263**  
**TEL: 310-506-4000**

#### NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: February 25, 2022

Protocol Investigator Name: Lisa De Leon

Protocol #: 21-11-1723

Project Title: An examination of capacity building for sanitary and phytosanitary measures for women in Sub-Saharan Africa: Empowerment theory at the individual, organizational, and community levels.

School: Graduate School of Education and Psychology

Dear Lisa De Leon:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at [community.pepperdine.edu/irb](http://community.pepperdine.edu/irb).

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

cc: Mrs. Katy Carr, Assistant Provost for Research