Empowering Urban Agriculture: A Case Study of Training Programs Targeting Women Farmers in Uganda

by

Rachel Matheson

Submitted in partial fulfilment of the requirements
for the degree of Master of Arts

at

Dalhousie University
Halifax, Nova Scotia
April 2019

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Abstract

Wakiso District in Uganda is undergoing rapid urbanization which is disrupting traditional agricultural livelihoods. As land and other resources become increasingly scarce, farmers are turning to urban agriculture techniques to support their households, which in turn creates new challenges. This is particularly true of women farmers who struggle to access, control, and make decisions over key agricultural resources. Caritas Kampala is a Catholic NGO working with women farmers throughout Wakiso to enhance their urban and peri-urban agriculture outcomes. This study uses a Feminist Political Ecology lens to investigate how these urban agriculture interventions impact women farmers. It argues that these programs offer many benefits to women farmers. However broader gender norms must be addressed if the program is to meaningfully impact systemic gender inequity.

List of Abbreviations

FAO	Food and Agriculture Organization
FFLG	Farmer Family Learning Groups
FPE	Feminist Political Ecology
PE	Political Ecology
RA	Research assistant
SAP	Sustainable Agriculture Program
UN	United Nations
UPA	Urban and peri-urban agriculture
WEAI	Women's Empowerment in Agriculture Index

Acknowledgements

I would like to take this opportunity to thank everyone who has supported me throughout the completion of this thesis. Your academic, logistical and emotional support made this thesis possible.

To my supervisor, Dr. Matthew Schnurr – thank you so much for your constant encouragement, advice and expertise. You were always available to address any questions or concerns that I had, and you challenged me to consistently improve the quality of my work.

I am also grateful to everyone in the Department of International Development Studies. To Dr. Theresa Ulicki – thank you for acting as my second reader and for your invaluable insights that provided a new perspective on this thesis. To Dr. John Cameron – thank you for acting as my external reader and for your guidance as the Graduate Coordinator. Thank you to Nicole Drysdale for your kindness, patience and unwavering support.

Thank you to everyone at Caritas Kampala, particularly the Sustainable Agriculture Programme team. I was stunned by your kindness, enthusiasm and willingness to help throughout my fieldwork. This project would also not have been possible without the work of my research assistant, Carolyne. Thank you for your work as both a linguistic and cultural translator, for your rich insights during our post-transect walk conversations, and for being a wonderful guide who never let me get lost. I am grateful for your friendship.

I am eternally grateful to the farmer participants. Thank you for welcoming me into your homes and onto your farms. I will never forget your kindness. I am also thankful for the rich, thoughtful insights you shared – I learnt so much from you.

Finally, I need to thank my family and friends who supported me throughout this process. To my parents and siblings – thank you for constantly checking in and for your faith in me. To Telisa and Peter – thank you for your emotional and intellectual support during this entire process. Your constant messages of encouragement kept me going.

This thesis would not have been possible without this vast network of amazing people. Thank you from the bottom of my heart.

Chapter 1: Introduction

Urbanization is recognized as one of the major global trends of the 21st century, particularly across Africa and Asia. Africa is currently the most rapidly urbanizing region in the world, with an urban population growing from 203 million in 1990 to 401 million in 2013 (UN-Habitat, 2014). Africa is expected to be over 50% urbanized by 2040, as over a quarter of the hundred fastest growing cities in the world are located on the continent (UN-Habitat, 2014). This urban growth is expected to continue, with estimates suggesting that by 2025, Africa will have 658 million urban residents (Crush & Frayne, 2011). East Africa in particular is the world's least urbanized yet fastest urbanizing region as the total number of urban residents is expected to increase fivefold between 2010 and 2040 (UN-Habitat, 2014). In the face of these rapid changes, urban governments face challenges providing employment, access to land and shelter, and access to basic services for the new residents (Awumbila, 2017).

Since Africa's urban growth is projected to continue unabatedly, questions arise over how to shelter, feed and otherwise care for this growing population. While income and employment draw many people to urban areas, the reality is that many migrants and urban residents face high rates of unemployment or low-wage work (Kimani et al., 2014; Crush & Caesar, 2014). The urban poor also pay more for resources and services than their non-urban counterparts, resulting in heightened vulnerability (Kimani et al., 2014). According to a study of over one hundred countries, global poverty is becoming increasingly urbanized (Chen & Ravallion, 2007). While most of the poor still live in rural areas, the ratio of urban poverty compared to total poverty is rising, with urban poverty accounting for just 19% of total poverty in 1993 but 25% in 2002 (Chen &

Ravallion, 2007). If urbanization continues at its current pace and the predicted rates of growth in Sub-Saharan African cities are realized, poverty and vulnerability may impact a growing number of people and threaten the well-being of populations in the Global South.

The urbanization of poverty is directly related to urban food security. Poverty and food insecurity are connected through a cyclical relationship in which poverty exacerbates food insecurity and hunger, leading to low productivity and the reproduction of poverty (FAO, 2008). According to the FAO, "urbanization affects every aspect of our food systems, from the way food is produced, to the way it is processed, packaged, transported, marketed, and consumed, to how food waste is handled and recycled" (2018). High costs of living in cities undermine the ability of the urban poor to afford food, highlighting the connection between urbanization, poverty, and the challenge of food insecurity (Crush & Frayne, 2011; Battersby, 2013).

In response to these demographic changes, urban food security has seen a recent surge of interest at the international level. The UN's *New Urban Agenda* articulates a commitment to incorporating food security within urban planning and sustainable city strategies (2017). Similarly, the FAO has established an urban taskforce whose aim is to help local governments integrate food security and nutrition objectives into their broader sustainability strategies (2018).

One of the most prominent strategies promoted by international development agencies and NGOs to combat urban poverty and food insecurity has been urban and peri-urban agriculture (UPA) (Haysom & Battersby, 2016). UPA is defined as "the production of plant and tree crops and animal husbandry on-plot and in open public spaces or private

rented land within the city and in the peri-urban zone" (Crush, Hovorka & Tevera, 2010, 7). Estimates suggest that over 40% of urban dwellers in Sub-Saharan Africa (SSA) are engaged in some form of UPA (FAO, 2012; Zezza & Tasciotti, 2010). City residents participate in UPA for a variety of reasons including consumption, trade, and commercial or retail activities (Stewart et al., 2013). In general, UPA is used by both low and middle-income residents as a way to meet their food needs, however about one-third of urban farmers also sell some of their produce. As a food security strategy, some research has indicated that there is a correlation between UPA and a diversified diet (Zezza & Tasciotti, 2010). Additionally, UPA is used as a coping strategy for the poorest urban residents, particularly during times of economic crises, in order to meet their absolute food needs (Crush, Hovorka & Tevera, 2010; Zezza & Tasciotti, 2010). Given these perceived benefits, it is easy to see why UPA is promoted as a useful approach to urban food insecurity.

In discussions around urban food security and UPA, gender is an important factor to consider as women comprise the majority of the world's food insecure population. Women account for approximately 60% of the world's food insecure (Nantale et al., 2017). Nantale et al. (2017) interviewed women living in an informal settlement in Kampala and found that 88.5% of respondents were food insecure, and 68.4% were severely food insecure. This same study found that a lack of income was the primary reason given by women to explain their food insecurity.

UPA is also a particularly important livelihood strategy for women due to the lack of employment opportunities, as well as their cultural roles as homemakers and caregivers that require them to meet their household food requirements regardless of financial

limitations (Tye, 2012). Women are the primary practitioners of UPA in many African cities (Prain & Lee-Smith, 2010), however they face considerable constraints in terms of access to land, seeds, information, and other crucial resources (Nabulo, Kiguli, & Kiguli, 2009; Byamushiga et al. 2008). These barriers have limited women's success in urban agriculture since they have been unable to make significant improvements or long-term plans for their farms, which negatively impacts their food and livelihood security (Kiguli, 2004).

Given the pressing nature of growing urban poverty, the feminization of food insecurity, and women's food provisioning responsibilities, important questions arise around how women farmers can best be supported in UPA, as well as in their livelihood strategies and gender relations more broadly. This study therefore aims to evaluate an existing UPA training program run by Caritas Kampala in order to investigate how participation in these programs impacts women farmers.

1.1 Research Questions

The primary research question for this study is**:**

> What are the impacts of Caritas Kampala's urban agriculture training programs on women farmers in Wakiso?

In answering this broad question, the following sub-questions will be addressed:

1. What are the impacts of urban agriculture training programs on women's access to and control over agricultural resources?
2. What impacts do these training programs have on women farmer's decision-making power?

3. How has participation in urban agriculture training programs impacted women's choices in urban agriculture activities?
4. What social or economic empowerment do women experience through participating in Caritas training?

1.2 Introduction to the Case Study

The increase in urban populations is accompanied by urban expansion as cities grow outwards into surrounding areas to accommodate the new residents. This has particular implications for livelihood opportunities in the city's peri-urban areas as urban expansion threatens existing agricultural land with competing land use changes, pushes residents onto smaller plots and increases the cost of land which disenfranchises many peri-urban residents (Sabiti & Katongole, 2016). As cities expand and previously rural settings are incorporated into urban environments, many residents are faced with the challenges of adapting to this new reality. However, most studies on UPA have focused primarily on urban agriculture specifically, leaving the reality of peri-urban residents under-researched.

Wakiso is a peri-urban area that surrounds Kampala, Uganda's capital and largest city. Peri-urban generally refers to the areas immediately next to urban areas and are often transition zones for migrants between rural countryside and fully urbanized cities (Iaquinta & Drescher, 2000). Until recently, Wakiso was considered a predominantly rural district (Uganda Bureau of Statistics, 2002); however, the rapid growth in population due to its proximity to Kampala means that the district is now considered predominantly urban (UBOS, 2017). While there is virtually no idle land left to cultivate in Kampala, Wakiso continues to play an important role in the urban and peri-urban food

systems. However, the ongoing rapid urbanization is forcing both new and existing residents to turn to alternative livelihood strategies, including UPA, as previous rural employment options and agricultural techniques are no longer viable due to the encroachment onto and degradation of farm land by urbanization and alternative land uses.

In response to these increasing pressures on peri-urban farmers and livelihoods, Caritas Kampala has been running agricultural training through their Sustainable Agriculture Program (SAP) since 1991. Caritas Kampala acts as the social and economic development arm of the Catholic church in the Mpigi, Wakiso and Kampala districts of Uganda. The SAP branch of Caritas has a commitment to gender equality in the workplace, and their staff is composed of one female director, one male assistant director, one female advocacy officer, and two male field officers. [1] Caritas works with over 800 households, primarily in Mpigi and Wakiso. The peri-urban areas where Caritas works are Mwererwe, Kasanje, Kira, and Nansana parishes, which are all located in Wakiso. In these four areas, Caritas works with 52 farmer groups and over 60% of the farmers that they work with are women.

The Caritas peri-urban farming program is divided into two stages that occur over a six-year period. The general model of the program follows a training, to implementation, to specialization format. During the first three years, farmer groups are organized into groups and given group dynamics training that includes a focus on social networks, cooperation and leadership. Farmers learn organic agricultural techniques with a particular focus on vegetable production. They learn how to make organic inputs such as

[1] This thesis will refer to this branch of the organization as Caritas, however this project is only one example of the multiple programs and objectives of Caritas Kampala.

compost and pesticides using materials from their farms. Farmers also undergo basic farm management training, such as record-keeping and financial management. The goal of the first phase of the program is to ensure that households are food secure and have adequate nutrition.

Once farmers have successfully learned and implemented these skills, they move on to the second phase of the program that occurs from year four until year six. During this stage, farmer groups choose a specialization, which is often something that they have naturally begun focusing on and wish to receive advanced training for, such as cow rearing, poultry farming, or vegetable production. Some larger groups divide into smaller groups based on specialization, however they stay connected through their other non-specialized training and group activities. Once groups have chosen their specialization, Caritas offers them extensive training in this area, teaches farmers value-addition and agro-processing skills related to their focus, and provides marketing training. During this second phase, Caritas also trains farmers in lobbying and advocacy so that they have better access to other governmental and non-governmental services. At this point, income-generation and independence becomes a primary focus of the program, rather than a subsidiary benefit. At the end of the six years, Caritas connects farmer groups with previously graduated groups that have been formed into an autonomous association so that they can continue learning and supporting each other. The ultimate aim of the program is to build sustainable, resilient communities that can continue to grow and prosper without the support of Caritas.

While Caritas works with both women and men farmers, the dominance of women in the UPA sector, their marginalization from other employment opportunities, and their

heightened domestic responsibilities make these programs particularly important for women. Since women farmers in Wakiso are one of the most food insecure populations, yet are primarily responsible for their household's nutrition needs, the success of Caritas is crucial to providing valuable knowledge and resources that will hopefully improve the outcome for these producers. Caritas aims to empower women farmers through these training programs by increasing women's access to knowledge and income, which they believe will also contribute to women's decision-making power and leadership opportunities in their homes and communities. This study will explore this urban agriculture training and resource program to identify how it impacts women farmers.

1.3 Importance of the Research

UPA is a prominent and durable feature of African cities and its importance is growing with the rise of urban poverty and food insecurity. These challenges are gendered; however, there has been little emphasis in the literature on investigating women's role in UPA while also considering gender relations and power dynamics that influence women's practices. Existing scholarship on agricultural development programs is beginning to recognize the importance of considering gender in the analysis since it affects the distribution of benefits and can have unforeseen impacts on gender relations in households and communities (Hovorka, 2006a; Slater, 2002). Gender analysis is particularly important for women since their success in UPA is often limited by gender norms that restrict their control over key productive resources, such as land and capital, which limits their ability to guarantee their family's food security. However, there has been little research examining UPA programs and their impact on women and gender relations, which must be addressed as cities continue to grow, new residents search for

viable livelihood strategies and governments and NGOs search for ways to address poverty and inequality (for exceptions see Olivier & Heinecken, 2017; Tye, 2012).

This research is important in order to understand the value of UPA for women farmers in Wakiso. While a substantial volume of research has been conducted on the constraints facing women farmers, there is a significant lack of emphasis on investigating how these farmers can be better supported (for exceptions see Hovorka, 2006b; Olivier & Heinecken, 2017; Tye, 2012). Projects and their benefits do not exist in a vacuum, but occur within particular social contexts that impact how the project is carried out, who participates and how participants experience the outcomes. UPA as a survival strategy cannot be assumed to be universally effective; farmers must be consulted in order to identify what strategies and interventions they consider the most important. While much has been written about the theoretical impacts of UPA and there have been many studies that have quantified the food security and nutritional impacts, we continue to have limited information about what UPA looks like for farmers on the ground. Rather than relying on the expected benefits of UPA as detailed in existing literature, this research attempts to explore how women have been empowered through their own perceptions and experiences, since outcomes are not linear nor universal. As will be addressed more in Chapter 3, empowerment in this context is understood to be a broad concept that can encompass a variety of changes to women's personal circumstances and opportunities. This research shows that some women benefit more than others based on a range of other factors, while gender dynamics at the household, community and national level act to enhance or constrain women's opportunities in UPA. As Kampala and the surrounding areas rapidly urbanize and farmers are increasingly forced to rely on urban agricultural

techniques, it is crucial to understand the opportunities and constraints for NGOs to support urban women farmers.

1.4 Chapter Outline

This introduction is the first of six chapters. Chapter 2 consists of a literature review of existing scholarship on UPA. It highlights the arguments for and against UPA as a development strategy, as well as women's role and constraints within UPA systems. It ends by examining existing research on UPA programs in order to situate this research within existing studies, to establish what questions have been asked and to identify the gaps that this research addresses.

Chapter 3 is an overview of Feminist Political Ecology (FPE), which is the theoretical framework that informed the research questions, the fieldwork, and the data analysis process. FPE provides insight into the social variables such as gender that inform environmental practices and outcomes, which is useful when analyzing women's UPA activities. In this chapter, the concept of empowerment will be further explored in order to highlight its complexity as well as its use in this thesis. This chapter also discusses existing studies that employed an FPE lens in order to understand how gender and other socio-political factors interact with ecological change.

Chapter 4 discusses the motivations for the research, the methods used, and the limitations of the study. It provides details of the fieldwork site, research participants, and the use of qualitative research methods. It also examines the fieldwork challenges and methodological limitations that were experienced through the research and provides a justification for the validity of the results.

Chapter 5 presents the research results and analysis. It examines how women's participation in the Caritas UPA training programs impacts their social relations, their access to and control over resources, and their confidence and leadership. By exploring these impacts, this section highlights how UPA training programs can benefit women and contribute to a renegotiation of gender relations. This section also highlights the constraints and limitations of Caritas' approach in order to contribute to the broader discussion around the goals of agricultural development projects and women's empowerment.

Lastly, Chapter 6 involves recommendations for future research and UPA programs, and then concludes the thesis. It returns to the research questions posed in the introduction and discusses the implications of the research findings. Peri-urban women farmers experience numerous social, economic and personal benefits through participating in these programs; however, their ability to make longstanding changes in gender relations may be limited without rethinking who participates and how men are involved in these processes.

Chapter 2: Literature Review

2.1 Urban and Peri-Urban Agriculture as a Development Strategy

Proponents of urban and peri-urban agriculture (UPA) generally emphasize its potential benefits through two related frames: either as a food security strategy that generates surplus food for home consumption, or as a livelihood strategy through selling livestock or agricultural products (Crush, Hovorka & Tevera, 2010). Among the urban poor living on less than $1 per day, food accounts for up to 74% of their household expenditures (Banerjee & Duflo, 2007). This makes them particularly vulnerable to food price shocks, prompting many to search for other ways of supplementing their household consumption needs (Mougeot, 2006). Research suggests that most UPA production is directed towards household consumption, making it an important survival strategy for poor urban households. In low-income urban areas, UPA can contribute to a more substantial and diversified diet. In an analysis of 15 countries across the Global South, Zezza & Tasciotti (2010) found that UPA contributed to improved dietary diversity in 10 countries and a higher quantity of available food in 11 countries. Research in Kampala suggests that urban agriculture is an important source of food for the urban poor due to high rates of unemployment (14%) and underemployment (12%) which limits their ability to buy food (Nabulo et al., 2009; UBOS, 2009a). Another study in Kampala found that wealth was the most significant factor impacting household food security; however, this disparity was mediated by UPA (Lee-Smith, 2013). Similarly, increased consumption of produce and animal food sources from UPA was associated with better child health and nutrition levels, demonstrating the importance of UPA activities in meeting household nutritional requirements (Yeudall et al., 2007; Maxwell, Levin & Csete, 1998).

UPA as a livelihood strategy is often of secondary importance as most households only sell what they cannot consume (Sabiti et al., 2014; Sanyal, 1987). For households that do engage in income-generation, urban agriculture can account for a small percentage of the overall household income, representing over 30% of income for only 18-24% of African urban households surveyed (Zezza & Tasciotti, 2010). In Kampala, between one-sixth and one-third of households said that UPA was their main source of income, with its importance being higher in peri-urban neighbourhoods since land is available and rural livelihood strategies persist (David et al., 2010). While UPA is not often the primary source of income, it can be an important second or third source of income for poor urban households (David et al., 2010; Mougeot, 2005). Research in an informal settlement in Lusaka found that farmers earned between 10-20% of their household income from UPA during the rainy season, which was equivalent to $15 to $35 per month in wages (Simatele, Binns & Simatele, 2012). In Dar Es Salaam, UPA was particularly profitable as farmers could earn USD $60 per month, which was 30% higher than the average salary (Nugent, 2000).

UPA also functions simultaneously as a food security and livelihood strategy by reducing the amount of money spent on food, thereby, increasing how much households can spend on other necessities. In Windhoek, Namibia, Frayne (2005) found that urban producers saved an average of USD $7.99 per month in groceries, which was considered a significant contribution to household finances. In Lusaka, Zambia, families saved the equivalent of three months' of an average worker's salary per year (Drescher, 1999, as cited in Mougeot, 2005). These savings help urban families to cope with the rising costs of city living, including housing, school fees and health care (Bryld, 2003).

In addition to the poverty reduction outcomes, recent research has also focused on the environmental benefits of UPA. Waste management is a particular challenge in rapidly growing cities in the Global South. UPA can contribute to waste management and nutrient recycling as farmers purchase food waste at low cost to use as fertilizer and animal feed (Sabiti et al., 2014). A study in Nakuru, Kenya found that households also recycle most of their domestic organic waste and re-use anywhere between 17% to 88% of the wet manure produced on their farms as fertilizer (Karanja et al., 2010). Additional environmental advantages of UPA include the absorption of air pollution by plants, the provision of firewood through forestry and the creation of green spaces which preserves urban green belts (Bryld, 2003).

2.2 Arguments Against UPA as a Development Strategy

While the prevalence of agriculture amongst the urban poor is relatively high in African countries, its potential to improve food security remains contested. Critics argue that it may not be effective at meeting the needs of the poorest populations. Frayne et al. (2014) argue that urban agriculture is not an effective food security strategy for those in absolute poverty, since their research found that household income and landholdings were the most significant predictors of urban agriculture's impact on food security. Similarly, Crush, Hovorka and Tevera. (2010) found that two-thirds of households participating in urban agriculture in the Southern African Development Community (SADC) owned their land, demonstrating how populations with insecure and informal access to land may be omitted from urban agriculture interventions. Research on UPA in Jinja, Uganda found that urban agriculture is a common food security strategy, but that it is not stable due to insecure access to land and employment (Malmberg & Backlin, 2017). This highlights

that a key barrier to successful urban agriculture outcomes is a lack of access to land, which must be addressed in order to make UPA truly accessible.

Furthermore, UPA as an income-generation strategy is critiqued due to the inefficacy of urban markets which make it difficult for producers to reach commercial consumers (Crush et al., 2010). The small scale of UPA production means farmers are unable to guarantee specific quantities in order to sell to formal markets, and the cost of transportation means that they are more likely to sell informally to their neighbours (Sabiti et al., 2014). As producers are unable to participate in formal markets, they often sell their produce from informal markets or farm stands, which are often considered health or safety hazards by city officials and carry the constant risk of eviction (Sabiti et al., 2014). While urban farmers can often supplement their income through UPA, these market barriers may impede on farmers' ability to expand their businesses and develop a sustainable livelihood.

Other researchers have questioned the extent to which UPA can have significant and sustainable impacts on the urban poor. Zezza and Tasciotti (2010) argue that UPA offers direct access to food which can help people to cope during economic crises and times of hardship, however, these impacts are generally quite small and aimed at survival rather than long-term food security. Similarly, Crush et al. (2010) found that only 8% of households in SADC cities obtained food from their own plots weekly, and this was skewed by its popularity in cities with absolute food shortages. The authors further argue that UPA only provides a regular source of food to the poorest areas of cities where it is often practiced by the food insecure, demonstrating the UPA helps households to cope with food insecurity but does not solve it (Crush et al., 2010). Haysom and Battersby

(2016) argue that UPA is not a sufficient strategy for tackling widespread food insecurity since it conceptualizes the issue as a household poverty problem, and obscures the systemic contributing factors including unequal access to productive resources, to knowledge and to social networks as well as governments' unwillingness to regulate the food and agriculture industry. Frayne et al. (2014) suggest that the promotion of UPA unjustly places the burden of escaping poverty on the urban poor, and development policies must actively invest in and support UPA if it is meant to be a pro-poor strategy.

2.3 Women in UPA

As the previous critiques highlight, challenges such as food insecurity and unequal access to resources are shaped and experienced across multiple levels. One branch in the literature that remains understudied is the role of women in urban agriculture and how issues of food insecurity, poverty, and inequity are experienced at the intra-household level. Since women are often the most food insecure and tend to have less access to employment and education than men, a gendered analysis of urban agriculture is useful to investigate the experiences of women in urban food systems. Crush et al. (2010) argue for the importance of using a gendered analysis in food systems since "recognizing the centrality of gender dynamics leads to addressing key local and structural issues and processes". Similarly, Slater (2001) argues that individuals within farming households may have different interests and responsibilities in urban agriculture; therefore, research must address these gendered conflicts. As such, this research will use a gendered analysis to investigate women's participation in urban agriculture and its impact on gender relations.

As a food security strategy, urban agriculture appears to be particularly important for women. Women and girls account for 60% of the world's chronically hungry (Nantale et al., 2017), which highlights the importance of centering women in food security strategies. 92% of women farmers in Buea, Cameroon considered UPA their most important source of calories and protein, compared with only 35% of men farmers (Ngome & Foeken, 2012). Nevertheless, in a study of women's participation in urban agriculture in Kampala, Nabulo et al. (2009) argued that women were more exposed to health hazards due to cultivating degraded and hazardous lands, labour divisions that put them in contact with contaminated water and soil, as well as contact with contaminated foods during cooking. Despite the health hazards, women were more dependent on urban agriculture for food and income than men due to a lack of land rights and employment opportunities (Nabulo et al., 2009).

Women are the primary producers in UPA due to the fact that women are usually responsible for their household food procurement as well as because agriculture can be accommodated alongside women's daily household duties (Bryld, 2003; Kiguli, 2004). Women in Kampala provide around 80% of the urban farming labour, while men are often involved in providing cash for inputs and access to land (Maxwell, Levin & Csete, 1998). Their motivations for participating in UPA are the rising real cost of living in the city and their economic circumstances which prevent them from adequately providing for their family's nutritional needs (Maxwell, Levin & Csete, 1998).

Household relations also influence women's UPA activities and outcomes. Since women often have little say over the allocation of their husband's income, UPA ensures women have a source of food that is not dependent on cash and also allows them to save

money for emergencies (Maxwell, 1995). Musiimenta (2009) found that savings from UPA allowed women to have more spending money for themselves. Research in Kampala also found that,

> In conjugal households where incomes are not pooled, farming is specifically a strategy of women to protect or supplement their other sources of cash income and to assert some control over a source of food for their families that is not dependent on either the urban food market or their husband's income. (Maxwell, 1995: 1673-1674)

Since UPA can be done from home, women often keep the income earned from UPA a secret from their husbands' in order to preserve men's perception of UPA as a marginal activity and ensure that they don't reduce their economic contribution to the household (Maxwell, 1995). In a context of intrahousehold conflict over income and other resources, women's UPA activities have to be understood not only for their economic impacts but also how they interact with, influence and are shaped by gender relations.

Much like traditional rural agriculture, there appears to be a gendered division of labour in urban agriculture where women undertake the majority of the work (Crush et al., 2010). However, gender roles in urban contexts are constantly being renegotiated in the face of changing social, economic and political conditions. A study in Botswana investigated women's participation in urban poultry production where high rates of female farmers suggested changes in social and cultural roles that allowed women to "realize greater economic and social empowerment" (Hovorka, 2006a). Similarly, Slater (2001) criticizes the emphasis on utilitarian understandings of urban agriculture in existing literature that fails to adequately understand women's experiences. She uses life histories of women in Cape Town to investigate the ways urban gardening contributes to female empowerment beyond economics, including as a response to trauma, a source of stability, a site of household power negotiations, and through the development of social

networks. Women's roles in urban agriculture and their impacts are negotiated within power dynamics and gender roles. In this study, the potential for urban agriculture to benefit and empower women will be evaluated by assessing how urban agriculture training programs increase women's access to and control over vital resources, their decision-making power, as well as their social and economic well-being.

2.3.1 Constraints on Women in UPA

UPA is considered to be a coping strategy particularly suited to women as it enables them to combine their multiple domestic roles and social responsibilities, including reproductive labour, household tasks, food preparation, income-generation and environmental management (Hovorka, 2006b). However, women are often economically disadvantaged, have less access to resources and more responsibilities than their male counterparts which ensures that they face gendered barriers in their agricultural activities (Hovorka et al., 2009; Hovorka, 2006a; Obuobie et al., 2004). Access to resources in order to carry out UPA, access to and control over the benefits of UPA and decision-making around the UPA activities are all gendered issues that arise in the context of unequal gender relations that impact women's agricultural outcomes.

One of the most significant constraints to UPA is access to land. Farming in Kampala city is carried out predominantly on public land, around homes and buildings, and in small backyard gardens, while in peri-urban areas, farmers have slightly larger plots of land (Vermeiren et al., 2013). Similarly, in Jinja, urban farmers often farm on semi-public land such as behind hospitals and schools or on land accessed through their employer, which encourages farmers to plant short-cycle crops since they are not guaranteed access to land for the following seasons (Malmberg & Backlin, 2017). The security of land

tenure is directly related to UPA outcomes, since research in Southern Africa found that leased land had higher yields than rented land, which had higher yields than agriculture on public lands (Frayne, McCordie & Shilomboleni, 2014).

Access to land is particularly challenging for women since it is largely owned and control by men. Women's access to land is often mediated through their relationships with men which means they have insecure tenure and decision-making power. Women in Uganda are discouraged from owning land under customary law, so they are often allocated only enough land for subsistence farming rather than commercial activities (Nabulo, Kiguli & Kiguli, 2009). Since women are less likely to own land, they often rely on other methods of obtaining it such as renting or borrowing from friends and neighbours which encourages farmers to plant low-value, annual crops (Gabel, 2005; Maxwell, 1995). Both gendered household relations and cultural norms impact how land is used by women in UPA, so a gendered analysis can help to explore how agricultural activities are shaped by these roles.

Recent literature on urban agriculture in Sub-Saharan Africa has also highlighted that access to and the effective use of inputs is necessary to combat pests and diseases, including high quality seeds, pesticides, fertilizers and water. However, access to these inputs is a significant challenge for farmers due to their high cost (Musiimenta, 2002). Frayne et al. (2014) found that wealthier farmers were the most likely to benefit from urban agriculture since they had enough capital to purchase inputs such as pesticides and fertilizers, which resulted in higher yields. Research in Jinja, Uganda corroborated these findings since their research showed that economic status contributed to farmers agricultural outcomes by impacting whether they could afford to buy pesticides and high-

quality seeds (Malmberg & Backlin, 2017). Wealth is also related to access to water, since low-income urban residents are more likely to be vulnerable to water pressures as they may not have reliable access to water sources during the dry season and they may farm on plots of land without easy water access (Sanyal, 1987).

Research on women in urban agriculture has highlighted that women face greater barriers to accessing important inputs for their farming, hindering their ability to increase yields and grow their agricultural activities. A study in Buea, Cameroon found that more male farmers than female farmers used improved seeds since the higher cost of the seeds in comparison to conventional seeds made them difficult to afford. Unmarried women in particular faced financial constraints and were the least likely to use improved seeds (Ngome & Foeken, 2012). In the same study, the researchers found that the largest problem for both male and female farmers was the high cost of chemical fertilizers and pesticides, however women in particular stated that the high cost of these inputs was the biggest barrier preventing them from cultivating high-value crops. Studies in Kampala have also demonstrated similar findings. Nabulo, Kiguli and Kiguli (2009) found that more women than men reported having to purchase seeds each season, at rates of 88.2% and 65.5% respectively, which places a significant financial burden on women who are unable to save seeds due to land constraints and household food needs.

Women's lack of access to inputs is exacerbated by their insufficient access to knowledge around how to use them effectively and efficiently, endangering the environment as well as the health of both farmers and consumers (Hovorka et al., 2009; Obuobie et al., 2004). A study in Lomé, Togo found that pesticide and fertilizer misuse was widespread despite the environmental and health risks since farmers could not access

extension services to learn the most effective methods of controlling pests and diseases (Tallaki, 2005). Women's urban agriculture outcomes in particular are often limited by their lack of knowledge and information regarding inputs and technologies, which is exacerbated by their marginalization from extension services (Hovorka, de Zeuw & Njenga, 2009; Croppenstedt, Goldstein & Rosas, 2013).

The gendered division of labour is also an important consideration in women's UPA activities since men and women have different household roles and responsibilities. Although UPA is predominantly carried out by women, their agricultural outcomes often depend on their position within the household and their power over household decision-making. Households are not isolated units but are sites of conflict and negotiation between a variety of actors with multiple roles and responsibilities (Meinzen-Dick et al., 2011; Slater, 2001). Research in Kampala highlighted that men often pursue employment activities with financial benefits, while women's higher domestic responsibilities lead them to pursue tasks near the home focused more on economic and food security (Kiguli, 2004). The division of responsibilities can act a barrier to women's success in UPA as it limits the time and income they can invest in the farm, as well as the distribution of the benefits (Nabulo, Kiguli & Kiguli, 2009). A gendered analysis is useful to understand how decision-making power and access to resources such as labour and income is divided within households and how that impacts agricultural outcomes.

2.4 Support for UPA

Many researchers have identified skill and knowledge building training programs as a key intervention to support female urban farmers. (Ngome & Foeken, 2012; Nantale et al., 2017). A study in Nairobi, Kenya found that the percentage of farmers who had a

medium dietary diversity level increased from 70% to 86.7% after they received UPA training and nutrition education, demonstrating the importance of promoting diverse crop cultivation for household food security (Njogu, 2009). In addition to household food security, 50% of the farmers were able to grow surplus produce that they sold to generate income which illustrates how support for UPA can contribute to improved livelihood strategies for the urban poor. Similarly, other research in Nairobi found that participating in UPA training meant that women had more opportunities to build food-related businesses, which could contribute income and alleviate poverty in their households (Tye, 2012). Past women graduates from the training program stated that they had reduced their food expenditures, had increased their incomes, and had a constant, steady supply of food to meet their family's needs.

Beyond these economic measurements, Hovorka (2006b) argues that "in order to benefit rather than burden women, the promotion and support of urban agriculture must take on an emancipatory agenda, which supports individual, practical and strategic goals and ultimately challenges the structural conditions that give rise to women's involvement in this activity in the first place"[2] (51). She suggests that these interventions can come in a variety of forms depending on the needs and goals of the women involved, however they should not be limited to economic and food security initiatives since women also benefit from learning skills, building confidence and participating in decision-making processes (Hovorka, 2006b).

[2] Practical and strategic gender needs are key concepts in Gender and Development literature. Practical needs refer to women's immediate and daily needs while strategic needs involve an analysis of women's subordinate position and the identification of preferred alternatives, such as gender equality (Molyneux, 1985).

A study of UPA in Botswana found that a woman who received training and financial support from the government not only achieved economic security, but also earned the respect of her husband and other community members and gained the confidence to further expand her poultry business using her social networks (Hovorka, 2006b). Research from Cape Town suggests that NGO training programs are vital for women as they increase their self-confidence in their cultivation abilities and provide education about business skills and market access that can help women commercialize their agricultural activities (Olivier & Heinecken, 2017). These researchers argue that training programs challenge patriarchal structures by hiring female urban farmers as garden managers, extension workers, and group leaders.

Training and service programs also help women farmers to expand their social networks with both personal and professional contacts which helps them to achieve positive outcomes on their farms and in their businesses (Hovorka, 2006a). By connecting urban communities with NGOs and government services, these programs create linkages between the urban poor and other actors that can increase their access to resources and build a sense of self-reliance. Additionally, by participating in NGO training programs, women make friends and engage with their communities, which can help them to access resources such as land, inputs and capital (Slater, 2001; David et al., 2010). For example, research in Nairobi found that farmers who participated in the training program collectively identified access to water as a problem, so they organized as a group to contribute money in order to purchase water pipes and meters (Njogu, 2009). Past participants in another Nairobi program had also organized into groups in

order to trade seeds, produce and knowledge and were helping their neighbours to begin farming as well (Tye, 2012).

Finally, UPA training programs have helped to increase women's self-esteem and provided them with a sense of accomplishment that leads to broader changes in women's resilience. Women often feel pride during harvests and experience pleasure when sharing their garden and the produce with their families, friends and neighbours (Gabel, 2005). While many urban women farmers do not have much formal education, these programs increase women's belief in their own capabilities which encourages them to expand their commercial cultivation and reduces their vulnerability (Olivier & Heinecken, 2017).

While many of these studies have highlighted the livelihood, social and personal benefits of UPA training programs, they have not explicitly dealt with how UPA can influence gender relations in order to challenge women's marginalized positions. Hovorka (2006b) notes, "most women need strategies to cope with the constraints of their present situation, before they can take on the task of transforming it" (56). In particular, women's experiences in peri-urban areas have been understudied, however it is vital to understand the challenges women face in these rapidly growing and changing environments as well as whether UPA is a valid strategy to support them through these transitions. Food security, livelihood security and gender relations are not distinct phenomena as they often interact and are impacted by external social, political and economic forces. Therefore, this paper contributes to the literature by investigating women's UPA experiences in peri-urban areas while also recognizing the complexity of women farmer's positionality and agency. In this paper, the Caritas Kampala UPA programs will be investigated in order to identify how the programs impact women's

daily constraints, and whether they have been used to help women negotiate change in broader gender relations.

Chapter 3: Feminist Political Ecology

This research will use a Feminist Political Ecology (FPE) lens to examine how urban agriculture training programs impact women farmers in Wakiso, Uganda. In particular, this framework will be used to explore how women's participation in urban agriculture training and service programs run by Caritas impacts their access to and control over resources, their participation in household decision-making and their social relations.

3.1 Political Ecology

FPE originates from political ecology (PE), which uses social, political and economic contexts to understand environmental practices and processes of environmental change (Rocheleau, Thomas-Slayter and Wangari, 1996; Bryant, 1998). PE includes a focus both on structural issues that shape and reproduce inequalities as well as the ways these inequalities manifest in daily interactions (Hayes-Conroy & Hayes-Conroy, 2013). Rather than assuming that resources are neutral, apolitical environmental objects, a PE analysis allows researchers to investigate how these resources are constructed within various social, political, economic and ecological relations (Yapa, 2002). A PE analysis recognizes that the various levels of inequity interact and are reflected in individuals' lived experiences and emotions around their environment, ecology and food (Hayes-Conroy & Hayes-Conroy, 2013). Using a PE lens also allows for "narratives that are complex, contradictory, and unfinished" while acknowledging that results are often partial, fluid and specific to the moment of research (Hayes-Conroy & Hayes-Conroy, 2013: 86). Human-environment relations are constantly negotiated within changing socio-political contexts, which requires an acknowledgement from researchers that

communities are not heterogeneous nor static as they navigate local and structural power relations.

Within agricultural development research, this framework helps to understand how inequality, injustice and power are expressed through investigating issues that are important to the community in question (Chandra, McNamara & Dargusch, 2017). PE research has shown the unintended consequences that agricultural development projects can have when they are developed without a thorough understanding of the context and the various factors that interact with agricultural changes, such as increasing intrahousehold conflict or constraining access to resources for certain groups (Carney, 2002). PE also shows that development interventions are not politically neutral nor are the environmental practices that are being addressed. PE investigates the strategies that farmers use in response to social, economic and political relations and how these strategies impact their ecological practices (Schroeder, 1993). PE recognizes the multiple overlapping social, ecological and political-economic processes that impact the success or failure of development interventions, making it an ideal approach for investigating how social differentiations shape who participates and benefits from these programs (Nyantakyi-Frimpong & Bezner-Kerr, 2015).

3.2 Feminist Political Ecology

FPE emphasizes gender as a key variable that interacts with other positionalities such as class, race, and ethnicity in order to investigate the link between power and ecological practices (Rocheleau, Thomas-Slayter and Wangari, 1996). An FPE analysis uncovers the "everyday dimensions of resource inequality through directing attention to the ways daily practices are produced by, and productive of, gender, class, and other social power

relations" (Truelove, 2011: 143-144). Rather than isolating gender, FPE incorporates analyses of identity and difference in relation to ecological practices and conflict. FPE understands gender relations as social constructs embedded in particular contexts, which then inform environmental interactions (Jarosz, 2011). Within local contexts, gender relations influence and are shaped by economic, social, and political processes. Gender relations interact with other positionalities and work within power structures to shape environmental experiences and interests (Thomas-Slayter, Rocheleau, and Wangari, 1996).

One of the key themes within the FPE framework is the analysis of gendered rights and responsibilities. FPE recognizes that the rights to access and control over resources are often gendered, as are the responsibilities to gather and maintain resources for a household or community. Rights to access and control environmental resources generally reflect gendered power relations, meaning that men tend to hold legal rights to land and resources while women's rights are customary and therefore less secure. However, women often bear a disproportionate responsibility to procure and maintain environmental resources for a household or community, despite having little control over how the resource is used (Rocheleau, Thomas-Slayter and Wangari, 1996). An FPE approach analyses how power relations are embedded within the gendered use of and control over resources (Rocheleau, 1995b). Using an FPE framework also requires recognition that claims over resources are constantly shifting in response to changing needs and power relations, resulting in ecological resources that become sites of contention and conflict. (Rocheleau, Thomas-Slayter and Wangari, 1996). While there are significant power struggles that impact resource use, FPE pays

attention to women's agency and the ways that women navigate and redefine their situations (Kimura & Katano, 2014; Hovorka, 2006a).

Another major theme for investigation within FPE is the gendered division of knowledge, specifically related to survival strategies within an individual's environment. Gendered knowledge is often learnt and expressed through everyday life: "Women's multiple role as producers, reproducers and 'consumers'" require women to develop knowledge and abilities in order to address household, community and ecological systems simultaneously (Rocheleau, Thomas-Slayter and Wangari, 1996: 8). Kimura and Katano (2014) suggest that FPE "complicates the analysis of environmental conflicts by shedding light on gendered knowledge claims" (110). Similarly, Jarosz (2011) argues that this framework helps "to explain how women's knowledges and the gendered division of labor are critical in understanding environmental degradation and change" (308). Rather than accepting the trope of women as biologically connected to nature, FPE argues that gendered knowledge and abilities are socially constructed within specific cultural and historic contexts.

More recent scholarship on FPE has also emphasized how particular affective experiences and embodied emotions mediate ecological practices, conflict over resources and other human-environmental struggles (Hayes-Conroy & Hayes-Conroy, 2013). Mollett and Faria (2013) suggest that environmental practices are embodied experiences that operate through women's particular subjectivities as they negotiate resource rights. Similarly, Sultana (2011) argues that the processes of access, use and control of resources are entangled with emotions which are critical in understanding how human-environment relations operate in everyday life. Paying attention to women's emotions, values and

relationships can extend awareness of the complexities of women's agency and the ways that these emotions mediate daily resource practices.

Critical scholarship on FPE has suggested that attempts to mainstream this approach have stripped it of its critical and political nature since it has been institutionalized in techniques that do not embody the transformational potential of gender. Elmhirst (2011) argues for a post-structuralist FPE that destabilizes gender as an analytical category in order to emphasize the multiple, fragmented identities that people occupy which are constituted through social relations. Similarly, Mollett and Faria (2013) argue that race and other subjectivities are often incorporated under the same umbrella of gender in FPE which obscures how patriarchy, racism, and capitalism mutually permeate human-environmental relations and shape women's oppression. Consequently, future FPE research must recognize that gender, race, class and other identities are both intersectional and unstable categories in order to examine the ways that they are constituted and contested within environmental practices and ecological change.

3.3 Power and Empowerment in FPE

Power is a central concept in FPE since power relations often shape gender norms and regulate the division of resources. The practice of accessing and controlling resources is "often achieved via one's positions and relationships within households and communities," which demonstrates how power impacts who benefits from particular resources as well as how and by whom they are used (Truelove, 2011: 146). Kabeer (1999b) conceptualizes power as "the ability to make choices," specifically strategic choices that shape and contribute to one's quality of life (2). She further argues that the conditions and alternatives around choices, the consequences of the choices, and the

ability of the choices to destabilize or reproduce social inequalities all serve as indicators of power.

Employing an FPE lens in this thesis entails a focus on women's empowerment within environmental struggles (Mollet & Faria, 2013). However, empowerment is not a single, linear measurement or variable. Power relations are not static as women are constantly renegotiating their marginalization and circumventing the conditions that impose these constraints (Hovorka, 2006). Kabeer (1999b) argues that empowerment is a process of change where "those who have been denied the ability to make choices acquire such an ability" (2). Kabeer (2005) suggests that the three main components of empowerment are agency, resources and achievements. Agency refers to the processes through which choices are made and enacted. Resources refer to the means through which this agency is exercised, including the distribution of resources and the ability to enforce claims on them. Finally, achievements refer to extent to which these choices and resources have enabled women to move towards the life they want. Agency can be effective when it increases women's capacity to carry out their gendered roles; however, it is transformative when it enables women to challenge these roles and restrictions. It is important to note that empowerment is shaped by context, so opportunities such as access to resources will be realized in different ways by women according to social relations and their life histories (Kabeer, 1999b).

Empowerment can be analyzed at different levels, including in households and communities, as well as in larger institutional and systemic structures. Studies have shown that increased access to and control over resources for women is likely to lead to changes in intrahousehold relations such as a reduction in male violence and inclusion in

decision-making processes, but less likely to lead to changes in the public sector. Kabeer (1996b) argues that changes in intrahousehold gender dynamics are more likely to occur since changes in the public sector become embroiled in powerful community norms that restrict behavior and use emotions of shame to destabilize power shifts. However, as Kabeer (1999a) and Slater (2001) both argue, shifts at the household level and institutional changes are not mutually exclusive nor necessarily the goal of every project, so researchers should understand the context and experiences of women's daily lives to uncover whether they have ultimately benefitted.

Empowerment is also multidimensional as gender inequality manifests across multiple dimensions in women's lives, including social, economic, political and psychological (Mason, 1986). Women can experience various levels of power and empowerment based on their multiple positionalities, which indicates that women can experience empowerment and interventions in different ways. Similarly, empowerment that occurs in one dimension of women's lives does not guarantee that empowerment will occur in other dimensions (Malhotra & Schuler, 2005). However, dimensions often overlap and the boundaries between them blur since they constitute the complex, shifting realities of women's lives. While this thesis draws on notions of social and economic empowerment, these terms can encompass a range of changes for women farmers that are not straightforward nor necessarily separable.

Within development, empowerment does not necessarily occur through the interventions themselves, but rather through the creation of alternatives and shifts in consciousness that women experience when they participate. Hovorka (2006b) suggests that women who participate in commercial urban agriculture in Botswana and receive

institutional and/or social support improve their social and economic empowerment as they make claims on marginal resources and use their incomes to negotiate their disadvantaged positions. After conducting research with women urban farmers in Cape Town, Slater (2001) argued that empowerment should not be reduced to economic outcomes as women experience multiple benefits including finding a space to exercise control beyond societal constraints, renegotiating household food practices, and building social support networks that enable women to pursue social action and assert their identity.

The use of empowerment in this thesis draws upon many of the definitions and nuances in the literature described above, while also recognizing that this is a complex concept that can mean different things to the women who are the subject of UPA research. In this thesis, empowerment refers to processes that result in a variety of changes in women's circumstances, opportunities, resources, and choices (Kabeer, 2005; Hovorka, 2006). These changes can occur at multiple scales, however they ultimately refer to women's perceptions of improved conditions in their economic, social, political and personal lives.

3.4 FPE in Practice

As Elmhirst (2011) notes, many studies apply FPE principles and tools; however, they do not always identify explicitly with the framework. Despite the relative lack of self-identified FPE studies, it is useful to examine the studies that exist in order to understand how FPE as a theoretical framework is practically applied in development research.

Sultana (2011) applied an FPE framework to rural women's water collection practices in Bangladesh. She investigated how processes of water access, use and control are

impacted by issues of geography and wealth, social norms that dictate behavior as well as emotions of both joy and pain as women struggle to provide safe water for their families. She found that the terms of access for women without their own safe tubewells were not static, which also demonstrates how power relations can change and how they mediate control, access and use of resources. Focusing specifically on the emotional geographies of women, she noted that distress became part of the process of obtaining water each day as did negotiating power relations and social hierarchies shaping access. Women expressed many emotions associated with water collection, from the physical pain of fetching water, the belittlement they endured in order to use someone else's tubewell, as well as the relief at being able to provide water. These emotions also influenced how women responded to social interactions, as some women felt guilt and shame to the extent that they used unsafe water sources to avoid conflict over resources, while others carefully monitored their behavior and endured upsetting relationships in order to maintain or secure their access. Sultana (2011) ultimately argues that "feminist political ecology can engage emotional geographies literatures to further contribute to the scholarship on resources management and the gendered subjectivities that are produced and negotiated through resource conflicts and management practices" (171).

Truelove (2011) also focused on water collection practices, specifically of women in informal settlements in Delhi, in order to analyze how daily practices of resource inequality produce and are produced by gender, class, and other power relations. She uses an FPE analysis to investigate how these everyday practices are constituted at multiple levels, from the body, to the household, to the urban environment. She argues that the social meanings of gender and class get transcribed onto women's bodies through both

the physical act of water access as well as the social and emotional consequences of these practices. Since women and girls are socially ascribed the responsibility of water access, the dangers and consequences of water and sanitation are unequally distributed between classes and genders. Changes in the spatial distribution of water access for low-income women also impacts their life opportunities as it can have implications for their safety, their time, and their labour burden. This analysis applies and extends FPE to emphasize how gender and class structures, including the unequal distribution of resources, shape women's lived experiences and daily practices.

Research in Japan following the Fukushima nuclear disaster applied an FPE lens to examine divergent perspectives on the risks of nuclear contamination for farmers using economic, political and gendered analyses (Kimura & Katano, 2014). This research identified three main areas of tension over the evaluation of risk, including tensions with consumers, tensions among farmers, and tensions within families. By applying an FPE framework, the authors disrupted the notion of communities and households as homogenous units, and instead investigated how environmental conflicts were related to gendered knowledge and social roles. Tensions within families revealed gendered divisions in how family members understood the risk of nuclear contamination, as women had a greater perception of the health risks; however, they often had little say in the decision about whether the family stayed on their farms. As the authors note, women's heightened perception of risk should not be attributed to an inherent maternal instinct and ecological connection, but rather to sociocultural factors such as women's responsibility for their children's wellbeing. National and cultural discourses that view women's reactions as emotional and irrational while men are considered calm also

contributed to men's dominance in decision-making over responses to this disaster. However, women's agency within these constraints is also crucial to consider, as this study found that women did not exhibit a homogeneous reaction to the crisis, but instead each individually negotiated their personal circumstances and the national context in the decision to either quit or continue farming.

Some studies have also used FPE to investigate urban gardening in various contexts. Jarosz (2011) examined women's motivations for participating in community-supported agricultural projects in and around Seattle. Since women represent a small portion of farmers in general in the US but account for 40% of CSA participants, the author incorporates ethics of care literature with an FPE analysis to investigate "how women's interactions with the environment through cultivation and caring practices are socially constructed" (311). The focus of the article was on women's motivations for engaging in these alternative farming systems. It found that the primary explanation was a desire to re-orient their lifestyle towards a profession that reflected the women's personal values and meaningful practices, followed by a love of growing food to nourish themselves and the wider community. While gender and class relations mean that care work is done primarily by women, Jarosz demonstrated that the work itself and the motivations behind it "can also be defined as embodied, liberatory ethics of self-care" (322).

Finally, Hovorka (2006a) used an FPE analysis in her research on commercial poultry farming in Botswana. She argued that FPE is a suitable lens for this research as it "aims at analysing gendered experiences of and responses to environmental and political–economic change that brings with it changing livelihoods, landscapes, property regimes and social relations" (209). In particular, within the context of urban transformations, her

analysis examined unequal access to resources as well as how women navigate and redefine their situations and constraints. Despite inequality in the distribution of resources and livelihood opportunities, both men and women in Gaborone participate in commercial poultry production in even numbers. While men were motivated primarily by a desire for higher incomes, women needed the incomes for subsistence and survival, although they too farmed for profits and upward mobility. She also found that women experienced social benefits since there was a cultural appreciation for agrarian lifestyles as well as increased social networks. While middle-income women faced lower barriers to accessing land through government support, low-income women excluded from these programs make claims over marginal land and used informal marketing networks to sell their goods from their homes. Hovorka's research highlights how gender roles are changing within rapidly urbanizing cities as well as how women assert agency within their disadvantaged positions to find spaces for social and economic empowerment.

These case studies demonstrate the important insights that FPE offers as an analytical lens. First, access to and control over environmental resources often involves complex power dynamics that change over time and are negotiated between actors. It is vital to recognize that these power relations as well as the presence of resources are not static and therefore can shift in unforeseen ways with different consequences for women and men across various social strata. Second, FPE emphasizes agency. Women have gendered knowledge and experience that shape their choices around resource use. While these choices can be constrained by social inequalities, an FPE analytical lens centers the experiences, emotions, goals, and perspectives of the women participants which acts as a way for research to resist the marginalization of women's voices. Finally, these case

studies have shown that preconceived notions of environment and gender should constantly be questioned as these relations are often constructed by external social dynamics. Women's choices and actions should not be ascribed to nature or norms since these roles are often influenced by social forces that women acquiesce to or resist due to their personal agency.

3.5 FPE and UPA

As the above section has shown, FPE is useful to understand how women's interactions with and knowledge of their environment are influenced by power and gender relations. In the case of UPA, an FPE analysis helps to reveal how women's access to resources and information mediates and is mediated by their position within household and social structures. Hovorka (1998) suggests that key questions for researchers investigating the gender dynamics of UPA include "what are the implications of the gender divisions of labour, resources and benefits of a particular UPA system," "what economic [and political] inputs, services and resources for UPA do men/women have access to and control over," and "who can access information on UPA activities," among others (14-16). Similarly, she suggests that research should "explore activities and resources within a particular UPA system in relation to socio-cultural notions of male/female roles, responsibilities, obligations…[and] decision-making processes" (26-27). These questions will influence this research by emphasizing how gender and other social differentiations interact with power relations at the household and community level to impact women's UPA activities and outcomes.

The FPE framework is useful in order to employ a joint analysis of the intersections between food production and gendered rights and responsibilities for women farmers in

Wakiso. This lens is appropriate for my research since it examines how gender relations shape women's environmental practices, focusing specifically on access to and control over resources and knowledge. Furthermore, an FPE analysis emphasizes women's agency, which will be applied in this paper by recognizing how women make choices for their farms and assert control over resources and benefits while navigating their personal gendered constraints. By focusing on the Caritas training and services, FPE facilitates an analysis of how female farmers are situated within particular gender relations and employ environmental practices which may be shifted or impacted based on participation in UPA programs.

Chapter 4: Methods

4.1 Motivations Behind the Case Study

This research project was first conceptualized in the fall of 2017 at Dalhousie University, Nova Scotia, Canada. This project grew out of an interest in local food systems and food security in the context of globalization, urbanization and feminist movements. As was discussed in Chapters 1 and 2, urban and peri-urban agriculture (UPA) is of growing interest to researchers and development organizations due to rapid changes to the environment and to livelihoods in the Global South. As these changes occur, men and women are differentially impacted due to gender norms and the gendered divisions of labour and resources that impact livelihood choices and agricultural outcomes. Despite the growing recognition that UPA is an important and lasting livelihood strategy, there have been few studies that have examined how women urban farmers can be best supported in order to enhance their livelihood opportunities and to have meaningful impacts in their lives and communities. As a result, this research project examines the impacts of the Caritas UPA training program on women farmers in order to identify how these programs and strategies impact women's access to and control over resources, decision-making power, and broader gender relations at the household and community levels. Beyond these specific questions, this research hopes to understand how UPA training programs can benefit women by centering on women farmer's own experiences and positions.

4.2 Methods

This research relied exclusively on qualitative methods. Previous quantitative studies have been effective in providing policy-makers and government officials with statistics to

promote support for urban agriculture. However, as Slater argues, they are often "devoid of reflections on the complexities of people's social and cultural experiences and the dynamics of their households and communities" (2001: 641). Qualitative research is more suitable when examining the diverse of experiences of the women who participate in peri-urban agriculture. Qualitative methods are used to "explore the meanings of people's worlds" (Brockington and Sullivan, 2003: 57), including how they interact with social structures and what motivates their behavior. Similarly, FPE as a conceptual framework requires qualitative methods in order to examine the interactions between gender, power, and the environment.

For this research, I partnered with Caritas in order to investigate how their UPA programs are impacting women farmers and to draw broader lessons about how agricultural support and training services can benefit women and gender equality. This fieldwork was conducted over a total of 13 weeks during which time I was based in Kampala and would travel to Wakiso to meet with farmers. The data for this thesis was collected through transect walks and semi-structured interviews. Transect walks were used in this research as a method to talk with women and men farmers and to explore their experiences. Transect walks are a useful method to explore local ecological knowledge and practices (Mahiri, 1998). Transect walks are a technique where the farmer takes the researcher through their farm plot and discusses a variety of topics, including crops, farming activities, plans for the farm, and problems they may face. It allows the farmer to talk about information that they consider important while also providing the opportunity for the researcher to ask relevant questions and to access pertinent data that may not have been considered. Transect walks are also a useful method to clarify

information, through linking conversation with observations and practices (Oudwater & Martin, 2003). This method is useful within an FPE framework because it values and recognizes the gendered ecological knowledge produced through women's experiences.

All farmer participants in this study were identified through snowball sampling, in which Caritas connected me with farmer group leaders or sub-county chairpersons, who then introduced me to other farmers in their area, both within their group and from other farmer groups (for an overview of participants, see Appendix A). Transect walks were conducted with 33 women farmers and three men farmers, including one married couple who participated jointly. Either prior to or after transect walks, I often sat with farmers and conducted additional discussions in order to clarify information or to talk in greater depth. There was also one woman farmer and two men farmers who were interviewed rather than participating in transect walks either due to the farmer's health or the distance of their farms. I also conducted a follow-up interview with one woman farmer at the end of the fieldwork who I had previously met for a transect walk. She was chosen for a follow-up interview since she had been working with Caritas for many years and held multiple leadership positions in her group and community. The duration of these transect walks and discussions ranged from 25 to 90 minutes. All transect walks, discussions and interviews with farmers were recorded, with the full, informed consent of participants.

The average age of women participants was 50 years old and the average age of men participants was 49 years old. The oldest woman farmer that I spoke with was 73 years old, while the youngest was 25 years old. The oldest man farmer participant was 90 years old while the youngest was 30 years old. 21 of the women farmers were married, nine were widowed and four were single or separated. Of the men farmers, four were married

and one was a widower. The farmers who participated in this project were members of eight different farming groups located in various parishes throughout Wakiso. The parish closest to Kampala was 15 km away while the furthest parish was located at a distance of 38 km.[3] While only one of the groups that I met with was composed solely of women, they represented the majority of each group, with male members accounting for a maximum of 33% of total members, but often much less.

The majority of transect walks and interviews were conducted in Luganda, the native language of the Baganda people who live in the Buganda Kingdom which comprises much of Central Uganda. While many of the farmers also understood or spoke some English, they were most comfortable communicating in Luganda. As I do not speak Luganda, a research assistant (RA) who recently graduated from Makerere University was hired. She was present at all of the transect walks and interviews with farmers in order to translate between myself and the farmers. While there were some limitations to using a research assistant, as will be discussed in section 4.4, she was ultimately an invaluable partner in the research process. Her role in the project went beyond translation: she coordinated via phone call with farmers to introduce the research project and establish a time and location for us to meet, she organized our transportation to ensure that we arrived at the transect walk locations on time, and she contributed insights into many of the transect walks that enriched the discussion that will follow in Chapter 5 of this thesis.

Interviews with experts were semi-structured in order to ensure that relevant data was obtained while allowing research participants to share what they thought was most

[3] Distance measured from the parishes to the New Taxi Park, which is located in Old Kampala.

important. In total, four staff members of Caritas were interviewed including one woman and three men. The staff members were chosen due to their experience working with peri-urban farmers in Wakiso and their knowledge of the various constraints and opportunities facing farmers in Uganda. Interviews were conducted in English, were recorded, and ranged from 30 to 50 minutes. The interviews were used to supplement and compare data obtained through transect walks, which deepened the understanding of how gender relations are produced and negotiated within women's peri-urban agriculture activities. These interviews also contribute to the validity and reliability of the data through triangulation.

4.3 Site Details

Wakiso district is located in Central Uganda and borders Kampala, Uganda's capital and largest city. Wakiso spans 2 807.7 km^2 and has a population of nearly 2 million people, a figure which has more than doubled since 2002 (UBOS, 2009b; UBOS, 2017). Of the 2 million people, approximately 1.7 million are considered to live in urban areas within the district (UBOS, 2017). According to the 2014 census, 73.8% of households have male heads, while 26.2% of households are female-headed. 13.8% of households depend on subsistence agriculture as a main source of livelihood, while 91.3% have at least one member of the household engaged in a non-agriculture enterprise. 27.2% of households engage in crop growing, with the most common crops being maize, beans, sweet potato, and matooke.[4] 25% of households are engaged in livestock farming. In total, 37.5% of households in Wakiso participate in at least one of these agricultural activities (UBOS, 2017).

[4] Matooke is a variety of green banana that is a staple food in Ugandan diets. Matooke is often mashed and served alongside a meat, peanut or bean sauce.

4.4 Fieldwork Challenges

While I did not encounter any significant challenges while conducting fieldwork, there are a few limitations to this study that ought to be addressed. What follows is a list and discussion of the challenges and limitations of the project:

Organization Affiliation: Working with Caritas Kampala had many positive impacts on this project, including access to local and expert knowledge, and introduction to farmer participants that had undergone UPA training. However, while collaboration with an existing UPA training program was necessary for this project, it may also have inadvertently impacted participants' responses and experiences with the research. As Mercer (2006) notes, local NGOs have existing relationships with community members which can impact how participants interpret and respond to your research questions. I emphasized to participants that this project was studying the Caritas program but was not directly affiliated with the organization and that their responses would be anonymous and confidential. However, requests from a few participants for additional resources and training suggests that they may have maintained a perception that we could influence Caritas' programming. In these cases, I did my best to re-iterate that I had no power over those decisions, but passed on the general feedback to Caritas at the end of the fieldwork. It is unclear to what extent this affiliation may have impacted farmer responses; however, after analyzing the data, I believe that the conclusions are valid despite this potential limitation.

Additionally, my personal experiences working with Caritas may have impacted my willingness to include data that could reflect negatively on the organization or their

programs. I am grateful to the staff who participated in this study and who introduced me to farmers. I also recognize that this organization has limited means and I am hesitant to criticize what I perceive to be an important program for the women farmers I spoke with in case this could negatively impact the program's resources. However, while I recognize that this may have discouraged me from being overly critical during my analysis, I believe that I was able to draw valid conclusions from the data. The goal of this research was to investigate whether women farmers are benefiting from this program and I found that many of them are. Therefore, rather than being overly critical of a program that is largely beneficial, I chose to investigate what these impacts mean for women as well as how the program can further improve.

Translation and Language Barriers: While English is the official language of Uganda and is widely spoken in official circles, the majority of people that I met in Kampala and Wakiso, including the research participants, preferred to speak in Luganda. Since I am not fluent in Luganda, I hired an RA who acted as a translator during transect walks and interviews with farmers. While this was necessary given the short duration of the research, there are also some limitations to using a translator in social science research. Firstly, many cross-cultural researchers have noted that it is problematic to assume that words and phrases can be directly translated, particularly across languages with such different cultural backgrounds (Bujra, 2006; Wilson, 2001). Furthermore, while translators from the local area are better suited to catching the cultural connotations and meanings of research participants' responses, the translators themselves are also active participants with their own perspectives on the society in which they live, which may impact what information is translated and what is omitted (Bujra, 2006). In order to

minimize these limitations, it was important for the RA and I to communicate regularly about the goals and expectations of the project. The first few transect walks were a sort of trial and error, after which we would discuss the fieldwork and develop better strategies for interpretation during the transect walks. I encouraged her to attempt to translate as directly as possible and to use descriptions rather than synonyms when no suitable synonym could be found. As Bujra (2006) notes, the process of translation can be alienating as both the farmers and I were occasionally left waiting while the RA clarified responses with farmers or questions with me. Since translation is not a perfect science and is often a non-linear process between the various participants in the conversation, it became important to discuss the transect walks with the RA afterwards in order to clarify what had been said and to pick up on additional nuances that may have been missed during the initial word-for-word translation. As Jones, Schnurr, Carr & Moseley (2015) note, research assistants should be seen as collaborators and research should be a reflective, iterative process. While the translation may not be perfect, I believe that the process and commitment of both myself and the RA to the project and methods helped to ensure that farmers' words and meanings came through as authentically as possible.

Furthermore, as I do not speak Luganda, the research process required personal change as I had to move beyond my own comfort level in order to ensure farmers felt comfortable and respected throughout our conversations. During the first few transect walks, I often relied on the RA to translate as I could tell that participants did not understand me. However, discussions with the RA and subsequent transect walks made it clear that English was not the issue, but rather my own foreign accent and the speed at which I spoke. This required self-reflection as I realized that I had relied on translation

rather than attempting to find a way to communicate with participants directly. During subsequent transect walks, I made a concerted effort to slow down and enunciate. While I could not change my accent, these efforts seemed to make it easier for farmers to understand me, as many quickly started responding in Luganda without waiting for the RA to translate the questions. This improved the flow of conversation and farmers' commitment to the research as they clearly felt more involved in the discussions. Farmers also started interspersing their responses with English phrases and correcting or adding on to their answers as the RA translated, which improved the depth of the discussion. While translation continued to be a major part of the fieldwork process, by attempting to improve my communication skills as well as learning a few Luganda phrases, we were able to build better rapport with farmers and have more thorough, meaningful conversations.

The two challenges mentioned above were the primary limitations of this research project. They both impacted the research process and results, so they were considered throughout the data analysis and writing of this thesis. Efforts were taken to minimize the impacts of these limitations as well as to consider how they may have impacted the data, and as a result, I believe that the findings and conclusions remain valid and important in understanding how UPA programs impact women and gender relations.

Chapter 5: Findings and Discussion

5.1 Social Relations

5.1.1 Group Dynamics Training and Farmer Family Learning Groups

Farming groups form the core of Caritas's programming. Caritas organizes farmers into groups with the aim of creating sustainable communities that can support each other, develop their own projects and achieve their self-determined goals. When identifying new areas to work, Caritas either engages with existing farming groups or works to form new farmer groups with non-organized farmers. Once farming groups have been identified or created, Caritas provides the farmers with group dynamics training, which aims to teach farmers leadership skills and cooperation so that they can work together effectively and remain a coherent organization. Additionally, Caritas helps the farmer groups to register as Community Based Organizations (CBOs) with their district councils to ensure that they are legal entities with representation.

Caritas manages these groups such that entire households are encouraged to participate in the farming processes. This is done by structuring the training and group dynamics around the Farmer Family Learning Groups (FFLG). In FFLG, farmers rotate the location of their trainings and meetings so that they are visiting each other's homes and farms. Husbands and children are encouraged to attend so that they are aware of the skills that the farmer is learning as well as the future plans for the farm. FFLG have multiple, overlapping goals. By encouraging farmers to visit each other's farms, Caritas hopes to foster knowledge sharing as farmers experience visual learning when observing other members' practices. Additionally, they hope to cement a bond of trust and cooperation with groups by meeting in intimate, personal settings. Caritas draws upon social norms

that encourage entire families to be present for visitors in order to engage husbands, wives and children in the learning process. Farmers maintain visitor books that their group members and any other visitors sign, which become sources of pride for farmers who are then encouraged to continue working on their farms that so many people have come to admire.

While the Caritas program is not gender-exclusive, over 60% of their participants are women and they work with many women-only groups. Organizing women into farming and savings groups has become common practice in agricultural development programs for numerous reasons, including reduced transaction costs, increased access to markets, and secure livelihoods (Fischer & Qaim, 2012). Women's access to resources is often mediated by their social position within households and communities (Truelove, 2017), so women's groups are particularly important to increase their social linkages that connect them with information, credit, and other agricultural assets. Research on women's groups formed by an NGO in Andra Pradhesh found that working collectively reduced women's labour shortages, increased their access to government officials, and reduced women's vulnerability to shocks (Agarwal, 2014). Similarly, in Cape Town, working in mixed-gender groups increased men's awareness of women's oppression and encouraged equality in the gendered division of labour within the group (Olivier & Heinecken, 2017). As Rocheleau (1995) suggests, examining people's affinities rather than individual identities can provide important insights into how social relations shift and are shaped by membership in different groups. In the case of the Caritas program, by working in groups, women experience a multitude of physical, social and economic benefits.

5.1.2 Farmer Groups and Labour

This emphasis on group dynamics has significant implications for labour relations. The women farmers that we spoke with contributed the majority of the labour on their farms. Of the 33 women farmers who discussed labour divisions, 23 women said that they and their children did most or all of the work on their farms, while only five women said their husbands contributed significant agricultural labour and five women said that they depended on hired workers.

Caritas' group programming helps to reduce women's labour burden as well as the financial burden of hiring labour since their group members assist them on their farms. Olivia, a widow who cares for her two grandchildren, explained,

> It makes work easy because under FFLG, we have to work together. When you are alone things are not always that easy, and somehow slow. But when you work together, things move more quickly and people always have different mentalities and different levels of intelligence. They can have ideas to share.

Through the FFLG program, women work with each other on their farms, while also sharing knowledge and experience to help their group members improve their agriculture. Irene, a young woman who cares for eight children, reflected:

> The women in the group are taught cooperation. They have teamwork and to have a neighbourly behaviour, that you can go to your neighbour, tell them your target and make your goals known to them so that they also learn from your experience and benefit from it. Recently, I have just destroyed the sacks that we plant the vegetables and I am working with the neighbour there to make more and then they plant tomatoes in the sacks. The sacks were getting old.

While individually, destroying and replanting sacks could be a difficult and time-intensive task, women are able to accomplish it by working together which benefits all farmers involved. Katherine further explained the benefits of working in a group by saying, "You make friends. They are like your family. If you have a problem, they can help…Sometimes you may not have enough labour to harvest your crops and you can talk to them and you're like, I need you guys to help me harvest my crops and they will

come and help you for free." By working in groups, women can access additional labour, reducing their labour burden with minimal financial cost.

Research on urban and peri-urban agriculture (UPA) has found that women's groups are pivotal as women often pool skills and labour, which especially benefits vulnerable farmers (Hovorka, de Zeuw & Njenga, 2009; Agarwal, 2010). Women in Kampala have less money available to hire labour than men since their production is directed primarily towards subsistence while men are more oriented towards commercial production (Nabulo, Kiguli & Kiguli, 2009). Additionally, women face a higher unpaid labour burden due to their household and childcare responsibilities (Nabulo, Kiguli & Kiguli, 2009). Women farmers are able to access the free labour of their group members who help them with difficult or time-sensitive tasks, which helps women to manage the gendered inequality in access to labour.

The FFLG program also addresses the gendered division of labour by encouraging the entire family to participate in the learning and farming process. Caritas hopes that through this involvement, husbands will begin to appreciate the work and contribution of their wives which will increase women's freedom and access to productive resources. Grace, a 37-year old farmer, explained, "We do it all together, including the kids. Me, my children and my husband do all the work because we all participate in FFLG. We select the plants we are going to grow as a family. When it comes to division of tasks, we do it according to all our ability, who can do this. When it comes to sowing, we sow together, me and the children." Grace's husband is involved in FFLG and she feels this has led to a more equitable division of labour on the farm. Lucy, a 43-year old farmer, said her husband has also begun to support her participation in FFLG, as she explained, "Having

visitors at home has encouraged him to contribute to how the farm is, the state, how it looks like, so that when they come they can be attracted and like what they see." FFLG encourages husbands to participate in agricultural labour because having a productive garden becomes a source of pride for the family. Since FFLG involves group visits to different farmer houses, social norms encourage men to participate in the farming process so that they are knowledgeable about the garden when they have visitors, which demonstrates how gender norms can be subtly manipulated to help redress asymmetries in the division of labour.

5.1.3 Farmer Groups and Collective Markets

Many farmers face challenges accessing markets or achieving fair prices for their goods, which can be partially alleviated through working in groups and forming alternative market networks. Viola's group had recently learned to make wine, but were struggling with the commercial enterprise, "We've been struggling with market, that is the problem. We've not made so much, but we have been selling locally. But Caritas has helped us in a way that it gave us the standards that we must follow for bigger markets and we are striving to reach those standards so that we can reach those bigger markets." Similarly, Nora, a 60-year old farmer, said "I can say that some of the people who buy the food are not fair. They do not treat us well because they want to take a lot of food for less money." In total, ten women specifically mentioned challenges that they face selling their products for fair prices at local markets.

In order to address the issue of market access, Caritas assists farmers by connecting them with other farmer groups. Lucy explained:

> [Caritas] sometimes get markets for our goods…So sometimes for instance, they can bring an exhibition, farmer's exhibitions. Like for example in your compound, different farmers bring different crops so you can sell your products. Also you can see whatever you don't have and your

> fellow farmers have. So that's a fireless cooker (pointing towards it). So when you are in those farmer exhibitions, you get different contacts. So I can contact someone who makes those or they can contact me if I make those and they can buy something from me.

Similarly, Agnes, a 49-year old farmer, noted,

> Right now, I have calls but I don't have ready wine so I need to know which people have wine so that I can give them clients. But also, I think the marketing is also within us, cooperate within each other. If I don't have wine, I know the next person who has wine. That person knows the next person. There is some sort of relationship between us.

As Agnes explained, farmers within Caritas are able to support each other's business ventures by directing buyers to each other since they are aware of who produces which goods. By connecting farmer groups, Caritas helps farmers to form trade networks amongst themselves which increases their access to reliable markets and helps women to grow their incomes, while also encouraging self-sufficiency amongst the farmers.

Working with Caritas also has indirect marketing and income benefits for women farmers since they are known and respected in their community by virtue of being connected with the organization. Women noted that working with Caritas was an advantage since their community knew that they were trained in farming and therefore they would often go to the farmers before visiting the public markets. Sarah, a 52-year old farmer, explained:

> Of course, people have known what we do as a group because we are at different levels but at least in our group, each and every member has a cow plus they have some land where they grow. They have matooke, they have vegetables. So it's uniform in our group. The community is aware, whatever they want, they first come to us, when they don't get it is when they go to the market.

The community members know that the farmers have undergone training with Caritas and that they are all qualified and competent farmers. Having a positive reputation in their community helps women farmers to sell their goods from their homes, which reinforces UPA's compatibility with women's household tasks such as child care and food preparation. Nora, a 60-year old farmer, said,

> For example, the onions, I sell some. I can be here and someone comes and requests to buy for like 500, 1000 and I can use that money to buy other things like cooking oil, soap, salt. Our group is kind

> of popular. When someone goes to her place and doesn't find onions, she can refer that person to another group member. If I don't have onions, I can refer to another different member.

Since all of the members grow similar crops and are equally well-known and respected in their communities, the group as a whole is able to work together to increase their incomes.

Research in Kampala and elsewhere has found that women often sell their produce to friends and neighbours rather than in formal markets (Nabulo, Kiguli & Kiguli, 2009; Hovorka, 2006a; Olivier & Heinecken, 2017). In Cape Town, women participating in UPA training programs developed social connections linking them to wider networks that attracted visitors to their farms, both to purchase goods and to admire their work (Olivier & Heinecken, 2017). Working with Caritas extends women's ability to sell through these informal channels by increasing their social networks and presence in their communities. Hovorka's study of women involved in urban poultry production in Botswana found that "women involved in commercial urban agriculture realise greater economic and social empowerment" through subtle renegotiations of their marginalization (2006a: 219). By increasing women's access to local markets that are conducive to women's joint roles as mothers and farmers, these groups help women to improve their economic position.

5.1.4 Farmer Groups and Social Networks

Women farmers who participate in these programs build their social networks as they regularly interact with their neighbours, their communities, as well as farmers from other regions. These connections have multiple financial and emotional benefits for women that ultimately increase their independence and resilience.

The social linkages formed through this program can enhance women's access to information since they facilitate the sharing of knowledge and skills. Through the Caritas

program, farmers participate in farming exhibitions and farm visits where they meet groups from other counties, further extending farmers' social networks. Florence explained, "These connections are good because we learn from each other. A friend of mine could learn from a friend of theirs, and I could learn from that friend. When we all come together, because we all have different ideas, it could be a good thing. You learn different ideas from different people." Similarly, Rebecca said, "That circular garden there, I just learnt it from my group member…I had to learn it from that one, because I am in the group. Sharing new ideas. People can pass on knowledge. Then, we work together." By connecting farmers with each other and with other farmer groups, Caritas facilitates the flow of knowledge between women.

Learning from other farmers was one of the most prominent benefits farmers mentioned regarding the group structure of the training programs. 56% of the women in this sample specifically mentioned that they enjoyed working together and meeting other groups because they were constantly learning from one other and improving their agricultural activities. Similar research on UPA training in Nairobi found that since farmers were not formed into groups during the programming itself, the emphasis on collective action encouraged women to form their own farming groups in their neighbourhoods since they could share resources and knowledge, demonstrating the importance of alternative knowledge sharing networks for women as well as how UPA programs can help them to build the required social connections (Tye, 2012). Similarly, on banana plantations in rural Kenya, farmer groups organized by a local NGO had higher technology adoption rates and were more likely to implement practices recommended by extension workers, demonstrating that "collective action can spur

innovation through promoting efficient information flows" (Fischer & Qaim, 2012: 1266). Women's access to knowledge is critical to understanding processes of environmental change (Jarosz, 2011). Women farmers engaged in UPA are directly modifying their environments through agriculture, so the information available to them impacts how they engage with their farms and the outcomes that arise from it. Since women have less access to information than men which limits their ability to make informed choices on their farms, the development of social knowledge-sharing networks can encourage women to implement improved techniques (Hovorka, 2006a; Olivier & Heinecken, 2017).

Beyond these tangible benefits, by forming farmers into groups and providing group dynamics training, these programs help women develop strong bonds of friendships. Many farmers emphasized that they felt happier since building connections with women in their communities. Barbara, a 58-year old farmer, said, "I've made friends. Friends have taught me things I didn't know. And it improved relationships with people in my community." Oprah, a 37-year old farmer, stated:

> Before we joined Caritas, we used to be neighbours but we never interacted so much. We would even spend a month without talking to your neighbour or never even seeing them. But today, since we have meetings every week, you get to see them, talk with them, chat with them, talk about their problems and you can share. So it is good. Once you have a problem, even when it is not a problem, maybe a celebration, your friends can help you with anything and everything

Quinn, a 45-year old farmer, also expressed the importance of these friendships, saying "They've even helped us relate with other people amongst our neighbours…Even if you have a problem, your friends come to your rescue, they never leave you. They comfort you. You're not taken away and you have less worries." The connections and contacts that they've made through participating in the Caritas program have helped women build

social networks that support them and comfort them, reducing women's stress and improving their wellbeing.

These friendships have multiple benefits for women farmers specifically including increasing their resilience and reducing feelings of isolation. Tina, a 62-year old farmer, belongs to a farming group that Caritas organized approximately ten years ago. When we spoke with her, she had just been released from prison, and she explained:

> Members used to visit me at the prison. They could bring things to you, sugar, soap and some other edibles, even food…They used to visit me once in a week. And every week, I expected visitors from [our group]. They used to tell me how my home, my farm is. Mostly the cows. And I used to tell them what I wanted to be done on my farm. And when my cows used to go in heat, they could talk with a doctor, come and inseminate. There are two cows which were inseminated during my imprisonment period. And, even the worker would work hard because there were people to come and do what, to visit the home. They used to talk with my family. Because they worked together, with my family. When I asked for my bail, it was the members of [the group] who were my witness. Two of them were my witness.

Since Tina had a social network of friends who maintained her farm while she was away, they ensured that she had a functioning farm and a source of livelihood to return to, reducing her vulnerability during a difficult period. Similarly, Quinn explained, "They're like your family. A member might lose someone - as members, we must contribute to the funeral as condolences. Even when someone is sick, we Caritas members work together so that we can help that person get treatment and comfort them." Similar research on UPA programs in Cape Town found that women formed friendships through these groups which increased their livelihood resilience and survival strategies (Olivier & Heinecken, 2017). As women are the most vulnerable to livelihood shocks and the subsequent impacts of poverty and food insecurity (Meinzen-Dick et al., 2011), social networks can reduce women's vulnerability by extending their access to material and emotional support.

The formation of these social networks can also challenge unjust gender relations by increasing women's awareness of gender inequality and promoting female solidarity

since neighbours can watch over each other's' farms. Katherine said, "It is good to maintain a good relationship with your neighbours because it helps you to have some peace…It helps in a security sense. If your neighbour sees someone sneaking around your garden, they can tell you, I saw someone sneaking around your garden." Similarly, Renee explained, "We are always reminding each other of the time, preparations, checking on each other. So your neighbour, like your chairperson could know what is going on in your garden so they can alert you if your husband or anyone is stealing from you." Slater (2001) argues that empowerment occurs through social networks by facilitating greater social action as groups work together to react to conflict. As will be discussed in section 5.2.1, husbands are not always pleased when their wives begin earning income, which can prompt some of them to steal produce from women's gardens in order to sell it and claim the profit. Women farmers in the Caritas program are better prepared to prevent this theft and male benefit capture by working in groups and protecting each other's interests.

5.1.5 Gender Relations in the Caritas Program

Within the program itself, Caritas promotes gender equality as they encourage groups to use democratic processes involving all members in order to make decisions. Farmer groups are actively engaged in deciding how the trainings will unfold. While all groups are given specific trainings such as group dynamics, organic methods for vegetable and staple crops, and water conservation, they are also given the opportunity to decide what they would like to specialize in. During my fieldwork in Wakiso, I met with farmers from groups who specialized in a variety of agricultural activities such as poultry production,

zero-grazing cattle,[5] as well as commercial vegetable production. Groups decide together which agricultural activity they wish to pursue for further trainings, which ensures that women have agency over decisions that directly impact the course of their livelihood strategies.

The leadership structure of the farming groups further ensures that women participate in decisions-making processes as the groups elect their leaders. By encouraging farmers to democratically elect their leaders, Caritas reinforces women's agency and voices in processes that directly impact their communities. Research on a climate change initiative in Bolivia found that reliance on traditional gendered structures of decision-making weakened the projects' impacts on women's strategic needs (Boyd, 2002). Ertürk (2004) suggests that transformative change in gender relations requires the elimination of all gender discrimination within decision-making bodies. Similarly, Hovorka (2006b) suggests that UPA programs should "confer choice and power on women, who are often ignored and marginalized in decision-making processes" (59). By including both women and men in multiple aspects of decision-making, Caritas Kampala strengthens women's voices so that the program and its outcomes more directly address women's interests.

Since I was able to interview five male farmers who participated in the Caritas training, I was also able to investigate how these programs impact the views of men that work alongside women in their farming groups. While one man said that he had not thought much about women's issues, four male farmers that we spoke with indicated that

[5] Zero-grazing cattle rearing is a dairy production system in which cows are confined to a stable and have their water and feed brought to them. This strategy is particularly suited to urban farming since it can be done on small plots of land.

their views regarding women had changed.[6] When discussing how men typically view women, Walter said, “If a woman wants to decide for her family, she must first ask her husband for permission or negotiate. When we are with Caritas, we are seen as one. We are all at the same level. Man, woman we all sit at the same table, we all discuss the same issues and we all contribute.” Regarding his first statement, he clarified, “What I said is not what I do! But it happens.” Similarly, Daniel said,

> A group is important because we have a saying that says ‘Two heads are better than one.’ And once you come together, you can attain knowledge that you didn't have from other people and they can also do the same… It brings us together, teaches us cooperation because within just our group, we work with men and women.

By working with women in the group, men learn to value the knowledge and contributions of women and they learn to cooperate with each other to achieve the best outcomes. Finally, Harry said:

> If you're following the FFLG program, women eventually must decide because they dragged the men into the group. The men are like beginners, they don't even know what's going on most of the time. So they have to consult the women to help them, to decide with them. They cannot decide on their own.

While Harry’s statement does not reflect whether joint decision-making happens in the households of women farmers whose husbands also participate in FFLG, it does demonstrate that as a man within the farming group, Harry has learnt to value women’s input and knowledge. Since women often do the majority of agricultural labour and have farming experience, Harry recognizes the value of their expertise for decision-making processes, demonstrating how men who actively participate in the program may transform their views. As will be discussed further in the following section, the challenge

[6] It may be of interest to note that the male farmer who said he did not consider women’s issues is the oldest farmer we spoke with at 90 years old and he is a widow. The other four men are under 40 and married.

that Caritas now faces is involving more men in the programs without marginalizing women since these examples highlight that it can significantly change men's attitudes.

5.2 Access to and Control Over Resources

Access to and control over resources are two prominent topics within FPE. Access to resources can be understood as the right to use a resource as well as the ability to take advantage and benefit from this opportunity (VeneKlasen, 2013). Control over resources refers to the right to choose how the resource will be used and for what purposes (VeneKlasen, 2013; Duncan & Brants, 2004). This section will analyze how women farmers in the Caritas program have been impacted in terms of their access to and control over resources and the benefits derived from them, as well as the decisions they make in their gardens, their households and their communities.

5.2.1 Capital

Fifteen women in this study identified a lack of capital as a major barrier since it prevents them from purchasing inputs, installing water tanks and hiring labour. Viola, a 72-year old farmer, explained "Not having money is an issue because I no longer have the energy to go to the garden and work, so when I plant my crops, they can be covered in weeds when my sons are not around, because sometimes they get businesses across the country. That is a big issue." Viola is elderly and is experiencing some health-issues, so she is limited by the availability of her sons' labour since she cannot afford to hire workers, which impacts her farming outcomes.

Similarly, when discussing challenges that she faces, Katherine explained,

> Sometimes not having enough money because it limits you when it comes to buying seeds. Not having enough labour. Because if you have money you can hire a few people to help you to catch up with the season. But if you don't have, you do your work slowly and in the end you miss out on the season. It is one of my biggest challenges, not having enough money to buy seeds, to buy labour, so I can work faster.

Although Katherine is still young and able to work, she is not able to keep up with the cultivation demands of her entire garden, which prevents her from planting and harvesting on time.

In order to address women's lack of capital, Caritas teaches women skills to increase their incomes. Farmers are taught to grow vegetables in addition to staple crops such as maize and cassava that most farmers already cultivate. Learning to grow vegetables increases women's income since they are more valuable and fetch higher prices on the market, while also reducing women's household food expenditures by increasing their access to these nutritious foods. Florence highlighted the dual benefits of growing vegetables by saying, "It reduced on my spending because instead of buying things like onions, now I don't have to buy them. Instead I would save that money and use it for other things. Also, I get money from selling some of the vegetables, which is also extra income. If there is a problem at home, I can help with it."

Grace, a 37-year old farmer, highlighted the importance of the food savings through growing vegetables by saying:

> If I didn't have all these vegetables, I would have to go and buy them. And probably where I would buy them, it would not be healthy, it would be expensive, and probably not even available throughout the year. But now, I don't have to spend all of that money to buy the greens. Because I have a child who is sick and the doctors recommended that he should feed on vegetables every meal. But that would be very expensive for me. But now, I don't spend a lot of money on vegetables and food so it has helped my financial status to be better than it would have been if I was spending the money on the market.

By growing vegetables, Grace is able to save money for her family while also providing the nutrients that her child needs.

During the second phase of the program, farmers are taught value-addition and marketing skills tailored to the income-generating activities that the group decides to

pursue in order to assist them in expanding their businesses and increasing their income. When discussing how value-addition increases women's incomes, Edith explained,

> They've taught us value-addition in a way that sometimes you take your fruits to the market and they buy them at very low prices. But when you decide to process them into juice and wines for example, the pineapples, the pawpaws, the mangos, when you make juice out of them you might get much more than you would've got from them when you take them to the market.

Similarly, farmers are taught marketing and saving skills which has allowed them to diversify their incomes by engaging in group businesses outside of farming. Agnes articulated this in the following terms:

> As a group, we decided to collect some money every year, membership fee of 5000, so that we invest that membership fee in plastic chairs for hiring for events. When we get events, we hire out and we get more money. At the end of the year, we get more money and then we buy others. We do it as a group…So it is also a business venture, not just a group thing.

By teaching women skills to expand their farm and non-farm income-generating activities, Caritas helps women to develop sustainable livelihood strategies.

Through this training, Caritas impacts farmers' access to financial capital which is particularly important for women since they face limited employment opportunities and are often "responsible for the provision of food for their families, but without, in many cases, access to the means to adequately do so" (Maxwell, Levin & Csete, 1998: 416). This emphasis on agriculture for income-generation directly addresses the dual constraints facing women in urban environments: lack of access to capital and lack of access to food. As Hovorka (2006b) argues, when UPA provides women with the opportunity to meet their household food responsibilities and provides them with income, it is a means of improving women's lives. The existing scholarship on women's empowerment suggests that addressing women's livelihoods is more effective than targeting food security alone since improved livelihood strategies can result in better food security outcomes while also reducing women's vulnerability, increasing women's material well-being, and potentially reconfiguring dominant gender relations in access to

and control over resources (Savath et al., 2014; Lakwo, 2006). However, livelihood opportunities are intimately connected to gender relations. Gladwin et al. (2001) argue that interventions must be aware of household dynamics as shifts in gender roles may take time. These authors suggest that development programs should encourage women farmers to engage in complementary livelihood strategies that recognize the constraints they face in terms of access to resources and household responsibilities. While in the short-term, this involves working within existing gender structures, research on micro-finance in India found that when women access income and diversify their livelihood strategies, they often have greater negotiating space in household decision-making processes (Lakwo, 2006). The Caritas Kampala program corroborates these theories on livelihood strategies since the programs increase women's ability to provide for their families within existing gendered constraints (though they also challenge gender relations in subtle ways, as will be discussed in subsequent sections).

The Caritas Kampala program further addresses women's financial constraints by teaching the farmer groups budgeting and saving skills. Although not required, farmer groups are encouraged to form savings and loan associations so that they can implement these skills in order to save money from their agriculture and eventually expand their farming activities. Through these associations, farmers are also able to access credit, a resource often denied to women (Gayathri Devi & Buechler, 2009). The group members save money each week, which means the association has access to a certain amount of liquid capital that they give out in loans to group members at a low-interest rate which help women to purchase resources for their farms and to provide for their families. Caryl explained, "Caritas taught us that if in every week I can earn at least USH 7000 from my

vegetables, cause we are peasant farmers, I can at least save USH 4000 from the USH 7000. It reached a point where we could borrow money because the money kept on accumulating and so the savings group could lend out money." By teaching farmers to plan, budget and save according to the needs of their farms and their families, farmers are able to allocate a portion of their income to the savings group and in return, access credit for larger projects. Caryl continued her explanation by saying, "Me personally, [the loans] helped me a lot. I used to live in a very small house and I'm expecting to finish a bigger house. My children got to go to good performing schools and we no longer depend on my husband to buy everything at home." Caryl's statement demonstrates that beyond income-generation, the Caritas program helps women to use their incomes effectively and to access credit which helps them to support themselves and their families.

By teaching farmers financial management skills, Caritas helps women to access knowledge and skills that are often denied to them, which can reduce women's financial vulnerability and increase their control over their income. Anne, a 65-year old farmer, explained how the savings group can increase women's independence:

> Married women are sometimes suppressed by their husbands. They take away their money. Most men don't want women who are married to have their own money. With Caritas, when we work as a group, we open a bank. We save some money and we lend it. It helps us to move forward without asking a man for anything or begging.

Farmer groups are often able to form saving groups, which enables them to deposit money each week before their husbands become aware of the income. Similarly, when discussing how women assert control over their income, Rebecca said, "[Caritas] encourages them to save for the saving groups. Because the savings groups are within our areas. We don't need transport, you just go, sit, save." Since women are encouraged to form savings groups in their local areas, they can access these groups without asking for permission and therefore without telling their husbands, while also reducing women's

reliance on men for capital. These findings corroborate Maxwell's research in Kampala that found women are more likely to conceal their income from their husbands in order to retain control and avoid conflicts (1995). Income-generation activities have more meaningful impacts for women when they are aimed at increasing independence rather than meeting survival needs (Kabeer, 2005). Although the strategy of concealing income does not change unequal gender relations, women farmers navigate these systems and are able to assert control over their income, which then subverts traditional gender norms in which women depended on men for their livelihoods.

Research on women's self-help groups in India found that women who were organized into credit-lending groups developed a sense of confidence in their ability to tackle their problems and worked together for economic independence (Choudhary, 1996, in Anand, 2002). Anand (2002) suggests that women's self-help groups can be economically empowering by increasing women's capacity to undertake economic and political activities, which can then positively impact women's self-respect as well as their social and legal status. Similarly, Kabeer (1999) suggests that women's access to credit strengthens their ability to leave their husbands or to be economically independent within the same household. Research in South Africa found evidence that microfinance interventions increased women's self-confidence and financial confidence, which resulted in lower rates of domestic violence as women were able to challenge their husbands, leave abusive relationships and support others experiencing abuse (Kim et al., 2007). Although not a major theme in this research, two women farmers mentioned that they had previously experienced domestic violence, so they were proud that UPA enabled them to support themselves and their children without the need to remarry. As women

within the Caritas program explained, through income-generation and their savings and loan groups, women become less financially reliant on their husbands which increases their confidence and independence both within and outside of marriage.

Women in this study felt that their economic contributions had increased their decision-making power over household income. Women stated that they were more financially independent since they had their own source of income, which reduced their dependence on their husbands and increased their decision-making power in the household. Caryl expressed both of these benefits by saying,

> You can sell something and you get some money. I never saw my mom pay for school fees, but today me and my husband we share the bank slip because he actually sees that you sold something and you have some money…Having an income has changed my life because I grow my vegetables, because I can sell my things without asking for permission.

Denise expressed similar feelings when she said,

> We both decide. We usually decide together and when we decide to sell, it's usually for a purpose, like school fees, scholastic materials, clothing… In most cases, he doesn't mind what, how much we've yielded from the farm and I sometime bring it at home and sell it, and he sees that I've sold it and I'm the one who decides which portion should we sell and which portion should we spend….. I am the bread-earner in the family and the way we make decisions has changed a lot ever since we joined Caritas because now we can make decisions together. Before it was the husband because he was the only one who used to make money.

Kabeer (1999) argues that decision-making power can be an indicator of improved gender equality both when women make decisions autonomously and when they are involved in joint decision-making processes. Decision-making processes are greater indicators of women's well-being when they indicate a significant change in women's ability to make choices that they were denied in the past (Kabeer, 1999). By contributing economically, women farmers improve their standing in the household and thus have more say in financial decision-making that had previously been the domain of their husbands.

These findings substantiate broader claims in the literature that women's economic contributions can increase their household decision-making power beyond improving their individual incomes (Kabeer, 1999). Agarwal (1997) suggests that intrahousehold bargaining power depends on eight factors that increases one's ability to meet their own subsistence needs: control over assets; access to employment and/or income; access to communal resources; access to social support systems; support from NGOs; support from the State; social perceptions and social norms. Under this framework, women's increased access to and control over income, their participation in farming groups and their connections with Caritas all contribute to improving women's status in the household by reducing women's vulnerability and their dependence on others. Additionally, Agarwal (1997) suggests that social perceptions can impact bargaining power since housework and unpaid labour is often undervalued, which means women are thought to contribute less to the household. By engaging in income-generating activities, women farmers also change the social perceptions of their household contributions which increases their value. Women farmers in this study leveraged their household contributions and participation in the Caritas program in order to increase their participation in decision-making.

However, while women experienced greater control over their income and financial decisions, some farmers and experts noted that husbands are occasionally disgruntled when their wives earn income, which can increase the overall burden that women face caring for their families and reduce their access to their husband's income. As Caritas staff explained: [7]

[7] Since there were only four Caritas Kampala staff members interviewed and only one was a woman, all of their statements will be referred to neutrally as "a staff member" to avoid identifying specific informants.

> When a woman starts earning this money, the men will stop undertaking their roles of providing in the home. That is certainly a big challenge. So this money that comes in from vegetable growing, from keeping livestock, the men assume that it is a lot of money, that they stop providing. That has been a big challenge in the community. And we also have another challenge that is when men see women having money, they divorce them. They think that when a woman has money, she's not easy to control.

Women are thus motivated to conceal their income from their husbands due to the threat of men abandoning their families or refusing to contribute to the household. Although women can gain control over their income through putting the money in a savings group beyond their husband's access, their control is then limited by their increased economic responsibilities since they have to provide for the needs of all of their children. As Caryl explained, "I'm the one who decides how I spend the income. However, when some men see that you have some income, they tend to give you more responsibilities." Similarly, Quinn stated,

> Your husband might see that maybe you're performing better than him… When they see that it is now doing well, they may not feel good about it because they did not take you seriously in the first place. It makes it worse because if someone doesn't want to contribute towards development, they want you all to be at the same level. If you're broke, you stay broke. If you're to buy things, you buy everything.

As women farmers gain access to and control over income, they also face increased responsibility to pay their children's school fees, purchase school supplies and provide necessities such as soap and lamp oil.

Control over income is only a significant indicator of women's well-being when women have sufficient opportunities and choices over its use (Hovorka, 2006b). As Kabeer (1999) notes, "the focus purely on control ignores the multiple ways in which gender inequalities are manifested in everyday life" (45). When control over a resource is assumed to contribute to gender equality, it obscures the ways in which power relations can mediate how control is experienced. In this case, although women farmers may experience an increase in control over their incomes when it is concealed, if men are

aware that women are earning money, they are more likely to increase women's household economic responsibilities, therefore, reducing the choices available to women around how to spend their finances.

Additionally, gender norms ensure that women have more household and reproductive responsibilities which limits their choices. Women are often responsible for food procurement, child care, and increasingly for school fees (Nyanzi et al., 2005). The combination of agricultural and household demands places a significant burden on women's time and energy. Irene explained how women have to balance their household, caregiving and farm responsibilities, saying, "Men do not see many responsibilities like us because we take care of all the small details. Take for instance, when the can of parsley seeds costs (USH) 30 000, but you may have the (USH) 30 000 to buy, but then you see that maybe your kid doesn't have clothes. But maybe the men wouldn't care about that, he would just buy the parsley." Similarly, Yolanda explained,

> So when it comes to women, you do not make decisions like men. Sometimes a man could just sell a bunch of matooke despite if there is food or not. However, with the woman you cannot just take food to the market knowing that your kids don't have food so there are many deductions from what you could be getting from the farm.

Women are responsible for their household's food security, limiting their income-earning potential, while men are free to invest in their farms and direct the majority of their agricultural yield to commercial activities.

The gendered roles and responsibilities in Wakiso limits women's decision-making power by restricting their ability to make strategic choices about their livelihoods. Kabeer (1999) argues that "power relations are expressed…also through the kinds of choices made" (7). Returning to Agarwal's framework, social norms constrain women's decision-making power by restricting what can be bargained about - in this case, the division of household responsibilities (Agarwal, 1997). Even when women have greater control over

resources and more independence, societal gender norms that allocate unpaid domestic labour to women limit the choices they can make (Mabsout & van Staveren, 2010). Farmers' experiences in this research demonstrate that women engage in decision-making processes in a variety of ways that can be strengthened by accessing income and other resources, while also being constrained by gendered social norms.

5.2.2 Land

Women farmers who participated in this study faced considerable constraints accessing land. Out of the 34 women farmers who participated, thirteen women said they owned the land around their home, either alone or with their husbands. Of these thirteen women, only three of them were married and only one of the married women said her name was on the title alone. Additionally, ten of the women farmers said their husbands owned the land, while one said that the land title was being processed and she did not know whose name would be on it. Of the nine remaining women, one farmer said she lived and farmed on customary land, one farmer said her entire family was on the title, one farmer said her children were on the title, two farmers did not know, one farmer said her brother owned the land, and four farmers rented or borrowed the land. Of the five male farmers who participated in this research, only one of them owned the land. The other four farmers accessed land through family members, didn't know whose name was on the title, borrowed the land or had their children's name on the title. The mean household farm plot size was one acre, while the median was a quarter acre.

Beyond the backyard plots, fourteen female farmers, one male farmer, and one husband and wife pair accessed land away from their homes for farming. Four women, the one man and the couple all owned their distant plots, although only two of the women

were married and only one of them said she owned the land alone. Six women farmers rented land and five of them borrowed land from family or friends. The average plot size for farms away from the home was one and a half acres while the median plot size was one acre.

The women farmers in this study experienced many constraints in their access to land. As Florence explained, “Not having your own land [is a challenge]. Sometimes you can just be preparing the land and then the owner can want maybe to sell it…Because recently, our landlord gave us a deadline of December because he wants to use the land now for farming for himself, but we had already cleared the land and prepared it for the next season.” Farmers who rent land face the risk of eviction each season, impacting the security of their agricultural activities and restricting the investments they can make on their farms.

Additionally, high land prices are a major constraint for women farmers who wish to purchase land. Denise borrows land from friends in addition to her household plot; however, she’s hoping to purchase land in order to have more secure access: “I'm always hoping that I had enough money to buy my own piece of land away from here. I'm saving some money to buy land. Including the saving group, I'm planning in the future maybe. But the money is not yet enough. And land is very expensive.” Land in Wakiso district is particularly expensive, with one report finding that the cost of a plot of land in Central Uganda is almost 20 times the annual agricultural profits, compared with three times the profits in Northern Uganda and 12 times the profits in Eastern Uganda (Deininger & Mpuga, 2003). A discussion with the research assistant on this project highlighted the drastic increase in prices in recent years: she noted that land in Wakiso located 10

kilometers from Kampala was valued at USH 2 million per acre fifteen years ago. Currently, a plot of land in the same area costs USH 25 million per eighth of an acre. Land prices in less-desirable neighbourhoods of Kampala on the border of Wakiso validate this claim, since a quarter acre of land in Bwaise valued at USD $10 000 in 2002 was worth USD $20 000 by 2008, and has further increased in value since then (Giddings, 2009). Although women farmers hope to purchase land in order to ensure the security of their land tenure, urbanization and competing land uses has driven up the prices of land in Wakiso, making it difficult for low-income women to afford.

To address these land constraints, Caritas teaches farming techniques specialized for growing crops and rearing livestock on small plots of land. Some of these techniques include: using sack gardens to grow additional produce; how to organize gardens and use intercropping strategies to maximize land efficiency; utilizing all of the space in their compound for farming rather than just the back garden; how to make mounds to maximize space in matooke plantations; encouraging farmers to raise chickens since they require minimal space; and zero-grazing strategies for cattle.

Farmers emphasized that learning how to farm on small plots of land had enabled them to produce food as well as earn income. A 33-year old farmer, Lillian, said “We used to have the mentality that if you don't have a big piece of land, you can't make money. Now I know that even if you have a small piece of land you can make money.” Similarly, Priscilla, a 45-year old farmer, explained “They taught us even to grow food in small plots of land…Despite the space, you learn that you can utilize it and make food. If you have little space you can use sacks and get what you need.” The ability to grow on small plots also increases women’s ability to earn income despite their husband’s

ownership over land. Rebecca noted, "You can have some small land. When [your husband] gives you a small piece of what he owns, since Caritas has taught you to utilize the land, you can actually do something out of that small piece. And you can get income." By farming on small plots of land, farmers are able to utilize the land that they can access more effectively, demonstrating that access does not solely refer to the size and availability of the resource, but also the ways in which they are able to use it (Rocheleau, 1995). Prior to these programs, women were not aware they could farm on the land available to them, but as women gained new skills, their access to land also increased through their newfound ability to use it for farming.

Caritas' emphasis on helping farmers navigate their marginal position rather than challenging broader patriarchal structures limiting women's access to land underscores the difficult terrain agricultural interventions must navigate when deciding how to improve women's wellbeing. Hovorka (2006b) argues that in order to benefit women, support for UPA must address women's practical needs as well as the structural conditions that push women into this activity to begin with. While Caritas' strategy of increasing women's efficiency using small pieces of land clearly helps women cope with their daily constraints, the question of whether it can and should address structural issues remains unclear. Hovorka (2006b) further suggests that by addressing women's basic daily needs, inequitable gender relations can also be tackled since these small interventions change the contexts in which women and their households interact and make decisions by reducing women's vulnerability. In contrast, Kabeer (2010) argues that interventions that only focus on one aspect of women's lives without investigating

how power manifests in other areas may improve women's well-being but fail to challenge gender inequalities at the household and community level.

Furthermore, interventions that directly address patriarchal structures require careful planning so as to avoid increasing gender conflict and further marginalizing women (Quisumbing and Pandolfelli, 2010). Quisumbing and Pandolfelli (2010) suggest that although addressing larger barriers that prevent women from owning or purchasing land is ideal, the impacts of these approaches occur over a long period of time, so tackling women's daily constraints is also an important strategy to improve their immediate wellbeing. Development initiatives must weigh the costs and benefits of undertaking a long-term gender-transformative, but potentially disruptive, project against the multitude of other gendered objectives, such as food security and maternal health, that can be addressed through less radical interventions. The design of the program is therefore crucial to ensuring that interventions in women's lives have knock-on effects that challenge women's marginalization. The current programming run by Caritas seems to suggest that they have chosen to focus on improving women's outcomes within their marginal positions in order to meet women's immediate needs and improve their quality of life. However, as will be discussed later in this section, these programs have also managed to have some small impacts on intrahousehold and community gender relations.

While some farmers have asserted control over their small plots, farmers who live on plots owned by their husbands continue to face challenges controlling the land. As a staff member at Caritas Kampala explained:

> Land as the productive resource, the basic resource in production, is controlled by the men. Certainly, this jeopardizes even the type of enterprises that [women] get to take on, because you have to get the consent of the husband…For example, perennial enterprises. They need to get consent of the spouse. He controls the land and may not permit you to take on enterprises of the cash nature.

Women farmers whose land is owned by their husbands require their permission to farm and make changes to the land. Some women noted that their husbands did not want them to use certain sections of the compound, which restricted the amount of food they could grow. Denise explained,

> This land in front of my house, where there are many trees, the only hindrance is the fact that my husband does not want me to cut down the trees but otherwise I'd be using it to plant more vegetables…My husband does not allow me to grow vegetables in our front compound because it does not look good. He even unplanted some of my sacks because it didn't look good for him.

Similarly, Katherine said "I have to ask for permission to even make these small gardens because sometimes if you just make them, he will come and say that for him, he had his own plans for the place so sometimes he just takes them out and does his own things." Women farmers who do not own their plots are constrained in their ability to make decisions regarding land use, which limits where they're able to use the farm as they wish.

Caritas Kampala increases women's control over resources by teaching them agricultural skills that enables them to earn or increase their incomes, which can in turn be used to purchase land. Some women farmers stated that they had or were planning to purchase land using the income generated from UPA and the savings that they had accumulated. Farmers emphasized that one of the main benefits of this would be the increased control over the land, since they would not be at risk of losing the land to their landlords nor have to ask their husband's permission to use the land. Jane, a 43-year old farmer explained, "Through [UPA], the man may not know that you have money because you may sell it at your house rather than at the market, so the money is yours and you can spend it on things you and the household needs, like buying land for yourself." Hazel, a married 34-year-old farmer expressed a similar sentiment, saying "But if you have your money, it doesn't matter if your husband has accepted or not. You can do it in secret and

you buy your own land. As long as there is money, you can buy it." Renee, a 35-year old farmer, expressed a desire to own her own land as a form of security for herself and her children:

> We save money because at the end of the year, we get a lump sum which we use to buy something meaningful… I'm expecting to buy my own piece of land, as me, as a woman. When you have your own piece of land, it is a form of security for you and your kids. Sometimes these men, they have very many families so he might have other kids and so the resources that you thought were for your kids, they have to share them with many other kids and you yourself. And once you have your own piece of land, you know your kids don't have to struggle for their father's resources. They have something that their mother has done for them.

Women's plans to buy land through their income and savings demonstrate both that control over land is a major constraint for farmers as well as the practical ways that participation in the Caritas program can help them address it.

The connection between control over income and control over land is highlighted through this program. Maxwell (1995) found that women farmers in Kampala encouraged their husband's perception of UPA as a marginal activity and hid the income from them in order to retain control over it. Women in this study noted that they primarily sold their produce from their homes or at local markets. This ensures that UPA is an income-generating activity particularly suited to increase women's control over income since they can earn money near their homes, which allows them to conceal this income from their husbands. Gendered control over resources is constantly renegotiated as claims over the resources change based on needs and power relations (Rocheleau, Thomas-Slayter, & Wangari, 1996). Through UPA, women are able to challenge males' claims over income and land by concealing their agricultural activities and the benefits earned from it. Wilbers (2004) suggests that there are two related issues of access to and control over productive resources, and control over the benefits of production from UPA. Women farmers' experiences in the Caritas program highlights how control over productive

resources and the benefits of production can be mutually constitutive as women assert control over income that they earned through their access to resources such as land and inputs, which in turn allows them to purchase and control land themselves.

In order for women to experience meaningful benefits from their UPA activities as well as move towards broader gender goals, women must be involved in household decision-making processes which impact their agricultural activities, the use of the output and the division of responsibilities (Hovorka, de Zeuw.& Njenga, 2009). Women who have participated in the Caritas program have been able to improve their negotiating power over land use since they are able to show their husbands that they are contributing to the household's food and financial security. Rebecca said:

> Whenever he sees that you are doing something better and adding value to him, he can change according to the circumstances that are going on…. Like, I wanted to have that school. That nursery school. I convinced him. And he allowed me to put my nursery school there. Because I'm adding value and because I have my other projects, and I have to monitor them when I'm around this place. So he allowed me to put my nursery school there.

Since women are making money through UPA, they have more leverage to convince their husbands when they wish to make changes on his land due to their improved "fall-back position" (Kabeer, 1999: 19). Similarly, Yolanda, a 72-year old farmer, stated:

> Before we started all this, we would be so afraid to make a decision on our own. Whenever you would come to that point of making a decision, you would be thinking what would my husband say, what will he think, would he like this. But now, today, when I want to do something, I can go to him and I tell him I want to do this. When he says no, I am also firm with what I want. And after maybe, we can discuss. And today you can see that when I insist on what I want, he is finally okay with it…I convinced him that what we are doing is okay by showing him other members of the community who are part of the training programs and I would compare us with them. And say, don't you see that our neighbour so and so is doing well? We also need to be at that level.

When women improve their agriculture through applying the skills and knowledge that they've learnt, they increase their decision-making power since their husbands know that their previous trainings have contributed to the household. Kabeer (1999) notes that increasing women's economic contribution to the household is often one of the most effective ways of strengthening women's voices since family members are aware of

women's improved individual financial position. As the women farmers in this study indicated, their financial contribution was a strong motivator for their husbands to include them in decision-making processes over land use.

Women farmers also stated that they have more power over household food consumption since they decide how to use the land efficiently and what to grow on their farms. Through growing a variety of vegetables and staple crops, women farmers are no longer reliant on their husbands' income to purchase food. Caryl said, "For example, when it comes to feeding, before if the man had bought, maybe posho,[8] that is what you have to have, but now that I have my own farm, I can choose from a variety of things from my garden. I can decide at least three dishes for my family a day, during a meal." Since Caryl decides what to grow, she can choose what to prepare based on her own preferences and criteria. Similarly, Viola explained that she was able to grow food that she enjoys eating, saying "Matooke is my favourite food and since I grow it, I don't buy matooke at all. And I feel good and proud about it." Oprah, a 35-year-old farmer, expressed similar feelings as she said, "I decided that I will never make foods without vegetables. Ever since I started working with Caritas, I started growing my vegetables and I can have vegetables every day. But before, I would only have them occasionally, sometimes on Christmas, sometimes on Easter, but today I can have them whenever I want to." Since women are taught skills to grow a variety of crops, they are able to choose which foods they would like to produce on the land available to them, which gives women greater freedom to grow and consume foods that they enjoy.

[8] Posho is a staple food in Uganda. It is prepared by boiling maize or millet flour until it reaches a firm yet malleable texture.

While women's responsibilities traditionally gives them some control over their meals, as Caryl and other farmers mentioned, non-farmers' choices are often limited by what men bring home or by the budget allocated to food by their husbands. Slater (2001) argues that urban gardens are a site for women to increase their decision-making power over food consumption, which highlights how food is interwoven with issues of power and social relations. She notes that women can be empowered through the agency exerted in the small choices that they make every day, even when confined by poverty and unjust gender norms. The level of empowerment can differ between women, as Slater found that while some women merely experienced greater level of choice over meals, other women were able to use household conflicts over food choices to challenge dominant gender relations. Kabeer (1999) suggests that change at the individual level can contribute to structural shifts in gender relations by increasing women's self-worth and awareness of inequality. Women's comments in this study suggest that they are making subtle changes in household gender relations by re-asserting control over food. While food is often considered a woman's domain, men's control over income and household budgets had previously limited women's authority. Through farming, women have been able to reclaim that domain of influence and exert agency over daily consumption decisions.

Finally, despite the positive impacts the program has had on women's access to resources in particular, many of the women's agricultural activities remained controlled and limited by their husbands who own the land and therefore can claim the benefits of women's UPA. Rebecca explained, "Men, they're the ones who decide, this land is for this or this…And some men, after these women have engaged in farming, they are the

ones who sell and take the money. The women don't have ownership over anything at all." Similarly, Renee said, "[He] can go behind you and he comes with a truck and harvests your food without you even knowing, sometimes even before it is mature…It causes a lot of worry. And sometimes the husband may not even buy food at home and yet they sell your food, the ones you've grown for eating at home." Men are not always pleased with their wives' UPA activities, so they can exert control by stealing from the garden. While women who engage in UPA have increased access to food and income, this access can be negatively impacted by men who ultimately control women's output by virtue of owning the land. As Hovorka (2006b) notes, "men can manipulate well-intentioned donor programmes in order to recapture female labour and income in circumstances where women have asserted autonomy over their economic activities" (53). As women increase their incomes and gain financial independence, men may attempt to re-assert control over women's time and resources, in this case by claiming women's UPA production and the income derived from it.

Farmers and experts both identified the need to increasingly target men through gender sensitization programs in order to truly address patriarchal structures and to improve gender equality, rather than continuing to work within women's existing marginal positions. When asked how women can be supported to assert control over their gardens, Rebecca said, "Unless the men are sensitized against that, when they sell the food and take all the money, there is no way of helping those women." We then asked whether any such programs existed, to which Rebecca responded, "In this area? For men? Most projects come and they sensitize women, but for men they don't." Some approaches to agricultural development have suggested that it is sufficient to include men in the

projects so that they experience benefits alongside their wives, thus reducing the need to claim women's benefits (Meinzen-Dick et al., 2011). However, Ertürk (2004) argues that previous development programs aimed at improving women's conditions and access to resources did little to challenge the basic gender inequality perpetuated through social values, practices and institutions, so transformative change is required. She further suggests that the challenge now is to disrupt notions of hegemonic masculine power embedded in society which will require engaging men across various social strata in addressing gender inequality as a societal problem, while simultaneously designing programmes that "increase women's alternatives and contribute towards their empowerment" (16). Kabeer (1999) suggests that while gender transformative approaches may be difficult as they "require men to give up certain privileges or take on certain responsibilities," programs can make progress in gender equality by including or depicting men in typically feminine roles and activities "in order to question, rather than reproduce, the gender division of roles and responsibilities" (43). The Caritas program currently focuses on increasing women's resources and opportunities, so the next step for transformative change is to include men in purposeful programs that challenge patriarchal structures and, as Kabeer notes, this could occur by engaging men in agricultural roles typically performed by women. At the time of my fieldwork, Caritas had not yet implemented an explicitly gender-focused program to target men. However, in our final meeting, staff noted that they were increasingly aware of the need for these types of interventions and would make it a priority in the future.

5.2.3 Pesticides and Fertilizers

Women farmers in Wakiso face particular challenges accessing and controlling key inputs such as seeds, pesticides, fertilizer and water. The results from this study demonstrate that women's participation in UPA training initiatives has the potential to increase their access to these resources.

Thirteen women farmers in this study noted that they had struggled with pests and diseases on their farms, particularly with regards to their fruit trees and vegetables. A few farmers said that the pests and diseases were severe enough to destroy their entire crop. When talking about their group farm, Katherine, a 30-year old farmer, mentioned "We had started growing pawpaws and passion fruits as a group however they were attacked by a strange disease and now we are still finding a way of getting back to our feet." Similarly, Mary, a 55-year old farmer and relatively new to the program stated:

> So when it came to tomatoes, the problem we had is when we started growing them, they started to wilt badly and almost everyone lost that season…So they are still affected. Most people lost that season, because I think out of everyone who grew tomatoes, I was the luckiest but I also didn't get much from it. So this season, the tomatoes, no one has invested in that.

Caritas Kampala encourages farmers to follow organic agricultural methods in order to reduce the incidence of pests and diseases. Throughout their weekly or bi-weekly training modules, they teach farmers organic farming techniques including the use of compost and manure as fertilizers as well as how to make organic pesticides using materials from their farms and gardens. Through these lessons, Caritas Kampala addresses women farmers' access to productive inputs since they increase farmers' ability to farm without purchasing chemical or synthetic inputs, reducing the significant financial burden associated with them (Ngome & Foeken, 2012). Grace, a 37-year-old woman farmer that we spoke with explained, "They taught us better agricultural practices. Like organic. And

they taught us how to use those herbs. So now we don't have to buy chemical pesticides. They taught us how to make organic pesticides to kill the pests and avoid diseases in the plants." Similarly, Caryl, a 47-year old woman farmer, showed us the tea plants in her garden and said "Those are tea herbs. We are advised to plant them around vegetables, including the chili. They have a good scent that fends off pests…When we are going to use pesticides, we use these exact products from our garden." Farmers are taught both to identify crops that can deter pests as well as how to organize these crops around their gardens in order to maximize their effectiveness. Additionally, they are taught to mix herbs such as chili and garlic with ash and animal urine in order to create a concoction that can be applied in their gardens to repel pests. By teaching farmers to use materials from their own gardens as pesticides, Caritas is able to decrease dependence on outside inputs and increase these farmers' self-sufficiency.

While access to the inputs themselves is important, farmers also require the relevant information regarding pesticide and fertilizer usage in order to ensure that they are achieving the maximum potential outputs from their farming activities. Women's urban agriculture outcomes are often limited by their lack of information regarding how to effectively use inputs and technologies (Ngome & Foeken, 2012; Hovorka, de Zeuw & Njenga, 2009). This is exacerbated by women's marginalization from extension services (Croppenstedt, Goldstein & Rosas, 2013; Okoboi, Kuteesa & Burungi, 2013). A study of rural women in Uganda found that in 2009/10, there was a 7.2% gap between male-headed and female-headed households who participated in Uganda's National Agricultural Advisory Services (NAADS), up from 0.5% in 2005/6 (Okoboi et al., 2013). Although access to productive inputs such as pesticides, fertilizers, and seeds continues to

be a problem for women farmers, the Caritas Kampala program has increased women's access to these inputs through increased knowledge on organic pest management and fertilizer systems that can be made at home. Since women farmers are often excluded from formal information sharing networks, their participation in the Caritas Kampala program is an alternative pathway for women farmers to access this information.

Still, some farmers continue to deal with issues of pests and diseases despite an increased knowledge of organic pest management techniques. Farmers mentioned that it was difficult to access organic pesticides and fertilizers, particularly for those farmers who do not raise animals for manure or have enough space to grow the necessary crops. When discussing the challenges she faces on her farm, Denise, a 40-year old farmer, stated "Pests and diseases, especially if you're following the Caritas program because Caritas encourages us to use the organic farming and we can't use pesticides, chemical pesticides. Organic pesticides are very expensive, and you can even look for them on the market and fail to get." Edith, a 55-year old farmer, also discussed the difficulty farmers face in accessing organic pesticides and fertilizers, while recognizing the constraints NGOs such as Caritas face in providing these resources:

> I would advise Caritas to join hands with the Ministry of Agriculture so that they help us to make more organic fertilizers and pesticides because it is very expensive to make them and on the market, they are expensive. If there is a way the Ministry can reduce the chemical pesticides on the market and increase the organic pesticides. Because now we can make them on our own, but we don't even have the equipment to do it. And it's also not enough. So I think another recommendation would be, if the government can work hand in hand with Caritas to train the extension workers at the district headquarters. Because they just stay in their offices, they don't come to the fields, and yet the NGO workers come to the field. So if they can work hand in hand with the NGOs so that they come also and they work with us and they teach. Because they also have more resources than the NGOs. But now it's the NGOs which are doing all the work, they are reaching more people than the extension workers.

As Edith highlighted, organic pesticides and fertilizers can be difficult to access on the market, and government extension services to provide inputs and train farmers on input use are lacking. Since Caritas Kampala has limited resources to meet farmers' input

needs, some farmers may not have access to the materials necessary to make the organic inputs at home, such as livestock urine and manure for pesticides, and they face difficulties finding and affording organic inputs on the market.

When asked if they would prefer to learn about and switch to inorganic methods, farmers emphatically declined. Farmers gave two reasons for this; either because of the health risks associated with inorganic methods or because they felt that they should respect Caritas Kampala since the program had helped them in so many ways. Katherine said, "My family is now having healthy food because I no longer use inorganic pesticides." Similarly, Quinn, a 45-year old woman farmer stated,

> They taught us [organic pesticides] but it was not effective. The tomatoes wilted. Even the sukuma wiki is attacked by small caterpillars…[9] No [I do not prefer inorganic]. Chemicals are bad and they've already told us they're not good. Because now even if the tomatoes are raw and you just wash them, a kid can eat the raw tomato without any complications.

The emphasis on health and particularly on feeding their children safe food resonates with other FPE research that noted how women's perceptions of risk are often connected to their childcare responsibilities (Kimura & Katano, 2014). Additionally, as Sultana (2011) noted, women's emotions around access to and use of resources, in particular their shame or joy in ensuring their families' health, impacts their daily practices and experiences. Women in this study emphasized that the additional challenge of using organic methods was worth it in order to ensure their children ate uncontaminated food, demonstrating how the gendered division of responsibilities and the associated emotional experiences can impact women's choices over their environment.

Beyond health benefits, some farmers also noted Caritas' preference for organic methods was a factor in their own choices. Priscilla is in the same farmer group as Quinn

[9] Sukuma wiki is a leafy green vegetable similar to kale that is common in Uganda.

and struggled with tomato wilt as well. She requested further training on organic methods, saying “We are not yet well-versed with the organic pesticides. Since Caritas does not like us to use the chemical pesticides, we would like them to at least give us more lessons on organic pesticides.” Similarly, Christine, a 52-year old farmer, said “Caritas is organic. Sometimes the organic methods they give us do not work and so finding organic pesticides is not easy at all. You might find it is not even on the market at all.” Farmers are aware of Caritas’ preference for organic methods and consequently they are willing to use these methods despite the persistence of pests and diseases. A statement from Edith provides some insight into this dynamic, explaining that

> We need the organic fertilizer and we use the manure from our animals, because we are not allowed to use chemical fertilizers. We are encouraged, we are restricted from using, Caritas only teaches us to use organic fertilizers and pesticides. We were taught to use organic and they've always brought facilitators to teach us. But if you don't use those organic fertilizers, they don't chase you away, but we do it as a courtesy. To follow the instructions they give us. They've given us the side effects of using chemical fertilizers, like getting cancer, the soil loses its fertility, and other stuff, that is why we are sticking to organic.

As Edith mentioned, Caritas has taught the farmers about the health and environmental risks of inorganic inputs, which encourages them to continue to use organic methods. However, underlying this rationale is also a sense that they should respect Caritas’ instructions since the organization has expanded farmer knowledge and information on pest-management practices. As highlighted by Edith’s quote earlier in this section, peri-urban farmers in Wakiso district rarely receive training and support from government extension services, so farmers feel grateful to Caritas Kampala for their programs and therefore reluctant to pursue alternative methods.

The choices women make in agriculture and the circumstances in which they make these choices are important indicators of the extent to which women have benefitted and been empowered by the urban agricultural training programs. As Kabeer (2005) notes, in

order for women to be empowered in their decision-making, there must be alternative options for them to choose. In this study, women farmers who participate in the Caritas Kampala program make the choice to use organic farming techniques, however this choice is shaped by a number of factors, including the information available to them and the social relations that surround their agricultural practices. Many of these farmers noted that they chose the organic methods due to their knowledge of the health risks associated with chemical inputs, demonstrating how increased knowledge can enhance women's ability to choose since they are aware of the alternatives and the consequences associated with it. However, while most women considered health as their primary motivation, it was occasionally noted that farmers used organic methods out of respect or obligation to Caritas. A staff member at Caritas Kampala, said "Now we are trying to push the organic. For us, organic and sustainable is all about having biodiversity, conservation, because of ecosystems, maintaining the balance." Farmers are aware that Caritas promotes a specific environmental ideology based around organic ecosystems, which influences their decision-making. While farmers are not required to use organic methods, their choices are negotiated within a complex set of social relations that increases their knowledge of the benefits of organic and discourages the alternatives.

5.2.4 Seeds

In addition to the challenge of pesticides and fertilizers, some of the women farmers we spoke with in Wakiso identified access to seeds as a key challenge on their farms. One issue mentioned by eight women farmers was the prevalence of fake, non-germinating seeds on the market. Caryl explained, "In the end [some women] have to go to the market to buy seeds, which some seeds are not genuine. And in the end, when they plant, they do

not get enough yields out of the seeds that they've planted because the seeds were not genuine." Similarly, Priscilla, a 45-year-old farmer, explained that "You might buy fake seeds and when you plant them, the seeds don't grow so you end up buying other seeds." Anne, a 65-year old farmer detailed her own experience with fake seeds, "Sometimes you might go to the market, to shops to buy seeds and they might be counterfeit. We bought mushroom seeds and we couldn't harvest anything because the seeds were not good." Staff at Caritas explained,

> Somebody goes to the market to buy seeds, hoping that they are going to germinate, but you find that the germination percentage is maybe 60%, this is already a loss right from germination. The best germination percentage would have been between 80-95%, that would have been the good germination percentage. If it is 60%, then the farmer is doing a loss right from the start.

As this quote explains, when farmers purchase fake seeds, they operate at a loss as the yield does not match the cost of the seeds.

Caritas uses two main strategies to address this challenge. Firstly, mature farmer groups are directed to purchase seeds at organic input stores in Kampala in order to ensure that the farmers are purchasing inputs from reputable suppliers. Since farmers work in groups within this program, they can work together to collectively increase their bargaining power when purchasing seeds from these suppliers which improves their ability to contest the seeds if they fail to germinate. Furthermore, newer farmer groups often receive seeds either directly from Caritas or from other farmer groups already associated with the organization. Some farmers noted that Caritas Kampala directly addresses the issue for farmer groups in the initial phases of the program by providing farmers with seeds for crops such as sukuma wiki and spring tomatoes. Additionally, Caritas operationalizes the farmer group networks so that farmers from more experienced groups can help new farmers with this challenge. Caryl is a farmer leader from a group that has worked with Caritas for over five years, so she has begun to take on additional

leadership roles in order to encourage women in the community to take up farming. She explained:

> Me, I make a nursery bed. Because there are some members who cannot afford to make a nursery bed, so I make one and I distribute the seedlings. I'm the chairperson of FFLG in [our] group. If I want to encourage those women to love FFLG, you attract them by giving them some of the seedlings, like for eggplant or cabbages… Right now, I'm doing it for free. I haven't started charging them. We want them to love farming.

By encouraging Caryl to take on this role, Caritas is able to extend their programmes through the linkages created between new farmers and established leaders in order to create sustainable, resilient communities. This intervention is designed to help farmers overcome the initial hurdles associated with starting or improving their agricultural efforts, by providing them with initial access to seeds before their incomes and social networks increase sufficiently to access them themselves.

Some farmer groups have developed alternative ways of coping with the issue of fake seeds, supported and encouraged by Caritas. Since one of the primary aims of the program is to produce resilient groups that can work collectively to solve problems and access resources after their engagement with Caritas has ended, farmers are encouraged to develop initiatives together such as nurseries and seed banks. They can request training from Caritas in any of these areas when they are looking for further guidance, however these initiatives are ultimately developed and run by the farmers. According to Barbara, a 58-year-old farmer in the group, “We have a store as the group. After harvest, we take our seeds to the store. When it comes to sowing season, we go and we check. If you don't have seeds, you buy the seeds that you don't have at a very low price. Because we are a group. We have a seed bank.” Similarly, Penelope, a 74-year old farmer from a different group, explained that her group had started a group nursery where everyone contributed labour and was given seedlings to transplant when they began to grow:

> When Caritas and other groups give us seeds, we grow a nursery bed together as a group, then we all pick a small small portion and you take to your garden…We cooperate and we pick one of the members, and we make a garden then we make sure that we can all go and take care of the seeds. When we come back, we prepare our gardens at home, we pick the seeds and we transplant.

Caritas' early emphasis on group dynamics training has led to innovative solutions that that are developed and executed by the farmers themselves in order to ensure that they have a stable supply of seeds without relying on the formal market.

The Caritas Kampala program increases women's access to seeds through both the direct provision of seeds as well as a commitment to connecting and empowering farmers to develop their own strategies. Kariuki & Place (2005) note that working collectively can help members mobilize material resources as well as "assist newly formed groups to access productive resources" (4). While giving women seeds is not a long-term solution, Caritas uses this as a stepping stone in order to facilitate women's independence and autonomy as they work collectively to find other methods of accessing these inputs. Hovorka (2006b) suggests that access to resources is not a sufficient indicator of empowerment if it is not accompanied by the ability to make choices independently over these resources. By encouraging farmer groups to purchase seeds from genuine suppliers and develop collective seed banks, this program ensures that women have the agency to decide how they wish to access seeds, while also helping women cope with their daily farming needs.

5.2.5 Water

Water is the third and most widely-cited input that peri-urban women farmers struggle to access; 14 women farmers mentioned this as a major challenge to their enterprise. Farmers in Wakiso experience long periods of drought during the dry season and water sources are often located far from women's homes or farms. Women in this study without springs or national water taps on their property travel anywhere from half of a kilometre

to four kilometres to collect water. Quinn, a 45-year old farmer, explained, “During the dry season, we have problems to get water. We suffer a lot. The distance is long and yet sometimes when we get there, there is no more water in the spring. Water affects us so much. Like in the dry season, our food becomes dry because there is no water.” Water is particularly an issue for women, since they are responsible for water collection. As a staff member at Caritas explained:

> There was someone that said, what African women wouldn't do. You are the factory that produces children, you are the water pipe that draws the water, you are the tractor that ploughs the fields. So the women have to collect the water, with their children, moreso the girl child. And this has a very big effect. For instance, with the girl child and education. Because they have to wake up early and go to the stream. Even when she comes back late she has to do that work. And you know, some of them fall victims to bad behaved people because the stream where you have to collect water, the borehole, it may be one serving a thousand. So it means either you have to wake up very early and you go to line for the water. But this is a routine and somebody can learn your routine. They waylay them, they ambush, some of them they rape them. Such things have happened to people. So you realize that the problem of water is very grave.

Water collection can expose women and girls to a variety of problems, from an increased labour burden to violence (Truelove, 2017).

In order to address the issue of water scarcity, Caritas has distributed irrigation kits and has helped some farmers to construct water tanks. Farmers who have received these resources have emphasized their life changing impacts. Katherine, a 30-year-old who received both a water tank and an irrigation kit described how they saved her time and labour:

> At first, the water was so far away but when Caritas started teaching us and they realized I was doing what they were teaching and performing well, they gave me a tank. [The well] was one mile away. Plus it was on a steep slope. It used to be at least 3 or 4 times a day because we have animals and back then we also had more chickens, so we sometimes had to send someone and pay them to bring the water which is so expensive. You either pay or you fetch the water yourself. [The tank] has changed so much because now we do things on time. If you decide to go to the garden, you go and you know you are coming back to wash clothes, you make food on time. Before you had to go from the garden, fetch water, come back.

Similarly, Caryl received a water tank and she stated, “I used to fetch the water from a well but I thank God that now Caritas helped me and now I have a tank.” Olivia, a 73-year-old farmer, reinforced the time and labour-saving impacts of a water tank by stating

“I used to have problem with water. We used to fetch the water so far away. But since I got the tank, that has no longer been a problem. And the water has also helped me when I'm watering my plants.” Farmers who have received water resources from Caritas reported both a reduced labour burden and increased the predictability of their access to water.

Kabeer (1999) argued that development initiatives can be successful in tackling gender inequalities when they are “based on an accurate analysis of the prevailing division of labour, responsibilities and needs” (41). Of the 16 women who discussed the division of labour, 15 noted that they are or had been responsible for either collecting water or paying someone to do it, while one said it was their children’s responsibility. This is consistent with research in Uganda where women are disproportionately responsible for their household’s water needs (Ransom et al., 2017; Truelove, 2011). By focusing on women’s access to water resources, the Caritas program is able to address women’s needs specifically since it recognizes the gendered division of labour in accessing water resources.

However, while many farmers that we spoke with had received irrigation kits, water tanks or both, some farmers had received neither of these resources, which was a source of confusion and discontent. Barbara noted, “Caritas distributed tanks to some people, so the problem is that we don’t have water. So if there is a way that they can help us with water…They based it mainly on vegetable planting around the home. The people who had bigger gardens received the tanks and irrigation schemes.” According to Barbara, people who received water resources had larger plots of land, however even though she was on a smaller plot of land, she was still struggling with access to water. Similarly,

Penelope, a 74-year-old farmer who had not received a water tank, was confused since she had followed the instructions in order to receive one:

> Caritas had said that they would make tanks for us but some of us didn't get. They have recently been distributing some kits, but I have not yet received mine. But some of my members received…It would be better. Because I already bought the things for constructing the tank but I have not yet got the chance for Caritas to help me. They promised to give us but I think the season for distributing has now ended. I still have some hope that they will do what they promised. I already have the requirements that they told that we should have at least before they come. You never know, maybe God.

The staff members at Caritas explained that this uneven distribution of resources is mainly due to funding constraints:

> At present, we have just one funding agency... So that's why we cannot handle basically everything. We do only that is within our resources. I think as you noted, some of the key issues that need to be addressed we have not yet tackled because we have not accessed resources in that area. Especially water and sanitation. Water for agriculture, we are trying. But mainly our major donor is looking at sustainable agriculture practices, transforming the communities through agriculture.

As this quote highlights, the Caritas Kampala program is limited by the availability of funding and the key areas of focus for their donor agencies, underlining how the impacts of agricultural development initiatives can limited by the extent to which donor and farmer priorities are aligned. As previous research has shown, development interventions have more meaningful impacts when farmers are involved in the priority-setting process (Bell, 2001; Hall & Nahdy, 1999; Jones, Glenna & Weltzien, 2014). The disconnect between donor and farmer priorities makes it challenging for Caritas to access sufficient resources to provide water tanks and irrigation kits to all of the farmers.

Due to these constraints, staff at Caritas explained that they usually allow farmer groups to choose who will receive the resources. However the farmers are given criteria to follow when selecting the recipients, including someone who will experience meaningful benefits from the kit or tank, someone who is a role model in the group, someone who participates in all of the trainings and group meetings, and someone who implements the skills Caritas has taught them. While Caritas also explained that the

program is not yet complete and they are planning on continuing the distribution of water resources when possible, these criteria demonstrate how farmers with larger plots of land could be better placed to receive the resources since they would experience greater benefits and have more space to implement the skills.

While questions of gendered access to resources are crucial to an FPE analysis, Rocheleau et al. (1996) note that these analyses must consider the "complex context in which gender interacts with class, race, culture and national identity to shape our experience of and interests in the environment" (5). The intersections between gender, class and the environment are highlighted in the uneven distribution of water tanks and irrigation kits. While funding constraints pose a real barrier for the organization and impose restrictions on who can receive these resources, these findings highlight how the poorest women farmers may be marginalized from the increased access to resources by virtue of their smaller land plots. Barbara and Penelope, two farmers who mentioned that they had not received water tanks, farmed on household plots of one acre and six decimals (approximately one-twentieth of an acre) of land respectively.[10] Women on small farms may not have space to grow a variety of vegetables in addition to staple crops which limits the skills that they are able to implement. Techniques to mix organic inputs are also limited by farmers' ability to grow plants such as tea herbs and chili which may not be possible on small plots where subsistence production is the priority. Since the criteria to receive a water tank includes being a role model for the group, attending all of the trainings, and implementing the skills that have been taught, farmers with smaller plots of land may be disadvantaged since they are not able to implement all of the

[10] While one acre is not a small plot of land in urban environments, this was quite small in comparison with the rest of her group.

techniques they have learned. Both Barbara and Penelope are unmarried and have young dependents living at home. In the case of these two women, the combination of small plots of land, heavy domestic responsibilities and being the sole providers for their families may prevent them from achieving the results necessary to meet the criteria for receiving water tanks and irrigation kits. The intersection between their gender and class identities may contribute to their further marginalization since they are not able to gain access to important water resources, despite their participation in the Caritas Kampala program.

In order to ensure that all farmers experience an increased access to water – regardless of whether they received tanks or kits - Caritas Kampala teaches farmers water harvesting and conservation techniques. In particular, farmers new to the Caritas Kampala program have emphasized how learning these techniques have had immediate impacts on their water access. Grace explained, "They taught us how to do proper irrigation. Like they taught us how to use a bottle, like you put it right next to the plant, a small bottle, and that can last like 3 days. So your plants are constantly irrigated using minimal water and the soil can retain water." Similarly, even though Penelope has not yet received a tank or irrigation kit, she mentioned that learning these techniques has improved her farming outcomes, saying "Before, we would just grow things, depending on the rainy season. But we've learnt even to water. Throughout the rainy season and dry season, we still have vegetables." While many farmers stated that a water tank or irrigation kit would reduce their water burden, these same farmers also emphasized that the water conservation and harvesting techniques had improved their agricultural yields, demonstrating that by

tackling this issue through multiple approaches, Caritas is able to ensure that most farmers experience some improvement in water access.

Rocheleau et al. (1996) suggest that ecological knowledge is amenable to feminist practice since it does not require specialized, technical tools and is therefore within reach of all people. Caritas' approach embodies this sentiment since they equip women from diverse backgrounds and with varying resources with the same ecological knowledge in order to mitigate inequity. While the financial limitations of the program may exacerbate class divisions among women, knowledge acts as an equalizing factor. However, the value and importance of assets varies according to context (Behrman et al., 2014). If the goal of a project is to improve farmers' well-being, then the value of resources that they are given access to, such as knowledge or physical water tanks, is dependent on its potential to meaningfully benefit participants. While providing women with knowledge of water harvesting and conservation techniques contributes to alleviating women's immediate struggles, it does not necessarily build their long-term resilience since these techniques rely on the availability of labour. While providing women with knowledge can be understood as a useful survival strategy, it should not replace helping women to obtain permanent assets as a way to increase the stability of women's resource access.

As this section has shown, while women farmers who have participated in the Caritas Kampala program have experienced increased access to productive resources, their degree of control over these resources has been less significantly improved. Discussions with farmers and with Caritas staff members emphasized the need to target men through gender sensitization programs in order to meaningfully increase women's control over their land and income in particular. Although women still experience difficulties

controlling these resources, women have found small ways of asserting control that increases their independence and challenges gender inequalities.

5.3 Confidence and Leadership

The women farmers who participated in this research expressed a sense of pride and increased self-esteem earned through UPA, particularly when people in their communities admired their gardens and when they achieved good harvests. Olivia said, "Even my neighbours look at my garden and they admire it. I'm so proud knowing that what I'm doing is good. Better than it used to be. My friends consult me, 'how do you do it.' They say I have beautiful things." Similarly, Yolanda stated, "It makes me so proud and happy whenever the production is good. You go to the garden, you plant, you have good produce. Like when my pig has its piglets, when my friends come over, I show them my piglets and I tell them they look good." As Yolanda explained, women farmers gain confidence and self-esteem in their technical farming abilities and they are eager to share their success with their friends. Mary explained why being admired by her neighbours was a source of pride,

> People come and admire your work. People visit your home and they ask you how you do your work, how they can also do what you've done. This changes someone's life because people are asking you for advice. You are helping the community with your knowledge.

The women farmers are able to contribute to their community and to help their neighbours, which brings them happiness and can increase their confidence.

Many women farmers also gained confidence through their increased farming knowledge and capabilities, which contributed to their sense of independence. Women expressed pride in their ability to survive and care for their families without the help of a husband or other community members. Agnes said,

> My biggest achievement was the confidence I gained because some other people wouldn't have done it, they would have decided to get remarried. But for me, I decided to stay strong and work and get

> money. When my husband died, I had a child who was less than a year old. But the child is 12, he's in Senior 1. And a daughter who has finished her Master's and now she's working and organizes for Child Fund.

Similarly, Irene, a 26-year old farmer, explained,

> They have taught me that I can have something, that I can do something on my own. So they have taught me to be independent because I have learnt that with or without a husband, you can survive as a woman. I can work hard for my kids. I can feed them. I can make some money and take care of them.

Through participating in the Caritas program and learning UPA techniques, Irene has gained a sense of self-confidence in her ability to care for her children through her own knowledge and skills. Irene also expressed increased self-worth through participating in UPA since she learned that she deserves to participate in activities that bring her joy and fulfillment.

Furthermore, women farmers who participated in the Caritas programs report feeling more confident speaking in public since they believe that they have something of value to offer. Hazel, a 34-year old farmer, said "It has helped me in a way that I am confident enough ever to answer these questions. I am confident enough even to go and meet other groups. Sometimes, when you have the knowledge, you feel like you can stand among these people and say something." Penelope also highlighted how these programs have impacted her, stating

> It makes me happy because I was very shy. I wouldn't talk to other people. I had the jitters and I would feel so pressured, I would panic and I wouldn't be able to talk to other people. I've learnt to interact with other people. It is easier now for me. Even when I meet the people that I saw in those trainings, I feel like I'm meeting my sisters, my brothers. Even if they're from different regions, I feel like I'm talking to someone I know. When I go for those meetings, they teach us and you're able to respond. Even other people. Even when you see other people there, you don't feel bad. Even you when you came here, I don't feel any shyness or pressure.

As both of these statements have highlighted, inviting strangers into your home and sharing your knowledge and experiences with them takes a degree of confidence, so the fact that so many other women were open to speaking with us about their farming

highlights the extent to which women's self-confidence can be impacted via increases in knowledge and friendships.

While much of the emphasis of UPA research has been on its economic and food security potential, UPA can also have significant impacts on women's independence, confidence and leadership opportunities (Hovorka, de Zeuw & Njenga, 2009). Women farmers develop confidence in their abilities, both in terms of their technical achievements in farming as well as their ability to provide for their families using these skills (Tye, 2012; Olivier & Heinecken, 2017). Research has found that women expressed pride and pleasure after harvest through their ability to share their produce with their family, friends and neighbours (Gabel, 2005). Women's emotions are important in understanding their ecological activities since they are embodied in daily practices and in women's subjective experiences (Sultana, 2011). The joy and pride that women experience through UPA can show the value in centering and investigating women's agency. The benefits that they feel through these UPA programs go beyond resource distribution to truly impact women's happiness and self-worth.

Women's increased confidence has also led many farmers who work with Caritas to take on leadership roles in their community. These range from local roles training their neighbours in farming, to positions within their farming groups such as chairperson or treasurer, all the way up to working on their local council. This challenges women's marginalization in public participation and increases women's voice in key decision-making matters that directly impact their lives and families. Nyanzi et al. (2005) argue that while Buganda tradition does not necessarily restrict women's participation in public forums, their household and childcare responsibilities prevent them from frequenting

public spaces where economic and political activity occurs. Through UPA, women farmers are able to engage in leadership roles within their own neighbourhoods while also gaining the confidence to participate in local politics.

Women farmers have taken on the roles of trainers in their communities, both by informally sharing knowledge with neighbours as well as through community trainer positions with Caritas. Grace stated,

> So we've become role models in our community because we've worked with Caritas. If someone is looking for knowledge about agriculture, planting vegetables, they can be directed here. They tell them, you go look for the lady who is working with Caritas. I have been able to teach other people about my agricultural practices.

While most of the women farmers who work with Caritas have only been formally educated to the primary or secondary school level, their access to agricultural knowledge through these programs provides them with a different form of education and increases women's opportunities to take on the role of expert. Caritas also trains some women to take on the official role of Trainer-of-Trainee (TOT) in which they are asked to train farmer groups new to the program. Zoe has been working with Caritas for over 10 years and she received training to be a TOT. When asked about this, she said,

> We have the opportunity and access to train other groups that have just come up in Caritas. We've got certificates. [I feel] very proud of course…We teach other people. But for example when it comes to wine, when you teach someone how to make wine, you have to be checking on them and see their progress. Eventually when they get it, you don't have to check on them.

As Zoe's example with wine suggests, TOTs are very involved with the progress of the farmer groups they train. In this capacity, women farmer's knowledge is valued and they are given opportunities to share their expertise, further strengthening their confidence and participation in communal decision-making with these new groups.

Women farmers are further encouraged to pursue leadership positions in their communities outside of the Caritas program. Some farmers explained that the public speaking skills they learned as well as the respect from the community earned through

their agriculture had encouraged them to participate in leadership roles on local councils, in their churches, and with other organizations. Katherine explained, "[Caritas] teaches us public speaking. They taught us how to be confident when you are going to teach someone. How you prepare for public speaking. And I'm proud of that. I contested to be a local council vice and I succeeded." By participating in these programs, Katherine gained increased confidence and public speaking abilities, which she used to pursue local leadership opportunities that were previously inaccessible. Similarly, Penelope said, "I'm a leader in church. I head the Catholic congregation. At the church, I'm the leader of the congregation in the whole zone. In the government, I also wanted to get involved and be under elderly, to be representing elderlies but we have not yet come to that point." Penelope self-identified as shy prior to her participation with Caritas Kampala, so her ability to take on these roles demonstrates the extent to which these programs can increase women's confidence and encourage them to pursue leadership opportunities. As a final example, Lucy said,

> In the areas where we stay, people prefer Caritas members as leaders because we have more knowledge. Something more to offer… I have 3 roles as a leader. I am the Chairperson of my group. And then the second position is with Quality Chemicals where I'm a trainer to all poultry farmers. And then also I'm a consultant for a German organization that supplies water tanks. Like a form of advisor. They are supplying tanks around the area that we are in…They can select you from a group and they choose you and they say that they want you, without even campaigning for it. Because of [Caritas], then you are known. And someone can easily refer you because they've seen you somewhere and they've heard you probably talk in public.

Beyond her role as Chairperson of the group, Lucy attributes her leadership positions to a combination of her expert knowledge learned through the programs and the respect she gained from the community through working with Caritas. As all of these women have demonstrated, their participation with the Caritas program has directly impacted the leadership opportunities available to them as well as their decisions to pursue them.

Women farmers' engagement in leadership roles increases their participation in decision-making processes in two related but distinct ways. First, the choice to take on leadership and training positions reflects women's increased access to knowledge, and the confidence earned through this expertise extends the participation opportunities available to them. Second, by engaging in local politics, women farmers increase their participation in political decision-making processes, which allows them to strengthen women's representation and advocate for policies that address women's needs. Decision-making in Kampala is dominated by men which means that the resolution of disputes over resources such as land often favour men (Kiguli et al., 2004). Research in India found that when women were involved in village forest conservation committees, villages where women participated in collective decision-making had different rules than villages where women were not involved, demonstrating that women's involvement in local leadership impacts policy outcomes (Agarwal, 1997). Since men and women have different priorities, women's involvement in political decision-making increases the likelihood that women's interests will be represented and addressed (Chattopadhay & Duflo, 2001). Hovorka et al. (2009) suggest that "contacts and participation in local networks and organizations can facilitate access to and control over productive resources." By pursuing both informal and formal leadership positions, women farmers participate in decision-making processes in their communities that can extend women's access to resources and encourage decisions that prioritize women.

Chapter 6: Conclusion

This thesis has attempted to answer the question: What are the impacts of urban agriculture training programs on women farmers in Wakiso? I employed a framework of Feminist Political Ecology to analyze Caritas' programming using data collected through transect walks and semi-structured interviews with both farmers and experts. This thesis sought to unravel the power relations that permeate multiple aspects of participants lives, particularly gender but also class and group affiliations. This section will highlight the key findings from the thesis by answering the sub-questions posed in the introduction. Following the results, this research will engage with existing paradigms in gender and agriculture research to explore how this study can contribute to broader debates. Finally, a short list of recommendations for Caritas is provided in order to suggest ways that this and other interventions could further support women's efforts in urban agriculture.

6.1 Summary of Results

In order to answer the main research question, four sub-questions were devised that directly address women's constraints and benefits in UPA while emphasizing women's individual agency. Since women have a multitude of positionalities, experiences, and wants, the conclusions of this research are not universal and should not be uncritically applied to different contexts. However, this research did uncover some important trends and issues within peri-urban programs that demonstrate the value and limitations of this approach.

6.1.1 What are the Impacts of Urban Agriculture Training Programs on Women's Access to and Control Over Agricultural Resources?

Women urban and peri-urban farmers face disproportionate barriers related to access to and control over key productive resources including capital, land, and inputs. This inequitable distribution of resources impacts women's farming outcomes as they face difficulties mobilizing investments in their farms, hiring labour, and guaranteeing secure land tenure for their crops and livestock.

This research found that the Caritas programming had significant positive impacts on women's access to resources. It enabled them to earn income, increase their crop production on small plots of land, and improve their farming techniques using homemade organic inputs. The formation of farming groups further improved women's access to resources as farmers developed alternative strategies, such as seed banks, designed to circumvent market barriers. As a result of this resource access, many women reported improved food security and greater financial freedom.

While women's access to resources increased, their control over resources remains a contentious issue within Caritas. Women's household and care responsibilities as well as gendered power relations around asset ownership inhibit women's ability to assert control over resources, even when they are using the resources to produce food and capital for the household. In this study, women and experts noted that men do not necessarily want their wives to control land or income and so they resist women's financial independence by withholding their own income contributions or giving the women additional household and childcare responsibilities. However, women have also found ways of asserting their control over resources without the consent of their husbands by concealing their income in saving

groups and purchasing their own land. This dynamic highlights tensions that emerge as dominant gender norms are challenged.

6.1.2 What Impacts do These Training Programs Have on Women Farmers' Decision-Making Power?

Women farmers in both rural and urban settings typically face difficulties participating in important decision-making processes around the use of their agricultural resources and outputs. Decision-making power can be an indicator of women's position within the household when they are able to participate in decisions that guide the household's activities as a whole.

Caritas encourages women's active participation in decision-making processes by ensuring that groups are overseen by elected leaders and that everyone's voice is equal regardless of gender. Men farmers that we spoke with noted that while most men in their communities make decisions for their households, they have learnt to value women's opinions and farming expertise. These findings demonstrate that the incorporation and sensitization of men in farming groups and in society more broadly could have important benefits for women and gender equality as men recognize women's knowledge, their contributions and their marginalization.

Beyond farming groups, this research found that women farmers experienced an increase in decision-making power in their households through the Caritas program, particularly when they were able to increase their incomes. Similarly, women experienced greater decision-making power over land when they were able to prove to their husbands that their agriculture was contributing to the household's food and financial security. This reaffirms the broader literature on decision-making power which

argues that women gain status in their households through increased financial contributions which can enhance their bargaining power (Agarwal, 1997; Kabeer 1996).

6.1.3 How has Participation in Urban Agriculture Training Programs Impacted Women's Choices in Urban Agriculture Activities?

The choices that women make in agriculture and in their livelihoods tend to be shaped by power relations. These choices are important in order to understand and acknowledge women's agency in their own lives as well as the factors that enable and constrain the options available to them.

Women in this study experienced a larger array of options to choose from across many aspects of their lives. Women's new agricultural knowledge increased their ability to make choices regarding land use while their knowledge of health and environmental safety encouraged them to choose organic methods for their farms. Women's knowledge of vegetable growing and their newfound financial independence also enabled them to choose which food to grow and prepare, rather than relying on their husband's income for food purchases.

However, women's choices were also constrained by gender and social relations that limited their opportunities to exert agency over their farms and livelihoods. Women noted that gender norms such as women's child care responsibilities reduced their ability to invest in their farms since they had to use their incomes to purchase necessities for their children. Similarly, women's affiliation with Caritas and their gratitude towards them may have impacted their agricultural choices since they were aware of Caritas preference for organic methods and often chose to use them despite persistent challenges with pests and diseases.

As both the enabling and constraining factors show, the analysis of women's choices is important since they can reveal how power relations, women's access to and control over resources, and decision-making power is actualized through everyday agency.

6.1.4 What Social and Economic Empowerment do Women Experience Through Participating in the Caritas Training Program?

While the above indicators are useful for an academic analysis, it is also important to recognize that these training programs can have meaningful benefits for women's social and economic empowerment that may not directly address gender relations but nonetheless positively impact women's lives. Social and economic empowerment can refer to numerous changes in women's opportunities and circumstances. This thesis uses on empowerment as a concept that is ultimately self-defined by the women farmers who experience numerous economic and social benefits due to their participation in the Caritas program.

Caritas forms farmers into groups at the beginning of the program, and this has significant benefits for women farmers. By working in groups, farmers share labour, increase their collective marketing power, and can also support each other by buying and selling within and between Caritas groups. Beyond these agriculture-specific social benefits, women farmers also noted that they had developed friendships within their groups. These friendships act as emotional and financial support for women as they often helped each other through hardships including sickness, death in the family, and even imprisonment. These benefits represent social empowerment for women as they have increased agency over their lives and resources, while also experiencing meaningful personal benefits with regards to their happiness and well-being.

Outside of their farming groups, women also experienced increased confidence and access to leadership roles, demonstrating a shift in consciousness and the creation of alternatives for these farmers. Women farmers noted that they gained confidence speaking in public, often due to their increase in knowledge gained through the Caritas training. Consequently, many women farmers had begun taking up leadership roles in their community including on their local councils and in their churches. While this research did not focus on the political empowerment benefits of women's increased leadership opportunities, it is hoped that they may be able to strengthen women's voices and advance women's issues in the public sphere.

Finally, women experienced many economic benefits that are important for women's well-being. The majority of women farmers noted that they were benefitting from the Caritas program and the increased agricultural output by saving money on food expenditures and by earning money through selling their goods. Many women appreciated that UPA is an income-generating activity that can be done at home, which enables women to earn money while also carrying out their domestic and care responsibilities. Women famers also said that they had experienced greater financial freedom and were able to contribute to their households, including paying school fees and buying school supplies, which was often a source of pride. While increased income is not necessarily an indicator of economic empowerment, women farmers in this research were able to use their income to increase their access to resources and gain negotiating power in their households.

6.2 Contribution to Broader Debates in Gender and Agriculture

These results contribute to emerging paradigms in gender and agriculture research since they offer grounded, qualitative insights that have identified the constraints and

experiences most important to women farmers in the Caritas program. In particular, the results from this study demonstrate the value of a bottom-up approach to gender and agriculture that both complements and contrasts with newer quantitative tools such as the Women's Empowerment in Agriculture Index (WEAI). The WEAI was developed by IFPRI, OPHI and USAID through the Feed the Future Initiative as the first standardized tool to measure empowerment in the agricultural sector in order to direct policy and programming as well as track changes in women's empowerment over the course of development projects (IFPRI, 2012; Malapit et al., 2014). The WEAI aims to measure women's empowerment through household and community surveys, and to identify which areas of empowerment need to be strengthened through five domains: decisions about agricultural production; access to and decisions over productive resources; control over income; leadership in the community; and time allocation. The WEAI has become a dominant tool in agricultural development research and programming: a search on ProQuest generates over twenty thousand results and the Index has been used by agencies such as the FAO and the World Bank. The WEAI has been conducted in many communities throughout Asia and Africa and the results have identified key constraints for women farmers in each location, which provide information for development practitioners on the most important point of entry for gendered interventions (Malapit et al., 2014).

The five domains measured in the WEAI seem to align well with the results of this study, demonstrating that quantitative measures and qualitative research can both be useful tools for identifying women's constraints and opportunities in the agricultural sector. However, quantitative approaches to women's empowerment have been critiqued for the imposition of external understandings and indicators of empowerment that may not be

relevant in local contexts (Jakiela, 2018; O'Hara & Clement, 2018). Quantitative approaches such as the WEAI may also be subject to social desirability bias as participants and respondents are aware that the questions are intended to measure status and changes in empowerment (Jakiela, 2018). More profoundly, quantitative approaches emphasize measurable forms of women's agency, such as decision-making power, without recognizing other articulations of power within social relations such as domination, influence and hegemonic knowledge systems (O'Hara & Clement, 2018).

In contrast, the value of a bottom-up, qualitative approach is the centering of women's voices and agency while recognizing that power relations are negotiated, are not static, and can constrain women and men in subtle ways. While decision-making and access to resources are key issues that are reported on in WEAI studies and that arose through this UPA research, this study enabled women to identify their own priorities and barriers in order to ensure that empowerment indicators were relevant to them. This study also investigated social relations between women, their families and their communities and drew on broader literature of social and political norms in order to demonstrate that power relations are not static and can impact various aspects of women's lives in unforeseen ways. Empowerment is a nuanced concept that involves negotiations over power relations and non-linear processes of change in women's lives and well-being. As a result, this thesis was able to go beyond measures used in the WEAI and found that women can both gain decision-making power and control over resources in some aspects of their lives, while also being constrained by these same changes as hegemonic gender norms restrict women's choices. Additionally, many women farmers emphasized the joy they felt looking at their gardens, the friendships they made, and their pride in earning income and providing for

their children. These elements are not measured by typical quantitative indices of empowerment but they were important to women farmers in this study and demonstrate that indicators identified by researchers and international organizations may not account for women's actual experiences and priorities.

More recent gender and agriculture research has emphasized women's empowerment in development while also recognizing the importance of men, gender and power within these processes of change (Leder, 2016). In order to truly understand how gender and power is experienced by women farmers, it is necessary to go beyond quantitative measures and to allow women themselves to identify how these relations impact their lives as well as how they can best be supported.

6.3 Recommendations for the Caritas Program

This list of recommendations is a combination of feedback from farmers during fieldwork which is supplemented by personal observations and discussions with the RA. The recommendations for Caritas range from both design elements of the program to changes that may require extensive resources. As a result, some of these recommendations might require more long-term plans in order to fit within the limited resources available to the organization.

6.3.1 Provision of Loans or Other Sources of Financing

A few farmers, particularly those from groups new to the Caritas program, noted that they would benefit if Caritas could provide them with loans in order to purchase equipment or finish the buildings on their property. They noted that some of the techniques that they learnt through Caritas would be easier and more beneficial with the assistance of some tools that they could not afford. While in theory, it would be wonderful if Caritas could

help new farmer groups with their initial financing through a loan scheme, this may not be feasible due to the size and resource limitations of the organization. However, since many mature farmer groups have also formed savings and loan associations, Caritas could potentially connect old and new groups through a financing scheme. This would benefit new farmer groups who require capital to purchase tools, livestock and other materials, while also benefitting old groups through earning interest. While savings groups do not usually give out loans to non-members, Caritas could connect groups through a sort of mentoring scheme which would increase legitimacy and reliability for the lenders.

This strategy could be modelled after other successful financing and saving ventures spearheaded by small-scale NGOs throughout Sub-Saharan Africa. The Catholic Relief Services in Kenya implemented the Saving and Internal Lending Communities (SILC) programme in which members formed groups based on knowledge of each other, proximity, friendship and trust and which ultimately enabled women to increase their physical asset base as well as social capital (Odera & Muruka, 2007). Similarly, research in the Gambia on women beneficiaries of NGO programs found that women viewed social capital as integral to economic empowerment since it provided a system of social support for decision-making and participation (Nije, 2012). Caritas has already established the basis of trust and social support through its group formation and FFLG strategies, so this could be further extended for inter-group lending.

Furthermore, research on women entrepreneurs has noted that they are more likely than men to cite encouragement as a main incentive to begin their businesses and they are also more likely than men to access early funding from business partners (Cohoon,

Wadhwa & Mitchell, 2010). Similarly, research on a savings, micro-loan and social support program in Kenya found that women and girls benefitted from having access to mentors for social and business support, although they noted that it was important to have separate roles for mentors and credit enforcement officers (Erulkar et al., 2006). Caritas has already introduced a peer training model through their trainer-of-trainee programs, so this could be further extended to include savings and credit assistance in order to help new groups and younger members.

6.3.2 Gender Sensitization

As both farmers and Caritas staff noted, in order to significantly reduce gender inequality and guarantee women greater control over resources, it is necessary to incorporate men in the programming both within and beyond the farming groups. As this research found, men who work alongside women may gain greater respect for their knowledge and abilities, which can in turn alter gender relations in their households. However, as some men are not interested in farming or do not have the time, it is important for Caritas to target the husbands of women farmers as well as men in the community more broadly. This could be done through encouraging existing men members to act as gender advocates in their community and providing them with training on how to approach and discuss gender issues with other men. Additionally, Caritas could use the opportunity during Farmer Family Learning Group meetings when husbands are present to address gender inequality and women's rights through discussions of roles and responsibilities. While women farmers have the right to be gender advocates and lead these movements, it should not be solely the responsibility of women to tackle their own marginalization. Therefore, men at Caritas and in the farming groups have to create opportunities to

address unjust gender norms and responsibilities without burdening or endangering women farmers.

6.4 Final Thoughts

Urban and peri-urban agriculture will become increasingly important as urban populations grow and residents adapt their employment and livelihood strategies. While much of the existing research focuses on the potential of UPA as well as its limitations, this study has examined the lived realities of UPA practitioners. It investigated how participation in the Caritas programs impacts women's social relations, access to and control over resources, and confidence and leadership opportunities while also analyzing how these impacts can influence broader household and community power relations. It found that these programs have numerous benefits for women across multiple arenas and have had some positive impacts on gender equality. However, existing power imbalances have limited the ability of these programs to meaningfully challenge women's marginalization, which both farmers and Caritas experts recognized as an area for program improvement. This study has also highlighted the importance of working with farmers and centering women's voices in the investigation of UPA programs. The impacts of UPA often go beyond food and income security, and they can vary based on women's own positionalities and experiences. UPA training and support could be a useful development tool to promote livelihood security and gender equality, but it should not be considered a silver bullet to solve urban food insecurity and inequality. While those are much larger challenges, this study has shown that UPA can offer economic, social and emotional benefits to women which in themselves may make these programs worthwhile.

Bibliography

Agarwal, B. (1997). "Bargaining" and Gender Relations: Within and beyond the household. *Feminist Economics, 3(1): 1-51*. doi: 10.1080/135457097338799

Agarwal, B. (2010). Rethinking Agricultural Production Collectivities. *Economic and Political Weekly, 45(9): 64-78*. Retrieved from: https://www.jstor.org/stable/25664172

Agarwal, B. (2014). Food sovereignty, food security, and democratic choice: critical contradictions, difficult conciliations. *The Journal of Peasant Studies, 41(6): 1247-1268*. doi: 10.1080/03066150.2013.876996

Anand, J.S. (2002). *Self-Help Groups in Empowering Women: Case-study of selected SHGs and NHGs* [Discussion Paper No. 38]. Kerala: Kerala Research Programme on Local Level Development. Retrieved from: http://www.kudumbashree.org/storage/files/6b4gh_study%20report15.pdf

Awumbila, M. (2017). *Background Paper prepared for UN Expert Group Meeting on Sustainable Cities, Human Mobility and International Migration, New York, September 7-8 2017.* Retrieved from: http://www.un.org/en/development/desa/population/events/pdf/expert/27/papers/III/paper-Awunbila-final.pdf

Banerjee, A.V. & Duflo, E. (2007). The Economic Lives of the Poor. *Journal of Economic Perspectives, 21*(1), 141-167. doi: 10.1257/jep.21.1.141

Battersby, J. (2013). Hungry cities: A critical review of urban food security research in sub-Saharan African cities. *Geography Compass, 7*(7), 452–463. doi: 10.1111/gec3.12053

Behrman, J., Karelina, Z., Peterman, A., Roy, S., & Goh, A. (2014). A Toolkit on Collecting Gender & Assets data in Quantitative and Qualitative Program Evaluations. *Paper for the Evaluating the Impacts of Agricultural Development Programming on Gender Inequalities, Asset Disparities, and Rural Livelihoods (GAAP) Project*. IFPRI: Washington, DC.

Bell, E. (2001). Coping with conflict: the case of Redd Barna, Uganda. *Bridge, 9.* Retrieved from: http://www.bridge.ids.ac.uk/sites/bridge.ids.ac.uk/files/Docs/dgb9.html#article3

Boyd, E. (2002). The Noel Kempff Project in Bolivia: Gender, power and decision-making in climate mitigation. *Gender and Development, 10(2): 70-77.* doi: 10.1080/13552070215905

Brockington and Sullivan. (2003). Qualitative Research. In R. Scheyvens and D. Storey (Eds.), *Development Fieldwork: A Practical Guide* (pp.57-74). London, UK: SAGE Publications Ltd.

Bryant, R.L. (1998). Power, knowledge, and political ecology in the third world: a review. *Progress in Physical Geography, 22(1), 79-94*. doi: 10.1191/030913398674890974

Bryld, E. (2003). Potentials, problems, and policy implications for urban agriculture in developing countries. *Agriculture and Human Values 20* (1), 79-86.

Bujra, J. (2006). Lost in Translation: The use of Interpreters in Fieldwork. In V. Desai & R. Potter (Eds.), *Doing Development Research* (pp. 172-179). Thousand Oaks, CA: Sage Publications.

Byamushiga, H. M., Ikoja-Odongo, R., Nasinyama, G.W., Lwasa, S. (2008). Information seeking and use among urban farmers in Kampala District, Uganda. *Agricultural Information Worldwide, 1(3), pp. 94-101*. Retrieved from: http://journals.sfu.ca/iaald/index.php/aginfo/article/view/30/31

Carney, J. (2002). Converting the wetlands, engendering the environment: The intersection of gender with agrarian change in Gambia. In Peet, R. & Watts, M. (Eds.), *Liberation ecologies: Environment, development and social movement* (pp. 165-187). New York: Routledge.

Chandra, A., McNamara, K.E. & Dargusch, P. (2017). The relevance of political ecology perspectives for smallholder Climate-Smart Agriculture: a review. *The Journal of Political Ecology, 24(1), 821-842*. Doi: 10.2458/v24i1.20969

Chattopadhyay, R. & Duflo, E. (2001). *Women's Leadership and Policy Decisions: Evidence from a nationwide randomized experiment in India.* Retrieved from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.147.8005&rep=rep1&type=pdf

Chen, S., & Ravallion, M. (2007). Absolute poverty measures for the developing world, 1981-2004. *PNAS, 104(43), 16757-16762*. doi: 10.1073/pnas.0702930104

Cohoon, J.M., Wadhwa, V. & Mitchell, L. (2010). Are Successful Women Entrepreneurs Different from Men? *SSRN Electronic Journal*. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1604653

Cornwall, A. (2003). Whose Voices? Whose Choices? Reflections on Gender in Participatory Development. *World Development, 31(8): 1325-1342*. doi: 10.1016/S0305-750X(03)00086-X

Croppenstedt, A., Goldstein, M., & Rosas, N. (2013). Gender and Agriculture: Inefficiencies, Segregation, and Low Productivity Traps. *The World Bank Research Observer*, 79-109.

Crush, J. & Caesar, M. (2014). City without choice: Urban food insecurity in Msunduzi, South Africa. *Urban Forum, 25(2), 165-175*. doi: 10.1007/s12132-014-9218-4

Crush, J. & Frayne, B. (2011). Urban food insecurity and the new international food security agenda. *Development Southern Africa, 28(4), pp. 527-544*. doi: 10.1080/0376835X.2011.605571

Crush, J., Hovorka, A. and Tevera, D. (2010). *Urban Food Production and Household Food Security in Southern African Cities* (Urban Food Security Series No. 4). Kingston, ON and Cape Town: Queen's University and African Urban Food Security Network.

David, S., Lee-Smith, D., Kyaligonza, J., Mangeni, W., Kimeze, S., Aliguma, L., Lubowa, A., and Nasinyama, G.W. (2010). Changing trends in urban agriculture in Kampala. In G. Prain, N. Karanja, and D. Lee-Smith (Eds.), *African Urban Harvest: Agriculture in the cities of Cameroon, Kenya, and Uganda (pp. 97-122).* Ottawa, ON: IDRC. doi: 10.1007/978-1-4419-6250-8_8

Deininger, K, W. & Mpuga, P. (2003, August). *Land Markets In Uganda: Incidence, Impact And Evolution Over Time.* Paper Presented at the Annual Meeting of the International Association of Agricultural Economists, Durban, South Africa. Retrieved from: https://ideas.repec.org/p/ags/iaae03/25809.html

Duncan, B.A. & Brants, C. (2004). *Access to and Control over Land from a Gender Perspective: A Study Conducted in the Volta Region of Ghana.* Accra: FAO Regional Office for Ghana.

Elmhirst, R. (2011). Introducing new feminist political ecologies. *Geoforum, 42(2), 129-132.* Retrieved from: http://www.sciencedirect.com/

Ertürk, Y. (2004). Considering the Role of Men in Gender Agenda Setting: Conceptual and policy issues. *Feminist Review, 78: 3-21*. Retrieved from: https://www.jstor.org/stable/3874403

Erulkar, A., Bruce, J., Dondo, A., Sebstad, J., Matheka, J.A., Khan, A.B., & Gathuku, A. (2006). *Tap and Reposition Youth (TRY): Providing social support, savings, and microcredit opportunities for young women in areas with high HIV prevalence* [Poverty, Gender and Youth Case Study]. doi: 10.31899/pgy1.1007

Frayne, B. (2005). Survival of the poorest: Migration and food security in Namibia. In L.J.A. Mougeot (Ed.) *Agropolis: The social, political and environmental dimensions of urban agriculture* (pp. 31-50). Ottawa, ON: IDRC.

Frayne, B., McCordie, C., and Shilomboleni, H. (2014). Growing out of poverty: Does urban agriculture contribute to household food security in Southern African cities? *Urban Forum, 25(2), 177-189.* doi: 10.1007/s12132-014-9219-3

Fischer, E. & Qaim, M. (2012). Linking Smallholders to Markets: Determinants and impacts of farmer collective action in Kenya. *World Development, 40(6): 1255-1268.* Doi: 10.1016/j.worlddev.2011.11.018

Food and Agriculture Organization. (2008). *Urbanization and food security in Sub-Saharan Africa*. Paper presented at the 25th regional conference for Africa, Nairobi, Kenya. Rome: FAO.

FAO. (2012*). Growing greener cities in Africa: first status report on urban and peri-urban horticulture in Africa*. Rome: FAO. Retrieved from: http://www.fao.org/docrep/016/i3002e/i3002e.pdf

FAO. (2018). *Our world is urbanizing: Is food on your agenda?* Rome: FAO. Retrieved from: http://www.fao.org/3/I8568EN/i8568en.pdf

Gabel, S. (2005). Exploring the gender dimensions of urban open-space cultivation in Harare, Zimbabwe. In L.J.A. Mougeot (Ed). *Agropolis: The social, political and environmental dimensions of urban agriculture* (pp. 107- 136). Ottawa, ON: IDRC.

Gayathri Devi, M. & Buechler, S. (2009). Gender dimensions of urban and peri-urban agriculture in Hyderabad, India. In In A. Hovorka, H. de Zeeuw, and M. Njenga (Eds.), *Women Feeding Cities: Mainstreaming gender in urban agriculture and food security* (pp.35-50). Rugby, UK: Practical Action Publishing.

Giddings, S.W. (2009). *The Land Market in Kampala, Uganda and its Effect on Settlement Patterns.* Washington, DC: International Housing Coalition. Retrieved from: http://land.igad.int

Gladwin, C.H., Thomson, A.M., Peterson, J.S., & Anderson, A.S. (2001). Addressing food security in Africa via multiple livelihood strategies of women farmers. *Food Policy, 26*(2), 177-207. doi: 10.1016/S0306-9192(00)00045-2

Hall, A. & Nahdy, S. (1999). New Methods and Old Institutions: The 'systems' context of farmer participatory research in national agricultural research systems – the case of Uganda. *Agricultural Research and Extension Network* [Network Paper no. 93]. Retrieved from: http://laolink.org/Literature/FPRNARSUgandaAgREN.pdf

Hayes-Conroy, J. & Hayes-Conroy, A. (2013). Veggies and visceralities: A political ecology of food and feeling. *Emotion, Space and Society, 6,* 81-90. doi:10.1016/j.emospa.2011.11.003

Haysom, G. and Battersby, J. (2016, April 14). Why urban agriculture isn't a panacea for Africa's food crisis. *The Conversation*. Retrieved from: https://theconversation.com/why-urban-agriculture-isnt-a-panacea-for-africas-food-crisis-57680

Hovorka, A. J. (1998). *Gender resources for urban agriculture research: methodology, directory and annotated bibliography* [Cities Feeding People Series No. 26]. Ottawa, ON: IDRC.

Hovorka, A.J. (2006a). The No. 1 Ladies' Poultry Farm: A feminist political ecology of urban agriculture in Botswana. *Gender, Place & Culture, 13*(3), 207-225. doi: 10.1080/09663690600700956

Hovorka, A.J. (2006b). Urban agriculture: Addressing practical and strategic needs. *Development in Practice, 16*(1), 51-61.

Hovorka, A., de Zeuw, H. & Njenga, M. (2009). Gender in urban agriculture: an introduction. *Women feeding cities: Mainstreaming gender in urban agriculture and food security* (pp. 1-34). Rugby, UK: Practical Action Publishing.

Iaquinta, D.L. & Drescher, A.W. (2000). *Defining the Peri-Urban: Rural-urban linkages and institutional connections.* Rome: FAO. Retrieved from: www.researchgate.net

International Food Policy Research Institute. (2012). *Women's Empowerment in Agriculture Index.* Washington, DC: IFPRI.

Jakiela, P. (2018, June 27). *We Can't Measure Women's Empowerment the Same Way Everywhere—But Should We Try?* [Center for Global Development]. Retrieved from: https://www.cgdev.org/blog/we-cant-measure-womens-empowerment-same-way-everywhere-should-we-try

Jarosz, L. (2011). Nourishing women: toward a feminist political ecology of community agriculture in the United States. *Gender, Place & Culture, 18*(3), 307-326. doi: 10.1080/0966369X.2011.565871

Jones, K., Glenna, L.L. & Weltzien, E. (2014). Assessing participatory processes and outcomes in agricultural research for development from participants' perspectives. *Journal of Rural Studies, 35,* 91-100. doi: 10.1016/j.jrurstud.2014.04.010

Jones, K., Schnurr, M.A**.** Carr, E., and Moseley, W. (2015). Should I stay or should I go? Incorporating a commitment to fieldwork throughout an academic career. *African Geographical Review,* 34(1): 55-68. doi: 10.1080/19376812.2014.940986

Kabeer, N. (1999b). *The Conditions and Consequences of Choice: Reflections on the measurement of women's empowerment* (UNRISD Discussion Paper No. 108). Retrieved from: https://s3.amazonaws.com/

Kabeer, N. (1999). From Feminist Insights to an Analytical Framework: An institutional perspective on gender inequality. In N. Kabeer & R. Subrahmanian (Eds.), *Institutions, Relations and Outcomes: A framework and case-studies for gender-aware planning* (pp. 3-48). New Delhi: Raj Press.

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender and Development, 13*(1), 13-24. doi: 10.1080/13552070512331332273

Kabeer, N. (2010). Women's Empowerment, Development Interventions, and the Management of Information Flows. *IDS Bulletin, 41*(5): 105-113. doi: 10.1111/j.1759-5436.2010.00188.x

Karanja, N., Njenga, M., Gathuru, K. & Karanja, A. (2010). Crop-Livestock-Waste Interactions in Nakuru's Urban Agriculture, Kenya. In G. Prain, N. Karanja, and D. Lee-Smith (Eds.), *African Urban Harvest: Agriculture in the cities of Cameroon, Kenya, and Uganda (pp. 213-228).* Ottawa, ON: IDRC. Retrieved from: https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/45136/IDL-45136.pdf?sequence=1#page=234

Kariuki, G. & Place, F. (2005). *Initiatives for Rural Development through Collective Action: The case of household participation in group activities in the highlands of Central Kenya* (CAPRI Working Paper No. 43). Retrieved from: http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4088/CAPRIWP43.pdf?sequence=1

Kiguli, J. (2004). Gender and access to land for urban agriculture in Kampala. *Urban Agriculture Magazine,* 12*,* 34-35. Retrieved from: https://www.ruaf.org/sites/default/files/Gender%20and%20Access%20to%20Land%20for%20UA%20in%20Kampala,%20Uganda_1.pdf

Kim, J.C., Watts, C.H., Hargreaves, J.R., Ndhlovu, L.X., Phetla, G., Morison, L.A., Buszaa, J., Porter, J.D. & Pronyk, P. (2007). Understanding the Impact of a MicroFinance-Based Intervention on Women's Empowerment and the Reduction of Intimate Partner Violence in South Africa. *Research and Practice, 97*(10), 1794-1802. doi: 10.2105/AJPH.2006.095521

Kimani, M. et.al. (2014). Vulnerability to food insecurity in urban slums: Experiences from Nairobi, Kenya. *Journal of Urban Health, 91(6), 1098-1113.* doi: 10.1007/s11524-014-9894-3

Kimura, A.H. & Katano, Y. (2014). Farming after the Fukushima accident: A feminist political ecology analysis of organic agriculture. *Journal of Rural Studies, 34,* 108-116. doi: 10.1016/j.jrurstud.2013.12.006

Lakwo, A. (2006). *Microfinance, Rural Livelihoods, and Women's Empowerment in Uganda* [Research Report No. 85]. Leiden: African Studies Centre. Retrieved from: https://openaccess.leidenuniv.nl/bitstream/handle/1887/11945/rr85lakwo.pdf.

Leder, S. (2016). *Linking Women's Empowerment and their Resilience.* Montpellier: CGIAR.

Lee-Smith, D. (2013). Which way for UPA in Africa? *City: Analysis of urban trends, culture, theory, policy, action. 17*(1):69-84. doi: 10.1080/13604813.2012.754177

Mabsout, R. & van Staveren, I. (2010). Disentangling Bargaining Power from Individual and Household Level to Institutions: Evidence on Women‟s Position in Ethiopia. *World Development 38*(5):783 – 796. doi: 10.1016/j.worlddev.2009.11.011

Mahiri, I. (1998). Comparing transect walks with experts and local people. *PLA Notes, 31, 4-8.* Retrieved from: https://www.iied.org/pla-31-participatory-monitoring-evaluation

Malapit, H.J., Sproule, K., Kovarik, C., Meinzen-Dick, R.S., & Quisumbing, A.R., Ramzan, F., Hogue, E., & Alkire, S. (2014). *Measuring Progress Towards Empowerment: Women's empowerment in agriculture index, a baseline report* [Feed the Future]. Washington, DC. IFPRI.

Malhotra, A. & Schuler, S.R. (2005). Women's Empowerment as a Variable in International Development. In D. Narayan (Ed.), *Measuring Empowerment: Cross-Disciplinary Perspectives* (pp. 71-88). Washington, DC: The World Bank.

Malmberg, L. and Backlin, O. (2017). *Greens and beans in the city: Urban agriculture and food security in Jinja, Uganda* (Bachelor's thesis). Retrieved from: https://gupea.ub.gu.se/handle/2077/5389

Mason, K.O. (1986). The Status of Women: Conceptual and Methodological Issues in Demographic Studies. *Sociological Forum, 1*(2): 284–300. doi: 10.1007/BF01115740

Maxwell D.G. (1995). Alternative food security strategy: A household analysis of urban agriculture in Kampala. *World Development, 23*(10), 1669-1681. doi: 10.1016/0305-750X(95)00073-L

Maxwell, D., Levin, C. and Csete, J. (1998). Does urban agriculture help prevent malnutrition? Evidence from Kampala. Food Policy. 23(5): 411 – 424.

Mercer, C. (2006). Working with Partners: NGOs and CBOs. In V. Desai & R. Potter (Eds.), *Doing Development Research* (pp. 94-103). Thousand Oaks, CA: Sage Publications.

Meinzen-Dick, R., Johnson, N., Quisumbing, A., & et al. (2011). *Gender, Assets, and Agricultural Development Programs.* CAPRI Working Paper No. 99. International Food Policy Research Institute

Mollett, S. and Faria, C. (2013). Messing with gender in feminist political ecology. *Geoforum, 45,* 116-125. doi: 10.1016/j.geoforum.2012.10.009

Molyneux, M. (1985). Mobilisation without Emancipation? Women's Interests, State and Revolution in Nicaragua. In D. Slater (Ed.), *New Social Movements and the State in Latin America* (pp. 233-261). Amsterdam: CEDLA Publications.

Mougeot, L.J.A. (2005). Introduction. In L.J.A. Mougeot (Ed.) *Agropolis: The social, political and environmental dimensions of urban agriculture* (pp. 1-24). Ottawa, ON: IDRC.

Mougeot, L.J.A. (2006). *Growing Better Cities: Urban Agriculture for Sustainable Development.* International Development Research Centre: Ottawa, CA.

Musiimenta, P. (2002). Urban agriculture and women's socio-economic empowerment: A case study of Kiswa and Luwafa areas in Kampala City. *City Farmer.* Retrieved from: http://www.cityfarmer.org/kampalaWomen.html

Nabulo, G., Kiguli, J., and Kiguli, L.N. (2009). Gender in urban food production in hazardous areas in Kampala, Uganda. In A. Hovorka, H. de Zeeuw, and M. Njenga (Eds.), *Women Feeding Cities: Mainstreaming gender in urban agriculture and food security* (pp. 79-92). Rugby, UK: Action Practical Publishing.

Nantale, G. et. al. (2017). Prevalence and factors associated with food insecurity among women aged 18-49 in Kampala slums, Uganda; A mixed methods study. *Journal of Food Security, 5*(4), 120-128. doi: 10.12691/jfs-5-4-2

Ngome, I. and Foeken, D. (2012) 'My garden is a great help': Gender and urban gardening in Buea, Cameroon. *GeoJournal, 77*(1), 103-118.

Nije, O. (2012). *An assessment of nongovernmental organization practices in The Gambia: Strategies for economic empowerment of Gambian women* [Doctoral Dissertation]. UMI Number: 3509366

Njogu, E.W. (2009). Household food security among urban farmers in Nairobi, Kenya. In M. Redwood (Ed). *Agriculture in urban planning: Generating livelihoods and food security* (pp. 21-34). Ottawa, ON: IDRC.

Nyantakyi-Frimpong, H. & Bezner-Kerr, R. (2015). A political ecology of high-input agriculture in northern Ghana. *African Geographical Review, 34*(1), 13-35. doi: 10.1080/19376812.2014.929971

Nyanzi, B., Nyanzi, S., Wolff, B. & Whitworth, J. (2005). Money, men and markets: Economic and sexual empowerment of market women in southwestern Uganda. *Culture, Health & Sexuality, 7*(1): 13-26. doi: 10.1080/13691050410001731099

Nugent, R. (2000). *The Impact of Urban Agriculture on the Household and Local Economics* [Thematic Paper No. 3]. Leusden: RUAF. Retrieved from: https://www.ruaf.org/sites/default/files/Theme3_1_1.PDF

Obuobie, E., Drechsel, P., Danso, G., & Raschid- Sally, L. (2004). Gender in open-space irrigated urban vegetable farming in Ghana. *Urban Agriculture Magazine,* 12, 13-15. Retrieved from: https://www.researchgate.net

Odera, R. & Muruka, G. (2007). *Saving and internal lending communities (SILC) in Kenya* [Program Review]. Baltimore: Catholic Relief Services.

O'Hara, C. & Clement, F. (2018). Power as agency: A critical reflection on the measurement of women's empowerment in the development sector. *World Development, 108,* 111-123. doi: 10.1016/j.worlddev.2018.02.002

Okoboi, G., Kuteesa, A., and Barungi, M. (2013). The impact of the NAADS program on household production and welfare in EvUganda. Africa Growth Initiative Working Report 7. Africa Growth Initiative, Brookings Institution.

Olivier, D.W., and Heinecken, L. (2017). Beyond food security: women's experiences of urban agriculture in Cape Town. *Agriculture and Human Values, 34*(3), 743-755. doi: 10.1007/s10460-017-9773-0

Oudwater, N. & Martin, A (2003). Methods and Issues in Exploring Local Knowledge of Soils. *Geoderma, 111*(3-4), 387-401. doi: 10.1016/S0016-7061(02)00273-2

Prain, G. & Lee-Smith, D. (2010). Urban agriculture in Africa: What has been learned? In G. Prain, N. Karanja & D. Lee-Smith (Eds.), *African Urban Harvest: Agriculture in the cities of Cameroon, Kenya and Uganda* (pp. 13-35). Ottawa, ON & Lima, Peru: International Development Research Centre & International Potato Center.

Quisumbing, A.G. & Pandolfelli, L. (2010). Promising approaches to address the needs of poor female farmers: Resources, constraints and interventions. *World Development, 38(4), 581-592.* doi: 10.1016/j.worlddev.2009.10.006

Ransom, E., Bain, C., Bal, H., & Shannon, N. (2017). Cattle as technological interventions: The gender effects of water demand in dairy production in Uganda. *FACETS, 2*(2), 715-732. doi: 10.1139/facets-2017-0031

Rocheleau, D. (1995a). Maps, numbers, text and context: Mixing methods in feminist political ecology. *Professional Geographer, 47*(4), 458-466.

Rocheleau, D. (1995b). Gender and biodiversity: A Feminist political ecology perspective. *IDS Bulletin, 26*(1), 9-16. Retrieved from: https://opendocs.ids.ac.uk/opendocs/

Rocheleau, D., Thomas-Slayter, B., and Wangari, E. (1996). Gender and environment: A Feminist political ecology perspective. In Rocheleau, D., Thomas-Slayter, B., and Wangari, E. (Eds.), *Feminist Political Ecology: global issues and local experiences*. London: Routledge.

Sabiti E. & Katongole, C.B. (2016). Role of peri-urban areas in the food system of Kampala, Uganda. *Water Science and Technology Library, 72*. doi: 1007/978-3-319-28112-4_23

Sabiti, E., Katongole, C.B., Katuromunda, S., Sengendo H., Basalirwa, C.P.K., Atukunda, G.,& Nambuubi, S.K. (2014). Assessing urban and peri-urban agriculture in Kampala, Uganda. In Padgham, J. & Jabbour, J. (Eds), *Building Urban Resilience.* UNEP. Retrieved from; https://www.researchgate.net/publication/269405657_Assessing_Urban_and_Peri-urban_Agriculture_in_Kampala_Uganda

Sanyal, B. (1987). Urban cultivation amidst modernization: how should we interpret it? *Journal of Planning Education and Research 6*(3):197-207. doi: 10.1177/0739456X8700600308

Savath, V., Fletschner, D., Peterman, A. & Santos, F. (2014). *Land, Assets & Livelihoods: Gendered analysis of evidence from Odisha State in India* [IFPRI Discussion Paper 01323]. Washington, DC: International Food Policy Research Institute.

Schroeder, R.A. (1993). Shady practice: gender and the political ecology of resource stabilization in Gambian Garden/Orchards. *Economic Geography, 69*(4), 349-365. Retrieved from: http://www.jstor.org/stable/143594

Simatele, D., Binns, T. & Simatele, M. (2012). Sustaining livelihoods under a changing climate: the case of urban agriculture in Lusaka, Zambia. *Journal of Environmental Planning and Management, 55*(9): 1175-1191. doi:10.1080/09640568.2011.637688

Slater, R. (2001). Urban agriculture, gender and empowerment: An alternative view. *Development Southern Africa, 18*(5), 635-650. doi: 10.1080/03768350120097478

Stewart, R., Korth, M., Langer, L., Rafferty, S., Da Silva, N.R., and van Rooyen, C. (2013). What are the impacts of urban agriculture on food security in low and middle-income countries? *Environmental Evidence, 2*(7). doi: 10.1186/2047-2382-2-7

Sultana, F. (2011). Suffering for water, suffering from water: emotional geographies of resource access, control, and conflict. *Geoforum 42,* 163-172. doi:10.1016/j.geoforum.2010.12.002

Tallaki, K. (2005). The pest-control system in the market gardens of Lomé, Togo. In L.J.A. Mougeot (Ed.) *Agropolis: the social, political and environmental dimensions of urban agriculture* (pp. 51-88). Ottawa, ON: IDRC.

Truelove, Y. (2011). (Re-) Conceptualizing water inequality in Delhi, India through a feminist political ecology framework. *Geoforum, 42*(2), 143-152. doi: 10.1016/j.geoforum.2011.01.004

Tye, R. (2012). *Urban Farming in Nairobi: Understanding the impact of capacity building on female farmers* [Master's Thesis]. Retrieved from: https://digital.library.ryerson.ca/

Uganda Bureau of Statistics. (2002). *2002 Uganda Population and Housing Census: Analytical Report.* Kampala: UBOS.

UBOS. (2009a). *A Report of the Survey Findings of the Urban Labour Force, 2009.* Kampala: UBOS.

UBOS. (2009b). *Higher Local Government Statistical Abstract – Wakiso District.* Wakiso: UBOS

UBOS. (2017). *National Population and Housing Census 2014 Area Specific Profiles – Wakiso District.* Kampala: UBOS.

United Nations Human Settlements Programme. (2014). The state of African cities 2014: Re-imagining sustainable urban transitions. Nairobi, Kenya: UN-Habitat. Retrieved from: https://unhabitat.org/books/state-of-african-cities-2014-re-imagining-sustainable-urban-transitions/

UN-Habitat-III. (2017). *New Urban Agenda.* Quito, Ecuador: UN-Habitat. Retrieved from: http://habitat3.org/wp-content/uploads/NUA-English.pdf

VeneKlasen, L. (2013, March 11). *Access to and Control over Resources: Organizing for Women's EmPOWERment.* Retrieved from: http://www.forum.awid.org/forum12/2013/03/access-to-and-control-over-resources-organizing-for-womens-economic-empowerment/

Vermeiren, K., Adiyia, B., Loopmans, M., Tumwine, F.R. & Rompaey, A. (2013). Will urban farming survive the growth of African cities: A case-study in Kampala (Uganda)? *Land Use Policy, 35,* 40-49. doi: 10.1016/j.landusepol.2013.04.012

Wilbers, J. (2004). Gender issues in urban agriculture. Discussion Paper. RUAF: Leusden. Retrieved from: http://www.ruaf.org/sites/default/files/econf4_submittedpapers_wilbers.pdf

Wilson, G. (2001). Power and Translation in Social Policy Research. *International Journal of Social Research Methodology, 4*(4): 319-326. doi 10.1080/136455700110064593

Yapa, L. (2002). Improved seeds and constructed scarcity. In Peet, R. & Watts, M. (Eds.), *Liberation ecologies: Environment, development and social movement* (pp. 69-87). New York: Routledge.

Yeudall, F., Sebastian, R., Cole, D.C., Ibrahim, S., Lubowa, A. & Kikafunda, J. (2007). Food and nutritional security of children of urban farmers in Kampala, Uganda. *Food and Nutrition Bulletin, 28*(3): S237–S246. doi: 0.1177/15648265070282S203

Zezza A. and Tasciotti, L. (2010). Urban agriculture, poverty, and food security: Empirical evidence from a sampling of developing countries. *Food Policy, 35*(4), 265-273. doi: 10.1016/j.foodpol.2010.04.007

Appendix A: Overview of Farmer Participants

Pseudonym	Sex	Age	Marital Status	# of people in household	Household Plot Size	Size of Other Farm or Garden Plots	Water Source
Kaitlyn	F	25	Married	4	1/2 acre	2 acres	Tank/Water harvesting pit
Irene	F	26	Married	10	1/2 acre	1/2 acre	Well/Water tap
Katherine	F	30	Married	6	1 acre	1.5 acres	Tank
James	M	30	Married	4	1/2 acre	2 acres	Tank/Water harvesting pit
Lillian	F	33	Married	7	1/8 acre	1 acre	Well
Hazel	F	34	Married	6	Backyard garden (less than 1/20 an acre)	N/A	Water tap
Rebecca	F	34	Married	6	1 acre	1/2 acre	Well / Water harvesting pit
Fredrick	M	34	Married	5	Less than 1/20 an acre	N/A	N/A

Pseudonym	Sex	Age	Marital Status	# of people in household	Household Plot Size	Size of Other Farm or Garden Plots	Water Source
Oprah	F	35	Married	9	1/4 acre	N/A	Tank
Renee	F	35	Married	7	1/8 acre	1/2 acre	Spring
Grace	F	37	Married	6	1/4 acre	1/4 acre	Water tap
Harry	M	37	Married	5	N/A	3 acres	N/A
Jane	F	42	Married	7	1/2 acre	1/4 acre	Water tap
Lucy	F	43	Married	7	1	N/A	Tank
Esther	F	44	Married	8	1/5 acre	N/A	N/A
Walter	M	45	Married	7	1.5 acres	N/A	N/A

Pseudonym	Sex	Age	Marital Status	# of people in household	Household Plot Size	Size of Other Farm or Garden Plots	Water Source
Priscilla	F	45	Single	3	1/8 acre	N/A	N/A
Quinn	F	45	Single	7	¼ acre	N/A	Spring
Carol	F	47	Married	7	4 acres	N/A	Tank
Florence	F	48	Married	8	Backyard garden (less than 1/20 an acre)	½ acres	Well
Agnes	F	49	Widow	9	1/8 acre	7.25 acres	Tank
Sarah	F	52	Widow	8	3 acres	108 acres (in her village, almost 200km from Wakiso)	Tank
Christine	F	52	Married	5	4 acres (only farms on 3/4 acres)	N/A	Tank
Gladys	F	52	Married	7	1.5 acres	N/A	Tank

Pseudonym	Sex	Age	Marital Status	# of people in household	Household Plot Size	Size of Other Farm or Garden Plots	Water Source
Edith	F	55	Widow	14	2 acres	2 acres	Tank
Mary	F	55	Married	5	1/5 acre	N/A	N/A
Barbara	F	58	Single	4	1 acre	1/4 acre	Well
Iris	F	59	Married	15	1/8 acre	1/4 acre	Tank
Denise	F	60	Married	15	4 acres	N/A	Spring
Zoe	F	60	Single	4	2 acres	N/A	Tank/ Water tap
Nora	F	60	Widow	6	1/8 acre	3 acres	N/A
Tina	F	62	Separated	7	½ acres	N/A	Water tap

Pseudonym	Sex	Age	Marital Status	# of people in household	Household Plot Size	Size of Other Farm or Garden Plots	Water Source
Anne	F	65	Widow	3	¼ acres	N/A	Well
Viola	F	72	Widow	7	2 acres	N/A	N/A
Yolanda	F	72	Married	6	4 acres	N/A	Tank
Olivia	F	73	Widow	2	1/4 acre	1 acre	Tank
Beth	F	73	Married	2	1/2 acre	1/8 acre	N/A
Penelope	F	74	Widow	9	6-8 decimals (approximately 1/20 acre)	1.25 acres	Well
Daniel	M	90	Widower	5	3 acres	N/A	Tank