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Approval Sheet

The effect of community gardening on social integration of refugees: A process evaluation of Global Growers Network, Atlanta, Georgia

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2010

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Abstract

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By Alexis Uwilingiyimana

Background: Metropolitan Atlanta, specifically Clarkston and the nearby areas in DeKalb County, is an epicenter for refugee resettlement. It is called the most diverse square mile of the U.S. due to its high refugee and immigrant population. The poverty rate in Clarkston is as high as 29% and the city is located between two food deserts. This challenge makes it difficult to access affordable, nutritious, and culturally relevant foods. Because of challenges in communication and transportation, food insecurity among refugee communities is high. Global Growers Network (GGN) was created with a goal to find innovative ways of helping refugees and non-refugees to alleviate food insecurity through agriculture and to contribute to building the local community. Global Growers Network includes different programs such as community gardens, community supported agriculture (CSA), and a program to train farmers.

Methods: The purpose of this thesis was to conduct a process evaluation using accepted process evaluation methods to describe the implementation of three programs within Global Growers and point out challenges and successes that arose as the programs were implemented. Each program was evaluated for the population reached, recruitment methods used, proportion of program delivered and received (dose) and the extent to which each program was implemented as planned (fidelity). Overall challenges and barriers to implementation were also identified. A variety of data sources were used to gather this information, including GGN's archives, interviews of the GGN leaders and program participants as well as direct observation.

Results: All three programs lacked consistent records and a paucity of data. None of the programs had measurable goals at the time they started. Community gardens lacked information on the characteristics of participants, and quantifiable information on the services received by participants. Data on CSA members was not gathered. Finally, those in the training farmers program met technical challenges and barriers in recruitment procedures. Despite these barriers, all programs continue to operate and contribute to the overall goal of Global Growers to help refugees become independent growers and thriving members of the local community.

Conclusion: Individual recommendations were made to improve each of the programs, in addition to overall recommendations to establish need and baseline information, establish consistent record keeping systems and put in place systems to begin to measure the impact of programs. This evaluation serves as a guide to executing community food security programs and highlights problems that can arise during the process of implementation.

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The effect of community gardening on social integration of refugees: A process evaluation of Global Growers Network, Atlanta, Georgia

CHAPTER 1: INTRODUCTION & RATIONALE

The practice of granting asylum to people fleeing persecution in foreign lands is one of the earliest hallmarks of civilization. References to it have been found in tests written 3,500 years ago, during the blossoming of the great early empires in the Middle East such as the Hittites, Babylonians, Assyrians and ancient Egyptians (UNHCR, 2001-20014).

Over three millennia later, protecting refugees has become the core mandate of the United Nations refugee agency. The 1951 Refugee Convention defines a refugee as someone who, "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country" (UNHCR, 1990).

Since the proclamation of that convention, the United Nations High Commission for Refugees has granted assistance to millions of refugees and has helped finding durable solutions for many of them. Refugees flee for their lives or to preserve their freedom. When they arrive in their new countries of resettlement, refugees face multiple challenges and barriers. The two main challenges are: cultural and economic.

Many refugees face challenges adapting to the new language and culture. For many of them resettling in new country means starting lives all over. Refugees must adjust to a whole new way of life: new types of homes and neighborhoods, new foods and clothing styles, different civic cultures, rules and expectations. Refugees may also experience loneliness and isolation, as they have left their extended family and friends and may be adjusting to life in a more individualistic culture, for example many refugees may have been used to cooperative work. Refugees may also experience exclusion from political participation, which may reduce their interest in participating in their new society. Many non-profit and government organizations in host countries work to help these refugees by providing concrete goods but may not offer adequate assistance in dealing with these social concerns.

In addition to social issues, refugees face economic challenges, which can be characterized by inability to remain financially independent because of the lack of sustainable jobs. Newcomers' lack of credential recognition, job networks, and United States work experience are factors that may make it difficult to find a good job that earns a decent standard of living; as a result, many refugees live below the poverty line.

The World Food Summit of 1996 defined food security as "when all people at all times have physical, social and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (WHO, 2013). Food security involves both physical and economic access to food that meets people's dietary needs as well as their food preferences.

In the United States, food insecurity has been increasing since the Great Depression. Presently, food insecurity is at its highest in the U.S. In its 2013 report, Feeding America showed that about 20% of the United States population is food insecure. In Georgia, 27.3 % of the people are food insecure and the state occupies the fourth highest rate of food insecurity (Feeding America, 2013; Georgia Food Bank Association, 2013). Currently, 19.2% of Georgians live in poverty, which depicts an increase of 12.9% since 2000 (Georgia Food Bank Association, 2013). Additionally, the number of poor individuals living in suburbs has more than doubled with an increase of more than 12%. These statistics are even worse for refugee populations.

The Georgia Food Bank Association reports that 20% of Georgians are food insecure; 28% of children live in food insecure households and 39% of food insecure children in Georgia live in households above 185% of poverty and likely ineligible for any federal food nutrition programs because their parents work (Georgia Food Bank Association, 2013). Recent reports in the state of Georgia estimated the rate of unemployment as high as 8.1% (DeNavas-Walt, Proctor, & Smith, 2012). Additional reports on food insecurity highlight the state of Georgia as one of the 4 states with minimum wage rates ($5.5/hour) under the federal rate (United States Department of Labor, 2013). These statistics are alarming and call to action in order to address the issue of food insecurity statewide. Although not easy to access individual reports on the situation of food security within refugee populations, the situation may be even worse. Government agencies and established refugee communities have a role to play in addressing the challenges of the new refugees. With enough efforts, such as providing more funds and creating more

programs, assisting organizations could introduce more services and supports that can deal not only with social but also economic problems. To solve the problem, government assistance programs have established projects through which funds are allocated to community garden initiatives, food pantries, farmers markets, and food co-ops. These programs help solve the problem of food insecurity in different areas of the country.

Establishing a good standard of living and becoming active members of society requires more than financial assistance, which is all many support organizations offer. It is also important for refugees to make connections within new cultural communities and institutions. Community gardens can play a significant role in enhancing the physical, emotional and spiritual well being necessary to build healthy and socially sustainable communities. Through gardening, Global Growers Network (GGN) has found a partial solution to culture barriers and social isolation for refugees living in Atlanta. Also, this organization has helped to tackle depression, stress and poverty among refugees members of GGN.

Global Growers Network (GGN) is a local non-profit organization in Atlanta, Georgia, created in 2010. GGN started as a project of the local non-profit Refugee Family Services, which has remained its principal partner even after GGN has become fully independent. The goal of GGN is to connect refugee and non-refugee farmers living in Georgia to agriculture by growing healthy food. Also, GGN trains farmers, creates economic opportunities and introduces the notion of entrepreneurship to talented women and men who never previously thought of using their skills in taking initiative that would

help them improve their livelihoods and help them become independent. The primary workforces for GGN are refugees who were farmers in their home countries.

In the four years since its creation, participation in GGN has resulted in a broad range of positive physical and psychological wellbeing outcomes in Atlanta. These outcomes include providing opportunities for individuals to relax, undertake physical activity, socialize, and mix with neighbors, share cross cultural different backgrounds and religions. The gardens also afford opportunities to learn about horticulture and sustainable environment practices, such as composting and recycling, as well as being an important source of low-cost produce for a healthy diet.

Global Growers Network results go beyond financial gains. GGN members are free to farm crops from their home countries if the United States weather and soil conditions are favorable. In addition to providing nutritious and affordable food produces, GGN has encouraged social development that affects refugees' integration into the American culture. During their regular farming activities, refugees share stories, laugh and release the stress of being away from their respective home countries. The gardens have become their special homes for them. Community gardening enhances health benefits, alleviates food insecurity problems and helps prevent diet-related chronic diseases by offering fresh, nutritious and affordable produces (Relf, 1990; Saunders, Evans, & Joshi, 2005) to refuges in particular and Atlanta community in general.

For the public health scope, Global Growers Network may be considered an appropriate intervention to address obesity and food insecurity among refugee communities. Studies have linked healthy diet with decrease of obesity and other related health diseases like stroke, coronary heart disease, hypertension, arthritis and some cancers (CDC, 2009). Making fresh, healthy and locally grown food available to local markets results in positive community health outcomes, which may be part of the solution to obesity and related diseases while contributing to the local food economy. In the present study, we will focus of the effects of growing healthy food to refugee farmers.

1.1 Problem Statement

Every year, over 27 million people are forced to flee their homes because of persecution and conflict or a present fear of it. According to the reports from World Relief, most of these will spend the remainder of their lives in refugee camps around the world without the hope of ever returning to their homes (World Relief, 2014). Every year the U.S. invites up to 70,000 of these refugees to make a home and seek a new life in the U.S, through a process called resettlement. In June 2012, the United Nation High Commission of Refugees reports estimated that more than 5.9 million people seek protection within or outside the borders of their countries (UNHCR Global Trends 2012, 2012). Many conflicts, including those in Syria, Central African Republic, Democratic Republic of the Congo and Mali, amplified the issue in 2012-2013 (UNHCR, 2013). Although resettlement in the United States is a positive step for refugees, they face multiple challenges, including sociocultural and financial challenges, when they arrive in the U.S.

Almost all refugees who come to the United States leave behind much that is familiar—culture, language, environment, climate, friends, social systems, and behavioral norms. Despite the U.S. willingness to accept and resettle the refugees, much that is offered is strange and bewildering compounded by the fact that most refugees are unable to access their traditional support systems. Thus. The stresses and difficulties of refugees in transition are enormous. Some refugees are psychologically capable of coping with the stresses of relocating to an unfamiliar culture and they are more likely to adjust and control the direction of their lives. However, others may experience post-traumatic stress disorder. Without sufficient and appropriate social and emotional support, including possible therapy, they may fail to find the immigration experience satisfactory, remaining unhappy, resenting their lives in the new land, pining for their familiar homeland and culture, and occasionally, engaging in socially inappropriate and dysfunctional behaviors (Segal & Mayadas, 2005). There is a need for programs that can facilitate social integration of refugees into their new culture.

Although embracing the American culture may provide a sense of belonging to the new comers, it's still difficult to adapt to the fast moving working environment. Many feel lost and give up. However, others find their own ethnic communities and are able to survive. For example, Hispanic refugees who arrive in Hispanic communities have less difficulty adjusting to the Hispanic-America culture where they can continue to speak their language and work in their ethnic community. The same is true for Chinese refugees who start their American journey in Chinatown. However, not all cultures have such

established communities that refugees can be part of in order to smooth cultural transition.

For refugees without established communities in the U.S. the only solution available is to gather occasionally to celebrate their culture. However, this solution can be impractical because refugees tend to work many different shifts and aren't available at the same time. Opportunities like the one provided by Global Growers Network (GGN) help make social integration easier.

Through community gardening, GGN links refugees in Atlanta to farming and provides space for social integration and wellbeing. This creates a sense of belonging to their new environment and promotes an easier integration in the new culture. Currently, the benefits of participating in Global Growers network gardening activities have not been formally investigated.

1.2 Purpose statement

The purpose of this thesis is to document the benefits of community gardening in integrating refugees into the American culture using a process evaluation of Global Growers Network as an example.

1.2.1 Objectives

1) Determine the general benefits of community gardening by reviewing the literature

2) Document the benefits and challenges to refugee communities of participant in Global Growers Network's activities
3) Determine the extent to which Global Growers Network was implemented as planned and what changes occurred during the process of implementation

1.2.2 Significance

Through a process evaluation of Global Growers Network (GGN), other community organizations may better understand the benefits of community gardening in general and to refugees in particular. GGN staff will use the evaluation to apply for future grant applications. Also, this process evaluation will be used to paint a clear and compelling picture of the population targeted by Global Growers Network activities, reach important target audiences of stakeholders, provide data for program improvement efforts, and distribute the information through as many channels as possible to reach target audience. With the knowledge gained, GGN can increase the quality of services offered and become closer to its goals of increasing access to affordable, nutritious and culturally relevant foods for food insecure families in the communities.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Community gardening presents many benefits for communities including social and financial ones. Communities in the United States have benefited from community gardens for centuries and have seen benefits for communities of refugees who have been granted asylum in the United States. In these communities, because of the lack of economic and social opportunities, the human benefits of gardening have been tremendous. Studies report that gardening projects in impoverished urban neighborhoods have produced a continuing history of amelioration and healing. Several authors have researched community gardening in the United States and elsewhere in the world. For the purpose of this study, the researcher will refer to a literature review of 55 studies conducted by Draper and Freedman (2010), a literature review of 22 studies conducted by Attree and colleagues (2005), Diane Ralf's book (1990), an article by Macias (2008) and other relevant articles.

2.1.1 Origins of community gardening

Community gardens have been part of the modern American culture since the late 19th century. The origin of community gardening in modern U.S. history is often attributed to World War I, although some studies argue that the original movement began in the 1980s. Social, environmental, and economic changes influenced the origins of community gardens, which were regarded as an approach to addressing urban congestion, immigration, economic instability, and environmental degradation (Kurtz, 2007; Shimada, 2006).

Initially, the idea of community gardening targeted poor people, immigrants, and children. Consequences of World War I and the Great Depression have made community gardens common in the United States (Kurtz, 2007; Major, 2006; Shimada, 2006). During the Great Depression, the goal of community gardening was to sustain communities in producing their own food to overcome gross food shortages (Armstrong, 2000b; Saldivar-Tanaka & Krasny, 2004). It was during this period that the then first lady, Eleanor Roosevelt, initiated the establishment of a garden for the people on the White House grounds. In 2009, the current first lady, Michelle Obama, reinstated the idea (Flaccus, 2009) and adapted it to prevailing norms in the early 21st century.

Community gardens have been known and supported by Americans and Europeans for decades, support fluctuating with the economic conditions. Community gardens faded away after World War II but reemerged in the 1970s as a result of an increase in food prices and an increased environmental awareness. The recession of 2009 precipitated a resurgence of interest in community gardens, with a 19% increase in what are now being called recession gardens. Community gardens were reintroduced to decrease individual and family food bills and provide for more self-sufficiency (Sutter, 2009). Currently, the American Community Gardening Association (ACGA) promotes community gardening as a way to improve people's lives and contribute to neighborhood and community development. According to ACGA, community gardening improves social interactions, encourages self-reliance, and contributes to the beautification of neighborhoods. Moreover, community gardens prevent poverty by offering nutritious foods and financial

support. Additionally, ACGA regards community gardens as spaces for recreation, exercise, therapy, and education.

2.1.2 Benefits of community gardening

2.1.2.1 Introduction to literature on benefits of community gardening

Draper and Freedman (2010) have provided evidence supporting the benefits claimed by the American Community Gardening Association. In their literature review of 55 studies about the benefits, purposes, and motivations associated with community gardening in the United States between 2000-2010, Draper and Freedman confirmed positive effects of community gardening on health, social capital, food security, economic development, recreational activities, cultural preservations and expression, community organization, and many other themes (Draper & Freedman, 2010). The majority of studies reviewed were qualitative and showed positive individual and community outcomes. Studies emphasized youth gardening programs and projects, health (e.g., dietary, mental, and physical) outcomes, advocates versus landholder conflicts, social capital, and personal motivation and perspectives (Draper & Freedman, 2010).

2.1.2.2 Benefits of community gardening in youth

Studies looking at youth gardening programs and projects found a positive impact of community gardening on diet, academic, and developmental achievements in young people. Also, community increased physical activity among youths, increased their fruits and vegetable consumption and let to an overall social and personal improvement (Heim, Stang, & Ireland, 2009; Hermann, 2006; Koch, Waliczek, & Zajicek, 2006; Lineberger, 2000; McAleese & Rankin, 2007; Poston, Shoemaker, & Dzewaltowski, 2005; Robinson-

O'Brien, Story, & Heim, 2009) as cited in (Draper & Freedman, 2010). Additionally, studies found a positive effect of community gardening on youth's science and environmental knowledge (Allen, Alaimo, Eliam, & Perry, 2008; Blair, 2009; Lautenschlager & Smith, 2007; Waliczek & Zajicek, 1999) as cited in (Draper & Freedman, 2010). Overall, studies looking at youth gardening programs and projects concluded that participating in community gardening promoted learning opportunities. Which resulted in academic improvements and social skills development (Draper & Freedman, 2010).

2.1.2.3 Benefits of community gardening on health and self-esteem

Looking at health outcomes, personal motivation and perspectives, Draper and Freedman found that, in addition to offering fresher and better testing food, time to enjoy nature and opportunities to socialize, community gardening enhanced positive dietary habits such as increased fruit and vegetable consumption (Draper & Freedman, 2010). Importantly, community gardening positive effects on health were reported to influence household members who did not personally garden. Also, studies indicated an improvement in multiple areas of health due to participation in community gardening. Both youth and adults experienced an emotional boost and increase in general wellbeing (Armstrong, 2000b; Austin, Johnstone, & Morgan, 2006; Hanna & Oh, 2000; Twiss et al., 2003) as cited in (Draper & Freedman, 2010). Engagement in community activities has been associated with general wellbeing by many other studies. The findings of 22 studies suggest that the majority of "engaged" individuals in community gardening in poor urban neighborhoods perceived benefits for their physical and psychological health, self-confidence, self-esteem, and sense of personal empowerment (Attree et al., 2011).

Gardeners were drawn together mostly by the sense of community which led participants to know each other as they discussed the garden or the weather. Gardeners consider gardens as a central spot, which facilitates building friendships and contributes to a general wellbeing. Also, Attree et al. (2010) found that gardening has helped residents achieve a more positive attitude about themselves, their buildings and their grounds, which could lead to improvement of their neighborhood. All these positive effects associated with community gardening contribute to improving health (Attree et al., 2011; Relf, 1990).

2.1.2.4 Benefits of community gardening in social integration and community development

In terms of socialization, Draper and Freedman, reported findings from five studies conducted in St. Louis, MO which indicated that participants, "viewed community gardening as a way to successfully bring together people of different races and other people who would not normally socialize" (Draper & Freedman, 2010). Also, Teig and colleagues (2009) found that the multiple social processes such as mutual trust and reciprocity, fostered during community gardening participation found the relationship formed led to a stronger sense of community (D`Abundo & Carden, 2009; Hanna & Oh, 2000) as cited in (Draper & Freedman, 2010) and (Macias, 2008). By examining the results of these studies, Draper and Freedman (2010) concluded that community gardens are a method of social integration. Diane Relf (1990) in her book, *The Role of Community Gardening In Human Wellbeing and Social Development,* support this idea promoted by Draper and Freedman (2010) on the role of community gardening in social integration.

Macias (2008) showed another example of community gardening as a tool for community development and social integration. Macias considered community gardening to be a way to encourage people to work together. Macias demonstrated this effect through interviews of four community supported agriculture farms; four direct-market organic farms and four community gardens site coordinators working in a local agriculture project in Burlington, Vermont (Macias, 2008). Overall, all interviewees mentioned the benefits of community gardening in bringing people together and promoting relationships between people who didn't know each other. These farmers see community gardening as a way to socialize while producing healthy food and sustaining financial income (Macias, 2008).

Community gardens were able to impact physical change in neighborhoods which have integrated them. Relf's studies conducted in different neighborhoods in Massachusetts (USA), have shown that the concentration of community gardening activities in a neighborhood inspired significant changes in its appearance, strengthened community organizations, engendered pride, and often empowered other community development activities. While each neighborhood was considered unique in its physical features, many of the low-income neighborhoods considered in the studies were unclean and had many vacant lots and streets. Transforming these vacant lots and barren streets into gardens and green sidewalks created more hospitable human spaces (Relf, 1990).

2.1.3 Community gardening as one of the solution to food insecurity

Relf's studies showed that community gardens promote access to food and ensures food security to communities (Relf, 1990). As defined by the United States Department of Agriculture (USDA), for a household to be considered food secure, all household members must "have consistent, dependable access to enough food for active, healthy living" (DeMuth, 1993). About one fourth of the studies reviewed by Draper and Freedman mentioned food production as a benefit or motivating factor to participating in community gardening activities. In addition to feeding food insecure families, some gardeners chose to cultivate crops that were rare and expensive on the market. The produce was sold to farmers markets or restaurants (Draper & Freedman, 2010). By doing so, the gardeners ensured financial income for their families.

2.2 Program Description

In 2009, Global Growers Network (GGN) was launched as a project of the local nonprofit resettlement agency, Refugee Family Services (RFS). Upon gaining full independence, RFS has remained the fiscal sponsor of GGN. GGN's mission is to connect to agriculture international farmers who have relocated to Georgia. GGN does so by training farmers and creating economic opportunities. The main goal for GGN is to integrate refugees who have fled their countries because of wars, genocide and persecution into agriculture. Most of them were farmers in their home countries (Global Growers Network, 2013). In the last year, more than 230 international families, representing 12 cultures grew more than 180,000 lbs. The food was used to feed GGN members' families and build community, as well as helping them to earn supplemental

income by selling vegetables to local markets. Also, GGN trained seven independent farmers to farm in the American way, therefore creating job opportunities.

The vegetables grown serve to address food insecurity in the community. For example, last year, GGN reached more than 1,100 food insecure families. Also, GGN creates financial opportunities by selling to farmers markets and restaurant s in the Atlanta area. GGN works with local partners to build network and establish the markets for the produce grown by participants.

Global Growers Network owns and manages four farms and supports a network of six independent farms. The principal one is Umurima Wa Burundi, which is located by the Avondale MARTA station in Decatur. Seven families from East Africa, mainly Burundi, manage Umurima Wa Burundi. Their goal is to reconnect their community with their traditions of local food and sustainable farming. Most of crops are from Burundi, however, local crops are grown and sold to local markets.

Bamboo Creek Farm is another farm if GGN. Located in Stone Mountain, this farm is 14 acres and is used to train international farmers who want to become professional farmers. While being trained, farmers can use their own plots to grow food, which can generate income for their families by selling vegetables.

Clarkston International Community garden is located in Clarkston and comprises 30 diverse Clarkston families from 10 different cultures. This community garden serves

families who want to grow food for their families. Global Growers leads this garden in partnership with the Real Communities program of Georgia Council on Developmental Disabilities and DeKalb County's garden in the Parks program. Its aim is to build community through community gardening.

The Decatur' Kitchen garden is located in Decatur and hosts 35 families on larger market garden plots on about two acres. This new garden designed to foster community, offer education about healthy food traditions and growing practices, and enhances biodiversity through cutting edge sustainable management. The garden also features a demonstration garden and small orchard.

CHAPTER 3: METHODS

3.1 Introduction

A process evaluation of Global Growers Network (GGN) was conducted to assess and document program implementation and help in understanding the relationship between specific program elements and program outcomes. Common process evaluations elements were used for this process evaluation including fidelity, dose (delivered and received), which assesses whether prescribed components of the program were implemented as intended, reach, recruitment, and context of program implementation. The goal of this process evaluation is to document what happens an how well GGN as an organization is working. It also confirms program existence and its physical availability and structural elements (Saunders et al., 2005). Generally, process evaluations pinpoint the main goals and objectives of the programs and examine whether they are implemented as intended. A process evaluation of GGN will help in understanding the implementation process of the organization and shape future outcome evaluations. Process evaluations are important because instead of relying on the outcome evaluation to determine whether a program was successful, they provide information on how the program was implemented, the number of clients served, dropout rates, and how clients experienced the program.

In addition to answering if the program worked, process evaluations provide details on different challenges encountered while implementing the project. Also, process evaluations help determine if the program was implemented with quality and if the strategy used was appropriate for the population's needs which are the elements of

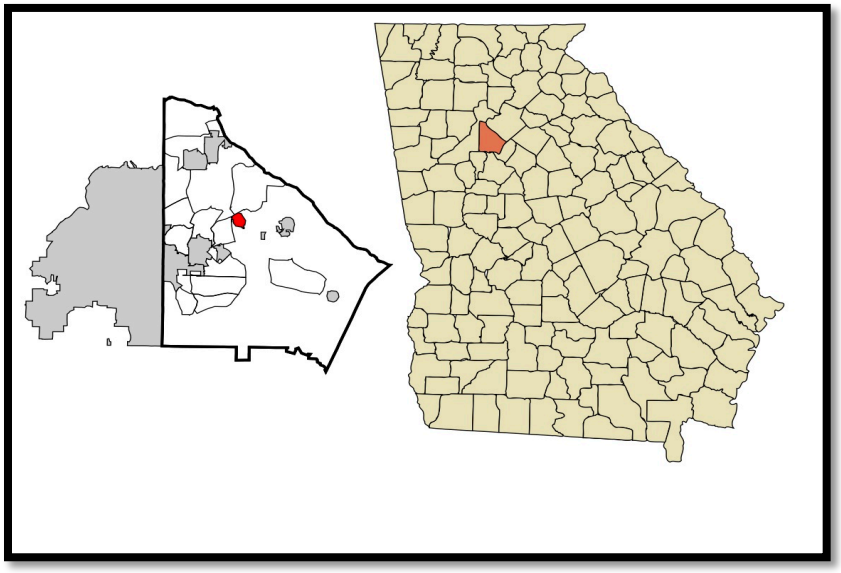
success for a program. Success as well as failure is noted and factors that led to those outcomes are documented. This kind of evaluation can be looked back on towards the end of the program to see which components of the program led to success and which were not effective. Overall, examining the process of implementation can help professionals in the field to understand best practices and barriers to implementing interventions. This information can be incorporated into the future programs to make them more effective and efficient (Steckler, 2002). For non-profit organizations with limited resources and where programs are dependent on grant funding, it is necessary to be accurate in designing programs, which will effectively and efficiently create the change desired.

3.2 Population and sample

Metropolitan Atlanta, specifically Clarkston and the nearby areas in DeKalb County, is an epicenter for refugee resettlement. It is the fourth most likely metro destination for international refugees. Approximately 60,000 refugees have resettled in metro-Atlanta since 1990, with an increasing trend to see Atlanta as a newly established gateway city for refugees and immigrants. In addition to those refugees arriving to Atlanta directly, there are anecdotal reports that indicate a significant number of refugees who originally settled in other states are drawn to Atlanta, in large because of the significant economic and housing opportunities and the relatively mild climate (Refugee Family Services, 2013). Thirty-three percent of Clarkston's population is foreign-born and 37% speak a language other than English in the home; a majority of these households can be assumed to have refugee status (Minyard, 2007). Refugee Family Services (RFS) and other

organizations helping refugees, operates from as a community center and activity center in close proximity to refugees who have resettled in the Clarkston and Stone Mountain areas.

Map of DeKalb County with Clarkston highlighted in orange



Global Growers Network (GGN) was founded with a goal to find innovative way of building a local community and help to alleviate the burden of food insecurity in the community. Global Growers Network serves over 101 international families, representing 12 cultures in DeKalb County (Global Growers Network, 2013). The population served by Global Growers Network is largely made up of refugees from Burma, Bhutan and Burundi. The median income of the community is $29,000 annually, with an overall poverty rate of 29%. Nineteen percent of American-born residents and 43% of foreign-born residents live below the poverty level (CityData, 2012). These statistics show a need for financial interventions for foreign born communities.

Global Growers Network (GGN) was created in 2010. It is a gathering place for art, education, recreation, and community building and serves both long-term residents and newly arrived refugees in the area. Global Growers strives to improve quality of life of residents by offering opportunities to learn new skills and the American way of farming, discover new interests, and meet neighbors. For example, GGN provides a one-year training to refugees who wish to become professional farmers in the United States. Seven farmers completed the one-year training program in 2013 and the training program sold more than 3,800 lbs. of produce through the market co-op, earning over $14,000 in supplemental income (Global Growers Network, 2013). Global Growers' effect goes beyond providing nutritious and healthy food and reaches into low-income people's lives making them independent. Global Growers gives back to the community by adding a new line to the local food movement.

Global Growers Network aims to increase access to nutritious and culturally appropriate foods through a broad spectrum of programs. These programs were created as a response to difficulties among the low-income population, particularly refugees, in accessing affordable and healthy foods. Global Growers Network helps fund under-resourced individual refugee projects by joining them and leading them to opportunities to access and share resources. Additionally, GGN help refugee projects to expand growing and participate in community-wide, mainstream discussion around land use and agricultural development. Global Growers Network is made of American-born and refugee leaders who are committed to addressing the food system goals of increased incomes, access to

quality and familiar foods, better physical and mental health, self-reliance and enhanced integration for the refugee population.

The rationale for targeting this population lies in the demographic characteristics of the Clarkston population. In Clarkston's congressional district (four) over 23,000 (10%) households received Supplemental Nutrition Assistance Program (SNAP) benefits in 2010. Almost 50% of families below poverty level received SNAP benefits and about 10% below poverty level were not receiving SNAP (USDA 2011). The city of Clarkston is wedged between two food deserts[1], both of which fall within the Clarkston Community Center's (CCC) desired impact area. There are seven other food deserts in close proximity to the community center as well (CityData, 2012). The desire for more programs to address food insecurity beyond governmental programs arose from the community during numerous community forms and discussions and led to the creation of Clarkston Community Center's Food Security Initiative. Global Growers Network was founded with a goal to find novel ways of contributing to alleviating food insecurity burden within the local community (Global Growers Network, 2013).

3.3 Research design

Although most evaluations rely on outcome evaluation to assess whether a health promotion program was successful, process evaluations are equally important because they help to confirm that the intervention was successful before using resources to assess

[1] A food desert is, "*a low-income census* tract where a substantial number or share of residents has *low access* to a supermarket or large grocery store" (USDA 2012)

its effectiveness. For this reason, a process evaluation was used to monitor program implementation to understand the relationship between program elements and program outcomes (Saunders et al., 2005). Process evaluations do not assess the impact or effectiveness of a program, but instead look at how program activities are delivered and verify the contents and goals of the program. Process evaluations help experts to determine the degree to which an intervention was implemented as planned and the extent to which it reached the targeted participants. Also, process evaluation provides tools to monitor quality. Implementation quality is critical to maximizing the intended benefits and demonstrating strategy effectiveness. Moreover, process evaluation provides information needed to make adjustments to strategy implementation in order to strengthen effectiveness. In order to evaluate the implementation of a program, four main objectives of the program are analyzed:

1) Reach: defined as the proportion of the intended priority audience that participates in the intervention. Measured through a combination of examining target audience, recruitment techniques and characteristics of participants (Saunders et al., 2005).
2) Dose: asks whether prescribed components of the program were implemented. The dose is measured in terms of the, "amount or number of intended units of each intervention or component delivery by interventionists" and the extent, "to which participants actively engaged with, interact with, are receptive to, and/or use materials or recommended resources" (Saunders et al., 2005)
3) Fidelity: asks whether prescribed intervention components were implemented according to protocol. Fidelity examines the extent to which an intervention is

implemented as planned and often involves comparing activities to the goals and objectives of a program (Saunders et al., 2005).

4) Compatibility or participant satisfaction: looks at the proportion of participants who are content with the program activities and staff. This component analyzes feedback and surveys completed by program participants. Together, these four components help determine if a program is being implemented effectively (Saunders et al., 2005).

A process evaluation was chosen as the study design since Global Growers Network is still in the start-up phase and has not yet reached a stage where it is possible to study the hypothesized outcomes and impacts projected. More information about how food security programs are effectively developed and implemented is desired by many organizations wishing to mimic similar programs in different areas of the world. IRB approval was waived for this project given that it is an evaluation that is not meant to generalize findings to a broader population.

3.4 Procedures

To assess the implementation of different programs of Global Growers Network (GGN), a development of an impact pathway was created (See figure 1). This impact pathway shows how each output (community garden, community supported agriculture, farmers training program) contributes to the overall purpose and goal of the organization. Impact pathways aim to show the components of complex systems and are often used in agriculture development projects. Impact pathway evaluation is a special process using

impact pathways that involves participants (Douthwaite, Kuby, van de Fliert, & Schulz, 2003). The impact pathway developed for this process was developed through interviews conducted with the founder of GGN and the activity coordinator.

The central questions posed in process evaluation include:

- Who delivers the program?
- How often?
- To what extent was the program implemented as planned?
- How does the target group and program staff receive the program?
- What are the barriers to program delivery?
- What are the priority population's knowledge, perception, acceptance, and use of the program?

Broad process evaluation questions asked of GGN are listed below:

- In what time frame is the program being implemented?
- Who is the target audience for the program? Are they being reached in sufficient numbers? What mechanisms/criteria are used to recruit participants?
- How much of the intervention is being administered and how much is being received by participants?
- What are the strengths in implementing the program?
- How satisfied are recipients with the program?
- What is the quality/fidelity of the program received?

To assess the participants` satisfaction with the program, general survey questions were asked during gatherings for farming activities and meetings. These questions included:

- How many people are happy that the gardens are here?
- How many people think gardens have improved their lives?
- How many people think gardens have helped their social integration?
- How many people have benefited financially of gardening activities?

Further process evaluation questions addressing the, who, what, when, where, and why of the program were used to determine the appropriated data sources to evaluate the implementation of the program. Global Growers Network was analyzed for its recruitment procedures, reach, dose, participant satisfaction and fidelity. General description of challenges and successes during implementation are also described.

Steps in the Process Evaluation Process[2]:

1. Describe the program
2. Describe complete & acceptable program delivery
3. Develop potential list of questions[3]
4. Determine methods
5. Consider program resources, context & characteristics
6. Finalize the process evaluation

These steps will be followed when conducting a process evaluation for Global Growers Network.

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[2] Adapted from (Saunders et al., 2005)
[3] 3-5 can be considered iteratively

3.5 Instruments

To answer the process evaluation questions and ultimately the research questions, several instruments were used. Data sources used to describe the development of the program varied and aimed to answer questions related to recruitment, reach, and participant characteristics, dose, fidelity, and participant satisfaction. Data collection methods included:

- Direct observation
- Checklists of activities
- Attendance logs
- Quick survey questions
- Project archives
- Interviews of community gardens leaders

3.6 Farmers training program

Global Growers Network is a one to two years program designed for aspiring farmers and food systems advocates that provides hands-on, skill-based education in sustainable agriculture. This program offers participants the unique opportunity to manage their own site, and take classes from different instructors. Also, the program offers trainees the opportunity to visit other business farms where they can witness what their peers are doing. The program emphasizes a deeper understanding of agricultural management and small-scale farming in the United States, and the entrepreneurial skills to start their own operation. The program is designed for aspiring farmers and those interested in sustainable, local food systems. Strong applicants:

- Are looking for practicing sustainable farming and food systems as a business career
- Want to play an active role in the sustainable food movement
- Value a comprehensive education in all aspects of the business of farming
- Want hands-on farm education
- Want to learn from Global Growers Network's vibrant small-scale, diversified farming community

Questions were asked to the trainer and GGN's archives were used to assess recruitment criteria, attitude toward, and use of the program, and program implementation. Data was gathered by asking the evaluation questions which aimed to determine the priority population's knowledge, perception, acceptance, and use of the program. This evaluation also addressed what program participant perceives as benefits and outcome of participation.

3.7 Community gardens

Data surrounding community gardens were selected from garden logs that detail hours worked by participants, crops grown and pounds of food harvested. Historical records also helped to describe the development of the gardens from their start in 2010. Informal interviews were conducted with growers to assess knowledge, attitude, and participants' satisfaction.

3.8 Community Supported Agriculture (CSA)

The least amount of data was collected for the community gardens and community supported agriculture (CSA) programs. Data surrounding the community gardens was selected from garden logs that details hours worked by volunteers, crops grown and pounds of food harvested. Historical records also helped to describe the development of CSA program from its start in 2011. Basic agency records for the CSA detail the amount and types of food distributed.

3.9 Plans for data analysis

A basic description of each program begins the data analysis section. Basic services delivered, a timeline of how long the program existed and details of program implementation were collected from Global Growers Network's records. From there, information regarding the program participants was described, if available. The data was analyzed for program reach, defined as, "proportion of the intended priority audience that participated in the intervention" in order to determine how much of the target audience participated in the program and if this increased or decreased over time (Saunders et al., 2005). Recruitment practices were also described for each program to determine if the target population was truly reached.

After the participants involved in the program were described, the program itself was described in detail. Fidelity, or the extent to which the intervention was implemented as planned was assessed using information about changes in the program overtime as it relates to initial plans (Saunders et al., 2005). Programs were also evaluated for the

amount of the program that was fully delivered (dose) and participant satisfaction where available. In conjunction with the above, program quality was assessed by comparing the activities of the program with participants' satisfaction and resources available to the program. Justifications for the activities used by programs were analyzed to determine if there were other possible activities that would provide a higher dose or higher satisfaction among participants. Data analysis is concluded with an overall assessment of challenges and opportunities in the implementation of the program that was not covered in the above sections.

3.10 Limitations and delimitations

Several limitations exist in this process evaluation. The uniqueness of Global Growers Network as a start up organization made difficult to have complete data on the organization. Also, for several programs, baseline data was not collected at the beginning of the program implementation stage or was not continuously and regularly collected once the program started. This led to difficulties in organizing and analyzing data. It also created limitations in understanding the full process of implementation and changes in program participants over time.

Another limitation was that many programs did not have clearly written goals and measurable objectives at the start of the organization. Semi-structured interviews with the leaders of Global Growers and community gardens' leaders helped to fill in these gaps and create clear, measurable goals and indicators that will aid in further evaluations. Additionally, the resources and time to conduct the evaluations were limited.

3.11 Delimitations

This study is limited to three programs within Global Growers: the community gardens, supported community agriculture (CSA) and farmers training program. These programs were specifically focused on as they carry the most information to understand the effect of GGN in integrating refugees into the American culture.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter will summarize the findings from the process evaluation of the three programs run by Global Growers Network (GGN): community gardens, community supported agriculture (CSA), and farmers training three programs. Each section of findings includes a basic description of the program, including the mission and goals, services provided, process of implementation and recruitment practices. Then each program was assessed for reach, dose, fidelity, and participant satisfaction as defined in the method section. The results reported in this section were obtained from 2 interviews with the founder of GGN (one interview was conducted on the phone), two interviews conducted with GGN coordinator and farmers training coordinator, three informal interviews conducted with participants of the programs, direct observation, and GGN's archives including three years of grants proposals and reports. The ORR grant reports described the overall activities and accomplishments for three years. Also, GGN archives provided overall organizational goals and accomplishments from starting period of 2010 (when the grant was obtained and an expansion of Umurima project was realized to become Global Growers Network) through September 2013. The numbers, figures and tables reported in this document are for 2013 growing season, the first year that GGN was able to provide a full set of performance measures.

4.2 Implementation process of Global Growers Network

Global Growers Network (GGN) was established as a project of Refugee Family Services in October 2011. GGN was formed one year after starting the Burundi Women's farm (now known as Umurima wa Burundi) in 2010. During the first year, members of Global Growers connected with several other organizations and individuals who were working with small, community-based refugee garden projects who had similar values including: refugee leadership and stakeholders; financial and ecological sustainability; intergenerational approaches; and enterprise opportunities to promote self-sufficiency. GGN hosted a series of network meeting in order to recruit refugee leadership, gather information from community members, and identify current and anticipated needs in order to develop project strategies.

The initial goal of GGN was to increase the number of refugee growers in the Clarkston community. In 2011, the Network launched with approximately 101 refugee families actively growing food. In 2013, GGN has reached a number of 250 refugee families which exceeds the original goal which was to double the number of growers by 2013.

From the beginning, Global Growers Network recognized that building community partnerships with local groups in order to increase collaboration and maximize resources would be key part of their strategy. GGN began with 11 community partners; the network currently includes 27 community partners, ranging from community-based organizations to universities to religious institutions, all of who are committed to working together to support the success of refugee farmers. Although difficult to quantify, it is notable that

metropolitan Atlanta's local foods community now regularly recognizes that refugee newcomers have a great deal of knowledge and experience to contribute to the local sustainable agriculture movement, which indicates major shift from their presence being relatively unknown when GGN began promoting farming among refugees three years ago.

In 2011, Global Growers Network (GGN) only had access to ¼ acre of growing space. GGN successfully developed three additional growing spaces, for current total of almost 7 acres in production and 18 acres under sustainable land management. With increased production, GGN have also increased the market reach, including playing a supporting role in the formation of the Clarkston Farmers Market, which launched as monthly market in 2012 and became weekly market in 2013. Also, GGN manages a 60-member CSA program and attend two other weekly markets in Grant Park and Decatur[4].

In 2011-2012, GGN focused its efforts to build the programs and infrastructure to accomplish its initial goals[5]. During 2013, GGN continued to hone these programs and focused increased attention on general fundraising, building strategic investor/advisor alliances, and creating strong local partnerships in order to ensure sustainability. 4.3 Major activities and accomplishments.

[4] These are 2013 data. GGN will not attend Grant Park market in 2014 due to challenges encountered during 2013

[5] Objectives and outcomes of GGN are outlined in this document

4.3.1 Growing the Network

4.3.1.1 Development

Global Growers Network launched in 2011 with three years Refugee Agricultural Partnership Program (RAPP) grant scheduled to be completed at the end of 2013. GGN is exploring ways to include other immigrants and Georgia-born growers into the programs, to more effectively integrate refugee growers into the local farm economy and to diversify the programming.

4.3.1.2 Community

Global Growers Network (GGN) has sustained an ongoing partnership with the Georgia Council on Developmental Disabilities (GCDD) Real Communities Initiative, which supports GNN's community builder position, a staff position within GGN, which acts as first point of contact with what is happening on the ground in the community and represent GGN at small community gatherings. GCDD is a federally funded, independent state agency that serves as a leading catalyst for systems change for individuals and families living with developmental disabilities.

In 2013, Global Growers Network organized a community initiative, Friends of the Park group for the Forty Oaks Nature Preserve, the DeKalb County Park in which the Clarkston International Garden is located. Through a public-private partnership with the non-profit organization Park Pride, the program encourages neighborhood involvement in building and maintaining community green spaces. This helps GGN to accomplish four main objectives:

I. Bringing together a diverse group of community members to work together on a common project.
II. Improving the green space that surrounds the Clarkston International Garden.
III. Increasing community connections in Clarkston to support GGN's mission and work.
IV. And accessing additional resources and funding via Park Pride not otherwise available to unofficial community groups to contribute to improving the public green space.

As part of Global Growers Network's (GGN) overall plan to improve the community outreach and to become more productive in maintaining the farms and gardens, GGN expanded its capacity for volunteers' involvement in 2012. A key part of this initiative was hiring a part-time Farm Operations Coordinator, who also handles volunteer coordination. Until 2013, GGN had consistently hosted groups on Saturday, but did not have the staff capacity to host individual volunteers on a day-to-day basis. GGN's Farm Operations Coordination has created a list of approximately 15 steady volunteers who work with its staff on a consistent basis. This has been an effective way to bring in extra hands to help with site maintenance, demonstration plots, and grower support.

Global Growers Network (GGN) continues to host volunteer groups on Saturdays on a nearly weekly basis during the growing season. Local universities, places of worship, and corporations regularly seek out volunteer opportunities with GGN. Also, GGN has an important partnership with the Atlanta Community Food Bank Community Gardens

Program that sends out groups and tools to the garden sites. Lastly, GGN is in the process of building new partnership with Hands On Atlanta, a local civic engagement organization that will make connections with volunteers.

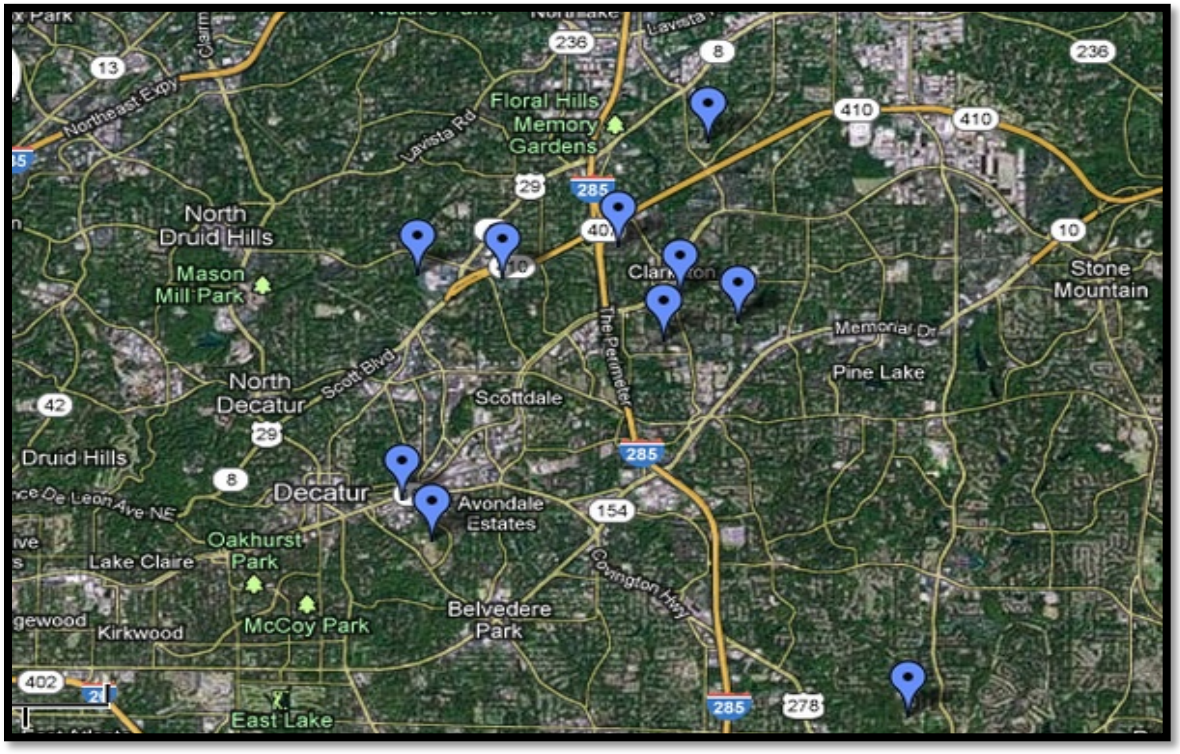
Global Growers Network (GGN) continues its seasonal internship program with spring, summer and fall cycles. The target is to bring three farm production interns, one communications and graphics intern, and one marketing intern for each intern cycle. GGN benefit from a partnership with Emory University, Georgia State University, Georgia Institute of Technology, Spellman College, and Georgia Perimeter College, which are vital for internship recruitment efforts. Also, an increasing number of recent college graduate have demonstrated interest in GGN's internship program as they seek professional and hands on experience.

4.3.1.3 Producing good food

Global Growers Network (GGN) continues to manage and operate four production sites including: Bamboo Creek Farm, Decatur's Kitchen Garden, Umurima Wa Burundi, and Clarkston International Garden, and to support a Network of six community gardens, Birch Grove Apartment Garden, Jolly Avenue Community Garden, Southern Place Apartment Gardens, Northlake Church Farm, Clarkston Community Center and North DeKalb Mall Community Gardens.

Maps of the gardens supported by Global Growers

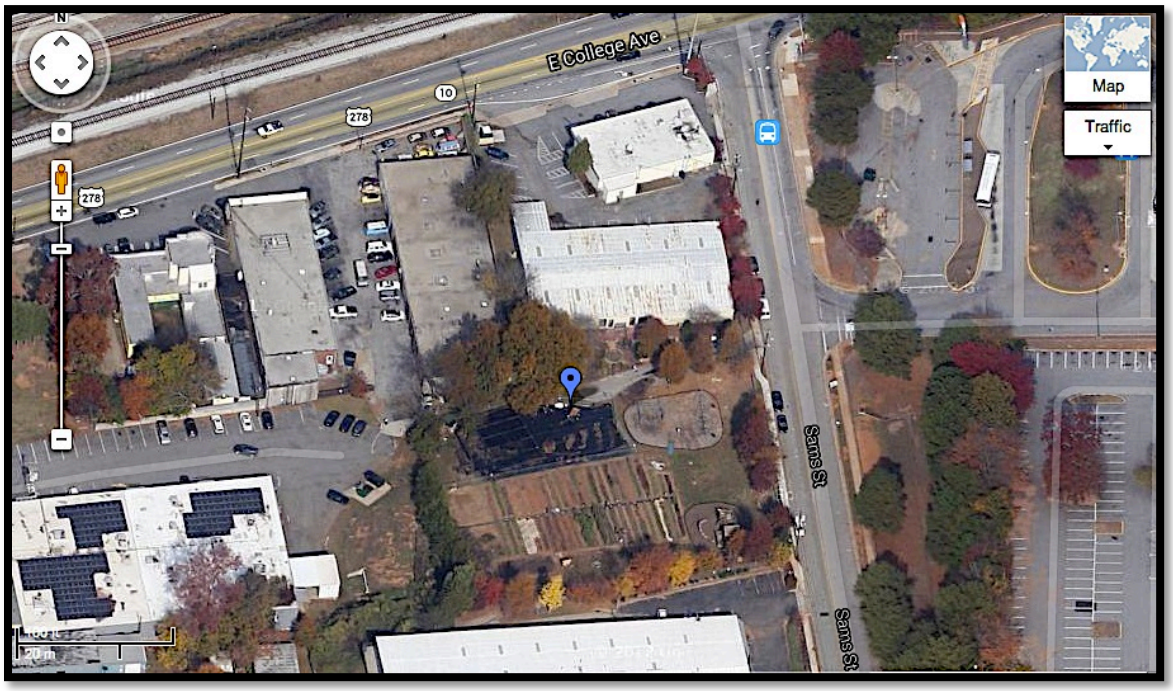
Map 1: All GGN's farms including independent farms



Map 2: Bamboo Creek garden

Map 3: Decatur's Kitchen garden

Map 4: Umurima Wa Burundi



The newest garden to join the Network is the North DeKalb Mall Garden, which is located on approximately 3 acres of flood plain on the property of the suburban North DeKalb Mall (NDM). NDM management is leading the latter project, with support from GGN and the International Rescue Committee of Atlanta.

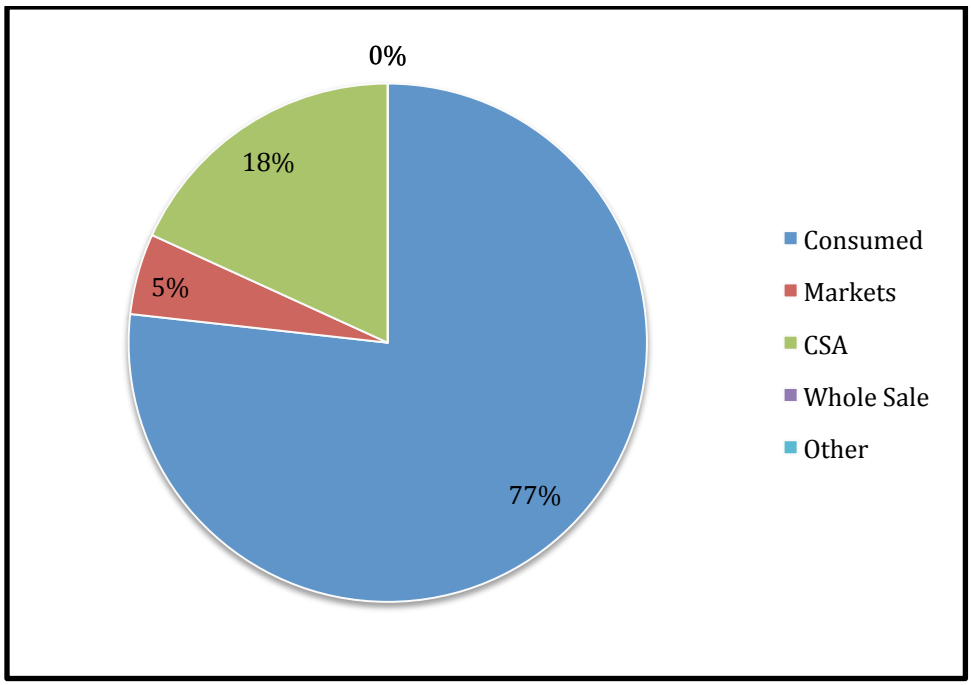
GGN is working to improve the tracking and metrics of the amount of food produced by the growers. Although detailed records for market sales are kept by GGN, the majority of harvests go home with the growers, so it is difficult to assess exactly how much food is being grown. In 2013, GGN started taking seasonal plant inventories at each of its sites in order to create production projections seasonally. Using estimates of the seasonal projections, Global Growers will be able to rate crop harvests. Table 1 summarizes food production in 2013 by season and location.

Table 1: Food production by season and location for the 2013-growing season

Network Farms		**BCF**		**Umurima**		**DKG**		**CIG**	
Season	Pounds	Season	Pounds	Season	Pounds	Season	Pounds	Season	Pounds
Spring	3,500	Spring	5,800	Spring	3,200	Spring	1,300	Spring	300
Summer	12,500	Summer	11,400S	Summer	2,700	Summer	3,100	Summer	800
Fall	5,800	Fall	4,000	Fall	1,000	Fall	3,100	Fall	400
Total	21,800	Total	21,200	Total	6,800	Total	7,500	Total	1,500

In the 2013 growing season, Global Growers Network through its gardens produced a total of ~59,000lbs. Figure 1 summarizes how the food produced in 2013 was used.

Figure 1: Summary of the outcome of the food produced, 2013 growing season



Of the 59,000 pounds produced by all community gardens, the growers consumed 77%, 18% was sold through community supported agriculture, and 5% was sold to the markets. A small quantity was donated or lost while packaging.

Figure 2 shows the production level per community garden during 2013 growing season. These estimations include the community garden owned by independent growers, which present the network farmers.

Figure 2: Production level by community garden, 2013 growing season

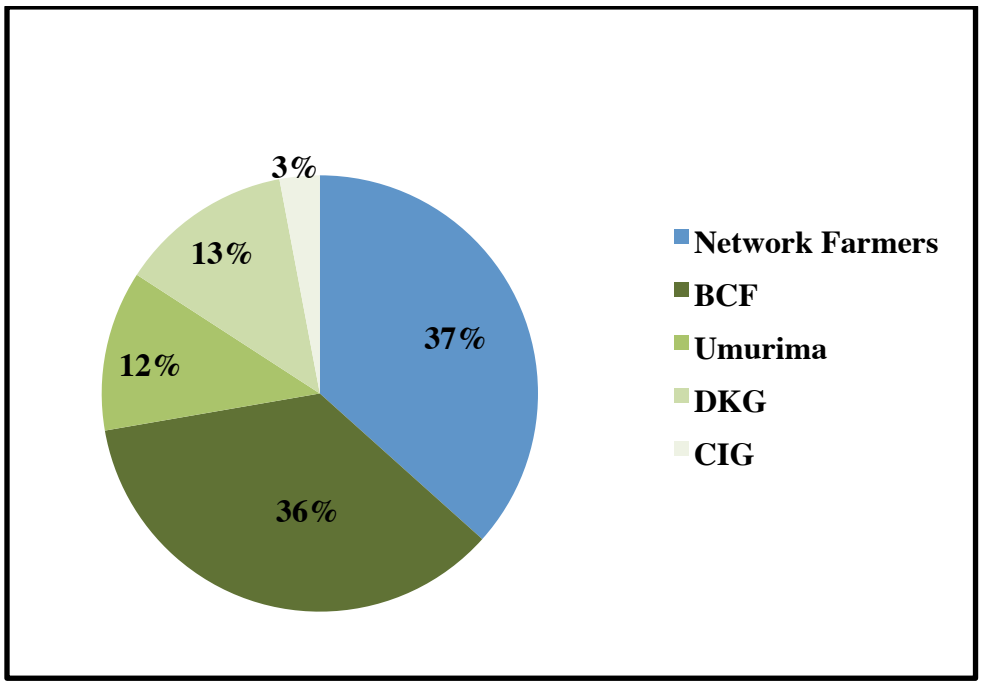


Table 2a shows the amount of food produced by community gardens and provides details on the food consumed by growers. Table 2b provides details on the number of pounds sold to the market or to CSA members. The only data available for table 2b were from Bamboo Creek garden and Umurima.

Table 2a: Consumed: 45K lbs. by community garden in the 2013 growing season

	Pounds	Servings	$ Value
Network	22K	65K	$59K
BCF	13K	38K	$41K
Umurima	2K	5K	$6K
DKG	7K	22K	$24K
CIG	2K	5K	$4K

Table 2b: Pounds of food sold to the market and to CSA by community gardens in the 2013-growing season

	Pounds	Servings	$ Value
Network	-	-	-
BCF	**9K**	**25K**	**$27K**
Umurima	**5K**	**15K**	**$17K**
DKG	-	-	--
CIG			

4.3.1.4 Training Farmers

Global Growers Network's (GGN) farmer training program has undergone several updates for the 2013 growing season. Currently, GGN has two tracks: beginner farmer training and advanced farmer training for new farmers and returning farmers, respectively. Refugee culture groups include: Bhutanese, Cameroonian, Burmese, Iraqi, Sudanese, Iranian, Burundian, Somali, and Liberian. Secondly, GGN is relying more on consultation-based technical assistance than on classroom workshops, which is a reversal from the 2012 season's program that was more classroom based than field-based. The improvement was based on feedbacks from farmers who demonstrated that they were spending too much time in the classroom and would prefer to spend more time in the field. Third, the farmer-training curriculum has been restructured to cover the following broad themes:

- Market pricing, quality control, growing on contract, and delivery standards
- Evaluation of market contracts
- Developing and using market, production, and crop plans to meet market goals

- Food safety process and protocols
- Integrating refugee farmers into mainstream agricultural community

GGN's Farmer Training Coordinator also provides support to refugee growers hosted by Network garden projects. These supports include: leadership development, food safety trainings, connections to bulk seed and tool orders, updates about community resources and events, and onsite technical assistance for growing needs.

In addition to workshops, consultations, and technical assistance, GGN organized in 2013 a fall farm tour to expose growers in the training program to the diverse landscape of small-scale, intensive sustainable agriculture in the North Georgia region. Additionally, GGN collaborated directly with two other farmer-training programs in the Atlanta area: Georgia Organics Farm Mentorship Program and the Truly Living Well Urban Grower Training Program. Moreover, GGN promoted a farm tour for participants in all GGN's programs to visit five farms, each one focused on teaching specific topics demonstrated at the host farms.

4.3.2 Creating economic opportunities

In April 2013, Global Growers Network (GGN) began its expanded community supported agriculture (CSA) operation with a total of 34 CSA members, representing over a doubling from the Fall 2012 CSA. CSA shares were distributed at two sites. For the summer CSA, GGN doubled in size again to 60 members picking up at four distribution sites. In addition to CSA, GGN was able to participate in three farmers markets weekly. While not the bulk of the sales, the farmers markets helped to keep GGN's presence visible in the community and often served an introduction to future CSA

customers. Also, GGN maintained a relationship with six wholesale partners. Although these sales were not weekly, these partnerships help keep connections to the local food community.

4.3.3 Challenges

Global Growers Network faced different challenges throughout its implementation. The recent ones include:

4.3.3.1 Irrigation

Irrigation is technical and financial for each of GGN production sites, and each site requires their own solution. For example, during spring 2013, there was a need to install a new irrigation pump and mainline pump at Decatur's Kitchen Garden, following the theft during winter of the original pump.

4.3.3.2 Training class schedules

It is a challenge to coordinate class schedules for growers in the farm-training program. Nearly all those enrolled also work full-time jobs on various schedules and shifts.

4.3.3.3 Development of permanent infrastructure

Global Growers Network does not own any of its growing spaces. As such, it can be a tough judgment call in how well and when to invest in infrastructure that is not easily transferable to a new site but could greatly improve operations and efficiencies. This includes, for instance, underground irrigation systems, leveling/grading work and cold storage facilities.

4.3.3.4 Flooding

Changing weather conditions pose a threat to growers of Global Growers Network (GGN). For example, severe flooding during spring 2013 which was followed by unusual summer season with historic records of rainfall, particularly during June and July—traditionally a time of minimal precipitation hampered the production cycle in a serious way. It was not easy to teach or learn crop planning. Risk management strategies were essential.

4.3.3.5 Clarkston Farmers Market

In pursuing the development of the Clarkston Farmers Market in partnership with the Clarkston Community Center, GGN committed to serve as an anchor vegetable vendor for the 2013 market season. However, the market significantly underperformed during the same year and failed to attract and build adequate customer base. Money was lost going to market nearly every day of the market season after paying for staff time, transportation, and market supplies.

4.3.3.6 Market sales

Overall, sales were somewhat lower than initial projection, primarily due to lower production yields than expected. As a result, during August and September 2013 Global Growers Network (GGN) had to cancel at farmers markets several times and did not make any wholesale sales in order to give CSA members priority to what turned out to be limited availability.

4.3.3.7 Market sourcing

Communication challenge with GGN partner farmers led to too-frequent sourcing problems though this improved over the course of the summer as a change in strategies was implemented. Also, farmers outside the network were reached, but it was difficult to get outside farmers to commit to sales or to follow through on sales expected.

4.3.3.8 Worms

In Spring 2013, Global Growers Network (GGN) developed a vermicomposting production plan and partnered with the Emory Goizueta Board Fellows (MBDA students) to develop financial projections around a 12-week production cycle, with a plan to market vermicomposting through a community supported garden program. It is anticipated that the vermicompost operation can generate significant revenue for GGN in order to sustain the organization.

4.3.2 Dissemination activities

4.3.2.1 Global Growers Network Communications

For an exchange of a CSA share, Global Growers Network (GGN) continues its work-trade share with a graphic designer who completes small projects in exchange for a CSA share, including event promotions, letterhead, and information handouts. GGN's website is updated a minimum of 1-2 times per month with news, event information, volunteer opportunities, fundraising requests, and market information. Also, GGN is present on social media including Facebook and Twitter with regular updates. The reach has grown considerably on both social media platforms. Finally, GGN sends out a monthly e-

newsletter with the latest updates, volunteer opportunities, links to partners, and grower features to highlight partner farmers.

4.4 Program Description

The following sections will provide details on the three programs of Global Growers Network. Each program will be assessed for reach, dose, fidelity and participant satisfaction.

4.4.1 Community gardens

4.4.1.1 Process of implementation

The garden started by Refugee Family Services with only 17 Burundian women gardeners with technical assistance provided on Saturday by a Burundian with training in agronomy. The goal of Global Growers Network community gardens is to provide space where low-income refugee families can grow food organically and connect with neighbors who also enjoy growing food. GGN community gardens' program has expanded to reach non-refugee families.

Objectives of community gardens are listed in Box 1:

Box 1: Objectives of Global Growers Network Community Gardens program

1. Involve refugees as key stakeholders in growing food
2. Help become sustainable financially through gardening
3. Support refugee use sustainable growing/production methods
4. Support year-round growing and production in the refugee community
5. Include focus on refugee job training for the commercial agricultural sector
6. Seek microenterprise and financing opportunities for refugees

4.4.1.2 Recruitment

Participants in community gardens were recruited through different methods. In the beginning, Global Growers Network recruited participants through the word of mouth in the Burundian refugee community. A group of 35 family members of the Burundian women started Umurima Wa Burundi, which was the first community garden. The land was acquired from a group of developers in the community who had agreed to lease it for $1 per year. After the first year, the landowners extended the lease for more years. As Umurima was becoming successful, more people from the refugee community expressed their need to grow food. Refugee Family Services organized series of sessions in the refugee community to learn the kind of projects community members anticipated for the lands. Other grant applications were submitted to get more space to grow food.

In October 2010, Global Growers Network was established as an organization and received a three years grant from the Refugee Agricultural Partnership Program. Global Growers Network has expanded to comprise three other community gardens whose owners are mainly refugees. Decatur's Kitchen Garden (DKG) was acquired in March 2012 through a deal struck with the City of Decatur. This land is about an acre and a half and has 30 different families growing food on it in plots that are 500 square feet each one. The City of Decatur donated this land so that refugee families could grow food on it and sell the vegetables to the local restaurants. This market garden is collaboration with the United Methodist Children's Home, Oakhurst Community Garden Project, and Edible Yard & Garden, with support from the City of Decatur and DeKalb County Board of Health. Decatur's Kitchen Garden is designed to foster community, offer education about

healthy food tradition and growing practices, and enhance biodiversity through cutting-edge sustainable resource management. Through funds from the City of Decatur, DKG was created. The Oakhurst Community Garden supplied gardening expertise and Edible Yard and Garden designed the garden. The garden at the United Methodist Children's Home intended to be cultivated by refugee farmers and low-income residents.

DKG hosts culturally diverse community producers from the local refugee community and nearby neighborhoods. DKG teaches children about the value of locally grown food, provides healthy food and money for lower income people, and helps integrate refugees into American society. Also, it is designed to foster community by offering education about healthy food traditions and growing practices, and enhance biodiversity through cutting-edge resource management.

Another community garden is the training farm, which was created in response to the request from the community. People who were interested in becoming serious farmers, those wanting a full time farming career, reached out to Susan and Refugee Family Services for help in figuring out how to do that. GGN created a training farm and it's leased as a private farm. The training farm was developed to provide a place for people who wanted to make farming a career and as a business and wanted an opportunity to farm on a farm-size scale and then also to learn the business of farming.

Lastly, GGN acquired another farm on the county property through the County Gardens in the Parks. This garden is located in the center of Clarkston where people who grow

food there can walk to the garden. The farm is a joint project with the Georgia Council on Developmental Disabilities (GCDD). GCDD partnered with GGN in part to bring an opportunity to connect with families who have somebody with disability. This garden is a unique space, because it's not only a community space but it's a safe haven and a place where people can really get out and connect a little bit in a different way.

4.4.1.3 Reach

The target audience for community gardens is low-income, food insecure refugee families living in Clarkston and nearby cities. This audience includes refugees and non-refugees for all ethnicities and family types. The culture groups represented on different community gardens include: Bhutanese, Burmese, Burundian, Chin, Congolese, Darfuri, Indian, Iranian, Karen, Karenni, Liberian, Rwandan, Somali, South Sudanese, Sri Lankan, and Sudanese. Fourteen percent of all growers are American-born. This keeps in line with the community gardens' target audience of low-income refugee families living in Atlanta. Ethnicities of community gardens participants are widely spread across 16 different countries, with the most participants coming from South Asia. Table 3 provides a summary of the statistics of Global Growers Network community gardens participants. The majority of growers are refugee families. All community gardening participants were happy (100%) with the benefits of farming. Table 3 provides a summary of the statistics of Global Growers Network community gardens participants. The majority of growers are refugee families as shown in Table 3.

Table 3: GGN participants by family (2013 growing season)

Location	# Refugee Families	# Non-Refugee Families
Umurima	7	0
Bamboo Creek Farm	8	1
Decatur's Kitchen Garden	31	0
Clarkston International Garden	29	1

Given the above information, it appears that Global Growers Network has achieved its target audience through community gardens, but has not yet reached a sufficient amount of the population, given the amount of poverty and hunger issues in the refugee population as well as various barriers faced as mentioned in the implementation process section (4.3.3 section). It is difficult to determine the true reach of the community gardens because of the amount of missing data in the records of participants, such as the number of intended participants or data on dropouts.

4.4.1.4 Dose

From September 2011 to September 2013, Global Growers held farming activities on all four-community gardens. Global Growers Network participants grow food year-round. The productivity depends on various factors such as the weather, bugs, and availability of farmers. Farming activities start in February with winter crops. Typically, gardeners work on the farm two to three days per week. However, for farmers owned by individual farmers, these days are not consistent. In 2013, an independent network of refugee

farmers who have gone through GGN's training program generated approximately one third of GGN's produce. 37% of the food produced through GGN came at nearly no significant operational expense.

At the beginning of each farming year, each community garden participants hold a meeting to estimate the quantity of food they want to grow and estimates of the profits they will make depending on the prices of the crops on the market. The next step consists in making a list of plants/seeds to grow and decide how much will be taken home or to the market or both. These estimations help in planning the amount and type of vegetables to grow. Factors influencing the type of plant/crop to grow include farmers' favorite foods and how well the vegetables are selling on the market. For example, this year 2014, farmers are growing a lot of collard greens because they sell well on the market.

The distribution of vegetables among farmers depends on individual preference or dietary restrictions. GGN doesn't keep records of the amount of vegetables taken home by individual farmers. For all the vegetables sold on the market, 25% of the profits are put into farm savings and will contribute in paying for water, buying new seeds and plants or repairing damaged farming tools. Farmers take home 75% of the money from vegetables sold to the market.

Table 4 summarizes different types of crops grown on different farms and the statistics of the productions in pounds for 2013 spring and fall farming seasons. Overall, Umurima produced 6,153.5lbs, of vegetables; Clarkston International Garden, 10lbs, Bamboo

Creek Garden, 17,155.05lbs, Decatur Kitchen's Garden, 4,379.5lbs, and the Network Gardens produced 15,983.5lbs.

4.4.1.5 Fidelity

Challenges faced by gardens over the years have been discussed in details in section 4.3.3. In addition to irrigation, development of permanent infrastructure and flooding, barriers faced by the community garden program include:

- **Drop out:** a number of farmers dropped out. Reasons of drop outs include are lack of time for farming activities; having had a baby (especially for the women on the Burundian women's farm); moving far from the farms or out of the state; issues with farm members.
- **Communication:** most farmers have been consistent with farming activities, however, working with people from different culture background and language groups present some challenges. Communication is the main challenge encountered specifically during trainings. For example, when Umurima started, each gardening activity needed a translator. Fortunately, the women have been able to communicate in Basic English and don't need a translator anymore.

Table 4: Production figures (reported in pounds) for the 2013-growing

	UMURIMA		CLARKSTON INT'L GARDEN		BAMBOO CREEK FARM		DECATUR'S KITCHEN GARDEN		NETWORK GARDENS	
Crop	Spring	Summer	Spring	Summer	Spring	Summer	Spring	Summer	Spring	Summer
Arugula	75				168					
Basil		33		19.8		41.25		16.5		49.5
Beans, green and long		49.5		9.9		414.15		165		594
Beans, dry		80								
Field Peas		120				150				
Beets	100				305					
Bitter Melon				6		4.5		3		18
Bok Choy					0	30	60		120	
Broccoli	75				195		37.5		75	
Cabbage	150				200		350		700	
Carrots	600				900		30		60	
Cauliflower	75				247.5		37.5		75	
Chard	300				191.25					
Cilantro	20				31		5		10	
Collard Greens	150				162		120		240	
Cucumber		84		24		456		240		624
Dill					1.05					
Eggplant		87.5		175		3150		350		1583.75
Garlic						153				
Ginger						25		5		5
Kale	150				234		60		120	
Lemongrass								75		80
Lettuce, leaf					335		50		100	
Melon		150						30		30
Mchicha (amaranth greens)		99		8.25						
Mustard greens	75				778.5		375		750	
Onions, Spring	200						25		50	
Onions, storage	960				918				720	
Parsley					118.75				1.25	
Peppers, Sweet		37.5		15		387.5		25		400
Peppers, Hot		75		150		1625		125		2000
Potatoes		520				320.45		130		130
Radishes, daikon			10		100		150		200	
Radishes, salad	200				300				300	
Roselle						1720		800		800
Spinach	30				7.5					
Spinach (Malabar)		10								
Squash, summer		433		64.95		346.4				433
Squash, winter		300		180		615		450		1620
Sweet potato, greens		112.5				168.75		37.5		37.5
Sweet potatoes		150				200		50		50
Tomatoes, cherry		180		30		225				
Tomatoes, Heirloom		140		40		200				
Tomatoes, slicing		210		70		612.5		350		3325
Turmeric		25								
Turnips					606					
Jews Mallow				5		200				
Okra		97.5		39		312		227.5		682.5
TOTALS	**3160**	**2993.5**	**10**		**5798.55**	**11356.5**	**1300**	**3079.5**	**3521.25**	**12462.25**

- **Transportation:** of the four farms managed by Global Growers, only Umurima is located next to a MARTA station. When Umurima started, the women confronted challenges in using MARTA. To them, this was a new mean of transportation and they were afraid to take risks of getting lost or not knowing where to stop on their way to farm or back home. Susan and Robin would pick them up on farming days and drop them off after farming. This method was burdensome to both the women and GGN leaders. After a few attempts, the women decided to learn how to use MARTA cards and have been independent since then.

Using MARTA has been a great achievement for the women farmers but also for refugees in general. Most of them are placed in apartments when they arrive in Atlanta and it takes them a lot of time to learn how to use local infrastructures. In case of an emergency, they rely on friends or someone to give them a ride. Since learning how to use MARTA, the women have been able to move around, to visit friends at the hospital or to go to the market. This knowledge has opened them to a new world of opportunities to connect to the local community.

Transportation challenges also affect farmers who wish to join the farmers' training program but are unable to do so because of the difficulty it takes to get to the farms. For example, the Stone Mountain farm is located near MARTA station and a 15 minute drive from the Clarkston area. However, it takes Clarkston residents around 2-hours and switching 2 to 3 buses to get to the farm. It's not realistic for people who don't have cars to attend the farmers' training even if they wish to. This is an important challenge for Global Growers Network because farmers drop out for lack of reliable transportation.

4.4.2 Community Supported Agriculture

4.4.2.1 Process of implementation

Community supported agriculture (CSA) started as a trial in October and November 2011, with Umurima serving as the producer and pick up location. It was anticipated that 15 members would sign up for produce for a period of 6-weeks at $25 per week. The goal of starting the CSA program was primarily to connect consumers to those who grow food, and provide financial stability and a reliable market for growers. Also, CSA aimed to offer farmers a way of selling the vegetables and to introduce this distribution model to the producers. The target population of the CSA is all residents of Clarkston, with five of the fifteen shares subsided specifically for SNAP recipients. The CSA ($25 per week) is given to local refugee farms coordinated by GGN to support materials and supplies needed to grow food up front. It provides a guaranteed outlet for their produce throughout the season and builds relationship between community members and the growers of their food.

4.4.2.2 Recruitment

Community supported agriculture (CSA) was promoted through social media sites and the GGN's regular newsletter to the network connections. Flyers were distributed at local food events and markets. CSA info and GGN's regular market schedule was posted and updated on localharvest.org. CSA info was distributed through other local/neighborhood news outlet like the 'The Decatur Patch'. Some of the community's partners assisted in the dissemination of CSA info through their network communications and social media sites. Decatur First CSA, All Souls Fellowship and Merrill Lynch recruited almost all of the CSA members who signed up to pick-up at their various locations.

4.4.2.3 Reach

People have different options when they sign up for CSA shares. They can receive full CSA shares and half CSA shares. People can sign up for 15-week spring to summer deliveries, or the 15-week summer to fall deliveries. People, who sign up for the complete season—all 30 weeks, get a discount. A web-based software program called Farmigo is used to manage CSA accounts. CSA shareholders have access to their own accounts, and can make payments by electronic check or credit card through a secure processing system (authorize.net).

Global Growers Network employees (including farmers) receive their shares at their own locations that are designed for the employees' hosts. Also, distributions are made on Sundays at the Decatur First United Methodist Church and downtown Clarkston. On Mondays, distributions are made at the Red Light Café in between Midtown/Highlands area of Atlanta, GA. Any change or emergency pick-up changes as well as holiday schedules are posted in GGN's weekly e-newsletter.

4.4.2.4 Dose

A full CSA typically offers 4 – 6 fresh produce items based on what is in the season. During the "cool" seasons, produce might include: carrots, mixed salad greens, collard greens, radishes, beets, mustard greens, turnips, kale, green onions, parsley, cilantro, cabbage, pumpkin, sweet potatoes and more. During the warmer "hot" season, produce might include yellow squash, green beans, filed peas, tomatoes, peppers, zucchini, eggplant, potatoes, basil, and more.

Because many of the growers are from cultures outside the U.S., they often grow vegetables that are unique to the cuisine and culture. Occasionally packaged produce may be alien to CSA shareholders, however, in such cases a recipe is provided with some great suggestions on how to prepare and add to the culinary experience of CSA members. Additionally, every week growers partner with a local farm or vendor to add one additional specialty to the share, blueberries or strawberries in season.

4.4.2.5 Fidelity

The CSA program was implemented as planned. The program started in 2012 with 15 shareholders and has expanded to comprise 120 shareholders in 2014.

4.4.2.6 Barriers

Most challenges are connected to the responsibility that comes with signing contracts with CSA shareholders. Although delivering CSA to clients is part of the business, sometimes-unplanned weather conditions hamper the production schedule, which make growers in a position of risk, as clients may not understand. However, growers as well as clients are made aware beforehand that agriculture is a risky business, which involves many factors, some of which growers can't control. Another challenge is to make sure growers understand the seriousness of the business they are involved in. Also, it takes a lot of training to refugees in packaging to prevent the damage of the good vegetables; knowing the right size to pack; manipulating bags, and coordination of when to pick up vegetables.

4.4.3 Farmers' Training Program

4.4.3.1 Process of implementation

The farmers' training program started in 2011 with funds from United States Drug Administration (USDA), Risk Management Education and New Farmers Outreach. These organizations awarded a $56,000 grant to Global Growers Network to conduct farmers' training for 2011-2012 year. The need to train refugees how to grow food in the United States was anticipated since the start of GGN. Helping refugees to effectively market their produce at p mainstream farmers markets involved the teaching of skills as well as commitment of time. Producers needed to understand the elements of proper harvesting, maintaining produce quality, transportation, display, pricing, handling money, record keeping, and possible use of Supplemental Nutritional Assistance Program (SNAP) and Women, Infants and Children (WIC).

The farmers' training program consists of two tracks: a beginner and an advanced farmers programs. The first cohort of professional farmers training was run in 2012 with the beginner's track; in 2013, an advanced training farmers' training was started. Currently, both programs are conducted in parallel. Graduates from farmers' training program earn certificates in different courses and start farming as a career. Most of them stay with Global Growers Network as partners.

Another type of training offered by GGN leaders is the on-site technical assistance, which is provided to most gardeners. As the program brings more clients, expands to larger tracts of land and the quantity of produce is increased, there will be need of a greater emphasis on training. The beginner's farmers' training program covers all the basics of

agriculture but mostly what it takes to become a successful farmer in the United States. The primarily goal of this training is to introduce new farmers to methods and techniques of farming here but also to give them tools to use in marketing their products to be successful in the business of farming.

4.4.3.2 Recruitment

Global Growers Network has secured strong connections with leaders of different communities in Clarkston. Those connections help the recruitment process which is not considered as recruitment as such but delivering a needed service to people. Also, most people in the refugee community as well as in communities around Clarkston have been influenced by the success of the Burundi women farm. Interested growers seeking information on how to grow food are connected to Global Growers and that's how part of the recruitment is done, through word of mouth. Also, Global Growers leaders spread the word by reaching out to communities during community gatherings and deliver the message. Global Growers Network leaders are always seeking for opportunities to connect with new people with a goal to increase the network of stakeholders and advocates who continue to spread the word among their communities. Interested farmers are required to have Basic English proficiency and to complete designated amount of hours of training in the introduction to farming in the United States. Once this step is completed, farmers are entered into the beginner's farmers' program and continue with the course.

4.4.3.3 Reach

The target population of the farmers' training program is the residents of Clarkston and all interested farmers who are committed to practice business farming.

4.4.3.4 Dose

A complete farmers' training program is two full farming seasons. A full farming seasons runs from April through December. Currently, three cohorts of farmers have completed the full training and grow food in partnership with Global Growers Network (GGN). All farmers that join the farmers' training program are expected to have some background experience in farming. The training focuses mostly on how to run the farming business, how to find a farmland and how to get a business license as a professional farmer as well as how to do the accounting for the business. Also, the beginners' training covers farming techniques like irrigation system and different soil amendments. Most refugee farmers come from a background where they used animal manures as soil amendments to grow crops. The reality is very different here because they don't raise livestock. The training covers this part of agriculture as well and gives farmers different alternatives to animal manures. The training materials include details on organic fertilizers; cover cropping, different products that are available, and organic farming. Global Growers Network is dedicated to grow organic vegetables and teaches farmers how to do so.

Within the beginner farmers' training program, farmers can earn certificates in introduction to farming in the United States, in marketing and in food safety. Once farmers have completed the beginner's farmers' training program, the next step is the advanced farmers' training program.

The advanced farmers' training program covers most of the materials addressed in the beginner's program in a more advanced way. This program offers farmers the option of

entering into a production contract where they commit to growing certain crops, and certain quantities for GGN. These productions will be used as teaching tools for the farmers. Also, farmers learn advanced courses in crop planning, business planning, and advanced marketing. The contracts are used as guide and incentives to farmers because as they successfully complete the contracts, they are guaranteed a certain income and have gained self-confidence. Global Growers Network is designing more methods of assisting graduates of farmers' training programs.

4.4.3.5 Fidelity

Global Growers Network (GGN) has completed three cohorts of full training. Most of the graduates have stayed with GGN and keep using the training farms and GGN's infrastructures for growing food. Global Growers is trying to identify larger pieces of land for farmers who have completed the training. These structures will help graduates of the training program to remain close, share infrastructures and support one another in a more central location. Also, GGN is in a process of implementing more mentorship programs and still maintain cooperative marketing programs that have been successful in the past. The challenges encountered were principally communication barriers. Many people were turned away from the program because they don't have Basic English communication skills. Also, transportation remains an issue for dedicated refugees who are willing to train as professional farmers but is unable to find reliable transportation.

4.5 Qualitative findings

During interviews conducted with growers, a number of themes emerged related to the evaluation questions, particularly questions addressing the importance, and perception,

and use of the gardens to improve refugee lives in Atlanta. It became clear after listening to the responses that there are both very specific benefits of having gardens in the United States as well as perceived barriers that affect the extent to which participants farm. All participants were happy that they own gardens from where they can grow food. The primary reason of farming for all participants was to have food for their families.

"There are a lot of benefits. For example, before I had this garden I used to go to the market every day to be able to feed my seven children. Now, I go to the market sometimes twice or even once a week."

"Of course farming has helped us. When you come to the garden, you don't need to go to the market. The garden feed, you have something to cook."

For one participant, farming was the only job that could sustain family income. Although this participant's circumstances are unlike others', all participants shared the reality that growing food and taking home vegetables help with food security.

"Since I became a cripple, I can't do any other job. The only way I can feed my children is through gardening. So it's really important for me to farm as I can at least have food for my family."

Particularly significant for respondents was the importance of organic or naturally grown food for their children's health, which touched on themes of trust and food safety as well

as on freshness. Also, gardening helped to grow culturally appropriate food, which resulted in overall satisfaction in having gardens.

"It's hard to find food from my home country in Atlanta. That's why I am happy to have a garden, because I can grow food from my country. I mostly grow food for my family."

Participants also provided insight into the benefits of gardens in providing opportunities to refugees from the same culture to meet with a common passion for agriculture. A main theme that emerges relating to cultural gatherings was the impact of practicing agriculture in creating a familiar environment.

"Farming helps to see other people from your culture group and taking MARTA has improved the way we move around in Clarkston."
"Global Garden Network has helped us a lot. We grow food in their gardens, but also, we get to meet with each other doing what we love."

While the participants of community gardens at GGN articulated many benefits of gardening, they also illuminated some challenges faced including irrigation, transportation and communication. A few participants mentioned the issue of transportation as a barrier to access the gardens. However, with help from GGN, the problem has been getting better and participants can take MARTA to and from the gardens. Other participants were happy to have the gardens and didn't report any challenges.

"The challenge right now is getting water to my plot but I have talked to the person in charge. Otherwise, I am happy to have this garden and to grow food from my country. It helps a lot because my family and I get to eat healthy and free food."

"There are no challenges. We show up every farming day because there are no challenges. If there were challenges (with gardening), we wouldn't be here."
"Transportation has been a challenge in the beginning but now it's been getting better. We all take MARTA (Umurima members) and it's not difficult to get here."

Participants also provided insight into the benefits of gardens in providing opportunities to refugees from the same culture to meet with a common passion for agriculture. A main theme that emerges relating to cultural gatherings was the impact of practicing agriculture in creating a familiar environment.
"Farming helps to see other people from your culture group and taking MARTA has improved the way we move around in Clarkston."

"Global Garden Network has helped us a lot. We grow food in their gardens, but also, we get to meet with each other doing what we love."

4.6 Summary

This process evaluation of three programs within Global Growers Network incorporate a wide variety of data, ranging from GGN's leaders interviews, short surveys of program participants and GGN's archives. Each section describes a different program in terms of

its goals, activities, and timeline of development, dose, reach, and fidelity. The next section will discuss results and draw conclusions regarding dose, reach and fidelity of each program. Challenges will be summarized and suggestions made to improve the implementations of GGN's programs.

CHAPTER 5: DISCUSSION, CONCLUION & RECOMMENDATIONS

5.1 Introduction

In this section, the major findings of the process evaluation of Global Growers Network will be discussed. Each program will be assessed for the overall implementation of services offered, target population and reach, dose, and fidelity. Findings will be discussed in terms of how they are consistent or inconsistent with standards of successful implementation for similar programs. The implications of these findings for the effectiveness of the program will also be discussed. Recommendations for improvement of ach program in terms of the process evaluation objectives (reach, dose, and fidelity) will be made. Then, overall recommendations will be made to increase the effectiveness of the implementation of Global Growers Network as a whole. Finally, the chapter will conclude with implications and recommendations for the effectiveness of broader public health programs based community gardening that were learned from this evaluation.

5.2 Community Gardens

The American Community Gardening Association (ACGA) website provides numerous tips and guides to starting a community garden. There was very little background information on the development of the Global Growers Network community gardens, and it is hard to determine if the garden was developed according to the recommended guidelines. However, looking at the policies and procedures now, the Global Growers community garden program is a full functioning program with a steering committee, garden coordinator, membership contracts and rules that address potential problems

community garden face. Overall GGN's community gardens program has embraced the ten steps to starting a community garden as suggested by the ACGA.

Box 2: Ten Steps to starting a community garden

Ten Steps to starting a community garden

1. Organize a meeting of interested people
2. Form a planning committee
3. Identify all your resources
4. Approach a sponsor
5. Choose a site
6. Prepare and develop the site
7. Organize the garden
8. Plan for children
9. Determine rules and put them in writing
10. Help members keep in touch with each other

The Global Growers community garden program has reached its target population, since all the farms are full season, including the network gardens. The garden has been more ethnically diversified and has been serving all refugees with a passion for farming. The amount of food grown in the garden is increasing year by year. The average annual harvest per member provides adequate dose. Literature does not specify a standard amount a community garden must grow to be determined successful. Success is more frequently determined by community involvement and the growth of any and all crops. To this end, the community garden has high involvement from different community garden. The major challenges associated with the garden were transportation, communication, irrigation, vandalism, and weather. Some of these challenges have been addressed by GGN and others are ongoing and have been difficult to overcome. For example, GGN directs and encourages its members to attend English classes to improve

their English proficiency. For transportation, refugees with access to MARTA have been given reloadable MARTA cards that they can use for transportation to and from farms.

5.2.1 Community Garden Recommendations

In order to overcome challenges in the community garden, the following recommendations are made:

1. In order to minimize vandalism in the garden and make gardeners feel safer, the ACGA recommends several tips to deter vandalism in community gardens. A few key tips not yet used by Global Growers community garden are listed here:
    a. "Make short picket fences or wire to deter animals and honest people"
    b. Spend more time in the garden
    c. Invite everyone in the neighborhood to participate in community work days
    d. Involver children in learning gardens
    e. Plant thorny plants along the fence as a barrier to fence climbers
    f. Make friends with neighbors whose windows overlook the garden. Trade them vegetables for a protective eye.
    g. Plant less popular vegetables like root crops along common walking areas
    h. Plant unusual varieties of vegetables like purple cauliflower or white eggplant to confuse vandals

2. To ensure the garden is reaching its target population, create a short surveys that measure characteristics of members (such as ethnicity/country of origin, family size, income and food security status) when new members enter. Surveys on

participant satisfaction, personal impact of the garden and food insecurity status could also be administered every two months to measure the impact of the garden on members' lives over time.

3. Currently, Global Growers has started to measure the amount of food that's sold on the market and CSA. However, it's difficult to know how much food growers took home. Creating a notebook for each gardener to record his or her harvests and work hours will simplify data collection and also allow gardeners to measure their harvests. These measures could help Global Growers improve growers' productions and encourage community building through friendly growing competitions.

5.3 Community Supported Agriculture

Community supported agriculture (CSA) was introduced to the United States from Europe in the mid-1980s. The concept of CSA traces its roots to Japan and Switzerland in the mid-1960s (Schnell, 2007). Although many alterations have been made to the forms of CSA, the principle has remained the same, which is the commitment to building a more local and equitable agriculture system, one that allows growers to focus on land stewardship and still maintain productive and profitable farms (DeMuth, 1993).

In Atlanta, CSA structures have many shapes and sizes, but all support the same principle that a closer relationship between the farmer and the producer promotes healthy eating habits and prevents environmental costs of the long distances typically traveled from field to plate. Global Growers Network embraces this same principle and has added a unique

approach of working with international farmers who bring special produce from their home countries to diversify the food system.

The Hunger Action Network (HAN) of New York State created a guide to best practices in CSAs in New York. This report details nine CSA programs in the state that uniquely involve a diverse range of members. Among the most common practices were offering low-income families the option to pay smaller amounts throughout the season, instead of all upfront, or accepting SNAP benefits for share. Other CSAs also commonly offered "work shares" where members could receive a free or reduced price share for working a selected number of hours on the farm every week. This method is used to assist farmers with labor needs and also provides membership to those who may not be able to afford full price. CSAs also offered gleaning, or chances for members to come and pick their own produce from the farm. This cuts down on harvesting and processing time usually completed by farms. Finally, many CSAs chose to distribute their shares at farmers market, or market-like stands where members could supplement shares with other fresh, local foods. GGN's CSA engages in several of these processes by subsidizing shares for SNAP participants, offering a limited number of work shares, and distributions at the Clarkston Farmers Market.

Members of the GGN's CSA are provided a list of areas where they can pick up. Also, incentives like the ones offered by HAN of New York are practiced by GGN through its CSA program. Members of GGN CSA program are encouraged to help with packaging the vegetables for 8 hours, which means committing to one Sunday during the 15-week

season, in exchange of 10% discount on their memberships. Also, members who commit to a full season (30 weeks) membership get 5% of discount. All these methods help GGN CSA program to attract subscribers to the CSA shares. It's important to mention that all farmers are responsible of the food they grow and can use it as they please. Some growers sell exclusively their produce to the market; other farmers take the food home, and some others do both. The majority of growers do both. Most refugees who grow on small plots farm predominantly for home consumption. This structure gives flexibility to low income growers to sustain their families with the vegetables they produce. Also, this point gives strength to the organization and fulfills the main objectives of GGN.

Data collected on the CSA didn't specify how GGN started its CSA and did not include any information on the dose received or administered by program participants. In terms of reach, the CSA had outworked itself by doubling its members each year since the start in 2011 to reach a current total of 120 of expected CSA subscriptions in 2014. However, previous studies done with the same CSA program have mentioned the difficulty in retaining SNAP-using members due to the belief that the food was not worth higher prices than what they would see at a grocery store. Due to this feedback, SNAP shares were discontinued for the 2013 season. This factor compromised the fidelity of the program by eliminating a major component.

5.3.1 CSA Recommendations

Due to the lack of data and challenges faced by the CSA in 2013, the following recommendations are listed below:

1. To judge the dose given and received in the program, increase record keeping and data collection related to the weight of shares, and composition of produce distributed each week
2. To ensure the target population is reached, collect information on member characteristics (such as family size, ethnicity, and income, food security status, reason for CSA membership) at beginning and end of season. This comparison data can be used to measure the impact of the CSA on individual's food security. A short survey about eating behaviors and knowledge of local foods could also be administered before and after to show changes in knowledge, attitudes and behaviors
3. Conduct surveys on consumer preferences within specific geographic area, reasons for purchasing organic vegetables and how much they would be willing to pay for local and organic food.
4. In order to gauge further interest in SNAP CSA shares and understand attitudes and beliefs of the Clarkston community and around local food, create open community forums and education around the importance of local, good food from an individual consumer standpoint.

5.4 Farmers' Training Program

The American Society of Agronomy and the United States of Drug Administration (USDA) provide curriculum guides for educators on farming. However the resources provided don't imply that sources used by other organizations are not suitable. The Food and Agriculture Organization (FAO) offers farmers training manuals, which provide

useful information including introduction to the farmers' training manual and monitoring and evaluation. FAO recommends three objectives for the farmers' training program.

1. Farmers seasonal plan which encompasses farmers; water management, diagnostic and seasonal planning
2. Farmers' seasonal training supports the design and implementation of the selected techniques
3. Feedback and monitoring and evaluation for performance assessment of the introduced and improved techniques

There's no standard curriculum for farmers training programs and organizations that hold such programs have to adapt the training to participants. GGN has improved its program since the beginning to what the trainer compared to as 'growing with the growers'. GGN has achieved its target for Farmers training program and is looking to expand its network by creating more lands and forming mentors who will help with training future professional farmers. Also, such farmers will empower the network of growers from which GGN will benefit.

5.4.1 Farmers' training Recommendations

The following recommendations are provided for the farmers training program:

1. Design programs which can help non-English speaking refugees to have access to training materials
2. Identify lands within reach of refugees who are unable to get to the current farms because of transportation barriers

3. Set up an easy and comprehensive training which contains different techniques that can be easily practiced by farmers including:
    a. Irrigation system improvement
    b. Field water management
    c. Drainage, flood and salinity control
    d. Water users and association
4. Organize demonstration programs with the hosting farmers
5. Promote practical learning thorough hands-on experience and demonstrations
6. Keep track of the records of the training program including number of trainees, culture group, and number of hours trained

5.5 Conclusion

This process evaluation represents the first time an objective study has been conducted to put together what Global Growers Network (GGN) has accomplished in four years since its creation. Therefore, it is not easy to generalize this information, GGN is still growing and subsequent evaluations are needed to best gauge the implementation of the organization. Also, although the literature highlights the benefits of community gardens on humans, there are no studies showing such benefits on refugees in the United States. Hence, there are no studies to compare with this one. Further research on best practices and implementation of community gardening programs targeted at refugee communities due to challenges with communication, technology and transportation. Further research on these topics will help to improve community food security programs and increase the effectiveness of current public health programs that address issues of food insecurity.

From the information gathered during this process evaluation, my major recommendations would be that Global Growers Network leaders make efforts to establish data collection and data reporting methods. Data should be collected and kept regularly for subsequent revaluations. Also, records of how the organization is progressing will help analyze the impact of the implemented programs on intended recipients and shape future interventions.

The positive outcomes of the programs implemented by Global Growers are many. For instance, repeated visitors to the farms educate refugee farmers about different methods of farming in the United States and the weather differences and mostly, engagement in conversations help refugees become more open to the Americans culture. Also, Global Growers provides additional assistance to refugees such as food stamps and health care while ensuring that they become educated about healthy food choices, lean gardening skills, and are connected to social support and other services.

From the community garden, participants become less dependent on buying food, learn organic growing techniques and begin to appreciate fresh, local, organic foods. With this new appreciation, they may become patrons of the local farmers market or CSA members. From these programs they will learn the value of supporting the local economy and local growers, from social connections and become valued customers in the local food system. The end result is a community member, who is integrated in the social system, understands the importance of eating healthy, local, sustainable food, and can

grow and purchase their food locally. All programs are interrelated. They allow for simultaneous involvement and backtracking if the need arises.

GGN leaders believe in the idea of refugees and non-refugees growing their own foods. They advocate and partner with RFS in supporting refugee gardening projects. Individuals within this group also commit to the vision and strategies of RFS that involve larger tracts of land, the more extensive marketing of produce, the establishment of an incubator farm and eventually providing opportunities for some persons to become independent producers.

5.6 Strengths and Limitations

This evaluation was strengthened by the combination of mixed methods, such as direct observation, informal interviews, and short surveys, which permitted a well-rounded view of the organization. There was also generally a good understanding of the programs from planning to implementation stage. . Despite these strengths, several limitations were encountered. Although it was easy to know the history of the organization, specific data were often missing because none of the program collected baseline information. Because of the lack of consistent records, the evaluation relied mostly on the organization archives and informal interviews conducted with the programs participants.

A particular challenge was met during informal interviews with the Burundian women. Traditionally, interviews conducted between researchers and participants who share similar cultural, linguistic, ethnic, national and religious heritage, are deemed successful

(Armstrong, 2000a; Ganga & Scott, 2006). However, in some cases, it has been shown that such familiarity can provoke certain reluctance on behalf of the interviewees (Ganga & Scott, 2006). Age differences or class groups can exacerbate such reluctance in certain cultures. While interviewing the Burundian women, it was assumed that the researcher knew the answer to the questions he was asking. Due to the researcher's familiarity with the work done by the women on Umurima, it was absurd to ask questions such as "Are you happy you can farm again in the United States?" or "How does the farm help you financially?" Although these questions were intended to be comprehensive in order to document the general perception of the women on farming in the United States, the women provided very short answers or were silent. All efforts to probe were unsuccessful or resulted in distracting the interview. Ganga (2006), pointed out the same observation when interviewing the Italian community, which immigrated to Nottingham. Scott (2006) reported similar findings during her interview of a British community that has immigrated to France. Although Ganga belonged to the same cultural group, which would have been an advantage, she was considered as an outsider due to the fact that she was young, was born in Italy, and was a researcher based at the University of Sheffield. Her attachment to the University raised suspicion among interviewees and decreased the level of trust (Ganga & Scott, 2006).

The researcher's experience with the Burundian women can be related to the study of Ganga & Scott within their communities. Although shared culture, language and historical background would have been an advantage, the researcher was regarded as an outsider because of his young age and because of belonging to a university. Also, it's

worth mentioning that in most East African cultures, young people are not allowed to ask many questions to adult people. There is a culture of respect to elders, which sometimes blocks curiosity among young people. For other culture groups, communication was difficult because most of the participants don't speak English and the researcher relied on the translators' answers. These challenges make it difficult to make conclusions about the populations reached and the benefits of programs to participants. It is recommended that the organization:

1. Establish dependable record keeping and data monitoring systems for all programs in order to facilitate future evaluations
2. Put in place systems to begin to measure the impact of programs, including pre and post service surveys. This information is imperative to securing future funding to continue the organization and programs

These recommendations will help Global Growers Network in further evaluating the impact of the programs in the future and also improve the effectiveness of programs currently implemented.

5.7 Broader implication

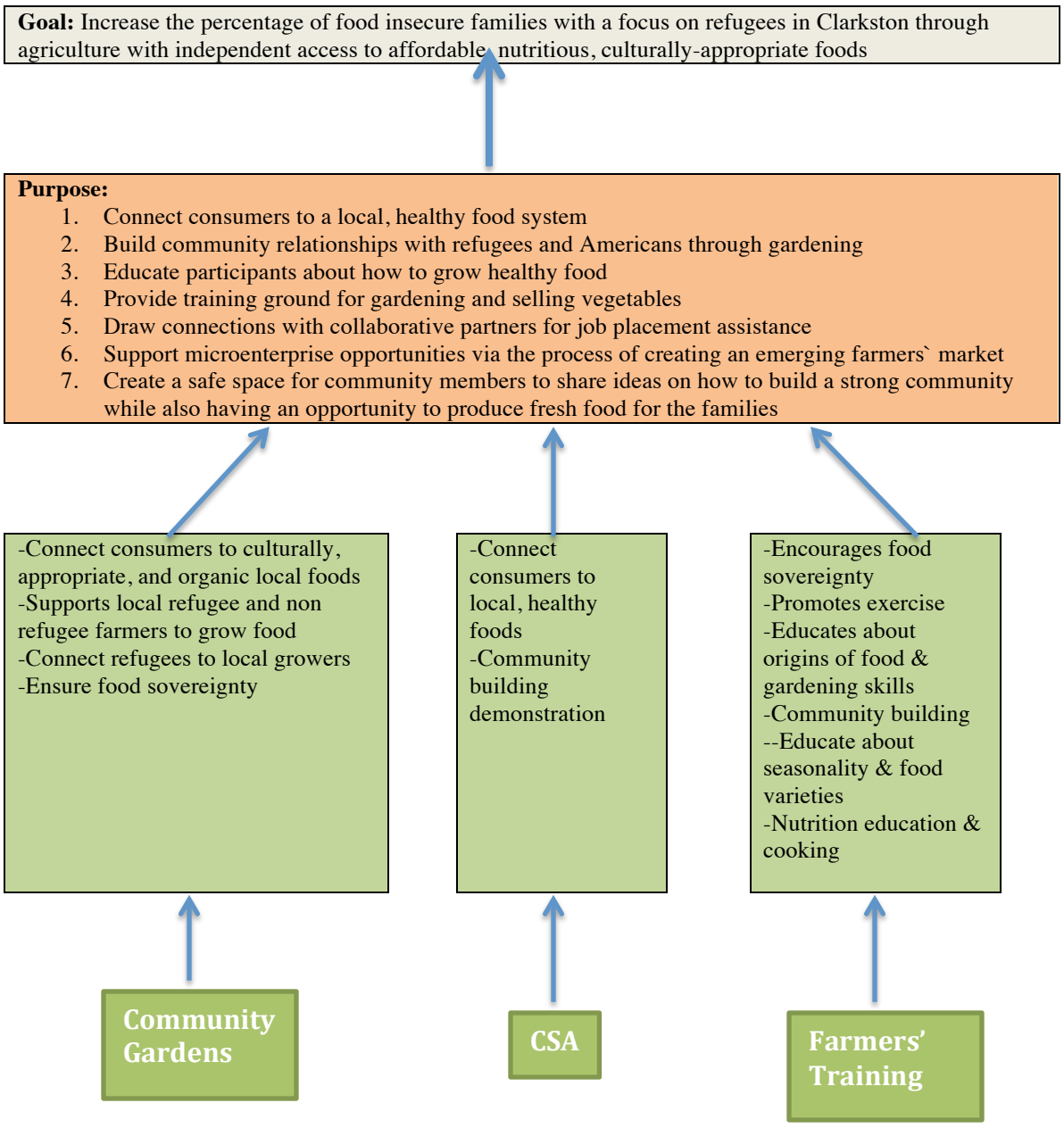
A process evaluation of Global Growers Network has broader implications for the effectiveness of other public health programs dedicated to helping refugees through agriculture. Process evaluations are most useful in pointing out best practices and understanding challenges that organizations face in the process of implementing programs. Therefore, this evaluation broadly serves as a summary of challenges in implementing three programs of the organization effectively.

Global Growers Network efforts to identify additional methods to assist refugees in overcoming food insecurity are an important example of a public health intervention. This particular group of the population is always vulnerable in different ways and all efforts to support them should be encouraged.

This evaluation has shown the success of an organization, which started, as a small community garden with a few participants from the same cultural group. This example will inspire like-minded individuals to come up with solutions to different problems of the communities. Global Growers Network has formed partnerships with local education institutions, which is a good opportunity for students to broaden their knowledge through hands-on experience with people from different culture groups. Also, GGN partners with local churches, local restaurants and local organizations doing similar work for additional community support programs.

Finally, this evaluation has documented different challenges in planning and implementing programs linked to agriculture. This information is useful for potential funders to see the work that has been done to create programs. Similarly, designing a consistent, unified data collection plan can aid in securing funding for programs in the future by showing milestones in the lifetime of the program.

Fig 3: Global Growers Network Community Garden Impact Pathway



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