

BENEFITS OF COMMUNITY GARDENS FOR BURMESE REFUGEES

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The undersigned, appointed by the dean of the Graduate School,
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BENEFITS OF COMMUNITY GARDENS FOR BURMESE REFUGEES

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and hereby certify that, in their opinion, it is worthy of acceptance.

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Dedication

To my parents Saw Hla Aye and Nan Win Htein, for their love and support through emotional support and financial support throughout my educational journey.

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Abstract

The community gardens aim to improve the quality of life for the people encountering modern urbanization. The community garden is an important component that benefits refugees who have resettled in the US. Some Burmese refugees have been involved in different types of gardening programs for purpose of saving their food expenses and promoting social and health benefits. This study is exploring the social benefits to Burmese refugees who are involving in three different types of urban gardening programs including home gardens, community gardens, and a mixture of garden models. The goal of the research is to compare the effectiveness of each type of garden program in promoting better socialization for the Burmese refugee community. To collect data, semi-structured interviews (Louise & Alison, 1994) will be used to explore more in-depth discussions with Burmese refugees to understand their level of participation and satisfaction of participating in three different types of gardens. Additionally, garden managers were interviewed to gain a better understanding of their support for the garden as well as interactions with Burmese gardeners. The participants including gardeners and organizers from Columbia MO, Kansas City, Kansas, and Kansas City, Missouri were recruited through their organizational websites and snowball sampling methods. Snowball sampling methods were used to recruit the Burmese Gardeners because it is difficult to get access to their population due to Covid 19. The qualitative data were analyzed by using Nvivo for coding and data analysis. The results of this study may identify the most effective model of community gardens which can be socially beneficial to Burmese refugee populations.

Introduction

Gardens are popular in many nations in both urban and rural areas. Gardening provides local food for households, increases environmental awareness, and contributes to strengthening family ties. Community gardens also create a space for friends and neighbors to meet and maintain local community relationships (Schupp & Sharp, 2012). Through time they have remained popular because they continue to provide multiple benefits ranging from open space, greenery, and food sources for local communities.

During the global conflict of WWI, Lawson (2005) described that Americans were encouraged to support the war effort by growing fresh and nutritious vegetables in backyard and community gardens for their own household use. Community gardens continued to play an important role during Great Depression (circa 1929-1941) when unemployment was high and money was scarce. During WWII, people participated in gardening activities especially for food, leisure, and self-esteem (Lawson, 2005). Since then, gardening has supported mental, physical and spiritual health of American citizens. Moreover, it engages people with the ecological connectivity of food, plants, land, and water in a community garden setting. As noted above, gardens allow people to build stronger social networks, friendships, learning, and greater food security (Walter, 2013). Community gardens have been identified as one of the most effective community programs that support social interaction and food production (Drake & Lawson, 2015). Gardening, however, is much more than an U.S. phenomenon. In many situations around the country, gardening has been used as a vehicle to help immigrants and refugees from foreign countries acculturate to their new surroundings by blending old world customs with activities in their new homeland. Burmese refugees are one such example.

Myanmar, formerly known as Burma, is located in Southeast Asia, During 2008-2014, more than 117,000 Burmese refugees, originating from Myanmar, resettled across the U.S. from refugee camps in (*Burmese Refugee Health Profile | CDC, n.d.*) Burmese refugees, especially the older population, preferred to prepare and cook traditional food from their own country. Gardening was one way of coping with the mental stress of being Burmese refugees and dealing with the past trauma negative experiences (Judelsohn et al., 2017). Community food gardens may provide an opportunity for Burmese refugees to practice sharing cultural knowledge and agriculture skills from their homeland and strengthening connections with family and friends while building new relationships with their new neighbors (Harris et al., 2014a).

Burmese refugees participating in community garden programs often have large multi-generational families with many children. Because many Burmese refugees live in small apartments, parents will bring their children to the community garden to help work and give them a chance to get outdoors and play in a safe place while they are gardening. Some community gardens are coordinated through churches and other religious organizations. At one such place, a church member who speaks Burmese and English helps mitigate language barriers and communication issues while interacting with the church and other gardeners. Gardening also gives the refugees a chance to grow and eat fresh vegetables from their home country that they are accustomed to eating and are difficult to find in local grocery stores. In addition to connection to their previous culture and practices, some families appreciate the positive benefit of showing their children the connection between the land and the food they eat along with the chance for a family activity in the garden. For example, refugees can grow a wealth of spices, herbs, and

fresh vegetables not found locally. There is also the dual benefits of saving money on the family food budget while spending family time outside in the fresh air. Social connections are also strengthened by sharing any extra food with their friends and new neighbors.

Research Question: What are the similarities and differences for Burmese refugees participating in community gardens, home gardens, and intensive home gardens/Commercial gardens regarding income, food security, and social activities?

Literature Review

Community Gardens

With global shift of human populations from rural to urban landscapes, the availability of locally grown fresh fruits and vegetables has become more scarce and created a demand for communal gardens in urban areas. Community gardens are now recognized to be an international phenomenon, and urban gardening is widely seen to be improving local food supplies as well as leisure and recreational activities (Ferris et al., 2001).

Within the last decade, community gardens in central city neighborhoods have emerged as important spaces of resistance against poverty and hunger (Ghose & Pettygrove, 2014a). Urban community gardens provide access to affordable nutritious food and safe green space where it might otherwise be unavailable (Armstrong, 2000). Social networks are an important mechanism to overcome the barriers to community garden development. Community groups are needed to follow certain criteria to participate in the network as well as it is challenging to for them to participate in the community garden due to the complexity of the process development for the community garden (Ghose & Pettygrove, 2014a).

The community garden has gained much attention for its positive physical and social benefits to the community.

On the other hand, the community garden has been facing many challenges to be sustainable in terms of funding, technical skills, human resources, and lack of facilities. In addition, location and ownership of the site are other major obstacles to maintaining the sustainability of the garden (Diaz et al., 2018). In Milwaukee, Wisconsin, inner-city

gardens have been promoted as delivering local food while improving the city's environment and providing job opportunities. However, the management of the land's policy is very challenging for the gardeners to follow and understand since many agencies have been involved in the process of implementing community gardens (Ghose & Pettygrove, 2014b). The issues have been extended while municipality, county, and state involvement in the process including technical and technical supports (Diaz et al., 2018). Communities of color may also have an racial injustice to gain equal opportunities for access to the groups and the political leaders due to their limitation on public resources and funds (Diaz et al., 2018).

Community gardens have been benefiting from a variety of components such as food expenses, a fresh environment, socializing or networking, and strengthening physical health. Depending on the type of community gardens that people participate in, the people feel belong to the gardens (Flachs, 2010). The community garden promotes the well-being of the people including a healthy environment and social environment (Egli et al., 2016). Most of the community gardens have improved the social networks and corporations for the communities that are existed closed to the lower-income communities and minority groups as well as improving the cleaning of the neighborhoods and promoting public health through green spaces (Armstrong, 2000). There is strong evidence have been proven that urban farming has been providing a positive effect on physical and mental health as well as strengthening the products of the local food. In addition, community gardens have provided a space for the community to promote social services (Schoen et al., 2020).

Community gardening and urban agriculture have promoted nutritious food and income as well as educating the refugee for their livelihood while living in the U.S. It has also created chances for them to meet neighbors and participate in society. It is benefiting the neighborhood including green space, decreasing crime, income opportunity, and supporting nutritious food. It can also address refugee issues such as food insecurity, cultural shock, and the language barrier for shopping. Many Burmese Refugees in Buffalo NY have had experiences in gardening in the past in Burma. Community gardens have provided them opportunities and spaces to practice their agricultural skills for enjoyment and empowerment. The program has also connected refugee farmers to markets to promote household income (Rolston, 2011).

Refugees and Community Gardens

The United Nations High Commissioners for Refugees (UNHCR) estimated there are 25.9 million refugee worldwide. Since 1980 more than 3 million refugee resettle to US until 2019. Burmese refugee are the second largest population to resettle to United State (*UNHCR - Resettlement in the United States*, n.d.). The supports and budgets for the refugees were decreased repeatedly depending on the political situation and administrative program in federal level. The US government work closely with the resettlement agencies that respond to the refugee issues for building networks between the local community and the refugee people. The agencies need to extend their services as well as taken consideration on the public relations to strengthen the refugee communities to fit in their new environments (Brown & Scribner, 2014). The refugees who have resettled to U.S. in their age of 18 or older have been struggled to get settle in the new environment due to

language barriers and lack of educational background. The poverty rates of the refugees have been worsen because they have much lower come for the required of the skills for the employment factories (Evans & Fitzgerald, 2017).

Burmese refugees were employed to work on dangerous jobs in the U.S., especially in meatpacking plants from Tyson, JBS, and Smithfield. Their working conditions are toxic and dangerous leading to acute and chronic health risks (Ho, 2021). Burmese refugees have suffered for social justice not only inside Myanmar with the oppression from the dictatorship but also in Thailand and Malaysia from human trafficking, gang rape, and police corruption. They have also faced racial issues, lack of benefits, and promotion in their factory jobs in the US. Burmese refugees have addicted to alcohol to treat the past traumatized experiences and current oppression which could lead to their mental illness and domestic violence (Gu, 2022).

Refugees have been benefitting from community gardens including physical and mental health because most of the refugees from Burma were doing agriculture in their life before resettling in the U.S. The refugees from Burma have a long history of struggling from armed conflicts between the Burma Army and Karen Army groups since 1984. Most of the refugees fled to 10 different refugee camps along the Thailand-Myanmar border for their survival. The refugees have been resettled to different countries through a resettlement program from United Nations High Commissioner for Refugees (UNHCR) including the USA, Canada, Australia, and European countries. Thousands of refugees have been resettled in the US through the resettlement programs and the majority are farmers who have grown their own food. The community gardens provide space for them to relax or to escape from depression while living in the US. They have

also had the opportunities to meet up with friends in the gardens while doing their work. The older gardeners have also taught and transferred the skills to the younger generation on how to plant and take care of the vegetables. They can also consume fresh vegetables which they grow from the garden (Hartwig & Mason, 2016). Community Gardens have been helping refugees who have resettled to the US with mental wellbeing, property values, green spaces (Cooper et al., 2020). Community gardens have been promoted the refugee in a variety of ways including culturally appropriated food, social connection, and foods. The gardening program supported the refugees in mental health and adaptation to the American culture (Eggert et al., 2015). Community gardens can also be described as a place for leisure activities and social interaction. It also creates a space for recreation and meeting points, escapes from stress, and quality of food (Dubová & Macháč, 2019). The gardening activities provide Southeast Asia refugee for mental curing and practicing cultural activities which can heal their past traumatized experiences. It give them a chance to socialized among their community together with their children. It also recall their past agricultral work in their countries. They can also access the traditional produces which could not get from the American store through gardening activities. The community garden is impacting the refugee not only cultral and pshcholoical but also the ecomic benefits (Tsu, 2021).

Community gardens provide a place for the refugee to practice the knowledge and skills that they bring from their original country in a new location or landscape. The refugees can have a sense of belonging by allowing them to meet their own people and grow their own cultural food (Harris et al., 2014). Community Garden positively benefits the refugee and minority groups in personal growth such as confidence and self-control

as well as relational growth including friendships, society, and neighborhoods. It also promotes physical health, eating habits, and healthy foods for the minority groups including refugees (Malberg Dyg et al., 2020) The way of life in the US is very different from the country they come from which could add more stress to their life (McCleary, 2017).

Singaficant study

The community garden create a safe environment that the refugee can practice their own traditions and tranfer their knowledge from one to another (Abramovic et al., 2019). Culturally, Burmese refugee who being left alone or connected to their individual community are considered as unhealthy lifestyle which could lead them into the mental health problem and addicted to using alcohol (Dixit et al., 2018). Burmese refugee has always needed the assistance for employment opportunities and housing. In addition, they have difficulties to access to the public services and health care due to the transportation and language barrier (Fike & Androff, 2016). Burmese refugees have many issues getting settled in the new locations including employment, housing, language, children's education, and health care. Burmese refugees are not satisfied with fast food or western food as their meal because the definition of meal for them is rice with curry and vegetables. Gardening activities can give them opportunities to settle in a new location including accessing traditional food and plants. The gardening space also provides them a sense of Burmese lifestyle to cure their past trauma (Hughes, 2019).

Study Sites

Broadway Christian Church Community Garden

Broadway Christian Church Community Garden was established in 2007 to reduce routine lawn mowing and instead use the land as part of a larger community garden coalition. The garden was approximately 10,000 ft² (929 m²) with 300 individual plots roughly 6x18 ft (2x2.4 m). Gardeners were recruited through announcements in a church newsletter, bulletin board, and referrals from the local Catholic Charities and Community Garden Coalition. The number of gardeners slowly increased to include not only church members but also refugees from several African nations, Burma, Syria, and Afghanistan. Five to six church members volunteer to manage the garden and assist participating gardeners with applications navigating language barriers. Participating gardeners live within walking distance to the garden or use personal cars work their garden plots. There are no specific requirements to participate in the community garden besides caring for their garden plots and shared gardening tools.

The garden activities were announced through the church newsletter and church section in the beginning. However, some refugees have been involved in the garden through the referrals system from Catholic Charities and Community Garden Coalition. It is also on the bulletin board in the announcement board. We used a phone communication system to call the participants when the applications are launched, and the church members take charge of phone calls because they speak their own language for the effectiveness of the communication. There are no specific requirements for the participants to participate in the community garden, but they must take care of their garden as well as maintain the tools in the warehouse.

Columbia Center Urban Agriculture (CCUA) Opportunity Garden

CCUA, located in Columbia Missouri, provides agricultural services to the people in need. The mission of the organization aims to transform the community by providing good food for everyone by giving people the knowledge and skills to grow it. CCUA works to enhance the community's health by connecting people to agriculture and the land through hands-on learning opportunities. The organization has more than 20 paid staff including permanent staff, AmeriCorps participant, and usually host 400-500 annually. Since 2010, CCUA operates with multiple programs such as opportunity garden, Veterans Urban Farm, Planting for the pantry, PLANTS program and kids activities, GardenPro services, and Therapy Gardens. This research has focused on only the opportunity garden to explore the challenges and opportunities for Burmese refugee involvement. Because 24 Burmese refugee households are in the program, out of about 90 active households that are in the program this year. The Opportunity Garden have been implemented in 2013 for providing home gardening services.

CCUA/Opportunity Garden uses multi-channel to reach out to their beneficiaries or communities through cell phone, email, and website. CCUA has a YouTube channel and Facebook to do live recording and posting activities. The gardeners can get the application from the website or paper application. CCUA/Opportunity Garden is working with the City of Refuge and Columbia housing authority while recruiting gardeners. After the applications were submitted, the staff will go out and visit the family to figure out the yard situation of the applicants for checking the sunlight, flat space, and water sources. CCUA/Opportunity Garden reaches out to the gardeners three times a year in spring,

summer, and fall. The program supports the gardeners with the seeds, fertilizers, and growing guide. The staff works together with the gardeners to install a garden including a raised bed, a container garden, or a tiled inground garden. The growing guide includes information about plant mentoring, different kind of plants that can grow in Missouri, the season to grow, and how far apart to space them.

Some refugee families have some challenges communicating to the CCUA/Opportunity Garden because not all of them are speaking English. It is also challenging for the interpreter to translate all the language Burmese refugee speaks because they don't speak the same language even though they are from the same country. Some families have their own family members or children who speak English or could do interpretation, but the program could not be depending on them. Burmese families rarely participate in the events which are organized specifically for the refugee for some reasons. Some Burmese buy brand new houses in a new development area where the construction company will just scrape away all good soil. So, they need to learn how to treat the soil or composting. Some gardeners have been struggling with space management because some gardens are messy and the plants grow really tall. The way of gardening and the vegetables are different from what we have in US because some vegetables might not even have a name in English or could not even get from the store.

New Roots Program

Catholic Charities works with another nonprofit organization called Cultivate Kansas City to implement the New Roots program. The program has been started since 2008 to work with refugee families who have come to the United State especially those

who were farmers or gardeners in their home country and want to have a farm business in the US. The program has specifically focused on business ownership in farming and growing skills. New Roots Program is a four-year training program that teaches people about marketing for selling vegetables, English skills, and growing skills. We train people what are the different ways that people sell in the United States including Taxes and business owners. The gardeners have also had a chance to learn the farm vocabulary and conversation in English. The gardeners are also trained on how to grow vegetables by using a greenhouse. They have learned the skills from both PowerPoint and Hands-on activities in the field or in the greenhouse. They can start selling their vegetables in late April or early May. The program has a 9-acre (3.6 ha) training farm in downtown Kansas city, Kansas which is divided up into about quarter-acre plots. Each family in the program has a quarter acre for practicing their gardening skills. The training program is designed with one-on-one meetings in the field either weekly for the first-year farmers, every week for the second and third-year farmers, or once a month for fourth-year farmers.

The New Roots is implemented with three full-time staff, two part-time staff, and volunteers including the program manager, program specialist, CSA specialist, program assistant, part-time trainer, and volunteer. There will be a full-time graduate specialist in the coming year.

The participants have to be settled in the US a bit or at least have their children enrolled in school and at least one full-time job in their family. We usually have the participants from Burma because they really enjoy farming, and we also get referrals from their friends and family members. The program has 31 families who have graduated and are still farming from the, like, are still farming from the new program, 27 of those

people are still selling. The gardeners like to be outside with their family and their kids. The gardening program allows them to have flexibility in terms of going to church and taking their babies while doing the gardening. The program has created opportunities for the refugee people to get the health benefits of being outside and growing their own fresh culturally appropriate food. The program has generated over 1.5 million income to the refugee community including Burmese refugees in the past 13 seasons. The program has had graduates who has sold \$20,000 - \$25,000 in a season.

Methods

I used a narrative approach to collect interview data from Burmese Gardeners to gather individuals personal stories and to obtain a deeper understanding about their life experiences (Creswell & Poth, 2018). Narratives engage reader with content, structure, and relations using insightful data and evidence (Moezzi et al., 2017a). Qualitative research using a narrative approach helped build an in-depth understanding of Burmese refugees participating in four types of the community garden. The narrative process guides the researcher to a deeper understanding of local context, knowledge, and social/cultural complexity to help achieve research goals (Drury et al., 2011). The qualitative approach also helps keep the researcher focused on the research topic and collecting accurate participant data (Herrmann et al., 2013). Qualitative narratives contain the critically important information from discussions and storytelling that reflect participants experiences and knowledge on the research topic. The knowledge, experiences, and local content can be explored in detail and discussed insightfully (Moezzi et al., 2017b) allowing participants to more fully address the research topic or question (Kenis & Mathijs, 2012).

I used semi-structured interviews to collect data from Burmese refugees participating in four different types of community or backyard gardens. Semi-structured interviews are a valuable research tool because a researcher may obtain unexpected responses from participants because the process allows follow-up questions and responses (McIntosh & Morse, 2015). The semi-structured allow the interviewee to express their emotions and critical concerns in a way that the research can not be expected because the feeling and emotions are relevant to their experiences, culture, and

society (Oplatka, 2018). The interview was scheduled for a face-to-face interview to have a better understanding of their situation. A face-to-face interview is challenging in the period of a pandemic but the interviewer makes sure the participants are comfortable with the situation. They have been informed that the interviewee has been vaccinated to see face to face. Face-to-face interviews can be beneficial through social interaction including body gestures, tones, and voice of the participant that can provide the research with more information apart from speaking while conducting the interviews (Opdenakker, 2006). The refugee with language barriers has difficulty gaining access to the services because they have been struggling with completing the paper works (Kang et al., 2019) so that face to face interview has benefited the refugee participant to express their feeling freely in their own language. The interview was conducted with their own language without interpreters to support the accuracy of the data collection. I received approval from the University of Missouri Institutional Review Board (IRB # 00000731 and 00009014) to conduct this research and all participants received an informed consent document prior to their participation (Appendix 1).

The interviews were conducted with 3 organizers who are coordinating the 3 different programs including New Roots, Broadway Christain Church Community Garden, and CCUA/Opportunity Garden to gain a better understanding of the services that are provided to the refugee communities especially Burmese refugee gardeners (Appendix 2). The researcher has interviewed 18 Burmese Gardeners from Columbia MO and Kansas City Kansas. The interviewee is recruited by snowball sampling methods. The researcher has participated in two activities which are organized by Broadway Christain Church and one event which was organized by the CCUA/Opportunity Garden.

The goal was getting to know the program and organizers as well as getting in touch with Burmese Refugee gardeners. Snowball sampling is usually used to recruit the participants who are hidden or probably a small number of participants or the sensitivity of the research questions (Ghaderi & Béal, 2020). The snowball sampling method can be successfully used to get the data from the underserved community. It can also be a useful method to get information from the targeted population (Naderifar et al., 2017). The Burmese refugee gardeners were recruited through snowball methods from organizers and peer to peer from the gardeners. The approaches are different depending on the situation and garden types. The organizer from CUA/Opportunity garden has been connecting their participants through their gardeners' networks. The researchers get in touch with the Burmese Gardeners from Broadway Cristian Church through peer-to-peer snowball sampling. The organizer of the community garden has been appointed to one gardener and the other gardeners are kept rolling from one to another. The researcher has been getting in touch with one Burmese Gardner from New Roots through a referral from the organizer of Kansas City Community Garden (KCCG). Initially, the researcher tried to recruit the participants from KCCG but they lost contact with Burmese Refugee due to Covid 19 pandemic. After the researcher has interviewed one participant from New Roots, the participants have been supported to reach out to other participants who are willing to participate in the research.

The participants were well informed at least one day to make a schedule for the interview. The gardeners have some time to process or reflect on the gardening experiences. The researcher explains the objective of the research at the beginning of the interview. The interview was recorded to be used anonymously while reviewing the data.

The questionnaires were conducted verbally to give them opportunities for the participants to express their perspectives and feeling openly. The consent for participation in the research was taken before conducting the interview. It is needed to inform the consent because this promotes the discussion and trust between the researcher and interviewee (Roache, 2014). The consent must be included with relevant information that is easy to understand as well as allow the participant to decide whether they participate or reject in the interview (Bull et al., 2013). The open-ended interview questions were used to collect the information from the participants. Open-ended questions allow the participants to raise their voices, their concerns, and their perspective on a particular issue as well as they can express their feeling in a way of productive discussion (Decorte et al., 2019). The guided questions for the interview were shiftable because the probes can be done depending on the responses from the gardeners. Sometimes a long answer from the participants could address multiple questions from the questionnaires.

The survey questions were developed based on the research questions to explore the experiences and the benefit of participating in the gardening activities. The participants were also asked to provide the demographic including their households income and family information questions. The questions were opened for the participants to express their past experiences including gardening and experiences in the US. The interviews will be taken 30-45 minutes for their time but it can sometimes go up to one hour depending on their story and experiences. Two sets of questionnaires were designed to conduct the interview with the organizers and gardeners. The interview questions were divided into three categories as the community garden program, program participants, and demographic information.

Data analysis

The interviews with Burmese Gardeners were recorded and transcribed from Burmese and Karen language into English. I have experiences in translating the curriculum and interview from English to Burmese and Burmese to English for almost 8 years. The interview were conducted by the first author so that the information and the data were from the first hands. NVivo 12 qualitative software was used to analyzed the data because qualitative data can be explored the relationship between human and vegetation from using NVivo (Burr et al., 2018). The data was categorized into four grand themes such as benefits of garden, challenges of gardening, practice of gardening, and support for gardening after coding the transcripts. Color coding were used to categorize the quotes into sub-themes and grand themes. The coding were cross checked and double check with academic advisor and mentor. The NVivo coding support the data to better understanding for the data and the insight perspective of the participants especially in the open ended interviews (Feng & Behar-Horenstein, 2019).

Results

My analysis revealed four primary themes emerged from the interview data gathered from Burmese refugee gardeners; benefits of gardening, challenges of gardening, the actual practice or activity of gardening, and support for gardening by the host organization (Table 2). Benefits of gardening contained five sub-themes, challenges of gardening contained three sub-themes, practice of gardening contained four, and support for gardening contained four sub-themes. Each theme, sub-theme, and category are described below; detailed descriptions and example quotes are located in Appendix 3.

1. Benefits of gardening

1.1 Economic benefits

Burmese refugees have a unique culture in the household because the wife usually taking care of the children especially when they are young but the husband will be working for the family income. The wife usually is managing the budget for the family while the husband is giving all their income to their wife. The community garden is supporting them in saving their food expenses from buying in the grocery stores. *“When only one family member has a job, we need to manage our finances very well. We have saved half of the cost for the food from gardening in my backyard.”*

Gardening activities have supported the cultural food to consume throughout the year because the Gardeners have frozen the vegetable from the garden. Some Burmese cultural produces could not be grown in the winter so they can save the food by freezing them in a big refrigerator, especially roselle and chili. *“Community garden is very valuable for Burmese refugee because we can freeze the extra vegetables that we have grown from the garden and our family have been consuming all year round including in the winter when the vegetables could not be grown.”*

Some Burmese refugees involve in both community gardens and home gardens because they could manage their produces in terms of the location and type of the vegetable. They grow vegetables that can be cooked the everyday meal in the home garden including coriander and lattes. However, they manage to grow the produces in the community garden which is needed less to be taken care of because they can go only once or twice a week to the garden. They usually grow chili, pumpkin, and corn in the community garden. *“I grow the coriander, lattes, and onion in my backyard because I*

can just go and pick the vegetables that I need before cooking or during cooking. I grow the produces which can be taken care of once or twice a week because I could not be able to go there every day since it is far from my home as well as the transportation is needed to go there.”

The truck gardeners who are doing small business through gardening have profited for providing their household income as well as providing support to their children's education and buying necessities for their households. The types of vegetable and gardening activities are different from home gardens and community gardens because they grow both Asia food and American food. They can sell American food to farmer markets, and they can also eat and share the aisan food with their community.

“With my garden, I can contribute to the family’s income, and we get the bonus of eating fresh vegetables. I grow Western vegetables to sell like potatoes, tomatoes, carrots, green beans, onions, sweet potatoes, etc. I also grow Asian vegetables for my family to eat and share the extras with my friends.”

1.2 Improved diet

Burmese refugee improves their diet by growing their own food from the garden including cultural produce and organic foods. They will be able to practice growing the vegetable in a way organic without using any chemicals even though it is not a certify organic produce. The gardeners could grow their country’s produces which they could not be able to grow from the grocery stores. They feel safe to consume the produces which are grown by their own hands in their gardens. A home gardener said that *“I want*

to eat healthy food that I grew myself. When I'm cooking, I just go pick the vegetables I need right in my backyard. They're so fresh and very delicious."

A community gardener said that *"I am happy to grow vegetables that I can't find at local grocery stores. I like the vegetables from my garden because I grew them myself, and they're organic."* Similarly, a commercial gardener *"I don't like the vegetables from the grocery stores because they are not fresh, and I don't know how many days the produces are stored in the freezer"*

1.3 Physical health

The gardening activities promote the Burmese refugees to strengthen their physical health while participating in their gardens. They will be able to do physical exercise during weeding, plowing, and seeding for their vegetables. Some Burmese Refugees use gardening activities as physical exercise instead of going to the gym which creates a win-win situation because they get their physical strength and get to eat their favorite vegetable as well.

A home gardener *"Gardening helps me get exercise to support my physical health"* while a community garden mention *"- I get exercise while gardening. Because we use the car most of the time, I don't have a chance to exercise a lot and I gained a lot of weight in the past. But when I started gardening every day, I lost my extra weight. I feel very fresh and light while gardening. After losing all that weight I go jogging in the evening after gardening"*

A gardener who participated in both garden type mentioned that *" It is good for me to do the garden because I do physical exercise as well as it makes me happy to see*

the plants are growing in my garden.” A commercial gardener also explained that *“I get exercise when gardening and that’s good for my physical health, it’s not good to stay home and eat all the time” “I like to go to my garden everyday and I think about the garden all the time even at night before going to sleep.”*

1.4 Social Connection

1.4.1 Culture exchange

The Burmese refugee can also make friends and share cultural food with other nationalities including refugees from other countries and local people. Culture exchange usually occurs in the community garden since different people are participating in the community garden. The gardeners who participated in the community garden and both garden types benefited from the cultural exchange the most. A community gardener mention that *“I’ve built relationships with refugees from other countries or other people who are not refugees like those from Africa, China, or Korea. The gardens make it possible to share our cultures and different types of agriculture and seeds from other countries.”*

A gardener who participated in both garden types said *“- I made friends with some Chinese people I met at the garden and we visit about our family and our work. I have improved my communication skills with them after seeing them every year”*

1.4.2 Family engagement

Gardening activities have been benefited to the Burmese refugees in family happiness and family activities the most. All the gardeners express their positive feeling

toward family involvement in gardening including psychological and physical benefits. Garden is a kind of family activity which could bring their family together for a happy family. It promotes learning and friendship among refugee children. The children can learn the culture when bringing their kids together because they give their older children to take care of their younger ones when playing in the garden and playgrounds near the garden. Burmese people culturally take care of their younger siblings when their parents were working or cooking especially in Myanmar. Gardening is a kind of family leisure activity since they don't have the opportunity to take their kids to picnic or to the park.

A home gardener said *"I feel closer to my family while gardening together with my family, including the kids. The kids are very interested in gardening. We have bought some small tools for our daughter to use, so she helps us while gardening so she will be able to learn how to grow vegetables herself."*

A community gardener mention that *"I can relax when I go to the garden and it's a family activity. The children are involved in the gardening so they can learn from us as we talk while gardening. The children get a change to run and play in the garden because there's no phone or TV. The kids can also play in the playground near the community garden. It is a place for us to escape from stress and find support from other gardeners."*

A gardener who participated in both home garden and community garden express *"I have met new friends at the garden and we have fun making jokes and talking about things when gardening. We phone each other before going to the garden to see our friends. We bring our kids to the garden to play in the playground while we are gardening. The older kids take care of their younger ones."* In addition to strengthening

social bonds in the community, family bonds are also strengthened. A commercial garden said *“My children and my husband are helping in the garden regarding plowing and planting. I am very happy to work with my family members. I have five children, and all of them are helping when they have free time after their work”*

1.4.3 Friendship and share produce

Burmese refugees build a friendship through gardening and share their produce with their neighbors and friends. They can be able to strengthen friendship among Burmese refugees while engaging each other within the garden. They have chances to meet each other often and share their feeling while meeting in the garden. They build a stronger relationship through sharing their produce from their garden. Their gardening activities give them the opportunity to visit their friends to share their food or friends visit them for the produces especially green chili. A home gardener said *“We grow more than enough food for my family, so I share the extra with my friends and neighbors. My friends and I build relationships through gardening because they sometimes come to my house for the vegetables. I also go to their house to share the vegetables from my gardens. Otherwise, we do not have a chance to meet each other.”*

A Community gardener express *“We bring our food and our children when we go to the garden. The children make friends at the playgrounds near the gardens because everyone brings their children to the garden. They didn't even want to go home after the work was done”* A gardener who participate in both community garden and home garden mention *“We are very happy to meet our friends when we go to the community garden. We might have home gardens in our backyard, but they continue doing the community*

garden because we like to meet each other and share our food with each other.” A commercial gardener explained “- I share the vegetables not only with my friends from Myanmar but also with American friends. They are very happy because our vegetables are organic and flavorful.”

1.5 Time well spent

Burmese use their time in the garden effectively in the community garden because they spent their time for friends, family, social interaction, leisure, and coping from past traumatized experiences. Burmese refugees have been experienced in different conditions from different countries. They have been oppressed and forced to flee by the Burmese military from their original country. They have been staying in the second country in Thailand and Malaysia to escape from a bad situation however they have been facing discrimination, human trafficking, and police brutality while living as refugees. They are now in the third country in US but they still encounter racial issues and lack of job opportunities in the US. Their garden creates a space and situation for them to escape from their stress. A home gardener said that *“My friends visit my house to get vegetables from my garden. I also go to their house to share the extra vegetables from my gardens. If it wasn’t for the gardens, we wouldn’t have a chance to meet each other.”* A community gardeners mentions that *“I spend more time with my family because of the garden and my kids also like being outside growing vegetables and participating in the family garden.”*

2. Challenges of gardening

2.1 Gardening is different in the U.S.

Gardening in the US is very different from gardening in the home country of Burmese refugees because of the weather, soil, techniques of agriculture, and distance to the locations. The vegetables can be grown in all seasons in Burma but they can grow the crops only in the summers in the US without having a greenhouse or special spaces. The seeds can be grown without fertilizer in the soil of Burma but they need to buy fertilizer to have a good garden in US which costs their money to implement a garden. The Burmese garden used to learn from their parents while gardening together with them but it needs some tools to do the frames and raise bags in the US. Transportation is big challenge for the community gardeners to travel to their garden every day. They used to have open space to grow the crops in Burma but the space in US is challenging for them to grow a variety of crop in the U.S. A home gardener mentioned that the weather is a challenge for them to practice their gardening for all season. *“The weather is different in the U.S. because we can only grow vegetables in summer compared to year-round in Myanmar. We also didn’t need fertilizers in Myanmar, but we need them in the U.S. We also need to be careful when using pesticides in the U.S.”*

The community gardeners have some challenges with the spaces and place where they grows their produces *“I have to manage my garden space carefully to grow multiple vegetables in my small garden area because I like to eat different kinds of vegetables.”*
“Sometimes I was scared to go to the community garden when there was nobody.”
“Some gardeners occupy plots belonging to other gardeners and that makes them sad because plots are limited. I mean, some gardeners are not gardening in their plots and

don't maintain the tools very well or they leave the water hose on the whole night. They don't have to pay the water bill, so they don't care. Other gardeners bring tobacco and alcohol even though it is not allowed, but nobody ever asks them to leave."

The gardener who participated from both community garden and home garden express that *"Gardening is different in the U.S. compared to Myanmar because we don't need fertilizers to grow in Myanmar. It takes a lot of work to do a small garden in the U.S. I didn't need to do a lot of work with my parents back home because they did most of the work. Here in the U.S., I have to grow vegetable step by step from planting, weeding, plowing, and harvesting. We have to buy the seeds here, but in Myanmar, we saved the seeds from the garden and used them again the next year."*

A commercial gardener also mention some challenges from their experiences *"- It is harder to do gardening in the U.S. compared to Myanmar because the soils are need a lot fertilizer and other inputs, plus we cannot grow vegetables in the winter months."*

2.2 Language and cultural barriers

Language makes their life more difficult while communicating with the organizers and other nations while gardening especially in the field. There are some agencies and church services which can translate the important documents for them including the application process but they could not be able to talk to the organizer when they are facing some challenges in the field or speak to other nations when they would like to make friends. A home gardeners said that *"It is challenging to communicate with foreigners because of language difficulty since I don't speak good English."* A community gardener explained that *"The application is in English, but most Burmese*

gardeners can't read or write English, so I helped them fill out the application." A gardener who participated in both community garden and home garden mention that "- I have also met some Chinese in the garden, but I say 'hi' because I don't speak English very well."

2.3 Transportation issues

Some gardeners don't have cars to travel to the garden sites but their friends sometimes pick them up to go to the community garden together. Their friends who have cars could not be able to go with them all the time because they sometimes go to the garden from their work since the garden is closed to their factory. A home gardener said that *"I couldn't participate in the community garden because it was too far away, and I had no way to get there. My friend invited me to have a garden, but I didn't have the time or transportation to get there. That's why I like my home garden because I can take care of my garden every day, including watering and planting."* A community gardener mentioned that *"I don't have a car to go to the garden so I can only go there twice or three times a week. I have a friend who gives me a ride in their car. It takes about 20 minutes to drive to the gardens."* A gardener who participated in both community garden and home garden express that *"Some friends don't have their own cars to go to the gardens. I drive them sometimes but not always. I usually go there directly after work since my workplace is near the garden."*

3. Practice of gardening

3.1 Gardening knowledge and training

Most gardeners who participated in the community garden and home garden have learned agricultural skills from their parents while farming together within Burma. Commercial gardeners have upgraded their technical skills by going through intensive training in the US. A commercial gardener mentioned “ *I was a teacher in the vocational school at the refugee camp, especially in cooking. I have received teacher training from an organization that supports the refugee community.* ”

3.2 Getting started

The gardeners were surprised whom they have succeeded from the garden because they have gained a lot of vegetables from the beginning of the garden “*When I started, I grew a lot of vegetables the first year, especially long beans. I was not expecting to get that many crops.*”

3.3 Recruitment process for participating in the garden

The recruitment processes are different depending on the garden types by using different channels including refugee agencies, church services, and peer to peer. Some refugee agencies help the Burmese refugee to get enrolled in the gardening program for the application and contacting to the gardening organization. The community garden also makes some announcements in the church sections as sharing information about the garden. Burmese refugees also know about the gardening program through their friends and family members because they have always shared good things which are happening

in their neighborhoods. A home gardener recalled the process that have got the support from CCUA: *“I contacted CCUA and their refugee program to get assistance with my backyard garden. After a few days, they called me to make an appointment and plan for the garden. They made the three plots and provided fertilizer.”*

A community gardener mentioned that *“I knew about the garden through the church announcement when I arrived in the U.S. I have submitted the form to the church to get the garden plots. I got four plots, and I help garden my friends' plots. I also share it with other families who need garden spaces. I grow enough vegetables for my entire family.”* A participant who is involved in both community garden and home garden reflects her experience of how she got enrolled as a community garden. *“I usually communicate to the garden organizer through an interpreter, a Burmese refugee so that my application and other communications are correctly understood. The Burmese refugees phone me every year when we need to fill out the application to renew our garden application.”* And for home garden *“I know the program through the City of Refuge. They know that we love gardening. We have to submit the form to the CCUA. After a few days, they came to observe my gardens before providing support.”*

Commercial gardeners know about the gardening activity through the refugee agency and her sister *“I knew about the program through Catholic Charities, which supports the refugee communities. I was the first group who attend the training New Roots.”* *“I know the training through my sister because she has gone to the Netroots training.”*

3.3.1 Both Garden Types

The gardener who participated in both gardens allowed them to do better management on the vegetation for their households. They will be able to chose the type

of vegetable to grow in their home garden and community garden. They will be able to grow the daily use vegetable in their home garden including lattes, coriander, and tomato but they can grow the vegetable which can be grown with a small amount of effort including chili, corns and etc. *“I do home and community gardens. I grow pumpkin and chili in the community garden because those vegetables don't need intensive care. But I grow mustard, onion, and coriander in my home garden because I can pick them easily before cooking or eating.”*

They have made some comments on the differences between the two gardening types including the benefits and challenges *“- It is very convenient to grow vegetables in the backyards, but there is no one to talk to or make friends with. It is a long distance to go to the community garden, but we are happy to go there. We have to pay water bills while watering in our own backyards but it's free at the community garden. The supports from both programs are equally beneficial to us”*

3.3.2 Gardening in Myanmar

The majority of Burmese refugees have some experience gardening in Myanmar through helping their parents on their farms. They usually learn the techniques of growing their own food by learning from their parents practically on the farms. They used to have good land which can insecure their family food security unless they were facing the Burmese military. *“I was doing agriculture until the Myanmar military came to the village and burned our farm and house. The military threatened our villages to flee from the village, and we could not bring anything with us when we were running from the village. We have to leave the good crops and vegetables behind.”*

3.4. Type of vegetables

Burmese refugees grow the variety of vegetables that they used to eat when they were in Burma. They are not only consuming the vegetable from their garden but also they have shared the vegetable with their friends and neighbors including Americans as well. The commercial gardeners grow both Asian foods and American vegetables to sell in the farmer's markets for their income as well. *“I grew vegetables in my backyard gardens and on the farm while I was in Myanmar. I grow vegetables in my backyards, but I grow larger crops on the farm, such as onions, mustard, chili, corn, long bean, jackfruit, banana, orange, lemon, and lemongrass. I have a rice farm for the family which can be covered for one year. We had everything we needed on our farm, but we only needed to buy salt, soap, and clothes.”* A home gardeners said *“I grow chili, roselle, Chinese kale, onion, tomatoes, eggplants, mustards, house shoes, Kachin coriander, Kachin bitter gourd, pumpkin, etc. I cannot find the roselle and Kachin vegetables in the local grocery stores. I have to get the seeds from friends in other states.”* A community gardeners mentioned that *“I mainly grow green mustards, roselle, tomatoes, coriander, and long bean. Burmese grocery store opened only two years ago, but we still grow our Burmese foods in the garden”*

A gardeners who participated in both community garden and home garden expressed that *“I grow roselle, pumpkin, corn, local bitter melon, and chili. I can save the food from the garden for one year. I can get the seeds from my friends and other states, especially Indiana. I can keep the seeds after planting them for one year, but we cannot save the seed for roselle because we produce them late to get the seeds.”* A

commercial gardener also discussed about the vegetables which she grow from her garden *“I grow two different vegetables, including Asian food and U.S. food. I grow Letta, carrot, bean, radish, cilantro, milt, green onion, ginger, tamarin, and some flowers for U.S. foods. I also grow Asian food such as Okra, cucumber, gourd, pumpkin, etc.”*

4. Support for gardening

4.1 Land and space for community gardeners

Community gardeners have many opportunities to implement for their garden in the community garden including spaces, tools, and necessities. *“We can have land, free water, and tools to use in the community garden. They also provide soil or fertilizer for the gardeners once or twice a year. They place it near the garden, but the gardeners can take the fertilizers who saw it first. My brother-in-law usually calls me when he sees the fertilizer because he stays close to the garden.”*

4.2 Support for commercial gardeners

The commercial gardeners have received the most intensive supports from New Roots from the beginning until they implemented their own garden. They have been trained for 3-4 years to gain technical skills through training to start a garden. The support has been continued for marketing and necessary support from the New Roots program. *“I went to the agriculture training from New Roots in Kansas City for three years. It is a community garden program that provides training and gives certificates to gardeners on agriculture. It is a four-year program, but I finished the program within three years. I bought the land after the training to do the planting on my own. They*

trained me how to do agriculture and find the markets for selling vegetables. They have provided us with the 0.5 acres of the garden area near the training center to practice gardening techniques. Within three years, I don't need to pay for the water bills, seeds, and fertilizers. I have to pay the bills after making some money beyond the three years”

4.3 Support for Home Gardeners

CCUA has been supporting the home gardeners to start a garden in the backyards including raising bags, fertilizers, seeds, and guide book. *“I have got lots of support from CCAU, including fertilizers, seeds, plants, and pesticides. They also come to my house to set up plots in my backyard. They collect the information we need for the garden and provide the necessary support. I've what pesticides to use for specific insects. I have learned the techniques for growing vegetables in the U.S.”*

Similarity and Differences

My results show Burmese gardeners participating in four types of gardens shared common benefits of saving food expenses, consuming organic produce, friendship and family activities. Whether gardening in their backyards or participating at a community garden, Burmese refugees saved their families considerable food expenses. One example of saving money was when they froze extra produces they harvested and had it available during winter months so they had fresh vegetables all year. Regardless the type of garden used, Burmese were passionate about vegetables from their homeland grown in Myanmar. They also enjoyed the opportunity to grow their own foods without using chemicals and they felt safe eating food that was naturally grown and organic compared

to produce from local grocery stores which may have used numerous chemicals to keep it fresh.

As demonstrated by my data, gardening brings the Burmese family together and builds friendships among others in their community. Children and spouses or partners often worked together in the garden build deeper relationships and have a happy family. Time together in the gardens often occurs after school, work, or whenever there was free time. The children can participate whether growing vegetables or playing near the garden which provides the added benefit of decreasing screen time on phones, tablets, or TV. Burmese parents said they felt happier and healthier when their children were helping them in the gardens working together as a family.

Regardless the type of garden, gardening activities provided the Burmese refugees opportunities to come together and build stronger friendships and relationships in the community. Families from different backgrounds met each other at the community garden and reinforced friendships by sharing their extra vegetables with friends and neighbors in their community. I also discovered friendships were strengthened when friends and neighbors would spontaneously visit the garden to pick vegetables. In addition to strengthening social ties to family and the community, all Burmese refugees I interviewed had an agricultural background or came from a family with some farming experience. Prior to coming to the U.S., Burmese refugees learned how to grow the vegetables from their parents through helping them on their farms in Myanmar often helping their parents weekends or school holidays.

Discussion

My data from interviewing Burmese refugees provided unique insights into several challenges and benefits associated with diverse types of community gardens, home gardens, and community services to assist new immigrants. The four themes emerging from the data showed how gardening was beneficial, how gardening was challenging in a new homeland, challenges with new social and agricultural norms, and how different community groups attempted to help the refugees assimilate. Because home gardens were within easy access (often in the backyard), Burmese refugees could go to their garden at any time which often meant they could spend more time with their families. This family time with children and spouses usually occurred after school and after work and in the evening. An added benefit of backyard gardens was that they facilitated easy access to the outdoors and provided physical distance from social media and television watching.

I also discovered there were important benefits associated with community gardens. In contrast to backyard gardens, Burmese refugees using the opportunities provided by community gardens had slightly different experiences. Time spent at the community garden broadened Burmese social exposure to not only include their families but also friends and new acquaintances from the community. The community gardens often had playground equipment close by which provided opportunities for their children to meet other children and make new friends that something in common; i.e., the community garden. Although backyard and community gardeners saved money on food expenses, some Burmese refugees operated on a different scale. These larger-scale gardeners often grew more traditional U.S. vegetables and larger quantities. These larger-

scale gardening operations allowed Burmese refugees to generate substantially more income. The additional income provided a greater sense of independence because they could rely less on social services and support their children and family with the income from their gardens. Burmese refugees participating in community gardens also benefited from an expanded social network extending beyond family and friends. The social activities related to the community garden created a space for Burmese refugees to not only spend their time with family and friends but also as a focal point for leisure activities. Other research has demonstrated how gardens are a safe place for recreation, social meeting points, and escape from daily stress of modern life (Dubová & Macháč, 2019). Not only are these characteristics valuable outcomes from participation in community garden programs, they can also contribute to psychological healing and improved mental health after experiencing a natural disaster (Shimpo et al., 2019). An added bonus to improved physical and mental health related to the community garden comes from simply enjoying the tangible results of the hard work of many people (Litt et al., 2018).

Regardless the type of garden, the activity of gardening provided opportunities Burmese refugees to practice their cultural activities and provide opportunities for their children to learn the lifestyle of their parents and their previous homeland. Other researchers have found refugee children can learn agricultural skills and a shared sense of culture from their parents while helping with gardening activities (Tsu, 2021). Burmese gardeners have also strengthened their friendship among their community through sharing their produce with their friends and community. This sharing also creates a chance for Burmese to visit their friends either at home or at the garden, often with the

catalyst being the sharing their cultural foods. This use of traditional foods has been documented by other ethnic gardeners practicing different types of traditional cropping practices in other community garden (Taylor & Lovell, 2015).

Growing their own cultural food is one of the main purposes for Burmese refugees participating in any of the garden types. This is especially important because gardening has allowed Burmese community to grow their own traditional food and vegetables which is difficult if not impossible to find at American grocery stores (Hughes, 2019). An added benefit to Burmese gardeners is they can grow their own produce organically and provide their families healthy food. They feel safer eating the food they grew than the food they bought from the local grocery store. Other researchers have shown a similar pattern where the community gardens have provided fresh food for the refugee gardeners (Hartwig & Mason, 2016). All of the Burmese gardeners I interviewed had some previous experience gardening by learning from helping their parents or having their own garden. This previous gardening experience allows refugees to apply skills brought from their original country to a new location giving them a sense of their homeland and something familiar from the past (Harris et al., 2014). The benefits of community gardens extend beyond just benefiting refugee communities, but also has provided benefits for other urban, especially from different cultures and ethnicities (Nilon, 2014).

Although I witnessed many benefits related to backyard or community gardens, gardening is challenging work, especially for Burmese refugee immigrants. Many of the Burmese refugees came to the U.S. at age of thirty or more making it difficult to go to school or learn the English language. This language barrier created a communication

challenge when they had to go through English-speaking refugee agencies (or their English-speaking relatives) to sign up gardening programs. This same communication hurdle was witnessed in other refugee communities when trying to gain access to public support programs (McCleary, 2017). Another challenge for Burmese refugees is that gardening in the U.S. is different from traditional gardening practices in Myanmar where the weather, soil, crops, and planting techniques were different. For example, many Burmese were unfamiliar with need to use fertilizers when gardening in the U.S. because fertilizers were not needed in Myanmar, plus many crops could be grown in all seasons. Some Burmese refugees had overcome some of these obstacles by attending a four-year agricultural training program provided by New Roots showing refugees how to prepare the soil and greenhouse skills (to crops started early).

Transportation is the main issue for the community gardeners to travel to the community garden to take care of their vegetations, especially for those who don't have cars or friends to drive them to the location. Transportation is very important sector for the refugee to continue participating in the community garden. The home gardeners who used to participate in the community garden could not be able to continue participating in the community garden after they move to a new place or getting a new home because they don't have car or they could not walk to the community garden. They used to stay in the apartments which is closed to the community garden but they could not go there after the got a new home because their husband don't have time to take him them to the garden or they could not drive to the place on their own. The refugee communities have always been facing with the obstacles on the transportation for accessing to the public services (Goopy et al., 2020).

The Burmese refugee community has struggled to become assimilated in the U.S., often having to deal with issues from the past which they have faced from the original countries of Myanmar, Thailand, and Malaysia. In their homelands, they experienced police brutality and human trafficking. Not only do Burmese have to deal with their past, as refugees in a new country they face new and different challenges that can be almost as traumatizing. For example, some Burmese use alcohol to deaden past memories or deal with mental health issues while others express their anger and frustration through domestic violence (Gu, 2022). My research findings demonstrate gardening opportunities for Burmese refugees may provide small, but important, silver lining promote an improved social network and physical wellbeing for the Burmese refugee community. for well-being for a healthy environment and improve social network (Egli et al., 2016).

Limitations and Future Research

The snowball sampling is sometime difficult to gain different information and perspectives from participants because most of the gardeners are friends to each other and the information which were provided were much different from each other. I can feel that the information were discussed before the interview. I have got most of the positive point of views from the gardeners while interview them. I have to ask different questions to get a single negative point of view from the participants. The organization has also influent the information because they have contacted the best gardeners in the program for me to interview them. I have got a difficult time to get a larger number of the participants because of the covid situation. Some gardeners were hesitated to talk to the outsiders for the concern of covid 19.

The future research could be explored more on the differentiation of the garden types and the level of supports which could be influence the motivation of the participatation for the gardeners.

Conclusion

My research highlights the benefits and the challenges for the Burmese refugees to participate in the community garden. The four main categories have been discovered for participating in community gardens including social benefits, challenges, practices and supports for the gardens. Burmese refugees have gained tremendous benefits from participating in the community garden for social networking, family activities, and friendships. They have also had a chance to consume fresh organic food for a healthy diet and be able to practice physical health while participating in the garden. They will be able to practice their traditional ethics through gardening including cultural plantation and family ethics. There were also some challenges and issues for practicing the agricultural skills because the weather, soils, and geography are different while comparing their past experiences in Myanmar. Transportation is a major issue for the gardeners to travel to the location for taking care of their gardening, especially community gardeners. Language barriers are always an issue for them to strengthen their communication with the managers and the local communities. Depending on the gardens types and the supported organizations, the provided supports were different. The community garden have usually provide the supports for the locations and the nessesity tools to implement the garden plots while the home garden get the support from Opportunity Garden to start a garden including soils, raise bags, tools and seeds. The commercial gardener have got intensive supports including 4-years training, support programs and follow up programs.

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Table 1. Characteristics of Burmese refugees participating in different types of community garden programs.

Characteristic	<i>n</i> (%)
Gender	
Male	3 (16.7)
Female	15 (83.3)
Garden Type	
Community garden	4 (22.2)
Home garden	6 (33.3)
Community garden and home garden	4 (22.2)
Home garden with intensive support	4 (22.2)
Job	
Factory	4 (22.2)
Homemaker	6 (33.3)
House cleaning	1 (5.6)
Laundry	1 (5.6)
Restaurant	1 (5.6)
Retail	1 (5.6)
Self-employed	4 (22.2)
No. of children	
1	1 (5.6)
2	2 (11.1)
3	8 (44.4)
4	5 (27.8)
5	1 (5.6)
7	1 (5.6)
Formal agricultural training	
Yes	5 (27.8)
No	13 (72.2)

Table 2 Theme, subthemes, categories, and descriptions from interviews of Burmese refugee gardeners.

Theme	Subtheme	Category	Description	
1. Benefits of the garden	1.1 Economic Benefits		Extra household income and decreased food expenses.	
	1.2 Improved diet		Grow food not available at local stores; grow organic produce.	
	1.3 Physical Health		Physical exercise from gardening	
	1.4 Social Connection	1.4.1 Cultural exchange		Make new friends from other countries.
		1.4.2 Family		Involve family members in gardening as learning and leisure activities.
1.4.3 Friendship			Building friendships.	
1.4.4 Share foods with friends			Share food to promote social interaction	
	1.5 Time well spent		Time with family, friends, social interaction, leisure and coping with past trauma.	
2. Challenges of gardening	2.1 Gardening is different in U.S.		Differences in weather, soil, crops, skills, and distances to the garden.	
	2.1 Language and Culture barriers		Communication is challenging	
	2.3 Transportation issues		Transportation to the garden can be challenging.	
3. Practice of gardening	3.1 Gardening knowledge and training		Some learned gardening from parents in Myanmar, others upgraded their skills with training in the U.S.	
	3.2 Getting started			
	3.3 Type of gardening	3.3.1 Both Garden Types		Some participated in both community garden and backyard gardens.
		3.3.2 Gardening in Myanmar		Gardening experiences by helping their parents in Myanmar.
		3.3.3 Home gardening		Support for backyard gardens from CCUA.
	3.4 Type of vegetables		Grow vegetables which they used to eat it in Myanmar, but some home gardeners grow American vegetables to sell.	
4. Support for gardening	4.1 Land and space		Community garden provide space and training.	
	4.2 Support from New Roots		Support and business for getting a business started.	
	4.3 Support for home gardeners		Provide raised beds, fertilizers, seeds and guides.	
	4.4 Tools, equipment, and supplies		Provide support for starting a garden and maintaining their gardens.	

Appendix 1. University of Missouri Institutional Review Board approval letter.



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

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

October 06, 2021

Principal Investigator: Kerry Maureen Clark
Department: CAFNR International Programs

Your IRB Application to project entitled Interview of Burmese Refugees who are community garden participants. was reviewed and approved by the MU Institutional Review Board according to the terms and conditions described below:

IRB Project Number	2072542
IRB Review Number	340948
Initial Application Approval Date	October 06, 2021
IRB Expiration Date	October 06, 2022
Level of Review	Exempt
Project Status	Active - Exempt

Exempt Categories (Revised CommonRule)45 CFR 46.104d(2)(ii)

Risk Level	Minimal Risk Edited questions fr gardeners with consent removed edited consent with statement on further use of data
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Approved Documents edited interview questions for organizations with consent removed

Recruitment script for organizations and Burmese garden participants

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

- No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
- All changes must be IRB approved prior to implementation utilizing the Exempt Amendment Form.
- Major noncompliance deviations must be reported to the MU IRB on the Event Report within 5 business days of the research team becoming aware of the deviation. Major deviations result when research activities may affected the research subject's rights,

safety, and/or welfare, or may have had the potential to impact even if no actual harm occurred. Please refer to the MU IRB Noncompliance policy for additional details.

- The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date to keep the study active or to close it.
- Maintain all research records for a period of seven years from the project completion date.

If you are offering subject payments and would like more information about research participant payments, please click here to view the MU Business Policy and Procedure: http://bppm.missouri.edu/chapter2/2_250.html

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

Thank you,
MU Institutional Review Board

Appendix 2. Questions and follow-ups were used for the semi-structured interviews of Burmese refugee gardeners.

Interviews for Community Garden Participants

My name is Sa Tun Bo Bo. I am an MS student in human dimensions of natural resource management at the University of Missouri. I would like to interview you to learn more about your participation in community garden programs. This information will be used to help researchers and practitioners establish the benefits and challenges for community garden organizations when working with Burmese immigrants and to determine which types of organizational methods and interactions have the best outcomes when working with Burmese refugees and immigrants.

Please kindly provide the information in a frank and truthful manner. The information so provided will be used only for the purposes of the research. Also, your identity will not be revealed in the output report of this research without your prior consent. Be reminded you may skip any question you do not want to answer and can request to end the interview at any time.

Do you consent to participate in this interview? [] Yes [] No

Part 1 – General gardening questions

1. What are your reasons for gardening, or why do you enjoy gardening?
 - a. What physical, psychological, or social benefits do you get from gardening?
 - b. What types of vegetables or crops do you grow?
 - c. Tell me if the vegetables/crops you grow are different from ones you might find in a store.
 - d. Why do you participate in this community garden program?
 - e. What other benefits do you get from gardening?
2. If you had a garden in your home country, describe it to me.
 - a. What type of crops did you grow?
 - b. How big was it? How many years did you garden?
3. Describe how gardening in the U.S. is different?
 - a. Is it more or less work?
 - b. Do you spend more or less time?
 - c. Does it cost more or less to get the needed supplies?

Part 2 – Community gardening program

1. Describe the community garden you're currently participating in.
 - a. What are some things you like about the program?
 - b. What are some things you don't like about the program?
 - c. Describe any financial contributions you make to your garden?
 - d. What is the amount of time and effort you have been putting to the program?
 - e. How many years have you been participating in the program?
 - f. Who is involved in the program from your family?
2. Describe the processes for getting enrolled and requirements needed to be involved in the program?

3. Where is the garden you work in? Describe its location and if it fits your needs.
 - a. How big is it your garden? Do you have another garden at home or use another community garden?
4. What motivates you to participate in the community garden program?
 - a. Why did you choose to participate in this program rather than garden at home or participate at a different community garden?
5. What would an ideal program be for you as a gardener? What changes or improvements would you make?

Part 3 – Background and demographic questions

1. Original country:
2. Number of years in the US:
3. How did you immigrate to the US?
4. Your age
5. Current residence city:
6. Have you had any formative/educational training in other location before coming to US?
7. Do you have any formal agricultural training? Has it been helpful for the success of your gardening?
8. What is your job (paid or unpaid) and what do you do?
9. What is your hourly income and how many hours do you work in a paid job per week?
10. Number of family members, children, and ages:

Please tell me anything else you'd like to say about the program that you haven't mentioned yet or would be useful to know about the program?

Appendix 3. Questions and follow-ups used for the semi-structure interviews of Burmese refugee gardeners.

Interviews for Community Garden Organizers

My name is Sa Tun Bo Bo. I am an MS student in human dimensions of natural resource management at the University of Missouri. I would like to interview you to learn more about your organization's services and how they are utilized by Burmese refugees. This information will be used to help researchers and practitioners establish the benefits and challenges for community garden organizations when working with a subgroup of clients and to determine which types of organizational methods and interactions have the best outcomes when working with Burmese refugees and immigrants.

Please kindly provide the information in a frank and truthful manner. The information so provided will be used only for the purposes of the research. Also, your identity will not be revealed in the output report of this research without your prior consent. Be reminded you may skip any question you do not want to answer and can request to end the interview at any time.

Do you consent to participate in this interview? [] Yes [] No

Part 1 – The community garden program

Please describe your community garden program.

How many paid staff and volunteers are in your organization?

How many gardens do you operate and where are they located?

Describe any specific participation requirements for income level, race, ethnic origin, etc.

How do people find out about your program?

Explain how you communicate/interact with program participants?

Do you have a printed newsletter and/or use social media (e.g., Facebook, twitter, text messages). Do you hold regular meetings? Are meetings held at the garden or at another location?

Part 2 – Program participants

Describe the target clientele or target audience for your community garden.

Describe how the target audience may differ from the actual participants; if it's different, why?

Describe where participants come from; do they live close to the garden and walk/bike, or do they live several miles away and drive?

Are there cooperative workdays?

Is participation mandatory or voluntary?

Do participants garden cooperatively (e.g., with family or friends) or individually (e.g., without help from others)?

Describe any activities or incentives you have encouraging social engagement or cooperative work.

How have you involved the refugee community in your program?

Describe the different refugee groups that have participated, their level of participation, and special needs of the different groups.

Have you included any Burmese Refugees in your program?

Describe any activities or efforts to included them in the program.

Describe any barriers that may have decreased Burmese participation or recruitment.

Describe how Burmese participants have benefited from the program and how their participation may be different compared to other refugees in the program.

Describe some of the successes stories or benefits have you seen from the program and with your gardeners?

Has the garden's presence changed the neighborhood?

Environmental improvement, e.g., less trash in the neighborhood?

Increased informal social interactions, less crime, improved community cohesion, increased civic engagement or awareness.

Have any new community groups started as a result of the garden, e.g., a new or revitalized neighborhood association, community babysitting or day-care, new parks or playgrounds?

Part 3 – Background and demographics

Name of the Organization:

Interviewee name:

Position:

Years of experience:

Age of program:

Average age of garden:

Who owns the garden:

Please tell me anything else you'd like to say about the program that you haven't mentioned yet or would be useful to know about the program?

Appendix 4. Summary of themes, subthemes, category, descriptions, and example quotes for each category (CCUA = Columbia Center for Urban Agriculture Opportunity Garden, BCC = Broadway Christian Church Community Garden, New Roots = New Roots Program – Kansas City, Missouri).

Theme	Subtheme	Sub-sub theme	Description	Examples quotes
1. Benefits for the Garden	1.1 Economic Benefits		Gardeners make household income and save money from food expenses	<p>CCUA - When only one family member has a job, we need to manage our finances very well. With the garden we save more than half of the cost for the food.</p> <p>CCUA - I like to garden because it saves my family money and we don't need to go to the grocery store to buy fresh vegetables. In addition, I don't like being in the house without doing anything.</p> <p>BCC – The garden is very valuable for Burmese refugees because we can freeze our extra vegetables so we can eat them all year round.</p> <p>CCUA/BCC - I got a lot of vegetables from the garden this year so I froze some of them. The rest I gave to my friends for free because I got the garden space for free.</p> <p>New Roots - I grow Western vegetables to sell like potatoes, tomatoes, carrots, green beans, onions, sweet potatoes, etc. I also grow Asian vegetables for my family to eat and share the extras with my friends.</p> <p>New Roots - I want to do more my garden, like raising chickens, goats, and pigs. I'd also like to get more land and have a bigger garden so I can buy a car or things my children need.</p> <p>New Roots - I was not very healthy when I first arrived in the U.S. because I had surgery. The caseworker told me that I had to rely on myself, and I was worried about my future. I needed to support my family, so I decided to grow the vegetables in the garden.</p>
	1.2 improved diet		Burmese refugee can	

Theme	Subtheme	Sub-sub theme	Description	Examples quotes
			<p>grow their own food of Burma which they could not get from the store and they can also get organic produce from the garden which they grow</p>	<p>CCUA - I want to eat healthy food that I grew myself. When I'm cooking, I just go pick the vegetables I need right in my backyard. They're so very fresh and delicious.</p> <p>BCC - I am happy to grow vegetable that I can't find at local grocery stores. I like the vegetables from my garden because I grew them myself, and they're organic.</p> <p>CCUA/BCC - It is fun to go to the community with my family because everyone is working together. My husband is plowing, my kids are cleaning and I am organizing things.</p> <p>New Roots - I know I'm eating fresh organic vegetables from my own garden, and that gives me a sense of independence. I also save the seeds from this year so I can use them next year.</p>
	1.3 Physical Health		<p>Burmese gardeners promote their physical exercise through gardening</p>	<p>CCUA - Gardening helps me get exercise to support my physical health.</p> <p>BCC - I garden instead of going to the gym in the summer because I feel healthier while gardening.</p> <p>BCC - I get exercise while gardening. Because we use the car most of the time, I don't have a chance to exercise a lot and I gained a lot of weight in the past. But when I started gardening every day, I lost my extra weight. I feel very fresh and light while gardening. After losing all that weight I go jogging in the evening after gardening.</p> <p>CCUA/BCC - Gardening helps me get physical exercise because I'm moving the whole time and watching my vegetables growing and getting bigger. I also like to learn about how to improve my garden for next year.</p> <p>New Roots – I get exercise when gardening and that's good for my physical health, it's not good to stay home and eat all the time.</p>

Theme	Subtheme	Sub-sub theme	Description	Examples quotes
				New Roots - I get exercise when gardening and get to eat fresh food and it makes me happy to see the plants growing. I like to go to my garden every day, and I think about it all the time, even when going to the bed.
	1.4 Social Connection	1.4.1 Culture exchange	Share produce and make friends with other nations	<p>CCUA - We also share how to make food from our gardens.</p> <p>BCC – I’ve built relationships with refugees from other countries or other people who are not refugees like those from Africa, China, or Korea. The gardens make it possible to share our cultures and different types of agriculture and seeds from different countries.</p> <p>CCUA/BCC - I have made many friends while gardening, including Chinese and African, especially at the beginning of the season when the garden needs a lot of care when starting to grow the vegetables.</p>
		1.4.2 Family	Family members and kids involve in the gardening activities as their learning and leisure activities	<p>CCUA - I spend most of my free time at the garden, at least twice a day. All family members, including children, participate in the garden. The kids can have a chance to go outside and play while learning about the types of vegetables in the garden. My wife does most of the gardening, especially in planting because I have to work a night shift.</p> <p>CCUA - I feel closer to my family while gardening together with my family, including the kids. The kids are very interested in gardening. We have bought some small tools for our daughter to use, so she helps us while gardening so she will be able to learn how to grow vegetables herself.</p> <p>BCC - I can relax when I go to the garden and it’s a family activity. The children are involved in the gardening so they can learn from us as we talk while gardening. The children get a change to run and play in the garden because there’s no phone or TV. The kids can</p>

Theme	Subtheme	Sub-sub theme	Description	Examples quotes
				<p>also play in the playground near the community garden. It is a place for us to escape from stress and find support from other gardeners.</p> <p>BCC – My kids get to know the names of the plants and learn how to garden. My daughter helps me in the garden, but she said she’s getting tired of gardening because of the insects and having to watch my son. My son, however, likes to go to the garden every day and help me. He’ll even ask whether I am thirsty or tired.</p> <p>CCUA/BCC - I like to go to the community gardens because we can meet friends there. We phone the Burmese refugees ahead of time to make sure we meet at the gardens. We bring our food and our children to the gardens. The children make friends in the playgrounds near the gardens because everyone brings their children to the garden. Our kids don’t even want to go home after the work is done. I feel like it’s a picnic when we go gardening because my kids and my husband all go together.</p> <p>CCUA/BCC – It’s fun to go to the community garden with our family because everyone is working together. My husband is plowing, my kids are pulling weeds, and I am organizing things.</p> <p>New Roots - I have time to take care of my children while gardening. If I worked in a factory, I might not have time for my family and children.</p> <p>New Roots - My children and my husband are helping in the garden regarding plowing and planting. I am very happy to work with my family members. I have five children, and all of them are helping when they have free time after their works. They work in the factories in town.</p>
		1.4.3 Friendship	The gardeners build their friendship while	CCUA – It makes me happy to share vegetables with my friends and neighbors. I think it’s beneficial for the

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			<p>doing the gardening and share their produce to the neighbors and friends</p>	<p>community to share the extra food we have from my garden. Many of my friends from my neighborhood and other places visit my garden.</p> <p>CCUA – We grow more than enough food for my family, so I share the extra with my friends and neighbors. My friends and I build relationships through gardening because they sometimes come to my house for the vegetables. I also go to their house to share the vegetables from my gardens. Otherwise, we do not have a chance to meet each other.</p> <p>BCC – Gardening gives us an excellent opportunity to visit with my friends in the gardens and meet new people from other countries. We usually bring our kids to the gardens and meet the other Burmese gardeners.</p> <p>BCC - We are very happy to meet our friends when we go to the community garden. Some people may have home gardens in their backyard, but they continue doing the community garden because we like to meet each other and share our food with each other.</p> <p>CCUA/BCC - I have made many friends at the gardens, including Chinese and African, especially at the beginning of the growing season because the plants need a lot of care then.</p> <p>CCUA/BCC - We share our extra food from our garden with the other gardeners who are always happy to take it. We also build friendships among the Burmese community while weeding and watering the garden.</p>
		1.4.4 Share foods to friends	<p>The gardeners can share the food from their gardens to promote social interaction</p>	<p>CCUA – I’m happy to give my extra vegetables to my friends</p> <p>CCUA/BCC - I share my extra vegetable with my friends.</p> <p>CCUA/BCC - We share our extra food from our garden with the other gardeners</p>

Theme	Subtheme	Sub-sub theme	Description	Examples quotes
				<p>who are glad to take it. We also build our friendship in the garden while weeding and watering the Burmese refugee community.</p> <p>New Roots - I share with friends and some foreigners because they also like to eat fresh vegetables from the garden.</p> <p>New Roots - I share the vegetables not only with my friends from Myanmar but also to Americans. They are very happy because our vegetables are organic and flavorful.</p>
	1.5 Time well spent		The time were spend for family, friends, social interaction, leisure and coping from the past trauma	<p>CCUA - I don't want to waste my time staying in the house doing nothing, so my backyard garden gives me some activities to use up my free time.</p> <p>BCC - I spend more time with my family because of the garden and my kids also like being outside growing vegetables and participating in the family garden.</p> <p>CCUA/BCC - I take my kids to the garden in the evening after they finish school.</p>
2. Challenges of gardening	2.1 Gardening is different in US		Burmese refugee have faced some challenges while gardening in US due to the weather, soil, skills for agricultures, distances to the location.	<p>CCUA - We must buy fertilizer to grow vegetables in the U.S., but I also make fertilizer from leaves and old plants. I cover the plants with plastic in the winter, especially lemongrass. They'll grow again next summer after the winter if we cover them with plastic.</p> <p>CCUA - The weather is different in the U.S. because we can only grow vegetables in summer compared to year-round in Myanmar. We also didn't need fertilizers, but we need them in the U.S. We also need to be careful when using pesticides in the U.S.</p> <p>BCC - I have to manage my garden space carefully to grow multiple vegetables in my small garden area because I like to eat different kinds of vegetables.</p>

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				<p>BCC - Sometimes I was scared to go to the community garden when there was nobody.</p> <p>CCUA/BCC – Gardening is different in the U.S. compared to Myanmar because we don't need fertilizers to grow in Myanmar. It takes a lot of work to do a small garden in the U.S. I didn't need to do a lot of work with my parents back home because they did most of the work. Here in the U.S., I have to grow vegetables step by step from planting, weeding, plowing, and harvesting. We have to buy the seeds here, but in Myanmar we saved the seeds from the garden and used them again the next year.</p> <p>New Roots - I had to use seeds from the U.S. because seeds from Myanmar could not be brought to the U.S. because some seeds could bring diseases to the local plants.</p> <p>New Roots - It is harder to do gardening in the U.S. compared to Myanmar because the soils are need a lot fertilizer and other inputs, plus we cannot grow vegetables in the winter months.</p>
	2.1 Language and Culture barriers		Communicating to the organizers and other nations is challenging since they don't speak the same languages.	<p>CCUA - It is challenging to communicate with foreigners because of language barriers</p> <p>BCC - The application is in English, but most Burmese gardeners can't read or write English, so I helped them fill out the application.</p> <p>CCUA/BCC - I have also met some Chinese in the garden, but I say 'hi' because I don't speak English very well.</p> <p>CCUA/BCC - It was funny last year because one of my neighbors gardened in my plot because they thought I wouldn't do it. I told them I would do it every year, but we usually start later in the season in Myanmar.</p>

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	2.3 Transportation issues		Some gardeners don't have car for their transportation to travel to the garden so that they have to go with their friends.	<p>CCUA - I don't have a car to go to the garden so I can only go there twice or three times a week. I have a friend who gives me a ride in their car. It takes about 20 minutes to drive to the gardens.</p> <p>CCUA/BCC - The community garden is far from my house, so I only go twice a week.</p> <p>CCUA/BCC - Some friends don't have their own cars to go to the gardens. I drive them sometimes but not always. I usually go there directly after work since my workplace is near the garden.</p> <p>New Roots - They had arranged transportation when I was attending the training.</p>
3. Practice of gardening	3.1 Gardening knowledge and training		Most gardeners have learnt the agriculture skills from their parents when they were in Myanmar growing things together but some gardeners upgrade their skills by going through intensive training in the US.	New Roots - I was a teacher in the vocational school at the refugee camp, especially in cooking. I have received teacher training from an organization that supports the refugee community.
	3.2 Getting started			BCC - When I started, I grew a lot of vegetables the first year, especially long beans. I was not expecting to get that many crops.
	3.3 Type of Gardening			<p>CCUA - I contacted CCUA and their refugee program to get assistance with my backyard garden. After a few days, they called me to make an appointment and plan for the garden. They made the three plots and provided fertilizer.</p> <p>BCC - I knew about the garden through the church announcement when I arrived in the US. I have submitted the form to the church to get the garden plots. I got four plots, and I help garden my friends'</p>

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				<p>plots. I also share it with other families who need garden spaces. I grow enough vegetables for my entire family.</p> <p>CCUA/BCC - I usually communicate to the garden organizer through an interpreter, a Burmese refugee, so that my application and other communications are correctly understood. The Burmese refugees phone me every year when we need to fill out the application to renew our garden application.</p> <p>New Roots - Before enrolling in the Netroots training, they asked me how I knew about the program and whether I had ever been gardening in my country. I know the training through my sister because she has gone to the Netroots training.</p> <p>New Roots - I knew about the program through Catholic Charities, which supports the refugee communities. I was the first group who attend the training New Roots.</p>
		3.3.1 Both Garden Types	Some gardeners have been participated in both community garden and home garden in their backyards.	<p>CCUA/BCC - I do home and community gardens. I grow pumpkin and chili in the community garden because those vegetables don't need intensive care. But I grow mustard, onion, and coriander in my home garden because I can pick them easily before cooking or eating.</p> <p>CCUA/BCC - Comparing the two types of gardens, the community garden is much better to grow vegetables, the plants in my backyard are not growing so well because it's a new space and location.</p> <p>CCUA/BCC - It is very convenient to grow vegetables in the backyards, but there is no one to talk to or make friends with. It is a long distance to go to the community garden, but we are happy to go there. We have to pay water bills while watering in our own backyards but it's free at the community garden. The supports from both programs are equally beneficial to us.</p>

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		3.3.2 Gardening in Myanmar	Most Burmese refugees have experiences doing gardening in their home country by helping their parents	<p>CCUA - I grew vegetables in my backyard gardens and on the farm while I was in Myanmar. I grow vegetables in my backyards, but I grow larger crops on the farm, such as onions, mustard, chili, corn, long bean, jackfruit, banana, orange, lemon, and lemongrass. I have a rice farm for the family which can be covered for one year. We had everything we needed on our farm, but we only needed to buy salt, soap, and clothes.</p> <p>CCUA - I grew up with my parents who were agricultural farmers. After arriving in the U.S., I missed eating the vegetables we grew in Myanmar, such as rosette, morning glory, long bean, and mustards.</p> <p>CCUA - I used to have a three-acre garden when I lived in the refugee camp. I grew many vegetables such as corn, potatoes, morning glory, banana, sugar cane, jack fruits, beans, etc. I grew it for food security, but I sometimes sold my extra vegetables and fruits.</p> <p>CCUA/BCC - I want to grow a garden like my parents did in Myanmar, but I can't do it here because my husband works in a factory.</p> <p>New Roots - I used to do farming when I was in Myanmar. Our farm in Myanmar was big, about two-acres. We moved the location from place to place when farming in Myanmar. I grew rice, corn, bean, pumpkin, and others. I used to grow food in Myanmar for more than 30 years.</p>
		3.3.3 Home gardening	Some gardeners are gardening in their backyard with the supports from CCUA.	<p>CCUA - I started gardening in my backyard after buying a house. I like doing it in my backyard because I can take care of the plants every day and manage what and how I plant.</p> <p>CCUA - After arriving in the U.S., I missed having to eat the vegetables we grew in Myanmar, such as rosette, morning glory, long bean, and mustards.</p>

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				<p>CCUA - The lifestyle in the US is a bit stressful since I work most of the time. I can relieve my stress by gardening in my backyard. I feel very fresh and renewed while gardening.</p> <p>CCUA/BCC – After arriving in the U.S. I realized it's essential to grow vegetables because we have to buy everything to eat. It is more than enough to eat by planting one or two tomatoes because we can get many tomatoes with one or two plants.</p>
	3.4 Type of vegetables		<p>Burmese refugee grow the vegetables which they used to eat it in Myanmar for their family and to share them to their friends. However some home gardeners grow American vegetables to sell in the farmer markets for their incomes.</p>	<p>CCUA/BCC - I grow lemongrass, long bean, chili, rosettes, pumpkin, cucumber, onion, Basil, tomatoes, eggplants, mustard, chayote, and bitter melon in my garden. I like everything about chayote and bitter melon, including the leaf and the fruits.</p> <p>CCUA - I grow chili, roselle, Chinese kale, onion, tomatoes, eggplants, mustards, house shoes, Kachin coriander, Kachin bitter gourd, pumpkin, etc. I cannot find the roselle and Kachin vegetables in the local grocery stores. I have to get the seeds from friends in other states.</p> <p>BCC - I grow roselle, okra, opium, and ginger. I can get the vegetables from the grocery store, but I grow the vegetables myself because I like fresh food.</p> <p>BCC - I want to participate in the community garden because I want to have a bigger garden. I also want to plant more chili to store for the rest of the year and I want to grow more onions and garlic.</p> <p>CCUA/BCC - I grow the bitter gourd, chili, roselle, mustards, pumpkin, and luffa. I cannot get luffa and roselle from the grocery stores.</p> <p>CCUA/BCC - I grow roselle, pumpkin, corn, local bitter melon, and chili. I can save the food from the garden for one year. I can get the seeds from my friends and other states, especially Indiana. I can</p>

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				<p>keep the seeds after planting them for one year, but we cannot save the seed for roselle because we produce them late to get the seeds.</p> <p>New Roots - I grow two different vegetables, including Asian food and U.S. food. I grow Letta, carrot, bean, radish, cilantro, milt, green onion, ginger, tamarin, and some flowers for U.S. foods. I also grow Asian food such as Okra, cucumber, gourd, pumpkin, etc.</p>
4. Support for gardening	4.1 Land and space		Community garden provide space for the gardeners. The training provide some space for the trainees to practice their agriculture skills.	CCUA/BCC - We can have land, free water, and tools to use in the community garden. They also provide soil or fertilizer for the gardeners once or twice a year. They place it near the garden, but the gardeners can take the fertilizers who saw it first. My brother-in-law usually calls me when he sees the fertilizer because he stays close to the garden.
	4.2 Support from New Roots		New Roots has supported the gardeners to be business owner including training, getting a market and legal processes.	<p>New Roots – New Roots helps me with the garden application process. They help me get the land, machines, and a greenhouse. I don't know to get those things by myself. I first attended a program at New Roots four-years ago and got a certificate for selling vegetables in the market. If we don't have the certificate, we can't sell our vegetables at the market. I have learned the vegetable's name and how to grow the vegetables.</p> <p>New Roots - I went to the agriculture training from New Roots in Kansas City for three years. It is a community garden program that provides training and gives certificates to gardeners on agriculture. It is a four-year program, but I finished the program within three years. I bought the land after the training to do the planting on my own. They trained me how to do agriculture and find the markets for selling vegetables. They have provided us with the 0.5 acres of the garden area near the training center to practice gardening techniques. Within three years, I don't need to pay for the water bills, seeds, and fertilizers. I have</p>

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				to pay the bills after making some money beyond the three years
	4.3 Support for Home Gardeners		CCUA supports the home gardeners including raise bags, fertilizers, seeds and guide book.	<p>CCUA - CCUA has provided two plots with frames and fertilizers. I made my plots, but the plants don't grow well, but I'm still happy we have the plots. They have been supporting me since last year.</p> <p>CCUA - I am happy to work with CCUA because they gave me the supplies, including fertilizer and seeds, to grow in my backyard.</p> <p>CCUA - I have got lots of support from CCAU, including fertilizers, seeds, plants, and pesticides. They also come to my house to set up plots in my backyard. They collect the information we need for the garden and provide the necessary support. I've what pesticides to use for specific insects. I have learned the techniques for growing vegetables in the U.S.</p>
	4.4 Tools, equipment, and supplies		The organizers have been providing the supports for starting a garden and implementing their gardens	<p>BCC - They provide free fertilizer, water, and tools for the gardeners to use. They also provide free space for the as well. They sometimes provide seeds and plants.</p> <p>CCUA/BCC - The garden provides the fertilizer but only on a first-come first-served basis. The fertilizer was taken by the people who saw them first because they live near the garden.</p> <p>CCUA/BCC - It is a long distance to the community garden, but we are happy to go there because we have to pay water bills for backyard garden.</p> <p>CCUA/BBC - I don't need to pay the water bills. If we want to contribute to the community garden if we want to, but it's not necessary.</p>