



UNIVERSITI PUTRA MALAYSIA

***VOLUNTEERS' INTENTION OF COMMUNITY GARDEN PROGRAM IN
THE KLANG VALLEY, MALAYSIA***

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**VOLUNTEERS' INTENTION OF COMMUNITY GARDEN PROGRAM IN
THE KLANG VALLEY, MALAYSIA**

By

LEELANAYAGI D/O RAMALINGAM

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

May 2018

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DEDICATION

**I would like to dedicate this thesis and all of my academic achievements to my
parents, Tavamany Alagapan and Ramalingam Periyar**

This is for both of you,



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

**VOLUNTEERS' INTENTION OF COMMUNITY GARDEN PROGRAM IN
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By

LEELANAYAGI D/O RAMALINGAM

May 2018

Chairman: Juwaidah Binti Sharifuddin, PhD
Faculty: Agriculture

Community Garden Program is one of the Urban Agricultural Program in Malaysia which is supported by governmental policies and organization efforts as it is viewed as the most effective remedy to future challenges such as population growth, food security and increase in food price. Community Garden Program is depends on volunteers' help as they are responsible to carry out the daily gardening activities. Thus, the sustainability of the program is highly associated with committed volunteers. However, attracting and retaining volunteers for the program had become the major challenges. Consequently, all of the gardening activities were carried out by few volunteers. This lead to lack of interest among the volunteers and few community gardens were abandoned. Therefore, there is a need to understand factors that influence volunteers' continued participation in the program. Nevertheless, no studies have been done on community garden volunteers' intention to remain. Therefore, this study aims to fill the gap by understanding what drive the volunteers' retention in order to sustain the Community Garden Program in the future.

The general objective of the study is to measure the volunteers' intention to remain in the Community Garden Program. To achieve this, data was collected from 390 volunteers of the Community Garden Program around Klang Valley, Malaysia. The seven (7) sections of the questionnaire are socio demographic characteristics, social support, community and country involvement, self-image congruency, motivation, satisfaction and intention to remain as volunteers.

The result of the Partial Least Square Structural Equation Modeling revealed that social support, community and country involvement and self-image congruency influence motivation. Moreover, self-image congruency and motivation were significant predictors of satisfaction. Also, community and country involvement, motivation and satisfaction have positive effect on intention to remain as volunteers in the Community Garden Program. The mediation effect analysis of satisfaction showed positive result. The result

of the binary logistic regression found that male respondents who aged 49 years old and above with high-income level are more likely to remain as volunteers in the Community Garden Program.

As a conclusion, community and country involvement, motivation, satisfaction, age, gender and income level were the significant predictors of intention to remain as volunteers in the Community Garden Program. Hence, the government organizations need to ensure that the volunteers are motivated by the governmental support to be involved in the program and satisfied with their volunteer tasks for their continuous involvement in the program. Besides, it is important to promote the Community Garden Program among male urban dwellers who aged 49 years old and above with high income as this group of people are more likely to remain as volunteers in the program. These are essential for the sustainability of the Community Garden Program.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**NIAT SUKARELAWAN DI DALAM PROGRAM KEBUN KOMUNITI DI
LEMBAH KELANG, MALAYSIA**

Oleh

LEELANAYAGI A/P RAMALINGAM

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Program Kebun Komuniti adalah salah satu Program Pertanian Bandar di Malaysia yang disokong oleh dasar kerajaan dan usaha organisasi kerana ia dianggap sebagai kaedah penyelesaian yang paling berkesan untuk menghadapi cabaran masa depan seperti penambahan penduduk, jaminan makanan dan kenaikan harga makanan. Program Kebun Komuniti bergantung pada bantuan sukarelawan kerana mereka bertanggungjawab untuk menjalankan aktiviti perkebunan pada setiap hari. Oleh itu, kemampuan program ini sangat dikaitkan dengan sukarelawan yang komited. Walau bagaimanapun, menarik dan mengekalkan sukarelawan untuk program ini telah menjadi cabaran utama. Akibatnya, semua aktiviti perkebunan dijalankan oleh sukarelawan yang sedikit. Ini membawa kepada kekurangan minat di kalangan sukarelawan dan beberapa Kebun Komuniti telah diabaikan. Oleh itu, terdapat keperluan untuk memahami faktor yang mempengaruhi penyertaan sukarelawan yang berterusan dalam program ini. Walau bagaimanapun, tiada kajian telah dilakukan terhadap niat untuk kekal ke atas sukarelawan Kebun Komuniti. Oleh itu, kajian ini bertujuan untuk mengisi jurang dengan memahami apa yang mendorong pengekalan sukarelawan untuk kemampuan Program Kebun Komuniti pada masa akan datang.

Objektif umum kajian ini adalah untuk mengukur niat untuk kekal sebagai sukarelawan Program Kebun Komuniti. Untuk mencapai ini, data telah dikumpulkan dari 390 sukarelawan Program Kebun Komuniti di sekitar Lembah Klang, Malaysia. Tujuh bahagian soal selidik ini adalah latar belakang, sokongan sosial, penglibatan masyarakat dan negara, keselarasan imej diri, motivasi, kepuasan dan niat untuk tetap sebagai sukarelawan.

Keputusan Pemodelan Persamaan Struktur Persegi Separa Terkecil menunjukkan bahawa sokongan sosial, penglibatan masyarakat dan negara serta keselarasan imej diri mempengaruhi motivasi. Di samping itu, keselarasan imej diri dan motivasi adalah peramal kepuasan yang signifikan. Selain itu, penglibatan masyarakat dan negara,

motivasi serta kepuasan mempunyai kesan positif terhadap niat untuk kekal sebagai sukarelawan Program Kebun Komuniti. Kajian kesan pengantaraan bagi kepuasan menunjukkan keputusan positif. Keputusan regresi logistik binari mendapati bahawa responden lelaki yang berumur 49 tahun dan ke atas dengan tahap pendapatan tinggi lebih cenderung untuk tetap sebagai sukarelawan Program Kebun Komuniti.

Sebagai kesimpulan, penglibatan masyarakat dan negara, motivasi, kepuasan, umur, jantina dan tahap pendapatan merupakan peramal yang penting terhadap niat untuk kekal sebagai sukarelawan Program Kebun Komuniti. Oleh itu, organisasi kerajaan perlu memastikan bahawa para sukarelawan bermotivasi untuk melibatkan diri dalam program ini dan berpuas hati dengan tugas sukarelawan mereka untuk penglibatan yang berterusan dalam program ini. Di samping itu, adalah penting untuk mempromosikan Program Kebun Komuniti di kalangan penghuni bandar lelaki yang berumur 49 tahun dan ke atas dengan pendapatan tinggi kerana kumpulan ini lebih cenderung untuk kekal sebagai sukarelawan dalam program ini. Ini adalah penting untuk kemampanan Program Kebun Komuniti.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

1MG1MC	1Malaysia Green 1Malaysia Clean
AIDS	Acquired Immune Deficiency Syndrome
ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
ASEAN	Association of Southeast Asian Nations
AVE	Average Variance Extracted
AYVP	ASEAN Youth Volunteer Program
CB-SEM	Covariance-based Structural Equation Modeling
CCI	Community and Country Involvement
CFA	Confirmatory Factor Analysis
D ²	Mahalanobis Distance
DBKL	Dewan Bandaraya Kuala Lumpur
Df	Degrees of Freedom
DOA	Department of Agriculture
DOSM	Department of Statistics Malaysia
DRE1M	Dana Sukarelawan 1Malaysia
EDU	Education Level
EXP	Experience
FAITH	Food Always in the Home
FAO	Food and Agriculture Organization
GEN	Gender
HTMT	Heterotrait-Monotrait Ratio
ICSC	International Centre for Sustainable Cities
IM4U	1Malaysia for Youth

INC	Income Level
INT	Intention to Remain
IPMA	Importance-Performance Matrix Analysis
JPBD	Jabatan Perancangan Bandar dan Desa
KMO	Kaiser-Meyer-Olkin
LA21	Local Agenda 21
LISREL	Linear Structural Relations
MAMPU	Malaysian Administrative Modernisation and Management Planning Unit
MANOVA	Multivariate Analysis of Variance
MAR	Marital Status
MARDI	Malaysian Agriculture Research and Development Institute
MASKUM	Malaysian Universities Volunteer Council
MC	Motivation_Career
ME	Motivation_Enhancement
MENGO	Malaysian Environmental NGOs
METS	Malaysia External Trade Statistics
MEX	Motivation_External Factors
MFT	Ministry of Federal Territory
ML	Motivation_Love of farming
MOA	Ministry of Agriculture and Agro-Based Industry Malaysia
MOT	Motivation
MP	Motivation_Protective
MS	Motivation_Social
MTNYC	Million Trees New York City
MTTP	Malaysia Tourism Transformation Plan

MU	Motivation_Understanding
MV	Motivation_Values
NAFP	National Agro-Food Policy
NBOS7 – Voluntourism	National Blue Ocean Strategy Seventh Initiative – 1Malaysia Voluntourism
NCVO	National Council for Voluntary Organizations
NGO	Non-Governmental Organization
PAF	Principal Axis Factoring
PCA	Principal Components Analysis
PGA	Professional Golf Association
PLS-SEM	Partial Least Squares Structural Equation Modeling
PPJ	Perbadanan Putrajaya
Q ²	Predictive Relevance
R ²	Coefficient of Determination
SAT	Satisfaction
SCQ	Satisfaction_Communication Quality
SEM	Structural Equation Modeling
SGI	Satisfaction_Group Integration
SIC	Self-image Congruency
SOS	Social Support
SPE	Satisfaction_Participation Efficacy
SPSS	Statistical Package for the Social Sciences
SS	Satisfaction_Support
SWA	Satisfaction_Work Assignment
UA	Urban Agriculture
UCTC	University Community Transformation Centre

UKM	Universiti Kebangsaan Malaysia
UniKL	Universiti Kuala Lumpur
UPM	Universiti Putra Malaysia
URL	Uniform Resource Locator
USA	United States of America
USAID	United States Agency for International Development
VAF	Variance Accounted For
VFI	Volunteer Functions Inventory
VIF	Variance Inflation Factor
VMS-ISE	Volunteer Motivations Scale for International Sporting Events
VPM	Volunteer Process Model
VSI	Volunteer Satisfaction Index
VSI-C	Chinese Version of the Volunteer Satisfaction Index
WWF	World Wildlife Fund

CHAPTER 1

INTRODUCTION

This chapter discusses the importance of urban agricultural practices and the implementation of Community-based Urban Agriculture (community garden). It also presents the definition and the activities that are related to community garden. In addition, it highlights the campaigns and organizations that support the implementation of community garden as well as the issues and challenges that hinder the sustainability of the program. Then, the problem statement, objectives and the significance of the study were presented.

1.1 Background of Study

1.1.1 Urban Agriculture

1) Definition of Urban Agriculture

Food and Agriculture Organization (FAO, 2017) defined urban agriculture (UA) as the rearing of livestock and planting of crops in cities to produce food products (plant-based) like root crops, grains, mushrooms, vegetables and fruits; livestock such as rabbits, poultry, sheep, goats, cattle and fish; non-food products like ornamental plants, aromatic and medicinal herbs; and tree products. Zezza and Tasciotti (2010) described urban agriculture as the production of livestock and crop within towns and cities. Urban agriculture refers to agricultural activities among the urban dwellers aimed at producing their own food (Department of Agriculture (DOA), 2015). Urban agriculture describes the agricultural activities in the urban areas which focus on the production of fresh products such as vegetables, fruits, ornamental plants herbs and fish (Universiti Putra Malaysia (UPM), 2017). It also includes the production of compost from urban organic waste, rainwater storage, food processing and marketing. Urban agriculture involves the planting, processing and distributing of agricultural and food products through intensive planting activity, selective husbandry and functional landscaping in cities (Malaysian Agriculture Research and Development Institute (MARDI), 2017).

2) Importance of Urban Agriculture

The total population of Malaysia is projected to reach about 43.5 million by 2050 (Refer to Figure 1.1). The urban population growth is expected to constitute around 85% of the total population (Refer to Figure 1.2) (United Nations, 2017). Based on this rapid urbanisation, the Malaysian Government is confronted with the need to provide sufficient food for the urban citizens.

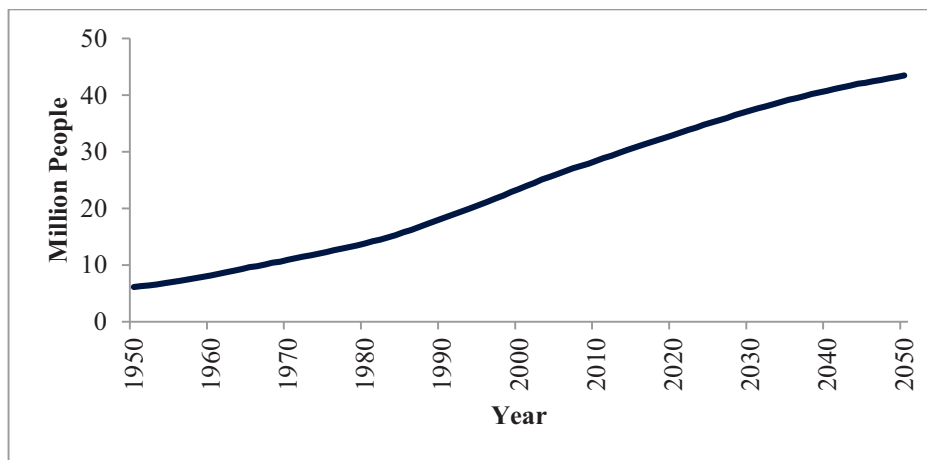


Figure 1.1: Malaysia Population (1950 – 2050)
(Source: United Nations, 2017)

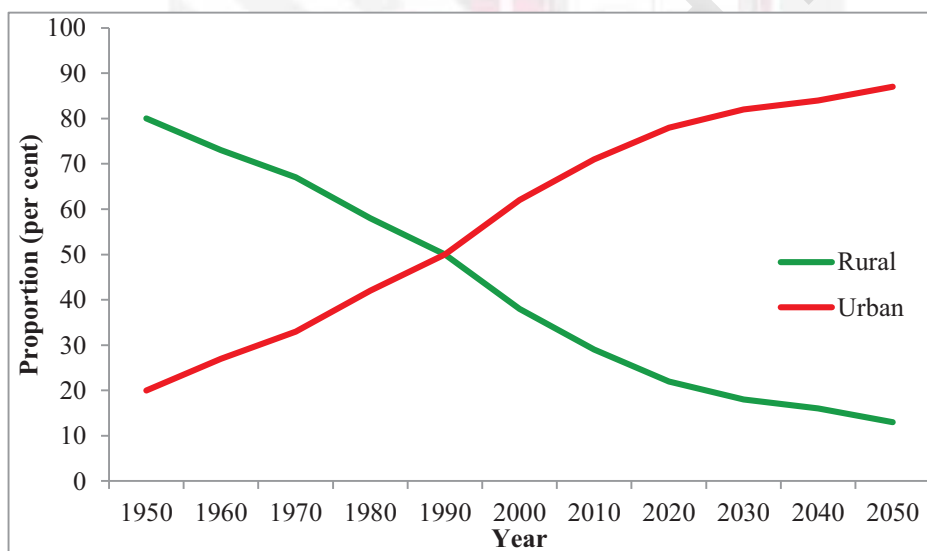


Figure 1.2: Malaysia Proportion of Urban and Rural Dweller (1950 – 2050)
(Sources: United Nations, 2017)

Furthermore, Figure 1.3 reveals that the volume of imported food is always higher than that of the exported food. Hence, the trade balance remains negative and keeps increasing annually (Malaysia External Trade Statistics (METS), 2017). This trend is expected to continue in the future so as to meet the local food requirement. On the other hand, there is a continuous hike in the price of food (National Agro-Food Policy (NAFP), 2011). In 2014, there was a deficiency in the supply of food to the capital due to the natural disaster (flash flood) that occurred in some Malaysian states (DOA), 2015).

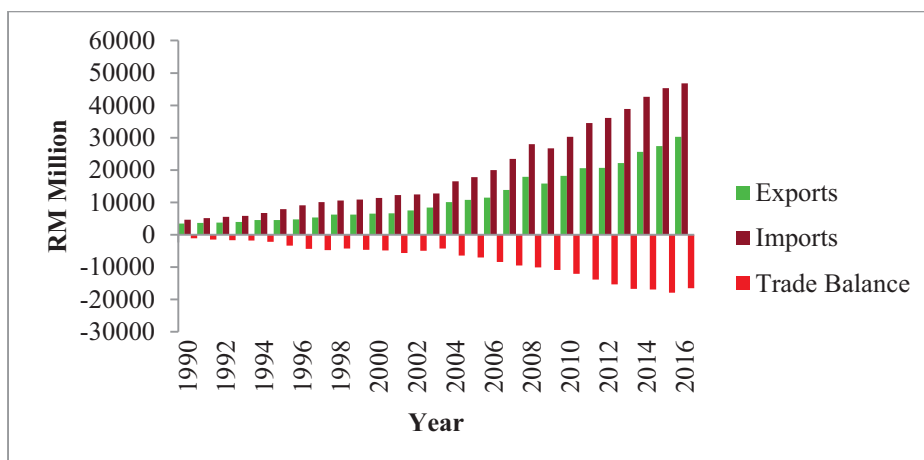


Figure 1.3: Malaysia Exports, Imports and Trade Balance on Food (RM' Million) 1990-2016
(Source: METS, 2017)

According to FAO (2008), urban agriculture can be an effective remedy for food insecurity as it can supply a significant part of the household food requirement especially during times of emergency and scarcity of food. In an economic sense, urban agriculture enables the urban citizens to spend less money on food and acquire additional income through selling the excess produce. Urban agriculture also initiates career opportunities in the urban food industry. This will reduce the poverty rate in urban areas. Urban agriculture also facilitates social integration by bringing the urban dwellers together for communal well-being (Pearson et al., 2010; Zezza and Tasciotti, 2010; Islam and Siwar, 2012; Ackerman et al., 2014). Urban agriculture also contributes positively to urban environmental problems where it also plays a role in recycling urban waste and providing improved living environment (Orsini et al., 2013). Thus, it can be used to ensure sustainability in three major areas such as the environmental, social and economic aspects which are necessary to overcome all the dilemmas most countries will experience in the future (Atkinson, 1995; Brown and Jameton, 2000; Stewart et al., 2013, Ackerman et al., 2014).

The Malaysian government realized that urban agriculture can be employed to build sustainable cities as it has proven to be effective in improving food production and income generation, promoting social interactions and enhancing environmental quality by using (reusing) urban waste. (Jabatan Perancangan Bandar dan Desa (JPBD), 2017a). Hence, the country decided to implement urban agriculture through staging campaigns to promote it among the urban dwellers.

1.1.2 Community Garden Program

The Urban Agriculture Programs initiated by Malaysian government can be classified into three (3) which are Individual Program, Community Program and Institutional

Program. The Community Program is also known as Community Garden Program. It is a Community-based Urban Agriculture Program. The Community Garden Program involves a vacant space collectively utilised by the people occupying a residential area such as flats, apartments and terraced houses for practising urban agriculture. It is also known as Community Garden Program. The produce from community garden used for personal or group consumption, donation or market (Rateike, 2015). According to Mailhot (2015) community gardens are bottom up collaborative efforts by community to grow food. The Community Garden Program is a communal and voluntary activity. That is, all the urban dwellers involved in the program are volunteers. Each volunteer has different motivations for participating in the community garden such as exchange of experiences and learning of agricultural practices, producing their own food, leisure, an avenue to socialise, disconnecting and reconnecting with nature and the cycle of life (Giacche and Silva, 2014). Furthermore, community garden serves as an avenue where people can cultivate important values such as teamwork, volunteering, respect for each other and building environmental awareness in multi-racial community (National Parks, 2017). Community garden also positively aids the individuals and communities in term of social, economic and environment similar to urban agriculture (Turner and Henryks, 2012). In summary, community gardens are public areas where volunteers from surrounding neighbourhoods come together to form, develop and retain a gardening plot in their community.

1) Campaigns

As the Malaysian government realized the importance of urban agriculture in building sustainable cities, it introduced campaigns such as Green Earth Campaign and Urban Agriculture Campaign to create awareness and motivate the urban citizens towards participating in Community Garden Program. The Malaysian government hopes that the initiation of Community Garden Program will promote urban food production and minimize living cost and expenditures (DOA, 2015).

The implementation of the Green Earth Campaign was approved by the Cabinet in its meeting on October 19, 2005 and launched at the national level by the Prime Minister on March 3, 2006 (Perbadanan Putrajaya (PPJ), 2017a). The Green Earth Campaign is an outstanding effort in positioning the agricultural sector as the engine of economic progress in line with the developmental direction of the country. The program consists of three main components namely Plant, Livestock and Aquaculture targeting the dwellers of the residential areas and high-rise apartments. The main goal of this approach is to encourage both urban and rural farming so as to curb the impact of rising inflation and food prices. It is expected that through this campaign, the citizens will be able to enjoy the fresh, nutritious and safe food and also ease their financial burden by producing surpluses for commercial purposes. The program will create beautiful and attractive surroundings and also cultivate the interest of the younger generation towards agriculture (DOA Perak State, 2017). The government perceived this campaign as an effective approach towards diversifying the sources of food supply at urban and semi-urban areas. The Green Earth Campaign can also change the people's mindset with regards to the production of food at available space around their houses as it propagated the supply of food in the home or "Food Always in the Home" (FAITH) (Sabah State Government, 2017). The Ministry of Agriculture and Agro-Based Industry (MOA) launched the

Federal Territory Green Earth Campaign in an official ceremony co-organized with Ministry of Federal Territory (MFT). The Putrajaya Department of Agriculture represents MOA and the Putrajaya Corporation represents the MFT. In conjunction with the official ceremony, the first community garden commenced in Putrajaya on June 29, 2008 (JPBD, 2017b).

The opening ceremony of Urban Agriculture Campaign was held on 8 May 2014 in Putrajaya. It was officiated by YB Dato' Sri Ismail Sabri bin Yaakob (the Minister of Agriculture and Agro-Based Industry). The Urban Agriculture Campaign serves to continue the Green Earth Program in line with the objectives of the National Agro-Food Policy (improved food production and reduced importation). The aim of the campaign is to reduce the cost of living in the communities while meeting the daily needs of the people. To ensure the success of this campaign, some community gardens projects were implemented. Thus, the projects can be beneficial to the social, economic and environmental aspects of Malaysian cities (DOA, 2017a).

2) Community Garden and Activities in Malaysia

Examples of the Community Garden Program are Taman Perumahan, Kota Kemuning; Lim Garden, Ipoh; Taman Desa Damai, Pulau Pinang; Taman Springhill, Seremban; PUSPANITA Hospital Rehabilities Cheras, Ministry of Health (Refer to Table 1.1) (DOA, 2015).

Table 1.1: Examples of Community Gardens and Their Locations

	Locations
Community Gardens	Taman Perumahan, Kota Kemuning Lim Garden, Ipoh Taman Desa Damai, Pulau Pinang Taman Springhill, Seremban PUSPANITA Hospital Rehabilities Cheras, Ministry of Health

(Source: DOA, 2015)

The activities related to the Community Garden Program (Refer to Figure 1.4) are open fertigation and conventional or organic garden (DOA, 2015).

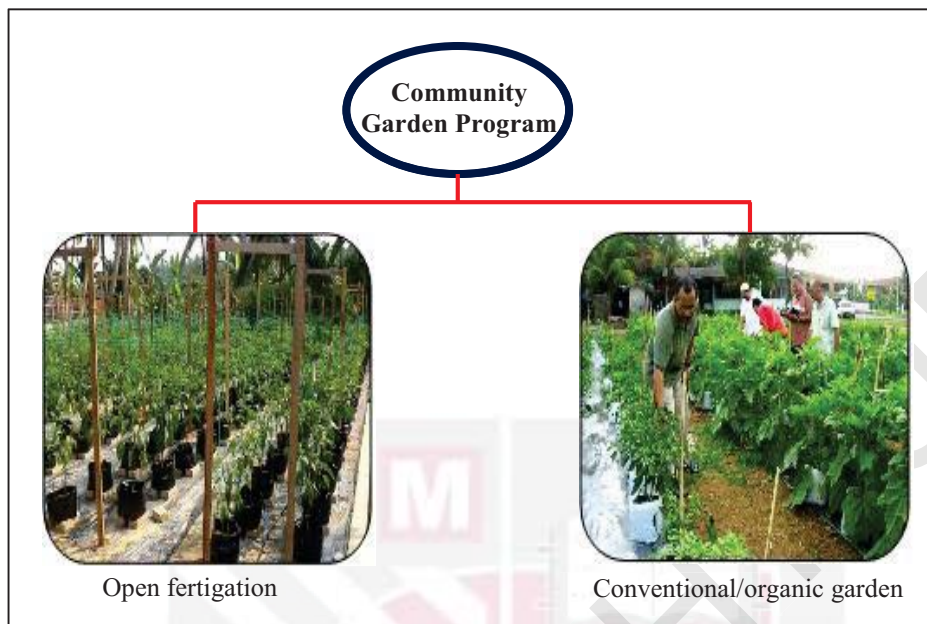


Figure 1.4: Activities Related to the Community Garden Program

3) Organizational Supports

Numerous organizations continue to play key roles in facilitating Urban Agriculture Program towards achieving the objectives of the National Agro-Food Policy (NAFP). The NAFP aimed at providing sufficient and safe food. Some of the organizations which support the Community Garden Program are local authorities, Department of Agriculture (DOA), Malaysian Agriculture Research and Development Institute (MARDI) and Universiti Putra Malaysia (UPM).

In February 2013, the Cabinet directed the Ministry of Agriculture and Agro-Based Industry to formed an Urban Agriculture Division which will oversee the awareness programs required to motivate the city dwellers towards engaging in urban agriculture. The division will be responsible for providing advice, technical consultation, training, coordinating and monitoring agricultural activities in urban and suburban areas (DOA, 2017b). On the 10th of April 2013, UPM initiated its urban agriculture program to promote modern agricultural activities in the urban areas. The program aimed at inspiring the urban residents towards utilizing the small area around their houses for agricultural practices (UPM, 2017). Additionally, MARDI has also taken important steps in promoting urban agriculture among Malaysians. Since the year 2012, it has introduced a number of technologies and other innovations that can be used to enhance urban agricultural activities such as Greenkit, Self-Watering Pots and Plants Self Watering System. All these technologies were developed by taking into account the limited space available for gardening and the lifestyle of the bustling city. The experts from MARDI offer hands-on guidance to ensure proper and efficient handling of the technologies (MARDI, 2017).

The local authorities are also involved in the Community Garden Program under the Local Agenda 21 (LA21). The LA21 governs the execution of Agenda 21 at the local government level. The LA21 program emphasises collaboration and teamwork between public, non-governmental and government sectors to ensure sustainable and peaceful communities with the necessary environmental, economic and social benefits. The fundamental strategy of this program is the 'bottom-up' approach and this paves the way for the initiation and execution of action plans which are important in overcoming problems related to sustainable development. Malaysia started supporting the Agenda 21 "the Global Action Plan towards sustainable development for the 21st century" since 1992 after the declaration of Earth Summit in Rio de Janeiro, Brazil (Dewan Bandaraya Kuala Lumpur (DBKL), 2017).

The local authorities in the urban areas collaborate with the public (urban dwellers) and other government organizations to ensure the success of the Community Garden Program. The local authorities are tasked with promoting the Community Garden Program among the urban residents. Hence, they are mainly responsible for attracting, recruiting and retaining volunteers in the Community Garden Program. Also, the local authorities are responsible for allocating planting areas for the residents which are usually an empty or unused space close to their residential area. Other than just providing the suitable place for urban agricultural activities, they also prepare the land and supply the necessary resources such as soil, fertilizer, seeds as well as seedlings. Furthermore, they usually collaborate with the Malaysian Agriculture Research and Development Institute (MARDI), the Department of Agriculture (DOA) and the Universiti Putra Malaysia (UPM) to stage workshops and training on urban agricultural practices for the volunteers in the Community Garden Program which is necessary for transferring important knowledge and technologies (DOA, 2015; Selangor State Government, 2017).

4) Community Garden and Volunteerism

Community gardens are non-profit programs which predominantly relies on volunteers' assistance to ensure that the garden is managed and organized efficiently in order to achieve their goal (Birky 2009; Howard, 2013). For instant, community gardens in Australia are managed by volunteers and they are responsible to conduct the daily garden work at their community garden (Turner and Henryks, 2012). According to Diaz et al. (2018) most of the researchers give much attention to the social and physical benefits of community gardens towards the volunteers and their communities. Nevertheless, community gardens are facing crucial challenges to sustain and success.

Rayeike et al. (2015) stated that the community gardens' general challenge lies on volunteers' participation. In 2015, Mailhot found that securing enough local people to volunteer for the community garden was the major challenge. They also indicated that retaining volunteers for the program is a challenge for community garden. These issues were supported by Kingsley et al. (2009) and Hale et al. (2011). Additionally, Grayson and Campbell (2002) specified that maintaining community garden volunteers' interest as another challenge. According to them, community garden which typically relies on dedicated volunteers will be at risk if volunteers lose their interest and do not involve in the program anymore. Federation of City Farms Community Garden (2018) also revealed

that some of the community gardens were failed because the volunteers loss their enthusiasm and no longer volunteer for the program. Therefore, sustaining volunteers' involvement and ensuring their continuity are the key elements in assuring the long term success of the community garden.

According to Rateike (2015), fluctuation of volunteers' engagement in Knoxville community gardens on regular basis was influenced by lack of interest and it caused high turnover rate at the community gardens. In 2015, Drake and Lawson discover that lack of interest among the community gardens volunteers in the United States and Canada caused loss of 1615 gardens from year 2007 to 2012. They also found that the abandoned plots contributes to weeds and diseases that able to affect other plots. This increases the time volunteers need to spend on the field and discourage them from volunteering for community garden. Landry et al. (2015) indicated that the major barrier of community garden development and sustainability is lack of volunteers. The volunteers of community gardens mentioned that the garden works were difficult to carry out as it is too hot and dirty. Other than that, they also do not possess gardening skill and they often quit volunteering prior to harvesting. Consequently, few volunteers carried out most of the work loads.

Buenemann (2017) specified that six out of ten community gardens in Midwestern had insufficient volunteers to establish sustainable gardens. This resulted in higher turnover rate and contributed to greater successive recruitment and training. According to the Midwestern garden administrators, it lead to loss of community unity and invested education resources. However, the management of community gardens should be transfer to new volunteers for the sustainability of the garden, otherwise it may falter (Harris, 2008). Besides, community gardens in Florida also facing the same problem where it find difficulties in attract and retain committed volunteers (Diaz et al., 2018).

5) Practices of Volunteerism in Malaysia Culture

The enthusiasm towards volunteerism is a unique attribute of every Malaysian citizen. Volunteerism indicates an individual devotion towards charitable and religious selflessness. The history of Malaysian volunteerism is similar to those of other societies. Volunteerism began in Malaysia as a response to war, economic crisis and political conflicts (Veerasamy, 2012). In 1940, volunteerism emerged in Malaysia when the society protested against the colonial power (Mohamed, 1986). Volunteerism has become one of the Malaysian Youth Council's agenda since the year 1948 (Hamzah and Suandi 1994). It was emphasised in the Malaysian Youth Policy as an avenue for producing talented individuals that can contribute to the life of others (Norshafawati, 2014). In 1985, the United Nations General Assembly declared 5th December as the International Volunteer Day (Mustafa, 2015). It is a day to recognize the volunteers and their functions in community service. In a multiracial country like Malaysia, volunteerism is able to bring peace and harmony as well as togetherness in enhancing the well-being of nation. Community garden is one of the voluntary program in Malaysia where it is run based on collaborative efforts of volunteers from a neighbourhood to grow food.

In Malaysia, majority of the people involved in volunteerism are retirees. Meanwhile, the involvement of young generation and professionals in volunteer activities is limited due to certain constraints such as energy and time (Hussin and Arshad, 2012). In 2011, the Chairman of Malaysian Red Crescent, Dr. Sia Tih Kong noted that the spirit of volunteerism in Malaysian Red Crescent is declining as people are now more concerned with the demands of daily life brought about by development and modernization (Shari et al., 2013). Hence, the Malaysian government now gives priority to youth development issues such as volunteerism and social engagement by establishing collaboration with all development agencies and non-governmental organizations (Hussin and Arshad, 2012).

The Malaysian Former Prime Minister, Dato' Seri Najib Tun Razak launched 1Malaysia (IM4U) on July 2012. The program aimed at enhancing the spirit of volunteerism among the Malaysian youth. The Prime Minister also declared "2013" as the Year of Volunteer and allocated RM 100 million funds called the Dana Sukarelawan 1Malaysia (DRE1M) for the IM4U volunteer program (Shari et al., 2013). The fund is directed towards promoting volunteerism among the youths in their respective communities. Promotional activities were carried out by the government to encourage the youths in cultivating the habit of giving back to the country and community (Nazilah et al., 2014). All the initiatives under IM4U were based on four agenda namely art, culture and innovation, community well-being, sport and knowledge building. Also, IM4U collaborated with several organizations that are passionate about the program's objectives such as Nestle, Aeon, Malaysia Airlines, Spritzer, Kenny Rogers Roasters, Dutch lady and so on (IM4U, 2017).

Additionally, the Malaysian government introduced elements of volunteerism into the Malaysian national education policies as it realized the importance of student involvement in volunteer activities (Ministry of Education Malaysia, 2013). In Malaysia, volunteer programs in higher educational institution started since the 1970s when social services were carried off campus to encourage the students' participation in community development (Mohamed, 1896). In 2007, the Ministry of Higher Education initiated the Malaysian Universities Volunteer Council (MASKUM) to enhance the smooth implementation of professional volunteers. MASKUM acts as the planner, coordinator and motivator to the students of higher institutions of learning in accomplishing volunteer activities and also helps them in becoming more responsible citizens (Hamzah et al. 2011). The Department of Higher Education also ensured the implementation of credited co-curriculum courses at all Institutions of Higher Education since the 2010/2011 session (Badusah et al., 2009). These credited courses are compulsory and must be passed before the students can graduate (Alias and Balakrishnan, 2016).

In September 2012, the Ministry of Tourism and Culture Malaysia introduced 1Malaysia Voluntourism in its seventh initiative under the National Blue Ocean Strategy (NBOS7-Voluntourism). The program aimed at creating awareness and promoting the involvement of communities in tourism based on volunteer activities. The Five themes of the program are 1Malaysia Green 1Malaysia Clean (1MG1MC), 1Malaysia Voluntutoring, 1Malaysia Volunsharing, 1Malaysia Culture and Heritage and 1Malaysia Event (Omar and Ahmad, 2015). The Ministry also partners with other government agencies including local authorities, private sector, associations and non-governmental organizations (NGOs), public and private institutions of study and youth movements to

achieve wider volunteer target numbers required to produce greater and more comprehensive impacts. Some of the organizations participating in the 1Malaysia Voluntourism Program are the Homestay Association of Malaysia, the Universiti Kuala Lumpur (UniKL), the Federation of Malaysian Peninsular, Malaysia Nature Society, Sepang Avani Gold Coast, Body Shop, Hiap Teck Venture Berhad, the World Wildlife Fund (WWF), Malaysian Environmental NGOs (MENGO), EcoKnights, IM4U and others. Since the commencement of the program in August 2015, a total of 272 activities involving 87,473 volunteers have been accomplished. Interestingly, about 53% of the volunteers were youths, followed by civil servants (18%), local communities (14%), non-governmental organizations (NGOs) (8%) and corporate sector (7%). The program will help to promote the country's tourism sector and facilitate the growth and development of the industry. The Malaysia Tourism Transformation Plan (MTTP: 2020: 36: 168) is aimed at receiving about 36 million foreign tourists by 2020 and generating around RM 168 billion from the industry (Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), 2017).

The ASEAN Youth Volunteer Program (AYVP) commenced in Malaysia in 2003 with the support of the U.S. Agency for International Development. The program has its permanent secretariat at the Universiti Kebangsaan Malaysia under the auspices of the Malaysia Ministry of Youth and Sport. It is a knowledge-driven volunteerism platform for youth which supports the exchange of learning experiences, developing capacity, enhancing cross-cultural understanding and forging a sense of regional identity while making sustainable impacts on communities across ASEAN (Ismail, et al., 2014). The eight themes of AYVP are the environment and climate change, ASEAN's heritage protection, disaster risk reduction, rural development and poverty eradication, social entrepreneurship, youth-friendly health services, education development, sports and recreation. To achieve these goals, the AYVP works in partnership with stakeholders like Universiti Kebangsaan Malaysia (UKM), University Community Transformation Centre (UCTC), United States Agency for International Development (USAID), Association of Southeast Asian Nations (ASEAN), Ministry of Youth and Sport, Ministry of Culture and Tourism and Ministry of education (AYVP, 2017).

The Malaysian government introduced a new organization called MyCorps. This was an initiative of the Ministry of Youth and Sports with their other partners like the Malaysian Humanitarian Aid and Relief, the Malaysian Lifeline for Syria, the Ministry of Home Affairs and the International Youth Centre. The goal of MyCorps is to promote and enhance volunteerism spirit among Malaysian youth through involvement in international volunteer activities. Other than that, it also aimed at creating awareness about local and international war, peace, cohesion, conflict, education, health and disaster (Hamzah et al., 2016). In the 2015 budget, about RM 10 million was allocated for the MyCorp program by the Prime Minister of Malaysia. Furthermore, the Prime Minister emphasised the involvement of non-governmental organizations in the program. As a recognition of the role of NGOs in volunteerism, he declared 2015 as the year of NGOs' empowerment and volunteerism (MyNGO 2015). MyCorps is involved in volunteer activities in several countries such as Cambodia, Jordan, Lebanon, Turkey as well as Sudan (MyCorp, 2017).

Even though the Malaysian government provides necessary supports for the volunteer programs in terms of funds and facilities, continuous attrition of volunteers is still a major issue that needs to be considered. In 2008, Kasim found that out of 100 respondents, 96 respondents indicated low involvement in community-based volunteerism while 4 respondents had moderate level of involvement. Do Something Good (2017) revealed that Malaysians have less interest in volunteerism as there are only 7 registered volunteers per 1000 Malaysians. Moreover, less than 1% of youth aged above 15 are involved in volunteerism. Also, it was found that less than 30% of the respondents who took part in the survey are currently active in their respective organizations. Kamaluddin and Wahida (2013) noted that the factors affecting the recruiting and retaining of new cancer care volunteers in Malaysia are mobility, time constraint, financial and locality issues. According to Ooi and Yusuf (2015), sports volunteerism is declining in Malaysia due to the challenges faced by the organization in recruiting and retaining prospective members. A random survey conducted by the Malaysian Digest in 2016 revealed that 60% of the youth have never participated in any volunteer program due to lack of interest while the remaining 40% participated for the sake of assignment and credit requirement. Wirda Mohd Ali, the Manager of the IM4U Brand Management Group also noted that volunteerism remains relatively unpopular among the Malaysian Youth. Shah et al. (2015) indicated that even though Malaysians are aware of the benefits of volunteerism, there is still a considerable segment of the population that does not participate in volunteer activities (Shah et al., 2015). Community garden is also a voluntary program which rely on volunteers' help to carry out the day to day gardening activities. In conclusion, the Malaysian government is still facing challenges in recruiting and retaining volunteers for its volunteerism programs even though many initiatives have been put in place to ensure maximum participation.

6) Constraints and Challenges in Urban Agriculture and Community Garden Program

Malaysia like every other nation needs to ensure adequate implementation of urban agriculture before it can reap its social, economic and environmental benefits. The implementation of urban agriculture in Malaysia has received maximum support through favourable government policies and other organizational efforts. However, the sustainability of the program is still subject to certain constraints. The major constraints are working people, young family profile, time limitation, limited space and funding. Most families in Malaysia cities have young family members (dependent children) where both husband and wife are working. After eight working hours or more, the parents have limited time to spend with their children. Thus, it becomes challenging for them to get involved in other social activities. In fact, most families have no time to converse with their neighbours. Also, limited space in cities makes urban agriculture impossible to practice. Even though the people living in apartments and flats may be interested in practicing urban agriculture, the limited space might be a constraint. Lastly, large-scale Urban Agriculture Program requires funding. The difficulty in getting enough funding is another constraint impeding the sustainability of the urban agriculture program (DOA, 2015; PPJ, 2017a).

Interestingly, the Community Garden Program can be used to overcome the issue of limited space. The local governments are providing space for those living in flats,

apartments and terrace houses for urban agricultural activities. The government organizations are also providing educational materials and other resources such as soil, seeds, seedlings and fertilizer for the program. However, the program needs volunteers who are willing to spend their precious time and energy for the sustainability of the community garden. This is because involvement in Community Garden Program is time consuming and relatively demanding without any payment. Following the launching of first community garden in Putrajaya in the year 2008, many urban local authorities have also come up with their respective community gardens.

Sustainability of community gardens is positively correlated with volunteers' commitment. However, the Community Garden Program is facing challenges in attracting and sustaining the involvement of volunteers similar to community gardens in other parts of the world. In an interview with The Star year 2014, Noriah Mat, the Senior Deputy Director of Putrajaya Corporation Landscape and Parks Development mentioned that the biggest challenge in sustaining the Urban Agriculture Program in Putrajaya is the low participation of residents in the community garden. There should be at least 25% participation rate in every community gardens, but the highest rate achieved so far is 11% and this has also declined over the year to about 5% (Ramalingam et al., 2018). That is, the involvement of volunteers in the Community Garden Program keep decreasing year by year. For instance, the total number of two community gardens' volunteers was 100 people in 2009 (PPJ, 2011a) while eight community gardens in Putrajaya have only 63 volunteers in 2011 (PPJ, 2011b). This indicates declining volunteers while the number of community gardens is increasing. In 2016, there are only two community gardens in Putrajaya which are Community Garden 1 in Presint 9 and Community Garden 2 in Presint 8 (PPJ, 2017b). Hence, the failure in the Community Garden Program is due to the lack of volunteerism.

The similar problem was faced by community gardens in other area of Klang Valley. For instance, during a phone interview conducted on 10 October 2016, extension officer of Kajang Municipal City, Mr. Faizul mentioned that there should be two community gardens initially. However, one of the community garden was abandoned and another community garden only had 5 volunteers. One of the community garden in Selayang which was initiated in year 2013 also had the same problem where it was abandoned by the volunteers. This was confirmed by the community garden representative, Mr. Irman during phone interview on 8 September 2016.

Besides, an interview with one of the Shah Alam community garden representative, Mr. Dolah, on 10 October 2016 found that lack of committed volunteers was the main issue faced by the community garden. Another interview conducted with representative of Petaling Jaya community garden, Mr. Mohamad on 8 November 2016 also found the same where the representative mentioned that as times goes by the number of committed volunteers keeps reducing. Other than that, he also mention that the volunteerism is not continuous where people volunteer for few seasons then discontinue for few seasons and continue back to volunteer.

Extension officer from Department of Agriculture also expressed that at the beginning of the program many interested, however to sustain their interest is difficult.

Additionally, most of the Municipal Cities' extension officers asked to share the result of the study on how to retain the volunteers for the Community Garden Program is another indicator that retaining volunteers for longer term is the main challenge for most of the community gardens in Klang Valley.

In 2010, Kaur and Hitam discovered that there is lack of community participation in sustainable program while Yusoff et al. (2017) specified that very few studies have been conducted on urban agriculture in Malaysia due to lacking of public participation or in another word lacking of volunteers.

In conclusion, even though there are constraints limiting the urban dwellers' participation in Urban Agriculture Program, there are still interested individuals who are willing to volunteer for Community Garden Program. However, their involvement is not sustainable leading to the failure of the Community Garden Program. Thus, the Community Garden Program is facing challenges in recruiting and retaining the volunteers.

This study focuses on the Community Garden Program which is the common type of urban agriculture practiced in most countries. This is due to the huge amount of money invested by the Malaysian Government on the Community Garden Program. The program is aimed at integrating the society and reducing the living cost. For instance, the Selangor State Government allocated RM 500,000 for the implementation of Community Garden Program in the first quarter of 2016 (Selangor State Government, 2017). However, the success of the Community Garden Program still rests in the hands of the urban volunteers. The unsustainability of the Community Garden Program brought about by the declining involvement of volunteers can cause huge loss to the country. Therefore, this study intends to determine the Community Garden Program volunteers' intention towards continuous participation while providing necessary suggestions regarding the current issues.

1.2 Problem Statement

The Malaysian government has realized that urban agriculture can be an effective remedy to numerous issues such as the continuous increase in urban population, increase in the volume of imported processed food, hike in food price and natural disaster that could cause shortages in food supply to the urban dwellers by the year 2050. Thus, Community-based Urban Agriculture Program (Community Garden Program) was introduced to improve food production and availability in the cities. Malaysian government launched campaigns such as Green Earth Campaign and Urban Agriculture Campaign to create awareness and motivate the urban dwellers towards volunteering for the Community Garden Program. Various governmental organizations such as the local authorities, Department of Agriculture, Universiti Putra Malaysia and the Malaysian Agriculture Research and Development Institute also played key roles in stimulating the urban dwellers' participation in the program.

The Community Garden Program is initiated by the community through the assistance of the local authorities and other interested organizations. The Community Garden Program is basically a volunteer activity among the individuals in a particular locality. Since most of the people are usually busy with their careers and other family engagements, volunteerism is the only mechanism that can be employed to ensure adequate participation in the Community Garden Program. Schedule has to be made to distribute tasks among the volunteers in the program. Therefore, the success of the community garden is heavily relies on the urban volunteers' participation. Currently, community gardens in Malaysia are facing difficulties in securing enough urban dwellers to be volunteers for the program and also retaining those who already volunteering for the Community Garden Program. Hence, community gardens that typically relies on committed volunteers are at risk as the volunteers lost their interest and no longer volunteer for the program. As a result, the number of volunteers in the program continues to decline leading to closure of some of the community gardens and cause loss to the country. Hence, the sustainability of the Community Garden Program calls for immediate attention.

The current condition of the Community Garden Program is similar to other volunteerism programs in Malaysia as well as community gardens in other parts of the world where recruiting and retaining of the volunteers are the critical issues. According to previous researchers, understanding the relationships between volunteers' motivation, satisfaction and intention to remain able to solve the issues related with volunteers' recruitment and retention. Even though there are literatures that hint the relationship between these three variables, some deficiencies are still exist. For example, Volunteer Process Model (VPM) by Omoto and Synder (1995) did not study the relationship between motivation and satisfaction while Volunteer Functions Inventory (VFI) by Clary et al. (1998) did not show the association between satisfaction and intention to remain. Besides, Volunteer Satisfaction Index (VSI) did not include volunteers' motivation in their model. In 2011, Love et al. have established a model that relates all those variables but it is relevant to the sport field only. Moreover, no studies have been done on community garden that related to volunteers' recruitment and retention issues in Malaysia. Hence, this study aims to fill the gap that found in the literature which is lack of understanding on linkage of volunteers' motivation, satisfaction and intention to remain that could be used as solutions for challenges faced by Community Garden Program.

1.3 Research Questions

The primary research questions are as stated below:

- 1) What are factors that could influence volunteers continued participation in the Community Garden Program?
- 2) How do the socio-demographic characteristics of the volunteers affect their intentions to continue as volunteers in the Community Garden Program?

1.4 Study Objectives

The general objective of this study is to measure the respondents' intention to remain in the Community Garden Program. The specific objectives are:

- 1) To investigate the factors that influence the respondents' intention to remain in the Community Garden Program.
- 2) To determine the effect of the socio-demographic characteristics of the respondents on their intention to remain as volunteers in the Community Garden Program.

1.5 Significance of Study

The study 'volunteers' intention of Remaining in Community Garden Program in Klang Valley, Malaysia' will generate valuable information regarding the volunteers' intention towards continuous participation in the Community Garden Program. These include the determinants of the volunteers' intention to remain in the program, the factors that could influence sustainable involvement in the program and the effect of the socio-demographic characteristics of the volunteers on their intentions to continue participating in the Community Garden Program.

This study will help the local authorities to understand the volunteers' intention which can facilitate their recruiting and retaining in the Community Garden Program. It will also enlighten other government organizations such as DOA, MARDI and UPM on the most effective ways of providing helping hands to the local authorities to ensure the smooth running of the Community Garden Program. Furthermore, the policymakers can also use the information from the study to adjust their policy directions so that it can be more favourable to both the government organizations and the volunteers in Community Garden Program. Consequently, all this will enhance the sustainability of the Community Garden Program in Malaysia.

The approach used in the study can serve as a guideline to other academicians and researchers. Measuring the volunteers' intention towards continuous participation in the Community Garden Program will certainly contribute to the existing literature on volunteerism. It will significantly contribute to the development of the volunteerism theories as the conceptual framework of study will reveal the relationship between the variables and how they influence the volunteers' intention with regards to continued involvement in the Community Garden Program. This will provide some useful hints for further research on volunteerism related topics.

1.6 Contribution to Knowledge

This study will certainly provide new insights on volunteerism among the urban dwellers in term of their participation in a Community-based Urban Agriculture Program. To the author's awareness, this is the first research proposed to investigate the volunteers'

intention regarding continuous involvement in the Community Garden Program in Malaysia. It is an interesting topic as it can help the local authorities to understand the volunteers' intention which can facilitate the recruiting and retaining of participants in the Program. Furthermore, this study will also explore the effect of the volunteers' socio-demographic variables on their intention to continue participating in the program. Thus, the findings from the study will reveal new ideas which can be essential to policy formulation.

1.7 Organization of the Thesis

The outline of the thesis is as set out in this section. The thesis consists of five chapters which cover the introduction to the conclusion of the study. The first chapter which is introduction demonstrates the background of the study such as international and domestic community garden practices, types of community garden etc. It also describes the problem statement, the aim of the study and the contribution to the knowledge. Chapter two comprises the review of appropriate literature related to volunteerism. The methods employed in the study are illustrated in chapter three which include the conceptual framework, survey instrument, sampling techniques and statistical tools used to accomplish the aims of the research. Chapter four presents the results of the descriptive analysis, exploratory factor analysis, reliability test, structural equation modeling analysis and binary logistic regression. Finally, chapter five presents the conclusions based on the findings from the study, provides recommendation and discusses the limitation of the study.

1.8 Chapter Summary

This chapter starts with the definition of urban agriculture which highlights the importance of urban agricultural practices. This is followed by the discussion on community garden and other related activities. It also highlights the challenges encountered in the Malaysian Community Garden Program. Lastly, it presents the problems statements, research objectives and significance of the study.

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