Community Garden Programme – An Analysis of Volunteers' Motivations and Age Groups

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Abstract: Community-based Urban Agriculture Programme was implemented by Malaysian government as an approach to overcome issues related to overpopulation including food insecurity and urban poverty. Nevertheless, attracting urban dwellers to be volunteers for the programme has become the key challenge for Local Authorities. Hence, this study aims to determine factors that motivateurban dwellers to join the programme and to understand whether age has an impact on various sortsof motivations. A Modified Volunteer Functions Inventory was utilised to measure the volunteers' motivation. The primary data was collected by using paper-based questionnaires with 375 Community Garden Programme volunteers. Descriptive analysis and multivariate analysis of variance were applied to analyse the collected data. The outcome of the researchexhibited that love of farming was the most important motive and social was the least important motive for the urban dwellers to be involved in Community Garden Programme. Moreso, the findings specified that there weresignificant differences in volunteer' motivations according to their age groups. Thus, this study will be able to assist the Local Authorities in the volunteers' recruitment process.

Keywords: Urban Agriculture, Volunteerism, Motivation, Malaysia, MANOVA

I.   INTRODUCTION

United Nations (2004) estimated that the global population will pass the 9 billion mark by 2050. The organisation also indicated that by year 2030, greater than 60 percent of theglobal population will be residing in towns (United Nations, 2005). Currently, urban agriculture is believed to be one of the resolutions for overpopulation consequences such as food insecurity, urban poverty andurban waste management. In response to food security issue, most of the developing countries have maintained agriculture within cities (Matteson & Langellotto, 2009). Hence, urban agriculture has developed quickly. For instance, in the past 30 years, urban agriculture in United States has been expanded by more than 30 percent (Lin *et al*., 2015). Other than that, urban agriculture is also able to alleviate poverty by offering opportunities for employment and income earnings (Lynch *et al*., 2001). Moreover, urban agriculture plays a significant role in city greening, as urban waste is being reused and urban energy footprints being reduced (Specht *et al*., 2014). Urban agriculture is the process of plants cultivation and animals raising in the cities for food production and distribution. Examples of urban agricultural activities are housing estates, small farms, land sharing, green houses, rooftop gardens and others (Tornaghi, 2014).

Malaysia is one of the developing countries that make urban agriculture an important policy consideration. In year 2015, the urban population of Malaysia was 73.5% of the total population. By year 2020, the amount is expected to reach 75% due to migration of rural youth to cities (Masron *et al*., 2012). These resulted in food insecurity, urban poverty and jobless citizens (Siwar *et al*., 2016; Mok, *et al*., 2007). Hence, there is a need for the government to meet the food demand as urban population keeps growing. According to Malaysia International Trade and Industry (MITI) (2015) the amount of processed food being imported by Malaysia continues to rise. Theliving cost in urban areas of Malaysia is also raised due to anincrease in food production, processing and distribution cost (Rezai *et al*. 2016). However, in order to overcome the dilemmas of food insecurity, high cost of food, high expenditure on imports and high unemployment rate, Malaysia beganto implement urban agriculture throughout the country, formally in year 2014 (Tiraieyari & Krauss, 2018).

Community-based urban agriculture (Community Garden Programme) is one of the Urban Agriculture Programmes that are being promoted by Malaysian government. This programme was developed by Local Authorities through Local Agenda 21 (LA21) and supported by other organisations such as Department of Agriculture (DOA), Malaysian Agriculture Research and Development Institute (MARDI) and Universiti Putra

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Malaysia (UPM). Soil, seeds, fertilizers and training were provided by these organisations to make the programme successful (DOA, 2015). However, the success of the programmedepends on urban volunteers. The Senior Deputy Director of Putrajaya Corporation Landscape and Parks Development, Noriah Mat indicated that Community Garden Programmes are facing the challenge of attracting the volunteers (The Star, 2014). Therefore, the sustainability of the Community Garden Programme has become a question mark. This study aims to ascertain the motivations that lead the urban dweller to be involved in the Community Garden Programme and influence of age group on different types of motivations

II. LITERATURE REVIEW

Volunteers are the most important resources for non-profit organisations. For instance, nearly one billion people are spending their valuable time for volunteering activities through public, non-profit, or for-profit organisations or directly for friends or neighbours all around the world (Salamon *et al.*, 2011). Volunteering is defined as devotion of time and energy without compensation that is beneficial to others (National Council for Voluntary Organisations (NCVO), 2017). In 1998, Clary *et al.* established Volunteer Functions Inventory to assess motivational factors that are able to answer why individuals join in helping activities for free, which is also recognised as volunteerism. The six motivational functions were: 1) Values: It relates to the need to help make the world a better place; 2) Understanding: Opportunities for individuals to learn and to exercise knowledge and skills. 3) Social: Opportunities to be with friends and build relationships with others. 4) Career: Opportunities associated with career-related benefits that may be derived from a volunteer experience. 5) Enhancement: Opportunities for personal development and growth. 6) Protective: Opportunities related to address one's own personal problems (Jacobson *et al.*, 2012). Alexander *et al.* (2015) stressed motivation as an important precondition for satisfaction and behavioural intention. It is a strongest psycho-graphic variable affecting segmentation and a personal inner state that directly satisfies a felt need and triggers a behavioural intention (Park & Yoon, 2009).

In 2008, Salas who studied intention to leave government volunteering, found out that there were statistically significant differences according to age groups in career motivational functions. At the 2007 World Artistic Gymnastic Championships in Germany, the younger volunteers ranked career motives, self-interest, tangible rewards and networking as the highest motivators while the elder mentioned that they served out of commitment to the sport (Jarvis & Blank, 2011). According to Wong and Foo (2011), there was negative correlation between Singapore Volunteer Welfare Organisations volunteers' age and motivation factors such as values, understanding, career and protective. Wollebaek *et al.* (2012) indicated that younger volunteers at the Nordic Skiing Championship were highly motivated by career enhancement while the older volunteers by love for the sport. Claudia Nave and do Paco (2013) who determined motivation towards corporate volunteering, found out that younger respondents tend to attach greater importance to the motivational factor understanding while older to protective factor. Dickson *et al.* (2013) stated that older volunteers at the 2010 Vancouver Olympic and Paralympic Games were motivated by the overall significance of the event. Vansickle *et al.* (2015) who studied volunteer motivations at the 2012 Super Bowl specified that age was significantly different on community, career and love of sport. Taking the findings of earlier researchers into consideration, the current study aimed to discover whether such differences can also to be found in the Community Garden Programme volunteering. So, the following hypothesis was formulated:

H_1: There are significant motivational differences between age groups of Community Garden Programme volunteers.

III. METHOD

3.1 Procedures and participants

To address the hypothesis, Local Authorities in Klang Valley were contacted and details on Community Garden Programmes were obtained. Then, the gardens' representatives were contacted to distribute paper-based questionnaires among the volunteers. Two weeks later, the questionnaires were collected back from the representatives. The response rate was 97% with 375 volunteers in total.

3.2 Instrumentation

Clary *et al.* (1998) Volunteer Functions Inventory with six dimensions was modified by adding another two dimensions such as love of farming and external factors. The study included 40 items to measure volunteers' motive to be involvedin the Community Garden Programme. Questions addressed the eight dimensions, including protective ("No matter how bad I have been feeling, volunteering in Urban Agriculture helps me to forget about it"), values ("I want to help out in any capacity"), career ("By volunteering in urban agriculture, I can make new contacts that might help my business or career"), social ("My friends volunteer in Urban Agriculture Programme"), understanding ("Volunteering in Urban Agriculture Programme allows me to

gain a new perspective on food production"), enhancement ("Volunteering in urban agriculture makes me feel that I am a part of the community"), love of farming ("I like any event related to farming") and external factors ("Along with government policy I try to create my own food"). Volunteers rated each items using 7-point likert scales, 1 "strongly disagree" to 7 "strongly agree". Moreover, relevant demographic variables such as age, gender, education level, employment status, income, marital status and experience were included in the questionnaire.

3.3 Data analysis
Descriptive analysis was completed to describe the sample in term of demographic profiles and motivation factors through frequency, percentage and mean values. Then one-way multivariate analysis of variance (MANOVA) was performed to assess whether there are any significant differences between age groups on Volunteer Functions Inventory factors.

RESULTS AND DISCUSSION
4.1 Demographic profile of volunteers
Table 1 shows the volunteers' socio-demographic profile. More than 60 percentof the volunteers were aged between 40 -59 years old. Approximately 46 percent of the volunteers were male and the rest were female volunteers. Only seven percent(7%) of the volunteers possess primary level education while the remaining possess secondary (57.6%) and tertiary (35.2%) level education. Most of the volunteers were works in private sector (40.3%). Majority of them had income level less than RM 2500 (72.0%) and married (89.3%). About 79% of the urban dwellers had less than 2 years of experience as volunteers in Community Garden Programme.

Table 1: Summary of volunteers' background

Characteristic	Frequency(n)	Percentage (%)
Age (years old)		
20-29	23	6.1
30-39	67	17.9
40-49	107	28.5
50-59	126	33.6
60 or older	52	13.9
Gender		
Male	172	45.9
Female	203	54.1
Education level		
Primary education	27	7.2
Secondary education	216	57.6
Tertiary education	132	35.2
Employment status		
Not working	52	13.9
Retired	52	13.9
Housewife	81	21.6
Government sector	39	10.4
Private Sector	151	40.3
Income		
Less than RM 2500	270	72.0
RM 2500-RM 5000	81	21.6
More than RM 5000	24	6.4
Marital status		
Single	40	10.7
Married	335	89.3
Experience		
Less than 2 years	295	78.7
2-3 years	73	19.5
More than 3 years	7	1.9

4.2 Descriptive analysis of motivation factors

Figure 1 illustrates the mean value of eight motivation factors. The mean value range from 5.83 to 5.28. Love of farming (5.83) was the highest followed by values (5.71), enhancement (5.69), understanding (5.62), external factors (5.59), career (5.32), protective (5.30) and lastly social (5.28). This shows that mostly the urban dwellers were motivated to be volunteer in the Community Garden Programme due to their passion in farming activities.
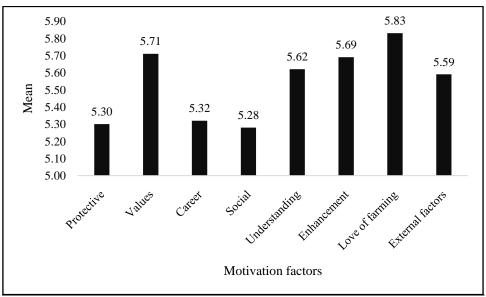

Figure 1: Mean of motivation factors

4.3 Multivariate analysis of variance

The objective of the study was to examine the variances in motivations to volunteer in Community Garden Programme upon various age groups. Mean scores were used to investigate the difference between age groups. Findings specified that there was a statistically significant difference in volunteer' motivations based on their age groups, $F (32, 1340) = 1.811$, $p<0.05$; Wilk's $\lambda =0.855$, partial $\eta^2 = 0.038$ (Table 2). Hence, H$_1$ is supported.

Table 2: Multivariate test

Variable	Wilks λ	F	df	p
Age	0.855	1.811	32	0.004

Follow-up univariate ANOVAs in Table 3 indicated that age groups have a statistically significant effect on love of farming ($F (4, 370) = 3.016$; $p< 0.05$; partial $\eta^2 = 0.032$) and external factors ($F (4, 370) = 3.220$; $p< 0.05$; partial $\eta^2 = 0.034$).

Table 3: Test of between-subject effects

Independent variable	Dependent variable	MS	F	df	p
Age	Protective	1.537	1.507	4	0.199
	Values	1.801	2.111	4	0.079
	Career	2.506	2.050	4	0.087
	Social	0.750	0.784	4	0.536
	Understanding	0.895	1.176	4	0.321
	Enhancement	0.577	0.714	4	0.583
	Love of farming	2.867	3.016	4	0.018
	External factors	2.786	3.220	4	0.013

Examination of Tukey *post hoc* assessmentsexposedparticular group differences. The review of *post hoc* assessments is demonstrated in Table 4. The table shows that the mean scores of love of farming were significantly different between age groups 20-29 and 40-49 (*p*< 0.05), as well as age group 20-29 and 50-59 (*p*< 0.05). Volunteers aged between 20-29 years old rated love of farming lower than volunteers aged between 40-59

years old. The finding was similar to that of Wollebaek *et al.* (2012). Moreover, the mean scores of external factors were significantly different between age group 20-29 and 50-59 ($p < 0.05$). Likewise, volunteers aged between 50-59 years old rated external factors higher than volunteers aged below 29 years old.

Table 4: Summary of Tukey *post hoc* tests

IV	DV	Category 1	Category 2	Mean difference (Cat. 1 – Cat. 2)	*p*
Age	**Love of farming**	20 – 29	30 – 39	-0.4257	0.371
			40 – 49	-0.6550	0.030
			50 – 59	-0.6895	0.017
			60 or older	-0.5468	0.168
	External factors	20 – 29	30 – 39	-0.2937	0.687
			40 – 49	-0.4160	0.295
			50 – 59	-0.6434	0.021
			60 or older	-0.4339	0.339

IV. CONCLUSION

The current study was set out to investigate the motivation that lead the urban dwellers to take part in Community Garden Programme which was promoted by Malaysian government as well as to explore the influence of age groups on motivation factors. Volunteer Functions Inventory provided a useful framework to study the Community Garden Programme volunteers' motivation. The items related with the love of farming were identified as the most essential motivational factor for urban dwellers to be involved in the Community Garden Programme.On the other hand, social was the less important factor that contributed to their involvement in the programme. As far the hypothesis of the study is considered, it was formulated to ascertain whether there were any significant differences between age groups and motivation factors. The hypothesis is partially confirmed as love of farming and external factors were the only motivation factors that were being distinguished by age groups.

Thus, it is important for the Local Authorities to seek volunteers that want to immerse themselves into farming activities. Because these volunteers tend to have a higher level of satisfaction and greater intention to remain as volunteers for Community Garden Programme.It also will be beneficial to focus on elder volunteers as those people highly motivated by love of farming and external factors compare to younger volunteers. The findings of present study provide theoretical insight for volunteerism of Community-based Urban Agriculture Programme by utilising Volunteer Functions Inventory to explore the relationship between volunteers' motivation and age. One of the limitations of this study is the sample size, as only volunteers from Klang Valley Community Gardens were participated in this research. Hence, it would be great to have volunteers from other states' Community Gardens.

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