

LOCAL COMMUNITIES' AWARENESS AND USE OF URBAN FORESTS IN SELANGOR

NUR HAFZHAN BT A. MANAN

FH 2018 70

LOCAL COMMUNITIES' AWARENESS AND USE OF URBAN FORESTS IN SELANGOR



Project Report Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor Wood Science and Technology in the Faculty of Forestry
Universiti Putra Malaysia

DEDICATION

I WOULD LIKE TO DEDICATE MY THESIS TO MY BELOVED PARENTS

A MANAN BIN ABDUL RAHMAN AND KHOTIJAH BT CHE MUDA

TO MY BELOVED SIBLINGS

NUR IZZATI, AHMAD MARWAN, ABDUL RAUF, NUR HAFIZAH, AHMAD HAMBALI, AHMAD HANAFI, AHMAD MALIKI AND ABDUL KHALIQ

FRIENDS

ALL OF MY FRIENDS ESPECIALLY MY CLASSMATES

SUPERVISOR

DR. NORZANALIA BINTI SAADUN

THANK YOU FOR EVERYTHING

ABSTRACT

This study was conducted to examine local communities' awareness and use of urban forest. In addition, local communities' awareness towards the existence of urban forest were compared with their demographic background. This study found that more than half (58%) of the respondents were not aware about the existence of nearby forest. However, 42% of respondents who were aware about the forest, knew about the function of forest that is for research, education and extension (61.5%). The study also found that only 69 respondents have been to that forest. Urban forests were mostly used for exercise and enjoy peace and quietness (19%) respectively. Most respondents (25%) spent more than 2 hours in the forest, came during weekend (73.9%) and with friends (78%), most preferred forest features was nature scenery (54%), while the least preferred forest features was group of none (32%). There was a significant difference (P = 0.031) between awareness and education level. Results from this study can be beneficial to forest managers, conservators, city planners and policy makers as to provide guidance on planning the urban forest.

ABSTRAK

Kajian ini dijalankan untuk mengkaji kesedaran komuniti tempatan dan penggunaan hutan bandar. Di samping itu, kesedaran komuniti tempatan terhadap kewujudan hutan bandar dibandingkan dengan latar belakang demografi mereka. Kajian ini mendapati bahawa lebih daripada separuh (58%) daripada responden tidak menyedari akan kewujudan hutan yang berdekatan. Walau bagaimanapun, 42% daripada responden yang sedar akan kewujudan hutan tersebut, mengetahui tentang fungsi hutan berkenaan adalah untuk penyelidikan, pendidikan dan lanjutan (61.5%). Kajian ini juga mendapati bahawa hanya 69 responden telah pergi ke hutan tersebut. Hutan bandar kebiasaannya digunakan untuk senaman dan menikmati kedamaian dan ketenangan (19%). Kebanyakan responden (25%) meluangkan masa lebih daripada 2 jam di dalam hutan, datang pada hujung minggu (73.9%) dan bersama kawan-kawan (78%), ciri-ciri hutan yang paling digemari adalah pemandangan alam semula jadi (54%), manakala ciri-ciri hutan yang kurang digemari adalah bagi kumpulan tiada (32%). Terdapat perbezaan yang ketara (P = 0.031) di antara kesedaran dan tahap pendidikan. Hasil daripada kajian ini dapat memberi manfaat kepada pengurus hutan, konservator, perancang bandar dan pembuat dasar untuk menyediakan panduan mengenai perancangan hutan bandar.

ACKNOWLEDGEMENTS

First of all, I would like to thanks to ALLAH S.W.T. for the blessing even during rough times, that I was able to complete this thesis. I would like to extend my gratitude to those who directly or indirectly shared their valuable time and effort to assist me to conduct my thesis until it completed especially to Nurul Shaidatul Syahila Binti Ibrahim, Syarifah Amirah Binti Syed Basir and Arief Aiman Bin Lukhman for doing the best to complete our final year project together within the limited time.

Last but not least, I would like to give a thousand thanks and my greatest appreciation to my supervisor. Dr. Norzanalia Binti Saadun for assistance and guidance, advice recommendation, constructive critic and concern during the period of my study progress. I would also like to give a special thanks to the examiners for their critics and continuously improving my study.

APPROVAL SHEET

I certify this research project report entitled "Local Communities' Awareness and Use of Urban Forests in Selangor" by Nur Hafzhan binti A Manan has been examined and approved as a partial fulfillment of the requirements for the degree of Bachelor of Wood Science and Technology in the Faculty of Forestry, Universiti Putra Malaysia

Approved by:

Dr. Norzanalia Binti Saadun

Faculty of Forestry

Universiti Putra Malaysia

(Supervisor)

Prof. Dr. Mohamed Zakaria Bin Hussin

Dean

Faculty of Forestry

Universiti Putra Malaysia

Date: January 2018

TABLE OF CONTENT

DEDICATION	i
ABSTRACT	ii
ABSTRAK	iii
ACKNOWLEDGEMENTS	iv
APPROVAL SHEET	v
TABLE OF CONTENT	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1	1
INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	3
1.3 Justification of Study	
1.4 Objectives	3
CHAPTER 2	4
LITERATURE REVIEW	4
2.1 Urban Forest	4
2.1.1 Definition of Urban Forest	4
2.2 Use of Urban Forest and Factors Affecting Use	4
2.3 Benefits of Urban Forest	5
2.4 Urbanization	6
2.5 Frequency of Visit to the Forest	7
2.6 Forest Legislation in Malaysia	8
CHAPTER 3	10
METHODOLOGY	10
3.1 Study Area	10
3.1.1 Ayer Hitam Forest Reserve (AHFR)	10
3.1.2 Bangi Forest Reserve (BFR)	11
3.2 Research Instrument	12
3.3 Sample Size and Data Collection	13
3.4 Data Analysis	14
CHAPTER 4	15

RESULTS AND DISCUSSION	. 15
4.0 Introduction.	.15
4.1 Demographic Background of Respondents	.15
4.2 Awareness toward the Existence of Nearby Forest	.18
4.3 Uses and Frequency of Visit to the Nearby Forest	.21
4.4 Awareness toward the Existence of Nearby Forest with Demograph Background	
CHAPTER 5	.32
CONCLUSION AND RECOMMENDATION	.32
5.1 Conclusion	.32
5.2 Limitation of the Study	.33
5.3 Recommendation	.33
REFERENCES	
APPENDICES	.38
Appendix A: List of Resident Areas within 3km from AHFR and BFR (Border)	.38
Appendix B: Questionnaire	.39
Appendix C: Statistical Output on Awareness of Local Communities Demographic Background	

LIST OF TABLES

Table		Page
Table 4.1:	Demographic background	16
Table 4.2:	Comparison on awareness between Ayer Hitam Forest Reserve and Bangi Forest Reserve	18
Table 4.3:	Association of local communities' awareness toward the existence of nearby urban forest with	30
	demographic background	
Table 4.4:	Statistical summary of age and length of residency of respondents and Unbalanced ANOVA results to	31
	compare the effect of age and length of residency	
	on awareness.	

LIST OF FIGURES

Figure		Page
Figure 3.1:	Shows the locations of Ayer Hitam Forest Reserve	11
Figure 3.2:	Shows the locations of Bangi Forest Reserve	12
Figure 4.1:	Awareness of the existence of nearby forest	18
Figure 4.2:	Source which made respondents aware about the existence of nearby forest	19
Figure 4.3:	The main function of nearby forest	20
Figure 4.4:	Users of the forest from awareness respondent	21
Figure 4.5:	Frequency of visit to nearby forest	22
Figure 4.6:	The main reason of visit to nearby forest	23
Figure 4.7:	The average time spend in the forest	24
Figure 4.8:	Means of transport to the nearby urban forest	25
Figure 4.9:	The accompany to go to nearby forest	25
Figure 4.10:	The day of visit the nearby forest	26
Figure 4.11:	The time of day usually go to nearby forest	27
Figure 4.12:	Preferred forest features by respondents	28
Figure 4.13:	The least like forest features by respondents	29

LIST OF ABBREVIATIONS

AHFR Ayer Hitam Forest Reserve

BFR Bangi Forest Reserve

UKM Universiti Kebangsaan Malaysia

UPM Universiti Putra Malaysia

IBM International Business Machine

SPSS Statistical Package for Social Sciences

ANOVA Analysis of Variance

km Kilometre

m Metre

CHAPTER 1

INTRODUCTION

1.1 Background

Urban forest is a forest like that has ecosystems and not managed as intensively. This forest is often located near residential areas and easily accessible from home (Hauru et al., 2015). According to Tyrväinen et al. (2005), urban forests provide various social benefits such as recreation opportunities, physical and mental health. Apart from social benefits, urban forest provide ecological benefits such as biotopes for flora and fauna, air pollution control and economic benefits including increased property values and market priced for non-timber forest products (Tyrväinen et al., 2005). Urban forest will increase the aesthetic values among urban citizens, provide opportunity for people to socialize and close with nature (Noralizawati et al., 2015). According to Noralizawati et al. (2015), the aesthetic values are influencing the visiting performance in urban forest.

There are various activities that can be done in urban forest and the most common is recreational activities which includes cycling, jogging and picnicking (Tyrväinen et al., 2005). Other activity include collecting forest resource such as picking berries and mushrooms (Tyrväinen et al., 2005). Urban forest also offered experience for enjoying natural beauty and observing nature (Hauru et al., 2015). While people enjoy to do activities in the urban forests, these forest, however, are vulnerable to area loss and fragmentation due to natural disturbances, urbanization and intensive human disturbances (Gong et al., 2013).

Selangor has about 250, 860 hectares of forested land that consists of 250, 129 hectares of permanent reserved forest, 11, 381 hectares of forest plantation and 731 hectares of state land forest (JPSM, 2016). The population in Selangor is about 6.30 million in 2016 which means Selangor is one of the most urbanize areas in Malaysia (JPSM, 2016). The urbanization level in Selangor had exceed 90% in 2010, it might due to the influenced by development patterns and economic growth (Hassan & Nair 2014). Forest fragmentation is refer to the reduction area from large forest into the sub-division of forest, used for other purposes such as industrial estates, housing and other commercial areas (Abdullah & Nakagoshi, 2007).

Awareness of the existence nearby forest is very important to retain the benefits provided and with standing to the fragmented, urban people go to the forest and gain the opportunity to create a pleasant environment for different outdoor activities (Tyrväinen, 2005). However, some people have less awareness and never go to the forest due to restriction (Salleh, 1999 & Mohd et al., 1999).

1.2 Problem Statement

People visit nearby forests to do various activities and purposes such as physical exercising, enjoying natural beauty and observing nature (Hauru et al., 2015). Use of urban forest can vary depending on various factors including socio-economic/demographic background, population segments, distance, size, presence of facilities and season (Dwyer 1988, Lo & Jim 2010, Shipperjin et al., 2010). There are numerous study that has been conducted to examine types of activities that visitor do in urban forest. Such study especially local people that live within fragmented urban forest has been scarce (Giulio et al., 2009), especially in Malaysia.

1.3 Justification of Study

There has been limited study on local people awareness towards the existence of nearby use pattern. This study gathers information on local people awareness and uses of nearby urban forest. Results would be beneficial to forest managers, conservators, city planners and policy makers as to provide guidance on planning the urban forest.

1.4 Objectives

The specific objectives of this study are:

- To identify local communities' awareness toward the existence of nearby urban forest.
- To identify local communities' use and frequency of visit to the nearby urban forest.
- iii. To compare local communities' awareness with demographic background

REFERENCES

Abdullah, S. A., & Nakagoshi N. (2007). Forest Fragmentation and Its Correlation to Human Land Use Change in the State of Selangor, Peninsular Malaysia. *Journal of Forest Ecology and Management* 241:39–48

Asah, S. T., Guerry, A. D., Blahna, D. J., & Lawler, J. J. (2014). Perception, Acquisition and Use of Ecosystem Services: *Human Behavior, and Ecosystem Management and Policy Implications*. *Journal Ecosystem Services* (10):180-186

Blazevska, A., Miceva, K., Stojana, B., & Stojanovska, M., (2012). Perception of the Local Population toward Urban Forests in Municipality of Aerodrom. *Original Scientific Paper*:87-96

Department of Statistics, Malaysia, (2016). Official Website Forestry Department Peninsular Malaysia. Retrieved 23 November 2017, from https://www.forestry.gov.my/index.php/en/2016-06-07-02-53-46/publication/annual-report

Dwyer, J. F. (1988). Predicting Daily Use of Urban Forest Recreation Sites. Landscape Urban Plan (15):127-138.

Dwyer, J. F., McPherson E.G., Schroeder H.W., & Rowntree R.A. (1992). Assessing the Benefits and Costs of the Urban Forest. *Journal Arboric* 18 (5):227–234.

Etim J.D., Umazi U.A., & Ufot I.N. (2012). Awareness and Perception of Urban Forestry among Urban Dwellers in Sahel Savannah Region of Nigeria. *Journal of Biodiversity and Ecological Sciences (JBES)*, Vol.2, Issue 4:236-243

Food and Agriculture Organization of the United Nations (FAO) (2011). Retrieved 23 November 2017, from www.fao.org/statistics/en/

Gilbert, O. L. (1989). *The Ecology of Urban Habitats*. Chapman and Hall, London:9–17

Giulio, D. M., Holderegger, R., & Tobias, S. (2009). Effects of Habitat and Landscape Fragmentation on Humans and Biodiversity in Densely Populated Landscape. *Journal of Environmental Management* Vol.90, Issue 10:2959-2968

Google Earth Map. Retrieved 5 November 2017, from https://www.google.com./earth/

Gong, C., Yu, S., Joesting, H., & Chen,J. (2013). Determining Socioeconomic Drivers of Urban Forest Fragmentation with Historical Remote Sensing Images. *Research Paper on Landscape and Urban Planning*.P.58

Hassan, A. R., & Nair P.L. (2014). Urbanisation and Growth of Metropolitan Centres in Malaysia. Department of Statistics Malaysia. *Malaysian Journal of Economic Studies* Vol.51 No.1:87-101

Hauru, K., Eskelinen, H., Yli-Pelkonen, V., Kuoppamäki, K., & Setälä, H. (2015). Residents' Perceived Benefits and the Use of Urban Nearby Forests. *International Journal of Applied Forestry*. Vol. 2 No. 1:1-23

Iimi, A. (2005). Urbanization and Development of Infrastructure in the East Asian Region. *Development Policy Research Div.*, *Review* (10):88-109

Konijnendijk, C., Randru, TB., Dobbertin, MK., & Pruller, R. (2005). The Concept of Urban Forestry in Europe. *Urban Forests and Trees: A Reference Book*. Vol 27:9–21

Lo, H. Y. A & Jim, C. Y., (2010). Differential Community Effects on Perception and Use of Urban Greenspaces. *Journal Cities*:430–442

Mohd, A., Yaman, R.A., & Jamaludin, A. M. (1999). Recreational Opportunities for Public Use in Ayer Hitam Forest: Setting the Stage and Park Management Approach. *Pertanika Journal Trap. Agricultural Science*. 22(2):161-166.

National forest policy (1977). Official Website Forestry Department Peninsular Malaysia. Retrieved 15 November 2017, from http://www.forestry.gov.my/index.php/en/about-us/national-forestry-policy

Othman, N., Mohamed N., & Arifin H. M. (2015). Landscape Aesthetic Values and Visiting. *Journal Social and Behavioral Sciences* 202:330-339

Portal Hutan Simpan Kekal UKM (2013). Retrieved 5 November 2017, from www.ukm.my/hutan/index.php/my/

Rainforest Journal, Ayer Hitam Forest Reserve (2012). Website Retrieved 20 November 2017, from http://www.rainforestjournal.com/ayer-hitam-forest-reserve-puchong/

Roovers, P., Hermy M., & Gulink H. (2002). Visitor Profile, Perceptions and Expectations in Forests from a Gradient of Increasing Urbanization in Central Belgium. *Journal Landscape and Urban Planning* 59:129–145

Salleh, M. K., (1999). The Role and Function of Universiti Kebangsaan Malaysia Permanent Forest Reserve in Research and Education. *Pertanika Journal Trap. Agricultural Science*. 22(2):185–198

Schipperijn, J., Ekholm, O., Stigsdotter, U.K, Toftager, M., Bentsen, P., Kamper-Jorgensen, F., & Randrup, T.B. (2010). Factors Influencing the Use of Green Space: Results from a Danish National Representative Survey. Landscape and Urban Planning 95 (3):130–137

Schmithusen, F. E., & Wild-Eck ST. (2000). Uses and Perceptions of Forests by People Living in Urban Areas. *Journal Forest Science.Forstw.Cbl*.Vol.119:395–408

Tyrvainen, L., Pauliet, S., Seeland, K., & Vries, S. D. (2005). Benefits and Uses of Urban Forest and Trees in Europe. *Urban Forests and Trees. A Reference Book* :81–114

Tyrväinen, L. (1999). Monetary Valuation of Urban Forest Amenities in Finland. Academic Dissertation. *Finnish Forest Research Institute*, Research papers 739.

Wolf, K. L., & Kruger, L. E. (2010). Urban Forestry Research Needs: A Participatory Assessment Process. *Journal of Forestry* Vol.108, No.1:39–44

Youn, Y. C. (2014). Use of Forest Resources, Traditional Forest Related Knowledge and Livelihood of Forest Dependent Communities. *Article in Forest Ecology and Management* 257(10):2027–2034