

The Perception of Local Community towards Cultural and Historical Value of Urban Heritage Tree in Georgetown World Heritage Site (GWHS)

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i4/21360>

DOI:10.6007/IJARBSS/v14-i4/21360

Published Date: 16 April 2024

Abstract

A heritage tree is a large, old, individual tree attached with some unique values, considered irreplaceable. The unique values of heritage trees are called social-cultural values. Rapid development in a historical city has become a threat to the natural character of the World Heritage Site. The stakeholders need to understand the importance of the social-cultural value of urban heritage trees to preserve them. However, the urban heritage trees should be given more attention in the Georgetown World Heritage Site (GWHS). This study aims to evaluate the local community's perception of the cultural and historical value of urban heritage trees in GWHS. The quantitative method uses a survey technique. Two hundred (200) questionnaires were distributed to the local community. The data was analyzed using SPSS. Most respondents found that urban heritage trees in GWHS have cultural and historical value that benefit nature and the community.

Keywords: Community, Conservation, Cultural Value, Historical Value, Social-cultural Value, Urban Heritage Tree

Introduction

Trees in urban areas provide measurable and inherent value to an increasingly urbanized global population (Hunte et al., 2019; Elliott et al., 2018; Konijnendijk, 2018; Salbitano et al., 2016). The conservation of heritage trees is a global concern. As a result, several countries have taken the initiative to promote public awareness about the importance of heritage trees,

enacting laws or declaring policies to allow the conservation of heritage trees as part of the city's culture.

Heritage-tree recognition can lead to significant changes in their management. It may increase public awareness and managers' commitment to protect their outstanding qualities. Legislative actions may be launched in jurisdictions without a specialized or effective tree ordinance to safeguard the notable doyens (Jim, 2017). Heritage trees provide benefits and aesthetic value to the urban population, similar to conventional trees that provide the same ecological landscaping functions, such as intercepting rainfall and releasing water into the surface, reducing air pollution, and increasing property values in a specific location (Ariffin et al., 2019a; 2019b). Each tree has a natural rhythm, a symbiotic interaction with other organisms, and maintains ecological balance, all of which are important for ecosystem integrity; additionally, each tree has historical, spiritual, and religious value, as well as important human relationships (Manmoud et al., 2015).

Urban greening will reduce stress levels in the workplace, make workers more productive, reduce absenteeism problems (Akmal & Noriah, 2011), calm traffic, and reduce crime in town areas. Urban heritage trees make walking spaces safer as they protect pedestrians from traffic, provide shade for pedestrians through spreading branches and thick foliage, and help them keep from overheating (Li & Zhang, 2021). It also can buffer sound and reduce noise pollution. According to a study conducted at Taman Tasik Taiping in Malaysia, people enjoy the environment. They take pictures with heritage trees as a backdrop for outdoor wedding shoots, family gatherings and leisure time with friends, creating unforgettable memories (Ariffin et al., 2019b).

In Malaysia, heritage tree conservation is a relatively recent concept. Conservation initiatives for heritage trees are critical in terms of law, policy, and public awareness. Heritage trees can adapt to urban stress environments, whereas others are sensitive to diverse ecosystems. Usually, communities relate heritage trees with their religion, spirituality, or other symbolic values (Read, 2000). About two centuries ago, *Pterocarpus indicus* (*Angsana*) was recorded as Malaysia's earliest urban tree. It was planted in 1778 at Malacca (Koenig, 1894) and Penang (Burkill, 1966). Because of its wide canopy width and rapid germination, *Pterocarpus indicus* was chosen as a famous tree for urban planting and remained in Malaysia and Singapore in the 1990s (Philip, 1999). However, in 1935, these trees were reportedly damaged by an unknown plant disease rapidly spreading in Malacca, Penang, and Singapore (Furtado, 1935). Certain infected trees were removed to prevent the illness from spreading to other trees. This tragedy may have been prevented if trees were inspected regularly and maintained properly.

This conservation of rare and unique natural heritage assets is thought-provoking in emerging countries like Malaysia, where the heavy consequences of growing urbanization must be confronted. The law and the public have paid little attention to urban heritage tree protection, yet heritage trees have been disregarded or undervalued. The fast expansion of metropolitan regions has shifted land use from a natural to a developed environment. In Malaysia, this circumstance has resulted in the felling of many urban trees to make space for urban growth (Zakaria, 2012). Heritage trees are essential in providing historical identity and cultural symbolic value to the landscape of cities. Furthermore, heritage trees will enhance

the historical environment, which plays a vital part in the landscape of cities. This paper's main objective is to evaluate the perception of the local community towards the Cultural and Historical Value of the Urban Heritage Tree at Georgetown World Heritage Site (GWHS).

Literature Review

Urban Heritage Tree

Trees that have been there for a long time or are related to culture are frequently appreciated in various countries. Tourist guides frequently feature them as a source of pride for local communities (Lai et al., 2019). Urban heritage trees can be the foundation of the cultural landscape and civilization since they possess unique natural or cultural qualities, necessitating an adequate protection policy (Mid, 2012). Old and massive trees are a prominent feature in many landscapes worldwide, and they are well-known for providing various ecological services to humans (Manmoud et al., 2015).

Urban heritage trees can be described in a variety of ways, including historic, massive, elite, renowned, landmark, noteworthy, aged, specimen, veteran, and old tree (Mitchell et al., 1990; Read, 2000; Randall and Clepper, 1977; Meyer, 2001; Van Pelt, 1996; May, 1990; Alderman & Stevenson, 1993; Parken, 1997; Lweington & Parker, 1999; Browne, 2001; Jim, 1994). The urban heritage tree can be recognized and qualified by the following criteria: 1) large size with the biological potential dimension of the species, 2) outstanding tree form, 3) unusual or rare species, 4) aged preferably over 100 years and 5) have cultural, historical, commemorative or ecological significance (Jim & Zhang, 2013).

Role of Urban Heritage Tree

Urban heritage trees play a key role in improving and maintaining water and soil quality, reducing the impact of environmental pollution, carbon sequestration, microclimate regulation, wildlife habitat, recreational opportunities, and many other benefits, including spiritual benefits (Blicharska & Mikusinski, 2014; Stagoll et al., 2012). Urban heritage trees over 100 years old are often large in stature, including height, crown spread, and trunk circumference (Liu et al., 2020). Therefore, they can shape the urban landscape and create a comfortable living environment for humans (Townsend & Barton, 2018). Urban heritage trees are an important natural component of urban ecosystems, contributing to biodiversity enrichment, environmental enhancement, aesthetic upgrading, economic development, social and health advantages, among other things (Zhang & Jim, 2013).

The definition of values is engaged to the quality of place, object or site (Jokiletho, 2007; 2006; 2005; 2002). Special consideration criteria for heritage trees are divided into economic and social-cultural values (see in Figure 2.1). The economic values included use value, non-use value and beneficial externalities; meanwhile, social-cultural values included aesthetic, historical, cultural, social, environmental, and spiritual/religious. The heritage trees' social-cultural values reveal a profound relationship between man and nature (Jin et al., 2020; Rudl et al., 2019; Jim & Zhang, 2013). This study focuses on cultural and historical value of urban heritage trees at Georgetown World Heritage Site (GWHS).

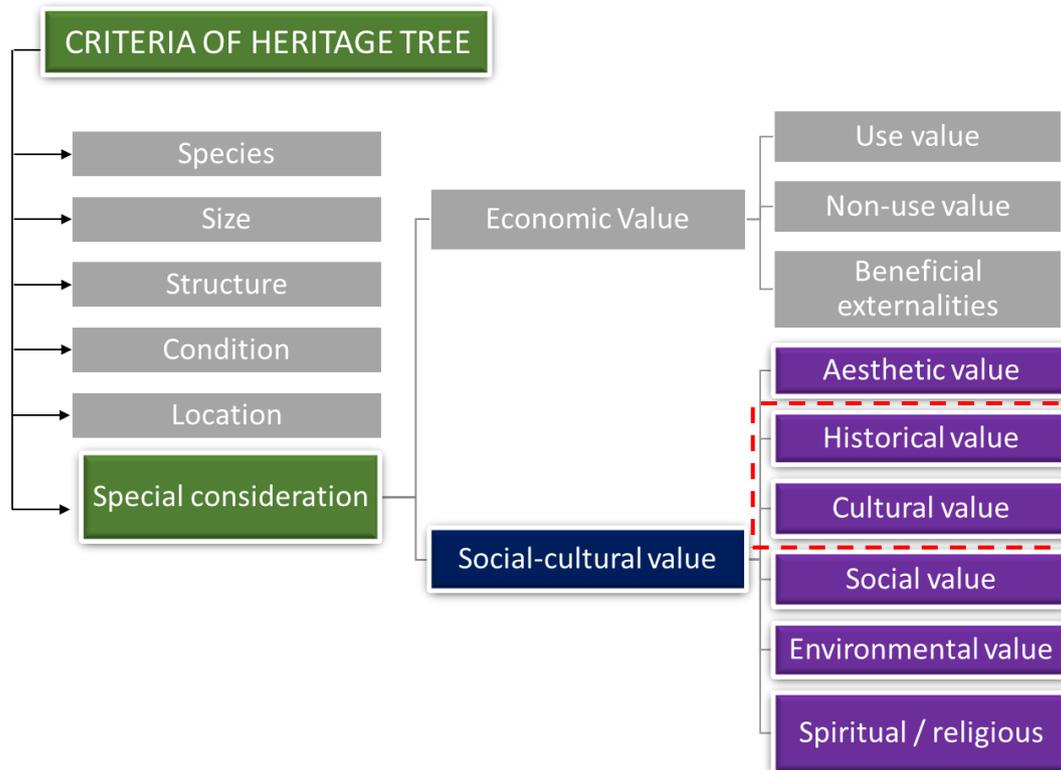


Figure 2.1: The criteria of Heritage Tree

Cultural Value of Urban Heritage Tree

Old trees are recognized as significant components of cultural identity in many places due to their "transgenerational significance" and "crucial inherited and inheritable connotation" (Jim 2005a, 2005b). According to Appleyard (1980), old trees appear "smart" to people, and their ability to give shelter is "parental" by nature. Many cultures relate trees with knowledge, health, and enlightenment (Schroeder, 1988; Coder, 1996). According to Lindenmayer (2012) and Rudl (2019), heritage trees are essential cultural heritage aspects and ecological factors in human communities.

Historical Value of Urban Heritage Tree

The historical value of a tree or avenue is determined by its associations with major historical events, periods, or people. According to Marquis-Kyle and Walker (1992), historical perspective is influenced by social, scientific, and aesthetic values. Heritage trees are historically significant because they preserve cultural legacy from the pre-industrial era. Such remains of old trees may serve as a valuable informational resource on historical and cultural activities and a means of identifying locations that should be maintained for their cultural heritage (Zackrisson et al., 2000; Ostlund et al., 2002). As heritage trees are significant to people and contribute to historical perspective, Przybył (2007) stated that Poland continually protects particular big, ancient trees as "monuments of nature" regardless of their location (i.e., urban areas, agricultural landscapes, or forests).

Research Methodology

Case Study

UNESCO formally announced that George Town, specifically at the historical core zone, was a UNESCO World Heritage Site since 2008. The first British settlement in Southeast Asia was George Town, which was recognized as an entrepot by Francis Light of East India Company in 1786. South Asia's oldest British colonial town is situated in this heritage site, symbolizing the early British development period in Asia by the end of the 18th century (UNESCO, 2008).

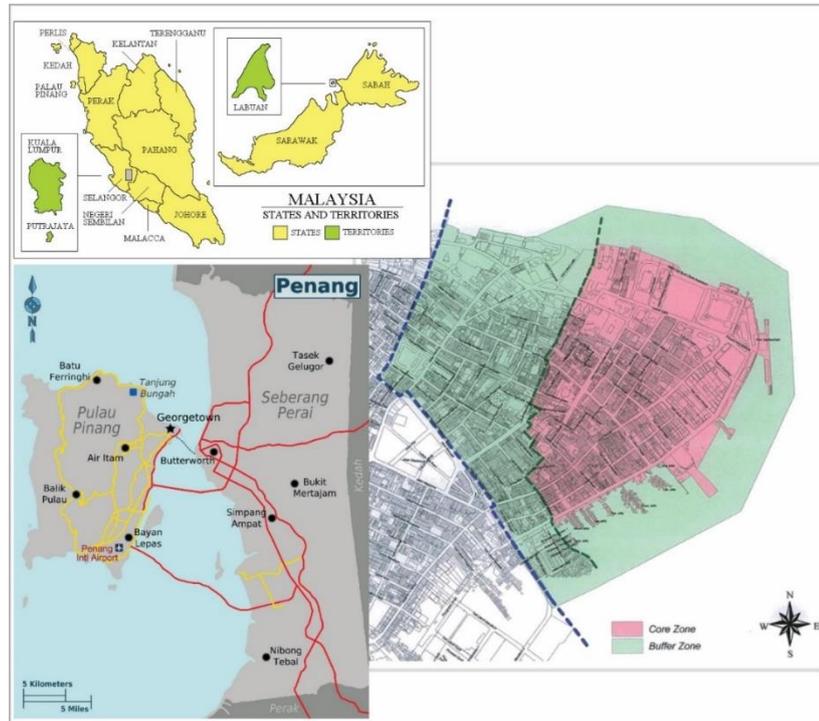


Figure 3.1: The map of case study, George Town World Heritage Site

The city's central commercial districts bound the study area: Jalan Kapitan Keling, Chulia Street, Beach Street, and Light Street. The study area is in the core zone of Georgetown, a UNESCO World Heritage Site, consisting of 109.38 hectares. On the other hand, the buffer zone covering 57.84% of the historical area consists of 150.04 hectares.

The Method and Data Analysis

The study engaged in a quantitative method of data collection. The survey questionnaire consists of 4 sections of questions conducted with 200 respondents. The survey sampled the local community in the case study area. A Likert Scale of 1 to 6 (1: Strongly disagree, 2: Disagree, 3: Partially Disagree, 4: Partially Agree, 5: Agree & 6: Strongly agree) is used as the analysis measurement; Scale 1 is the lowest while Scale 6 is the highest to interpret the hierarchies of local communities' attitudes towards the social-cultural value of urban heritage trees in GWHS. Figures 3.2, 3.3, 3.4 and 3.5 show some locations of Urban heritage trees in the Georgetown World Heritage Site (GWHS) as attachments in the survey questionnaire.

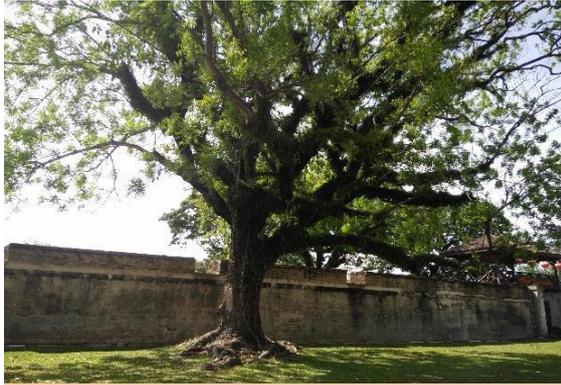


Figure 3.2: Heritage tree located at Fort Conwallis, Georgetown WHS



Figure 3.3: Heritage tree located at Padang Kota Lama, Georgetown WHS



Figure 3.4: Heritage tree located at St George's Church, Georgetown WHS



Figure 3.5: Heritage tree located at Goddest of the Mercy Temple, Georgetown WHS

Sources: Nurul Nadiah (2021)

Statistical Package for the Social Sciences (SPSS) is used to screen and analyze the data collection. To achieve the research objective, descriptive analysis determines the demographic differences among respondents and the mean social-cultural value of urban heritage trees. According to several studies, mean values are the best method for analyzing data from Likert scales as far as the validity of the analyses is concerned (Hami & Sreetheran, 2018; Hami et al., 2011).

Findings

The respondent's socio-demographic background

The respondents' demographic data has been summarized in Table 4.1. There were 200 respondents are participated in the survey. Male participants have been dominated in the survey by represent 52.0% of all respondents consist of local community in Georgetown core zone historical area. Meanwhile the female respondents are 48.0% of this survey.

Table 4.1

Respondent Demographic Data

Demographic	Variable	Percentages (%)
Gender	Male	52.0
	Female	48.0
Race	Malay	24.5
	Chinese	64.0
	Indian	11.0
	Others	0.5
Religion	Islam	30.0
	Buddhism	47.5
	Hinduism	8.5
	Christianity	14.0
Age	15 - 19	11.0
	20 - 29	32.5
	30 - 39	21.5
	40 - 49	14.0
	50 - 59	9.5
	> 60	11.5
Education level	No Formal Education	10.5
	UPSR	5.5
	SRP/PMR	7.0
	SPM	34.5
	Diploma Degree	16.5
	STPM	3.0
	Bachelor Degree	21.5
	Other	1.5
Occupation	Government Servant	9.0
	Non-Government Employee	37.0
	Businessmen	13.5
	Student	22.0
	Unemployed	13.0
	Others	5.5
Duration settled in Georgetown	5 - 10 years	31.0
	11 - 15 years	15.5
	16 - 20 years	11.0
	> 21 years	42.5

The top race participated in this survey is Chinese (64.0%), followed by Malays (24.5%), Indian (11.0%) and others (0.5%). The highest religion is Buddhism (47.5%) and least is Hinduism (8.5%). Most of the respondents are in the range of age 20 - 29 (32.5%) among the age of 15 to over 60 years old. Majority of the respondents have good education level which is SPM (34.5%), followed by Bachelor Degree (21.5%). Only 10.5% of the respondents have no formal education and the least is other (1.5%). Most of the respondents' occupations were Non-Government Employees (37.0%). Highest number of the respondents settled in Georgetown for over 21 years (42.5%).

Cultural Value of Urban Heritage Trees

According to Table 4.2, the majority of respondents (32.5%) agree with the statement in item 1 (I know that the branches of the heritage trees were once used as firewood by the local community), followed by the second highest partially agree (26.5%). These findings indicated that respondents knew that the local community once used the branches falling from the heritage trees as firewood because most respondents had settled in Georgetown for more than 21 years. Meanwhile, just a small number of respondents responded partially disagree (17.5%), strongly agree (15.5%), disagree (6.5%), or strongly disagree (2.0%) with the statement.

The analysis for item 2 in Table 4.2 (Some heritage trees here are used as traditional medicines or treatments) shows that most respondents partially agree (32.5%), followed by agree (30.0%) and strongly agree (25.0%). Few respondents answered negatively, with 10.0% partially disagree, 2.5% disagree, and none (0.0%) strongly disagree. These findings indicate that most respondents acknowledged that the local community uses some heritage trees as traditional medicines or treatments in their daily practice.

For item 3 in Table 4.2 (There are certain parts of the heritage trees are used in my daily life), the analysis showed that the majority of local communities agree (28.5%), followed by partially agree (23.5%), partially disagree (18.0%) and strongly agree (15.0%). Only a few respondents chose to disagree (8.5%) and strongly disagree (6.5%). These findings show most respondents still practice using certain parts of the heritage trees in their daily lives, such as the leaves for medicine, the fruit as food and the branches as firewood.

On item 4 in Table 4.2 (Parents used the heritage tree branches as a cane aims to educate children who make mistakes), the study shows that the majority of local communities agree (32.0%) followed by strongly agree (17.5%) and partially agree (25.5%). Some people chose to partially disagree (10.0%), disagree (5.0%) or strongly disagree. This result indicates that most respondents (56.5%) are 30 to more than 60 years old, and they agree with this statement as parents.

Table 4.2

The percentage, Mean & Overall Mean towards attitude of Local Community towards Cultural Value

Attitude of Local Community towards Cultural Value		Strongly Disagree	Disagree	Partially Disagree	Partially agree	Agree	Strongly agree	Mean	Overall Mean
		(%)							
1	I know that the branches of the heritage trees were once used as firewood by the local community.	2.0	6.5	17.5	26.5	32.5	15.5	4.28	4.29
2	Some heritage trees here are used as traditional medicines or treatments.	0.0	2.5	10.0	32.5	30.0	25.0	4.65	
3	There are certain parts of the heritage trees are used in my daily life.	6.5	8.5	18.0	23.5	28.5	15.0	4.04	
4	Parents used the heritage tree branches as a cane aims to educate children who make mistakes.	7.0	10.5	7.5	25.5	32.0	17.5	4.18	

Table 4.2 also shows the mean and overall mean of the local community's attitude towards the cultural value of urban heritage trees. From the analysis, the overall mean (M=4.29) indicates that most of the respondents who participated in this survey realized that urban heritage trees have an excellent relationship to the cultural value that benefits nature and the community. Among the four statements in Table 4.2, the statement in item 2 (Some heritage trees here are used as traditional medicines or treatments) gets the highest mean (M=4.65) compared with another statement in item 1 (M=4.28), item 3 (M=4.04), and item 4 (M=4.18). Therefore, most of the local community recognizes that the urban heritage trees significantly contribute to the community's health and cultural value in GWHS.

Historical Value of Urban Heritage Trees

According to Table 4.3, most respondents (50.0%) agree with the statement in item 1 (Heritage trees around Georgetown is a historic treasure to the local community of Penang), followed by 35.0% strongly agree and 12.0% partially agree. These findings demonstrate that most respondents have settled in Georgetown for more than 21 years, making them knowledgeable that heritage trees provide historic treasures to nature and communities. Some respondents responded negatively: partially disagree (2.5%), disagree (0.5%), and none (0.0%) strongly disagree.

On item 2 in Table 4.3 (I can describe the atmosphere of the Georgetown area in the past by looking at the remaining), the majority of participants responded positively: agree

(50.5%) followed by strongly agree (22.0%) and partially agree (16.5%). Only a tiny percentage of respondents provide negative input, including partially disagree (8.0%), disagree (1.0%), and strongly disagree (2.0%). This result indicates that most respondents admit that the remaining heritage trees in GWHS, especially *Pterocarpus indicus* (*Angsana*), Malaysia's earliest urban tree planted in 1778, can describe the atmosphere of the Georgetown area in the past.

The item 3 in Table 4.3 (The presence of heritage trees around Georgetown is a proof that this is a historical retreat area), the analysis discovered that the majority of local communities responded agree (44.5%), followed by strongly agree (37.5%), and partially agree (15.5%). These findings demonstrate that the Georgetown community concur that the presence of heritage trees brings historical benefits to their place. In comparison, only 2.5% of respondents indicated partially disagree. These individuals may be unaware of the historical value of heritage trees in GWHS. None (0.0%) of the respondents answered disagree or strongly disagree.

Table 4.3
The percentage, Mean & Overall Mean towards attitude of Local Community towards Historical Value

Attitude of Local Community towards Historical Value		Strongly disagree	Disagree	Partially disagree	Partially agree	Agree	Strongly agree	Mean	Overall Mean
		(%)							
1	Heritage trees around Georgetown is a historic treasure to the local community of Penang.	0.0	0.5	2.5	12.0	50.0	35.0	5.17	5.04
2	I can describe the atmosphere of the Georgetown area in the past by looking at the remaining.	2.0	1.0	8.0	16.5	50.5	22.0	4.79	
3	The presence of heritage trees around Georgetown is a proof that this is a historical retreat area.	0.0	0.0	2.5	15.5	44.5	37.5	5.17	

Table 4.3 also shows the mean and overall mean towards the local community's attitude towards the historical value of urban heritage trees. From the analysis, the overall mean (M=5.04) proves that most of the respondents who participated in this survey realized that urban heritage trees have a solid relationship to the historical value that benefits nature and the community. Among the three statements in Table 4.3, the statement in item 1 (Heritage trees around Georgetown is a historical treasure to the local community of Penang) and item 3 (The presence of heritage trees around Georgetown is a proof that this is a historical retreat

area) share the highest mean (M=5.17) compared to another statement in item 2 (M=4.79). This finding illustrates that the local community appreciates the existence of the urban heritage tree that brings the historical value in GWHS.

Conclusion

In conclusion, there is high awareness among the local communities in Georgetown World Heritage Site (GWHS) towards conserving and preserving the urban heritage trees. Hence, most of the local community in GWHS agreed that heritage trees positively impact the environment that have Cultural and Historical Value. Therefore, stakeholders should take responsibility for conserving heritage trees in urban areas. However, Malaysia's urban heritage tree conservation needs to be upgraded by the law and policy implementation to enhance more effective and efficient maintenance and management. More campaigns and programs using a community-based approach to increase awareness towards the benefits of heritage trees are required to enhance the existing information of local communities and conserve the valuable urban heritage trees in Malaysia. The first step in conserving urban heritage trees is to encourage the community to understand and appreciate the natural resources (the ecological significance, the social-cultural values, historical events and medicinal benefits). Thus, the local community is also responsible for raising their voice to conserve the urban heritage tree for the next generation.

Acknowledgement

The authors are thankful to the Ministry of Higher Education Malaysia and Universiti Putra Malaysia for award of Fundamental Research Grant Scheme (FRGS). This research was made possible by financial support from FRGS/1/2016/WAB04/UPM/02/1.

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