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Social Factors Influencing Hazardous Street Trees at Selected City Council in Malaysia

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Abstract
Street trees are an important part of city development. Proper tree management provides conducive environment for socialization. Previous research revealed the social factors and hazards associated with urban street trees but the elements that influence was not known. The objectives are: to investigate the elements of the social factors and to determine the influence of these elements towards hazardous street trees.480 questionnaires distributed among expert and public within 9 city councils. The findings revealed that 5 elements that influence the hazardous street trees; uncontrollable street planting, tree vandalism, near to neighbourhood context, lack of public awareness and poor nursery stock and failure care.

Keywords: Street trees; hazards; influencing; failure trees;

1.0 Introduction

The past decade saw many local authorities in Malaysia involved in greening and beautification programs. To balance the city development with green space, National Landscape Department (NLD) has issues a National Landscape Policy (NLP) which aimed at making Malaysia the Beautiful Garden Nation by 2020. The Ministry of Housing and Local Government through the NLD work towards developing and protecting the sustainable green infrastructure as an effort to establish a healthy, conducive and quality environment for improving the people's quality of life (National Landscape Policy, 2010). One of the missions of NLP was planting a total twenty million trees by the year of 2020 (Noriah, 2004). To achieve the mission, the Ministry of Federal Territories has launched a program to plant 1,970 trees in the Federal Territories in conjunction with National Landscape Day and 37,000 trees to be planted in three Federal Territories by the year of 2013 (Utusan Malaysia, Jun 13, 2013). The initial programme of 'No Roads Without Trees' set into motion a highly successful and sustained effort to maintain the green environment of the city wherever possible and to bring greenery into the concrete forest via extensive tree planting and landscaping. Among the popular tree species planted such as *Peltophorum ptrerocarpum* (Yellow flame), *Samanea saman* (Rain tree), *Cinnamomum iners* (Kayu manis), *Lagerstromea speciosa* (Bungor), *Ficus benjamina* (Beringin), *Mimusops elengi* (Tanjung), *Millettia atropurpurea* (Tulang daing), *Delonix regia* (Red flame) and *Swietenia macrophylla* (Mahogany) (Sreetheran et, al. 2012).

Contrarily, hazardous street tree is likely to fail due to major structural weaknesses, adverse site conditions or other external factors, under average conditions, and has the potential to strike a target (Diana, 1998). According to United States Department of Agriculture (2004), hazardous tree is a tree with structural defects likely to cause failure of all or part of the tree, which could strike a target. A target can be a vehicle, building or a place where people gather such as a park bench, picnic table, street or backyard.

Street trees are an important part of city development. Proper tree management provides conducive environment for socialization. The proper management will enhance the public safety makes the city more livable and improves the environment (Ramly et al.,2016). However, there are an increasing numbers of hazards in street trees based on the total number of public complaints to the local

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authorities and incidences reported through mass media. Previous research revealed the social factors and hazards associated with urban street trees but the elements that influence was not known. Thus, the objectives of this paper are: to investigate the elements of the social factors and to determine the influence of these elements towards hazardous street trees.

2.0 Literature Reviews

2.1 The Malaysian local authorities and Non-government (NGO)

Local authorities are endowed with the power given by the Local Government Act 1976 to provide services to public. They serve both obligatory and discretionary functions to public, where the later function is more towards local development issues. Obligatory functions can be generally categorized into five main sections which are public amenities, enforcement and license grant, public health and hygiene, social service and development and environmental issues. Currently, there are 147 numbers of local authorities comprising of 10 city council, 2 city hall, 36 municipal council and 99 district council. The difference in the hierarchy is based on the population of each district. In Malaysia, management of trees is under the power of local authorities (National Landscape Guidelines, 2011). The local authority has their units or departments to carry out the role and functions in planning, implementing and development, maintenance and regulatory control of landscape in urban areas (Hisyam et. al, 2014). Arborists are trained as horticulturists, urban forester who need to take a specialized course in tree care such as tree pruning, tree maintenance, tree health care, tree care safety and other related to arboriculture (Ahmad, 2014). The role of arborists at local authorities such as choosing and planting suitable trees, maintaining and monitoring to ensure the trees will grow into healthy, providing benefits to the urban ecosystem ,removal of fallen trees, care for mature trees and may appear in court to give legal testimony and advice. On the other hand, landscape architects are playing an increasingly important role in addressing the great issues of our day such as climate change, sustainable communities and environmental healthy (ILAM website, January 21, 2016).

A non-governmental organization (NGO's) is any non-profit, voluntary citizens' group which is organized on a local, national or international level. NGO's perform a variety service in term of tree management works such as volunteering in trees planted, donate seedlings to authorities, schools, residential areas, hospitals and street trees. Several of the trees species donated was planted at provided areas. As a result, there are species of trees planted which are not suitable for planting in a particular area. These results in problems such as pavement damage cause by tree roots obstruct the view at roadways and fallen trees.

2.2 Effects of hazardous trees on public safety and property damage in Malaysia roadside areas

Nowadays, issues on hazardous street trees have been widespread and can be proved by the public complaint to local authorities and report of newspapers. Maruthaveeran et al., (2010) state that the Malaysia city councils are unaware of the consequences of a tree failure such as property damage and personal injury. In Malaysia, the case related to hazard trees is increased by years. According to Sinar Harian newspaper (April 9, 2015), the incident occurred at Taman Sentosa, Gemas, Negeri Sembilan where is Muhammad Ridduan Abdul Karim are 35 years dead because of violation of fallen trees in its road. Other two passengers of the truck were not injured seriously. In another case, (Sinar Harian newspaper, September 2, 2014) two teenagers dead after motorcycle had ridden crushed by a fallen tree at Pintasan road, Kuantan. A roadside tree suddenly was fallen and crushed the victims and motorcycle during the good weather with no rain or strong winds. Firefighters help to remove the bodies from the tree branches before they were sent to the hospital. Public Relations Officer of the Fire and Rescue Department took about half an hour to cut the branches and cleaning areas to avoid traffic jam. According to Sinar Harian newspaper (July 10, 2015), seven cars damaged by fallen trees at Sultan Abdul Halim and Sultan Badlishah road at Alor Setar, Kedah. The incident occurred when heavy rain with strong wind caused a lot of tree's branches fallen to the cars. Berita Harian newspaper (Mei 8, 2015) reported four vehicles were crushed by a big tree at Landai road, Pudu Plaza, Kuala Lumpur. Eight members of Fire and Rescue deployed to the scene and Kuala Lumpur City Hall (DBKL) management to carry out the work of cutting and removing trees. Berita Harian newspaper (June 4, 2014) others cases occurred at Kuantan, Pahang where is one vehicle crushed by a tree when the weather is goods. Kuantan Municipal Council (MPK) verified that trees falling due to the central trunk are rotten. Sinar Harian newspaper (August 14, 2012), a matured *Fragrea fragrance* (tembusu) crushed to nine cars at parking area in Taman Tasek Seremban. After the case occurs, Seremban Municipal Council works hard to clean up the branches of that fallen tree.

In addition, the proximity and location of the trees one of the issues in selected the tree species. (Amat, 2011) stated that many previous street trees being planted into very small spaces within fully paved verges or in very narrow grassed strips. This has lead to both sub-standard trees and often excessive pavement damage and lifting. Refer to Department of Landscape and Recreation at City Hall Kuala Lumpur (2015), the existing tree species are not suitable and located on steep slope with angels above 45°, trees planted in private areas and abundant government land, trees within the path of storm and natural disasters, trees within alignment of high voltage overhead cable and trees within the proximity of monorail, and commuter train reserves. In addition, the nature physical of tree species growth will be stunted i.e. trees with die back symptoms, pets and disease, exposed cavities on the main stem, trees with existing root system destroyed as a result of the road, drains and other underground services. The trees with roots damage the drains, concrete walls, walkways, fire hydrants and sanitary underground pipes.

The programs of planting more trees to beautify the city and environment to achieve the vision of transforming Malaysia into the beautiful Garden Nation will not be successful if the hazard trees increase and the management is overlooked. Sreetheran & Amat (2010) stated that Malaysian city councils are unaware of the consequences of a tree failure such as public injury and properties damage. The proactive actions and good strategies by the local authorities will protect the public and properties damage by hazard

street trees. Public complaint are increased by years (2011 until 2014) at some of local authorities which are Subang Jaya Municipal Council (Irponz,2015) and Selayang Municipal Council (STAR,2015) means the hazard trees management is still in unsatisfactory and not carried out properly in term of planning and selection of trees, tree planting, tree maintenance and tree risks management . Local authorities and others parties need to ensure that street planting has been established are well cared and maintained to minimize the public injury and property damage.

Tree in a bad condition may have many dead twigs, dead branches or small, off color leaves. Trees in good condition will have full crowns, vigorous branches, and healthy, full sized leave. However, green foliage in the crown does not ensure that tree is safe. Tree trunks and branches can be quite defective and still support a lush green crown. The tree can be hazards for all sorts of different reasons. According to United State Department of Agriculture (2004), hazards trees can be categories by symptoms. The following symptoms such as dead trees, leaning trees, root injuries, trunk injuries and crown defects. Tree symptoms may indicate the potential hazard to public safety and properties damages.

The selection of trees species planted is purchased from the nursery stocks, NGO's contributions and individual contributions. Each tree donated with different species such as forest trees, fruit trees, evergreen trees, deciduous trees, flower trees and a variety of native trees. The trees planting program well received from a government body, a private body, NGO's and students. All trees planted need of care in terms of maintenance, tree assessment and tree risk and tree protection. In rapid development, certain organizations ignored the planning and care needed for tree to grow healthy (Hong Kong Conservancy Association, 2009). Also, the rule in modern arboriculture is 'the right tree in the right place', means the wrong tree is planted in a wrong place, no matter and what kind of methods and how many resources are being devoted to preserving trees, which trees potentially categorized as hazard trees (Shigo, 2003).

2.3 Social Factors and Elements Influencing hazardous street trees

Previous literature search (Jacqueline et al., 2011; Dexter et al., 2011; Billie and Robert 2002) shows that there are five factors that affect the hazardous street trees which are site factor, social factor, economic factor, species selection factor and management factor occur in Malaysia urban area. Unlike the other factors, social factors are the main important factors that influence the hazardous street trees, and this factor can be seen clearly in everyday life. Social factors are the aspects that directly influence or affect lifestyles and behaviour in social situations. Figure 2.1 and Table 2.1 show the social factors and elements influencing hazardous street trees.

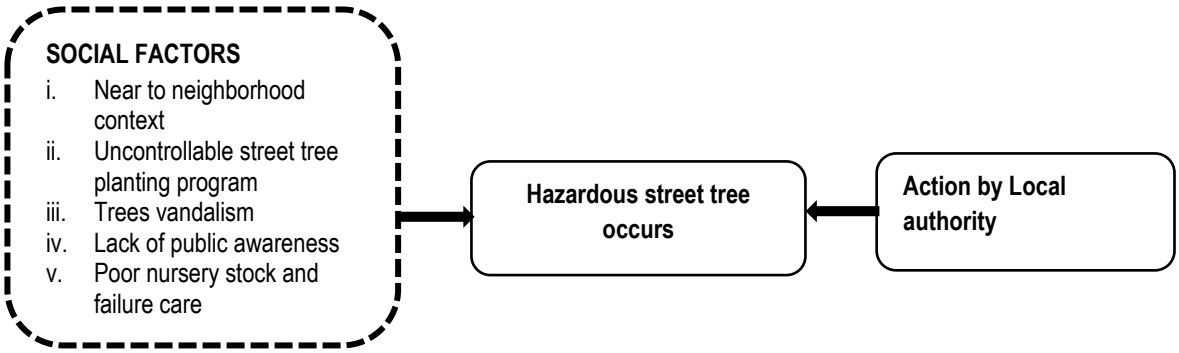

Fig. 2.1: Social Factors that influence the hazardous street trees

Table 2.1. Explanation for Social factors

Elements	Explanations	Source
Near to neighbourhood context	The location of the street trees close to residential area, commercial area, community activity area (night market, stall).	Yvonne et al. (2006), Rachel (1983), Rebekah et al.(1997)
Uncontrollable street tree planting	Unhealthy or unsuitable or fruit trees donated by NGO's and related agencies to planting at the roadside.	Stephanie (2010), Geoffrey and David (2010)
Trees vandalism	An irresponsible person who destruction of street trees such as nailing the tree and binding advertising on the tree.	Emma and Charlie(2014), Marvin (1978), Emily(2013)
Lack of public awareness	Lack of understanding of street tree management, unaware about street tree species selection, poor knowledge of tree maintenance such as tree pruning and fertilizing.	Charlie et al.(2016), Lauren et al. (2016), Mariella et al.(2016),Ruth et al.(2010),Jim (1990)
Poor nursery stock and failure care	Poor quality of trees, root defects, lack adequate care after planting.	Edward and Laura (2007), Mark (2002),Michael and Douglas (2009), James (2001),Kim et al.(2015),Lara et al. (2015), Johanna et al.(2016)

Previous researches have discussed social problems and hazards associated with urban street trees including fears of crime, disease, insects and other animals (Dwyer et al., 1992; Joy et al., 2012). Inadequate root systems and other physical defects, incorrect irrigation practices, poor preparation, poor planting, nutritional deficiency, and insect damage effects the stressful of nursery conditions (James, 2001). The unhealthy street tree usually in poor conditions, did not receive professional pruning (Daphne, 2014), and diminish their value for communities. The right tree in the right place in the roadside area will reduce public outages, retain the beauty of scenic

roads and reduce roadside maintenance costs (Thomas, 2016). A Large tree is one of the major causes of power outages in areas of overhead utility lines due to direct tree contact with lines, or to trees or tree limbs falling on the lines. When trees contact live wires, they become conductors of electricity, causing power outages or creating dangerous situations for anyone coming into contact with the trees. Furthermore, the tree can often cause minor damage to footpaths, street curbs, pave and driveways. Tree roots can sometimes damage similar lightweight structures such as boundary walls if they are in direct contact with the footings of the wall. Also, tree roots rarely cause structural damage to buildings in commercial and residential areas (Yvonne et al. 2006). This is because the footings of the buildings are usually deep and substantial and not easily moved or damage by roots. A matured tree has large roots near the base of the trunk that provide the structural support the tree requires to stay upright. If these roots occur in a restricted space between the footing of a building and some other solid object such as bedrock, it is possible for a root to cause movement in the foundation or footing of a building as it grows over time. Recently, trees along several Malaysia urban roadsides were vandalized. Emma and Charlie (2014), also mentioned that street trees are vulnerable to vandalism and damage, especially when small, which constraints the flow of benefits they provide and increase the costs of planting programs. Element on awareness of street tree management and pests generally are rare and very little work has been done around awareness of public and professionals (Hurley et al., 2012). Few studies discuss that tree experts have general awareness of the street tree pest issue, but less of the specific knowledge needed for identifying symptoms of disease or infestation. Additional literature shows that there are low levels of awareness of invasive species in general amongst public and professionals (Marzano et al., 2015). In term of lack of public awareness of their knowledge, increasing numbers of new pest and disease and the growing complexity of pathways (Pautasso et al,2010; Stenlid et al, 2011; Eschen et al., 2015), cause of the level of awareness amongst the professional and public may be less than ideas (Mariella et al., 2016).

2.4 Social benefits provided by urban street trees for improving quality of life

According to Roy et al. (2012), urban street trees have been found to provide social, economic, health, visual and aesthetic benefits to human. In 115 research papers on urban trees examined in their study, 6% are examined social benefits, with five demonstrating an actual benefit which was often associated with increased quality of human life. Among its interests are making urban environment more pleasant to live, work and spend leisure time, providing significant outdoor leisure, providing nature in the city, enhancing quality of urban life, promoting environmental responsibility and ethnics, building stronger sense of community, enhancing community's sense of social identity and self-esteem, providing settings for significant emotional and spiritual experiences and providing opportunities for inner city children to experience nature.

3.0 Methodology

A review of the literature is conducted among other things to determine a theoretical gap exists (Gregory et al. (2007).A literature review was conducted to study and present the factors and the issues related to the research. As explained by Merriam (1998), the literature review will help to identify the major studies and factors effects of the research. Next, the methodology used is structured designed questionnaires to collect the response from the experts and public. Research questions were developed through a review of the literature. Section A of questionnaire consists of the demographic background of the respondent. Section B consists of set of question-related to effects of hazardous street trees to public and properties. Section C of the questionnaire consist of a list of important factors and element to be ranked by respondents based on factors influencing hazardous trees occurs using Likert scale from 1 – 5. The higher number represents the higher important factors of the element. Field observation and pilot test of the survey questionnaire were done to obtain information on the improvement of the questionnaire. The 40 expert's respondents are landscape architects and arborists at local authority while the selection of 440 public respondents based on their knowledge related to the research. The selection of the public respondents consists of landscape architecture students, an employee in landscape architecture fields and academicians. The selection of the respondents is based on their voluntarily and their knowledge about street trees. The collected data were analyzed statistically using the Statistical Packaging for Social Science (SPSS) version 20.

4.0 Results and Discussions

4.1 Demographic Characteristics

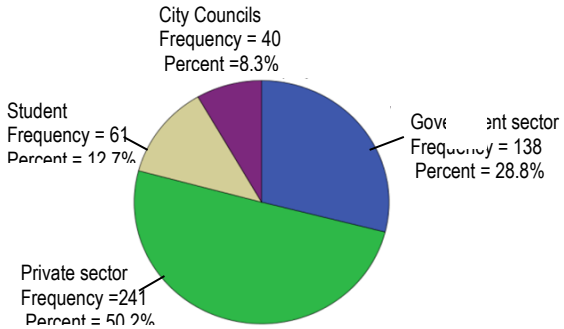

Fig.4.1: frequency of demographic characteristics of the respondents

Fig. 4.1 shows the demographic characteristics of the respondents in the study area. As mentioned earlier, 480 respondents were involved in the study area, involving 40 (8.3%) respondents from nine Malaysia City Councils which are Kuala Lumpur City Hall (5 respondents), Alor Setar City Council (4 respondents), Penang Island City Council (4 respondents), Ipoh City Council (5 respondents), Shah Alam City Council (4 respondents), Petaling Jaya City Council (5 respondents), Malacca City Council (4 respondents), Johor Bahru City Council (5 respondents) and Kuala Terengganu City Council (4 respondents). 138 (28.8%) respondents from government sectors, 241 (50.2%) respondents from the private sector and 61 (12.7%) respondents from students in university. The selections of respondents are based on the expertise, knowledgeable and experience in this study. The findings on demographic characteristics indicate that the respondents differ from one another regarding qualification levels, age group, race, gender, monthly income, employment sectors and citizenship.

Table 4. 1. Ranking of mean results for social factors

Social factor	Mean	Rank
Element		
Uncontrollable street tree planting	4.43	1
Trees vandalism	4.17	2
Near to neighbourhood context	4.14	3
Lack of public awareness	4.05	4
Poor nursery stock and failure care	3.78	5

Note: Likert Rating Scale
1= Strongly disagree, 2= Disagree, 3=Moderate, 4=Agree, 5= Strongly agree

Table 4.1 shows the ranking of mean score for social factors' elements. The analysis shows that the most influential element based on the mean score is uncontrollable street tree planting (mean score= 4.43).The second influential element for social factors is tree vandalism may increasing value (mean score= 4.17). The third influential element for social factors is near to neighbourhood context (mean score = 4.14). Lack of public awareness (mean score = 4.05) stands at 4th ranking and lastly is poor nursery stock and failure care (mean score = 3.78).

Table 4. 2. Response on social factor influence that hazardous street trees occur

Element	Near to neighbourhood context		Uncontrollable street tree planting		Trees vandalism		Lack of public awareness		Poor nursery stock and failure care	
	f	%	f	%	f	%	f	%	f	%
Strongly disagree	0	0	0	0	0	0	0	0	39	8.1
Disagree	33	6.9	8	1.7	0	0	39	8.1	8	1.7
Moderate	92	19.2	39	8.1	111	23.1	1	.2	57	11.9
Agree	129	26.9	168	35.0	173	36.0	336	70.0	290	60.4
Strongly agree	226	47.1	265	55.2	196	40.8	104	21.7	86	17.9
Total	480	100	480	100	480	100	480	100	480	100

Table 4.2 highlights the total number of responses on the social factor elements that influence the hazardous street trees. The highest 265 (55.2%) respondents strongly agree for uncontrollable street tree planting, 290 (60.4%) respondents agree that poor nursery stock and failure care as the influencial elements for the hazardous street trees. Meanwhile, 111 (23.1%) respondents moderately agree that tree vandalism is the influencial element the hazardous street trees occur.

Table 4.3. Mean Score among Public respondents on the Social Factor Elements

Element	**Mean** Government sector	Private sector	Local authority	Student	Total	Rank
Uncontrollable street tree planting	4.53	4.44	4.47	4.13	4.43	1
Trees vandalism	4.24	4.13	4.22	4.16	4.17	2
Near to neighborhood context	4.27	4.02	4.22	4.23	4.14	3
Lack of public awareness	4.13	4.01	3.97	4.06	4.05	4
Poor nursery stock and failure care	3.86	3.75	3.97	3.65	3.78	5

Table 4.3 shows the ranking of the comparison means results for element influences the social factors. The analysis shows that the most important influential element based on the ranking of the mean result is uncontrollable street planting (total mean = 4.43). The second influential element for social factor is tree vandalism (total mean = 4.17).The third influential element is the location of street trees are near to neighbourhood context (total mean = 4.14).The lack of public awareness element stands at 4th ranking with a total mean result of 4.05 under the social factors. Next, poor nursery stock and failure care (total mean = 3.78) is the lowest rank in social factors.

Table 4.4. Comparison of mean score among Malaysia City Councils on the Social Factor Elements

Element	**Mean** KLCH	KTCC	SACC	MCC	ASCC	PICC	JBCC	ICC	PJCC
Uncontrollable street tree planting	5.00	3.00	4.80	5.00	2.00	4.00	5.00	5.00	4.00
Trees vandalism	4.00	3.00	4.80	5.00	5.00	4.00	5.00	5.00	5.00
Near to neighborhood context	4.00	3.00	4.80	5.00	3.00	4.00	5.00	5.00	4.80
Lack of public awareness	5.00	2.00	4.80	4.00	4.00	4.00	4.00	4.00	5.00
Poor nursery stock and failure care	5.00	1.00	4.80	4.00	5.00	4.00	4.00	4.00	4.00

Note: KLCH=Kuala Lumpur City Hall, KTCC=Kuala Terengganu City Council, SACC =Shah Alam City Council, MCC= Malacca City Council, ASCC=Alor Setar City Council, PICC=Penang Island City Council, JBCC=Johor Bahru City Council, ICC=Ipoh City Council, PJCC=Petaling Jaya City Council

Table 4.4 shows the ranking based on the mean score responses between the Nine City Councils in Malaysia were selected as respondents. The expert's respondents consist of landscape architects and arborists. From the analysis, KLCH, MCC, JBCC, ICC stated that (mean=5.00) for the element of uncontrollable street tree planting. Next, SACC stated same mean for all the elements (mean = 4.80) also PICC stated same mean for all elements (mean = 4.00). KTCC stated the lowest mean for poor nursery stock and failure care (mean = 1.00) and ASCC stated (mean = 2.00) for uncontrollable street tree planting.

Table 4.5. Relationship between genders and element affect the hazardous trees occurs

Element	Gender	Mean	Sig
Near to neighbourhood context	male	4.15	.776
	female	4.12	
Uncontrollable street tree planting	male	4.37	.005
	female	4.49	
Trees vandalism	male	4.15	.539
	female	4.19	
Lack of public awareness	male	4.03	.525
	female	4.07	
Poor nursery stock and failure care	male	3.72	.265
	female	3.83	

Table 4.5 shows the relationship between genders and factors affects the hazardous trees occurs in the roadside area. An independent sample t-test was conducted to compare the structural element and the gender of the respondents in the study area. Uncontrollable street tree planting is found to have a significant relationship with genders responses ($p<0.05$). Meanwhile, it is reported that there is no significant connection between genders and planting near to neighbourhood context ($p>0.05$). There is also no significant association between poor nursery stock and failure care and genders ($p>0.05$). The findings also disclose that genders do not influence respondents' feedback on tree vandalism ($p>0.05$). Lack of the public awareness is an element found to have an insignificant relationship with genders ($p <0.05$).

Table 4.6. Relationship between groups of age and element affect the hazardous trees occurs

Element	Age	Mean	F	Sig
Near to neighborhood context	< 21 year	4.22	1.40	.231
	21-30 years	4.15		
	31-40 years	4.08		
	41-50 years	4.26		
	>51 years	3.86		
Uncontrollable street tree planting	< 21 year	4.60	4.14	.003
	21-30 years	4.28		
	31-40 years	4.44		
	41-50 years	4.54		
	>51 years	4.10		
Trees vandalism	< 21 year	4.32	2.71	.029
	21-30 years	4.20		
	31-40 years	4.08		
	41-50 years	4.30		
	>51 years	3.93		
Lack of public awareness	< 21 year	4.16	1.96	.099
	21-30 years	4.10		
	31-40 years	4.06		
	41-50 years	4.01		
	>51 years	3.73		
Poor nursery stock and failure care	< 21 year	3.90	1.75	.136
	21-30 years	3.75		
	31-40 years	3.82		

	41-50 years	3.79
	>51 years	3.78

Tables 4.6 show the relationship between groups of age and element affect the hazardous trees occurs. One Way Anova analysis was carried out the relationship between age group with element of social factors. The finding, however, establishes a significant link between age and respondents' feedback on uncontrollable street tree planting ($p<0.05$). By looking at the other elements, it is reported that age does not relate in any way in the respondents' responses ($p> 0.05$). Age groups is not a significant factor in determining the responses made on planting near neighbourhood context, tree vandalism, lack of public awareness and poor nursery stock and failure care.

Table 4.7. Relationship between qualification of respondents and element influence the hazardous street trees occurs

Element	Gender	Mean	F	Sig
Near to neighborhood context	Certificate	4.63	2.69	.003
	Diploma	4.00		
	Bachelor degree	4.13		
	Masters	4.36		
	PHD	4.45		
Uncontrollable street tree planting	Certificate	4.78	2.10	.002
	Diploma	4.32		
	Bachelor degree	4.45		
	Masters	4.50		
	PHD	4.54		
Trees vandalism	Certificate	4.36	0.80	.524
	Diploma	4.14		
	Bachelor degree	4.15		
	Masters	4.25		
	PHD	4.45		
Lack of public awareness	Certificate	4.21	1.24	.290
	Diploma	4.05		
	Bachelor degree	4.02		
	Masters	4.25		
	PHD	3.81		
Poor nursery stock and failure care	Certificate	3.94	0.93	.442
	Diploma	3.67		
	Bachelor degree	3.81		
	Masters	3.94		
	PHD	3.78		

Tables 4.7 shows the relationship between qualification level of respondents and element influence the hazardous trees. One Way Anova analysis was carried out the relationship between qualification levels with element of social factors. The finding, however, establishes a significant link between age and respondents' feedback on planted near to neighbourhood context and uncontrollable street tree planting ($p<0.05$). For the other elements, it is reported that age does not relate in any way in the respondents' responses ($p> 0.05$). Qualification level is not a significant factor in determining the responses made on tree vandalism, lack of public awareness and poor nursery stock and failure care.

5.0 Conclusion

This paper has elaborated on the significant of street trees management by the local authority for city development. Trees versus element of social factors are inseparable and need to give attention to the parties responsible. The investigation shows that the social factors comprised of 5 elements which are uncontrollable street tree planting, tree vandalism, planted near to neighbourhood context, lack of public awareness and poor nursery stock and failure care. This study also revealed that uncontrollable street tree planting is elements that strongly influence the hazardous street trees. Hence, the increasing of fallen street trees by years can be avoided when the public are concerned on the social factors' elements that influence the hazardous street trees occurs. In additions, the local authority can be more proactive by controlling the selection of street trees species and ensuring that it is planted in accordance to the guideline and specification provided by National Landscape Department. This is due to the fact that urban street trees have been found to provide social, economic, health, visual and aesthetic benefits to human, associated with increased quality of human life.

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