UNIVERSITI PUTRA MALAYSIA

HOUSEHOLD PERCEPTION AND EVALUATION ON TREE PLANTING ACTIVITIES FOR LANDSCAPING AT TAMAN RASHIBAH INDAH, SEREMBAN NEGERI SEMBILAN

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By

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UPM

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ABSTRAK

Perhubungan manusia dengan alam sekitar terutamanya pokok-pokok tidak perlu dipersoalkan lagi. Sikap dan kesedaran manusia sentiasa berubah dari masa ke masa. Satu kajian dijalankan untuk menilai persepsi, kehendak dan kesedaran penduduk di Taman rashibah Indah Seremban terhadap aktiviti penenaman pokok di kawasan perumahan mereka. Dalam kajian ini, survei dijalankan menggunakan soalselidik keatas 251 responden yang mewakili setiap rumah dikawasan ini. Data yang diperolehi telah dianalisa menggunakan program SPSS dan penilaian dan persepsi responden ditentukan dengan menggunakan nilai purata dan peratusan. Pengaruh latarbelakang keatas persepsi responden juga diuji dengan menggunakan T test dan "Analysis of Variance (ANOVA)" pada 95 peratus had keyakinan. Majority penduduk disini adalah berbangsa Melayu dan berumur antara 26 hingga 45 tahun. Kira-kira 90 peratus daripada penduduk menduduki rumah milik sendiri. Secara amnya, keputusan responden tidak menunjukkan berpuas hati dengan keadaaan pokok di kawasan ini. Kebanyakan mereka bersetuju bahawa pokok-pokok memberikan banyak kebaikan dan faedah dikawasan penempatan ini terutamanya sebagai penapis pencemaran dan menambahkan kecantikan persekitaran. Saiz, bentuk dan kadar pertumbuhan yang sederhana adalah ciri-ciri pokok yang dikehendaki oleh penghuni kawasan ini. Bagaimanapun mereka lebih gemar jika pokok tersebut terdiri daripada pelbagai spesies. Kebanyakan responden berpendapat bahawa aktiviti penanaman dan penyelenggeraan pokok dikawasan kediaman adalah tanggungjawab pihak Berkuasa Tempatan. Seterusnya, para penghuni mancadangkan bahawa pokok buah-buahan adalah pokok yang patut ditanam dikawasan perumahan memandangkan ia boleh memberikan nilai-nilai kecantikan disamping penghasilan buah. Latar belakang responden dalam kajian ini tidak mempengaruhi persepsi mereka terhadap aktiviti penanaman pokok. Bilangan pokok dikawasan ini juga harus ditambah dikawasan ini.

ABSTRACT

The relationship of man to the environment particularly trees need no further elaboration. Human altitudes and awareness toward tree planting is always changing over times. A study was carried out to evaluate the perception, preferences and awareness of people staying in Taman Rashibah Indah, Seremban toward tree planting activities in their residential area. A Survey was carried out by using a questionnaire to 251 respondents that represent every houses in this area. Data obtained were analyzed using SPSS Computer Program and respondent evaluation and perception were determined using average and percentage value. The influences of background to the respondent perception was also tested by using T test and Analysis of Variance (ANOVA) at 95 percent confident level. The majority of the residents in this area are Malay aged from 26 to 45 years old. About 90 percent of residents owned their houses. Overall the result indicated that respondents were not satisfied with the tree condition in this residential area. Majority of them agreed that trees are beneficial in to their residential area especially for filtering the pollution and creating more attractive surrounding. Moderate in size, shape and growth rates are preferred by the residents, but they prefer trees of diverse species. Most of the residents felt that tree planting and maintenance activities are the responsibility of the local authority. Fruit trees are one of the suggested trees to be planted. The background of the respondent has no effect on respondent's perception in the planting activities. The number of tree needs to be increase in this area.

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CHAPTER I

INTRODUCTION

Householder perception and opinion can be used as one of information for tree planting activities and management in residential area. Researchers have listed the values of tree planting. The values are such as moderating temperature extremes, improve air quality, provide wildlife habitat and erosion control. The values of tree are often associated with the increased properties value, their role in improving privacy, accentuating neighborhood identity and enhanced aesthetic value of urban life. On the debit side, neighborhood trees are occasionally been linked to sidewalk and root problems, insect and disease infestations, blocked access and reduced visibility.

History

The relationship of man to the environment need no further elaboration. Early civilization shown that man is dependent to the nature for fundamental resources such as food, fibber, construction material and many other. Thus, there is no doubt that nature is very important to human, however, the establishment of new township or urbanization today has indirectly kept man from the nature. The removal of trees in urban area has modified the local

climates through the deterioration of air quality and heat build up. Alteration of the land surface also has resulted soil destruction and soil compaction that caused frequent disaster phenomena such as flooding and erosion during extreme weather. As such, tree-planting activities is essential in area to restructure the environment. These could at least reduce those detrimental effects.

Apart from being the basic life provider, trees have play more prominent role in nature. Trees are a important part of an ecosystem. Today, the man has intensified and explores more information on the environments. Many studies have done focused on the importance of trees and environment.

During industrial revolution era, man denied tree as one of the life element. Trees were felled and forests were cleared for industrial site and residential area. Again, the demand for infrastructure and increased population had put aside importance of environment.

However, the industrial advancement that ensure the success of life is totally incorrect, when the global climate changes. In the 80s, the environmental issues such as the reduction of ozone layer, air and water pollution, increases of temperature and acid rain. These causes many scientific study conducted related to the ecosystems.

Problem Statement

The environment issues of natural and urban area are widely discussed and it has become a common topic in community today. Assumption done suggested that every man in the world communities have ignoring the environment, trees and their responsibility toward the protection of forested area especially in urban area. However, how true that communities today being unaware and understand on environment is questionable. Therefore, this study attempted to survey the perception of residents toward tree planting activities for landscaping in residential area.

Objective

Generally, the objective of this study is to evaluate the perception, preferences and awareness of people staying in Taman Rashibah Indah toward tree planting activities in their residential area. However the specific objectives of this study are:

1. To evaluate the perception of people in Taman Rashibah Indah toward tree planting in housing area

2. To determine the commitment of society toward participation in landscape activities

CHAPTER II

LITERATURE REVIEW

Urban Forestry and Community

Expansion of urban area increases from time to time. The trend towards urbanization is a natural process since man improve their quality of life parallel to the exponential population increased. Kulchelmeiter and Braatz (1993) in their study expected that by this millenium, more than half of the planet's inhabitants live in urban area. Out of 66 cities in the world, would have greater than four million populations, fifty of them are in developing countries. The fact suggested that the process of deforestation would increase and the need of tree landscape is becoming essential.

The conservation of biological diversity as well as the amelioration of global climate change has been headline issues. Consequently, the idea to bring forestry concept to urban areas has widely been accepted and practiced. However, tree planting and management of green space in cities are primarily the responsibility of Municipal Park department, city planners and landscape architect. The involvement of forester itself is very limited as well as the personnel interest among city dwellers.

Most of our community underestimate the roles of urban forestry by regarding its as something cosmetic and even a luxury not worthy of support, as the space could be converted into something that can yield high economic return (Kulchelmeister and Braatz, 1993). In extent to that issue, Bartenstein in (1982) suggested that urban forestry should not be considered as an "amenity services" but rather be included among the "essential service" along with other health and welfare functions. Another study related to this issue is to change the perception of the people toward the urban forestry, which was done by Hough (1984). He suggested that the forester's have the duty to tune those perceptions and convince urban dwellers that they could get both luxurious and good environment if they are ready to accept the concept of urban forestry.

Sullivan and Kuo (1996) found that urban forest help to build stronger communities and in doing so, they contribute to lower level of domestic violence. Though no strong conclusion could be made from a single study, at least this finding suggests that tree can help address some of the problems in the society today. Research by Summit and Sommer (1998) focused on how the introduction of trees into a neighborhood can effect the perception of the neighborhood by its residents as well as how the planting process can affect the patterns of social interaction.

The Value of Urban Forestry

Urban forest provide many benefits to urban life in terms of goods and services. However people tend to misunderstood those benefits since they always associated them in monetary-term only and ignored the intangible benefits.

Another study shows that people perceive benefit involving aesthetic enjoyment, relaxation, sport and social contact (Ulrich and Addoms, 1981). In addition, aesthetic enjoyment can gibe the residents a sense of relief and escape from hectic urban life (Ulrich, 1986). Study of psychological responses to the visual environment by Ulrich and Simon (1986) have shown that scenes with vegetation can produce more relax and less stressful states that a highly artificial environment.

Poor air quality is one of the conditions in urban area. This due to combination of both increment in the population and excessive energy consumption. In order to reduce these unhealthy condition, planting trees is one of a good solution. Study by Kulchelmeister and Braatz (1993) found that plant help to remove the severe pollution in urban area in three ways which is absorption, deposition and fallout of particulate and aerosols on leaf surface.

Benefit of Trees

Urban forests provide a wide range of benefits such as beauty and aesthetics, temperature moderation and energy savings, air quality enhancement and increased real estate value (Dwyer *et al.,* 1992). In brief, urban forest improves the overall quality of life for urban dwellers. To date, a number of research findings have been produced that identify and help quantify these benefit.

On beauty and aesthetic aspects, researchers have generally been consistent in finding that people generally prefer vegetated areas over non-vegetated site (Dwyer *et al.,* 1991; Getz *et al.,* 1982 and Herzog T., 1984). In addition, this vegetation preference was true for the presence of trees as mention by Ulrich (1981). In a related work, Hull (1992) found that the urban forest was valued as a mechanism to characterize, different and beauty space. Urban forest plays a role in creating a distinctive and landmark character within a specific location. In a sense, the urban forest assumes a symbolic function for communities by providing a sense of beauty and defining values.

Temperature moderation and energy saving is one of the important benefits of urban forest. The urban forest can provide a buffering effect for both temperature and pollution effects. The urban forest environment affect both surface and ambient air temperature through three mechanisms which direct

effects of shading, evapotranspiration and wind reduction (Akbhari *et al.*, 1992). Outdoor temperature modification can reduce the energy resources needed to cool buildings in both industrial and residential buildings, but especially residences.

Trees also enhance air quality. Urban forests can act as pollution filters and "sinks" by trapping air pollutants such as oxides of sulfur and nitrogen and tropospheric ozone (Bernatzky, 1968). In the case of airborne particulate, the urban forest, particularly through its canopy, can collect undesirable particulate which are eventually washed off by rain and deposited on the soil surface. Of the growing concern is the increasing level of carbon dioxide in the atmosphere with its accompanying "greenhouse" effect. In recent work by Rowntree *et al.*, (1991), it has been estimated that urban forest provide annual net storage of 6.5 million tons of Carbon dioxide wit a total of 800 million tons of carbon estimated to be sequestered by urban forests.

Urban trees and vegetation greatly enhance real estate values. Study in United State by Dwyer in 1991 has estimated that residential properties have additional added value of at least US$1.5 billion annually due to the present of trees and vegetation located on these properties. These estimate do not include values that could be added for nearby public parks, greenways and forests.

Urban forestry also contribute in quality of life by providing restorative environments for reducing the mental fatigue of the urban resident as studied by International Society of Arboriculture (1990) and Kaplan *et al.,* (1989). Past researches has demonstrated that the urban forest environment can enhance recovery from medical surgery (Ulrich, 1984), facilitate relaxation and catharsis (Schroeder *et al.,* 1983) and encourage sense of serenity and joy (Schroeder, 1991). Result of research in South Carolina, United State showed that residents were actually aware of the intangible benefits of urban trees, with numerous respondents to a survey indicating that trees provide relaxation and positive feelings (Hull *et al.,* 1992). USDA Forest Service studied in 10 Ohio town, shown that trees were found to be the single most important feature contributing to visual quality in evaluation of residential street aesthetics (Schroeder *et al.,* 1983). In addition, urban trees can act as symbols of people or events, religion beliefs and a sense of history (Dwyer *et al.,* 1991).

Urban Forest Awareness

Past study by Hall (1981) showed that people can be divided to 3 category when dealing with urban forest issues. First of all people think the trees are not a living thing, secondly is a group of people that think tree as a living thing but separated from the ecosystem and lastly is the group of people that think the tree is a part of ecosystem and human life. The perception and awareness of people to urban park are different according to their education

and past experiences. One of the most important is their belief in religion. Religions in many ways guide someone to be more responsible toward the convenience of the community. In relation, Balasubramaniam (1984), suggested that in order to develop environmental awareness, we need to confront with the spiritual dimension. Its means that man need to view himself in relation to other living things and other people in a way that makes them responsible to the whole.

Gurmit conducted a review on tree planting scenario in Malaysia in 1990. The study showed that related authorities are not aware of the poor tree management. For example in Kuala Lumpur, trees planted have poor growth rate due to improper management. The authorities also do not have long term planing in tree planting as, many trees were felled down for widening up roads, cable planting and road construction.

Environmental Education

Environmental education is very subjective and very broad. However from past research, this is the way to train people to appreciate the environment. Most probably the awareness of education began since Evelyn (1964), who a great English diarist has published a book of "Sylvan or a Discourse of Forest Tree". This is a realization on the importance of tree planting. Hora (1981), also discussed that tree plays an important role in balancing our ecosystem and environmental conservation.

CHAPTER III

METHODOLOGY

In this study, a survey was carried out to get information about household perception and evaluation on tree planting in this residential area. The survey was carried out by using a questionnaire.

Study Area

The study was conducted in Taman Rashibah Indah in Seremban Negeri Sembilan. Taman Rashibah Indah is located in the Ampangan District and was constructed on a 20 acre of land. There are 251 units of houses of various types, where it was dominated by the double storey terrace which is 119 units. This is followed by 80 units of low cost house and 52 units of single storey terrace. The population here is about 1315 people (source: Majlis Perbandaran Seremban, 1999).

The site was chosen because there was no such study that was carried out in this (Source: Majlis Perbandaran Seremban). Morever, the housing park, is among the biggest in Seremban and its located at a fragile hilly area. Another reasons is the accessibility to the study site and constraint of time.

Questionnaire Design

The questionnaire was designed with the emphasize on aspect that could achieve the objective of this study. In the questionnaire, respondent profile were made on the respondent background such as age, education level, type of job, monthly income and Gender. They were also asked about length of they stay.

The questionnaire consists of seven parts where each of them require specific perception and evaluation from the respondents. The section of the questionnaire are as follow:

Section A: Respondent background

Section B: Respondent perception and evaluation on tree in front of their residence

Section C: Respondent preference of tree benefit in front of their house

Section D: Respondent opinion of tree disadvantages near the residence

Section E: Respondent opinion on what size, growth rate and shape of tree appropriate in their residence.

Section F: Respondent opinion on size and species diversity

Section G: Respondent personnel opinion on tree planting program in their residence

The questions in section A was designed using closed format questions, while section B, C, D, E, F and G were based on likert scale.

Survey Procedure

Survey was carried out based on the number of house in this housing park. There are 251 unit of different house types in this area (Table 1). 100% sampling was taken according to the number of each unit types. A total of 251 questionnaires were passed to every house and was collected again after 2 days to a week. The time was given to the respondent to fill in the questionnaire so that they can done it based on their opinion to reduce bias.

The rationale of this 100 percent sampling was to increase coverage of study in this area to all level of people based on house types. Secondly, it is to get at least 1 respondent to represent every house in this area.

Table 1: The Types and Number of House in Taman Rashibah Indah

House types	Number of house
1. Double storey terrace	119
2. Single storey terrace	52
3. Low cost	80
Total	251