A COMPARISON OF GENDER PREFERENCE FOR TROPICAL RECREATIONAL RAIN FOREST IN MALAYSIA

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ABSTRACT

Malaysia's recreational rainforests attract a significant number of visitors and they are an important tourism asset. Visitors are attracted by the scenic views of the forests as well as the biodiversity experiences of the forest ecosystems. These recreational forests are equipped with supporting facilities to attract visitors. This study investigates gender preferences of recreational rainforest landscape in Malaysia. The study objective is to compare gender preferences regarding recreational rainforest landscapes in relation to the efforts and commitments of managing the park by the responsible authority. Sg. Chongkak Recreational Forest in Selangor, Malaysia was selected as a case study. A photo-questionnaire survey was used to gather data from 119 expert participants. Results indicate that there is a statistically significant difference between male and female preferences for facilities (p=0.038) where a greater number of female (31.09%) rated the facilities in the study sites as good compared to their male counterparts (15.97%). Thus, gender preferences, in particularly women preferences, must be taken into account when developing landscape management plan for the park.

Keywords: Gender, preference, recreational forest and landscape.

1. INTRODUCTION

The Tropical Rain Forest in Peninsular Malaysia is a very unique natural heritage that has been in existence for more than a million years. It is rich in a variety of plants and wildlife, which include 2500 species of trees, 200 species of mammals, 600 species of birds, 110 species of snakes, 80 species of lizards and thousands of insects (Forestry Department of Peninsular Malaysia, 2016). This forest is part of a natural heritage and plays an important role in the protection and conservation of biodiversity. It also contains some of the unique and beautiful landscapes that meet recreational and ecotourism needs. Among the latter resources for people to experience may include one or more of the following: bird watching and other wildlife viewing, jungle trekking, camping and nature walks, jogging and mountain biking, and, in some areas, swimming, freshwater fishing, canoeing, kayaking, rafting, and river tours. Nowadays, Malaysia's recreational rain forests are significant visitor attractions and tourism assets. Visitors come to view their beauty, experiencing their rich biodiversity and enjoying the beauty of the tropical forest ecosystems. In 2011, there were over 558,879 visitors who had visited the 10 recreational forests in the State of Selangor (Idris et. al., 2013). These include the ever popular

Bukit Nenas Recreational Forest in Kuala Lumpur, Federal Territory (5,278 foreign and 1,092 local visitors) (Forestry Department of Peninsular Malaysia, 2012). In 2015, 5,115,481 million visitors had visited recreational forests in all states in Peninsular Malaysia (Forestry Department of Peninsular Malaysia, 2015).

Malaysia defined recreational forest as an area in Permanent Forest Estate used for leisure, sports, research activities, and education as well as for conserving flora and fauna (Manual Perhutanan, 2005). The goals of their establishment are to offer places for the public to relax and carry out outdoor family or group activities; to create awareness among the public on the importance of maintaining the environment for a better life; to enhance individual performance and to escape from the stress of work and busy city life; to provide opportunities for the public to explore forest areas and enjoy its natural beauty; to function as open laboratories for conducting research and education; and as ecotourism attractions for additional revenue to the country (Forest Department of Peninsular Malaysia, 2013). These forests are well supplied with constructed facilities to attract visitors (WWF Malaysia, 1996).

Managing the scenic beauty of the recreational rain forest landscapes is essential for greater outdoor activities and their sustainability. Their natural assets which are vegetation, soil, topography/landform, geology, fauna, and water as well as man-made elements (e.g. bridge, picnic table, bench, litter bin, walkway and shelter) need to be designed in harmony with their natural surroundings in order to keep the overall landscape beauty and to maintain the visual attractiveness of the site. With landscape scenic beauty being so critical to the tourism industry, appropriate landscape management practices must be adopted in order to maintain the visual attractiveness of natural forest areas (Jamilah, 2011). For that reason, the management needs to preserve and care for the landscape beauty for people to enjoy them. The beauty of the forest landscapes provides for different types of enjoyment ranging from walking and jogging to bird-watching and environmental education. In addition constructed elements such as shelters, benches, and picnic tables must be harmonised visually with existing forest environment.

The interest in the scenic beauty of the forest landscapes is not only scientific, but also public and political (Chen et al., 2016; Council of Europe, 2000; Wascher, 2000). Scenic beauty of a landscape can be assessed from the perceptions of observers in response to the landscape scenes (Daniel & Boster, 1976; Daniel, 2001). By examining what goes on in their minds we can comprehend how people perceive the landscapes in order to understand the sense of beauty in forest environment and what they mean to us and why. This will help to guide landscape planners, foresters, and managers to plan and manage tropical recreational rainforest landscapes properly for sustainability. Landscape scenic beauty can be evaluated via landscape preferences. Landscape preferences are based on three approaches; the professional approach where the trained expert interprets the landscape, the behavioral approach where biological and evolutionary principles are used to explain landscape preferences, and the humanistic approach where attitudes, beliefs and ideas of each individual observer are examined (Zube, 1984). Numerous landscape preference studies revealed a number of factors influencing preferences for a landscape including age, gender, familiarity, personality, and culture (Mustafa Kamal, 2009). In any given landscape evaluation, there will be a mixture of these internal and external factors acting on the observers. In some circumstances, the former may dominate the response, in others the latter may dominate. In other words, in some circumstances beauty will reside more in the landscape and in others the eye of the beholder will be more critical in influencing landscape judgements (Dearden, 1987).

Landscape preference studies have shown varied results in genders' landscape perceptions and preferences for urban parks and other natural landscapes. A study done by Ode et al., (2016) claimed that the effect of gender is clear for certain categories of activity - relaxing, socializing, experiencing nature, walking, getting fresh air, looking for somewhere cool, after seasons, and studying wildlife. Women appear to be doing all these activities more often than men in urban green space. In other studies, A. Ode, et al., (2009) and Caula et. al., (2009) stated gender as a predictor of preference to naturalness. In addition, A. Ode et al., (2009) proved that gender had an effect on preferences for different degrees of naturalness. A French study of conservation design (S. Caula, et al., 2009) found gender as a predictor of preferences for natural or ornamental designs for green spaces, where women preferred the more natural designs. Several studies have also reported the impact of gender on preferences when looking at safety in urban green spaces (A.J. Mowen, et al., 2005; A. Jorgensen et al., 2002).

Landscape preference studies have to a very large extent used landscape photographs as landscape surrogates (G.R. Clay & Daniel, 2000; T.C. Daniel & Meitner, 2001; M.J. Scott & Canter, 1997; J.R. Wherrett, 2000). This is because photographs can be used with greater economy, speed and control than can real-world situations. Color photographs have been found to represent landscapes in a satisfactory way when compared to preference rankings made in the field (R.B. Trent et al., 1987; Wherrett, 1998). A number of scholars have reported high correlations between photo-based judgement and on-site judgement of scenic beauty (Hetherington et al., 1993).

This study aimed to seek a better management plan for protecting the tropical recreational rainforest landscape beauty in Peninsular Malaysia. The objective is to examine gender preferences for tropical recreational rain forest landscapes in relation to the efforts and commitments of the management in managing the areas. This study had applied a photo-questionnaire survey using photographs as surrogates of the real environment.

2. RESEARCH METHOD

This study involved a case study. A case study was chosen because this method is applicable to real-life, contemporary, human situations. Case study results also relate directly to the common reader's everyday experiences and make easy the understanding of complex real-life situations (Soy, 1997). Sg. Chongkak Recreational Forest was selected as the case study (FIGURE 1). This park is a popular forest recreation for outdoor activities as well as tourist attraction destination in Selangor, Malaysia. The area is also easily accessible by the public and this posed challenges to the Selangor Forestry Department seeking to improve the landscape including existing facilities. In general, the study site has very good quality physically where it has a pretty much an undisturbed reserve with thick forest stands, clean river and a gentle slope. The site also has a good characteristics in terms of accessibility, layout, and man-made elements, particularly the buildings.

The study applied a professional preference approach to landscape preference evaluation. Landscape architects as the professional experts in landscape matters were selected for this study because they have an exposure to evaluating and understanding landscapes. They had been trained to see and judge specific landscape attributes based on the principles of art, design, resource management, and ecology.

They were given a set of photo-questionnaire with photographs as surrogates of the real environment. A total of 119 Landscape Architects who were members of the Institute Landscape Architects, Malaysia (ILAM) volunteered for the study (12% of ILAM memberships in 2016). They were "judgemental" selected from a list of ILAM members. They were contacted by telephone and asked whether they were willing to become respondents for this survey. Once agreed, they were personally approached by the researcher and administered the photo-questionnaire. A Likert scale (5 = very good; 4 = good; 3 = normal; 2 = bad; 1 = very bad) was used to measure preferences. The respondents self-administered the evaluation process.

Landscape variables were grouped into four parameters for this study (TABLE 1). A set of photographs representing the variables of natural landscapes (vegetation, soil, topography, geology, water), facilities (building, playground, shelter, bridge, lamp post), planning (site layout) and maintenance was presented to them (FIGURE 2). Respondents were asked to tick in an appropriate box the value of the variables based on their knowledge and expertise on the pictures given regarding the beautiful attributes of the park. All photographs were taken using a digital camera with a lens set on 50 mm, horizontal view, and proper angle (balance, depth, focus and panoramic). All photographs were taken at the eye level. The resulting photo-collection was reviewed to remove poor quality and unsuitable photographs. There were 39 photographs chosen and used in this photo-questionnaire survey. These images depict Natural-looking Settings (14 photographs), Facilities (10 photographs), and Maintenance Aspects (11 photographs). The layout plans of the study site representing Site Planning were also attached to the survey instrument. The photographs were taken from the study site during a fieldwork on existing landscape conditions. The evaluation forms together with the photographs were collected after three days to give enough time for experts to do their evaluation. The data were then analyzed using Statistical Package for Social Science (SPSS). The study was carried out in September to December 2016.

Table 1: Landscape Parameters

Landscape Beauty Parameters	Variables
Natural Landscapes	Vegetation, soil, topography, geology and water
Facilities	Building, playground, shelter, bridge, lamp post and respect to nature
Planning	Layout plan/site layout
Maintenance	Natural elements, man-made elements and cleanliness

3. RESULTS AND ANALYSIS

TABLE 2 presents the respondents' demographic background. There were about equal number of Male (42.86%) and Female (57.14%) and most (88.24%) of them were in the 23-33 Age Group. The Ethnic backgrounds of the respondents were Malay (82.35%), Chinese (15.97%), and Indian (1.68%).

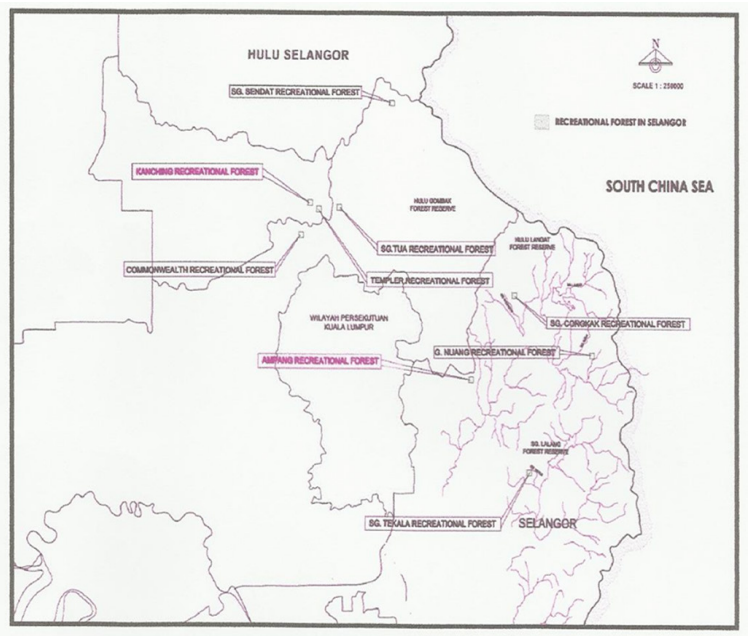

Figure 1: Location of Sg. Chongkak Recreational Forest

The data was analysed and the results are reported according to the four independent variables of Natural Landscape, Facilities, Planning and Maintenance as they pertain to recreational forest beauty. It was reported here that this study had shown that none of the respondents rated for all the variables as "normal" thus, this value was not shown in the Tables.

Table 2: Respondents Background

Respondents	Total	Percentage (%)
Gender		
Male	51	42.86
Female	68	57.14
Age (year)		
23-33	105	88.24
34-44	13	10.92
45-55	1	0.84
Ethnic		
Malay	98	82.35
Chinese	19	15.97
Indian	2	1.68

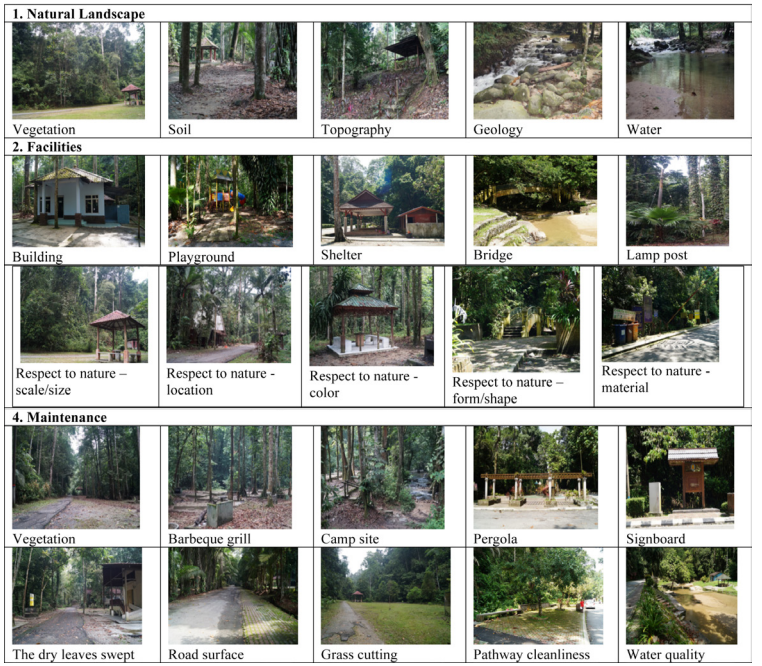

Figure 2: Sample Photograph Of Recreational Forest Scenes

4. NATURAL LANDSCAPE

This study analyse gender preferences for the natural landscape, which include vegetation, soil, topography, geology and water (TABLE 3). Results show no statistically significant differences between male and female preference on for the natural landscape. Nevertheless, the numbers of female in giving a rating for natural landscape in this study were slightly higher than male. Table 4 shows that male (24.37%) and female (41.18%) rated vegetation as good where they perceived site as rich in species, lush, beautiful, and varied. But, the numbers of female who rated vegetation positively were more than male and they perceived the sites as aesthetically pleasing. This result is similar with the findings of (Wang et al., 2017) where they found that female perceived urban green spaces more aesthetically pleasing than their male counterparts.

Both male (25.21%) and female (35.29%) participants rated the soil at the study sites as in good condition due to the absence of erosion or other disturbances

in the photographs presented. This means that the park management had put good efforts in maintaining the soil from degradation. In term of topography, female (43.70%) rated slightly higher than male (28.57%) due to the site gentle and less attractive landform. According to (Lewis et al., 2014), male prefer a natural environment with good topographic variations. However, female prefer planting mature trees and the variety of colours in the landscape. Female (39.50%) also rated higher than male (29.41%) on geological features found on the site. This is because female sees geological as an aesthetic value only rather than as potential for recreation activity. In their study (Cheung et al., 2014) also found that females gave higher mean scores than did males for park's geological/ecological interests. They claimed that this could be due to female subjects' preferences for scenic enjoyment rather than the presence of unique rock types and other geological structures that can provide physical challenging recreational opportunities.

Water is one of the most significant design elements that contributes to people feeling good physically, behaviorally and psychologically (Gwo-Fang, 2002). This study found that female (39.50%) rated preference for water features (stream/water fall/river) higher than male (29.41%). This is similar to the findings of (Merit, 2014) who found that female had a higher preference than male for interior environments with water features. In another study by (Fatih & Ali, 2010), female respondents gave a slightly higher preference than male for a scene of garden with a small man-made water feature, neatly mowed lawn, and regular flowerbeds.

Table 3: Preferance on Natural Landscape

Natural Land-scape	Gender	Preference Scale				df	Sig.
		Very bad	Bad	Good	Very Good		
Vege-tation	Male	2 1.68%	5 4.20%	29 24.37%	15 12.61%	3	0.36
	Female	1 0.84%	5 4.20%	49 41.18%	13 10.92%		
Soil	Male	1 0.84%	12 10.08%	30 25.21%	8 6.72%	3	0.33
	Female	1 0.84%	21 17.65%	42 35.29%	4 3.36%		
Topo-graphy	Male	-	9 7.56%	34 28.57%	8 6.72%	2	0.11
	Female	-	13 10.92%	52 43.70%	3 2.52%		
Geo-logy	Male	-	5 4.20%	35 29.41%	11 9.24%	3	0.99
	Female	-	7 5.88%	47 39.50%	14 11.76%		
Water (stream / water fall / river / etc.)	Male	1 0.84%	5 4.20%	35 29.41%	10 8.40%	3	0.69
	Female	0 0.00%	6 5.04%	47 39.50%	15 12.61%		

Note: **significance at the 5% level

5. FACILITIES AND PLANNING

Items of facilities (building, playground, shelter, bridge and lamp post), planning (layout plan/site layout) and respect to nature were analyzed. Table 4 shows that there are no statistically significant differences in gender preferences for Planning and Respect to nature aspects although in general female rated planning and facility aspects higher than male. However, a statistically significant difference was found between male and female on their preferences for Facility (p=0.04) where a greater number of female (31.09%) rated the facilities at the study sites as good more than male (15.97%).

Male and female have differences for facility perhaps due to the fact that sometimes different facility characteristics are required for different groups of people (Reisinger & Movondo, 2001). Zalatan as cited in (Nielsen et al., 2012) reported that women and men have significant differences in preferences for tourism facilities and services. This has relations with where men and women may want different things from a tourism experience is that they are 'getting away from' different things in the home environment (Swain, 1995). Ryan et al., (1998) gave an example of this situation where, based on the conventional division of labour, is that a self-catering camping holiday may be experienced differently by males, for whom it represents a change, and by females, for whom it may be a variation on a (too) familiar theme. Furthermore, recreation facilities are liked by people who value recreational quality and when they consisted of natural materials and blended into the settings (Ribe, 1994; Shelby et al., 2005; Kongjian, 2005). This indicate that the existence of facilities in recreational forest gives an impact on people perception towards the park thus, the management needs to take into account gender factors in developing facility in their park to satisfy the needs of visitors.

Table 4: PreferanceoOn Facilities and Planning

Items	Gender	Preference Scale				df	Sig.
		Very bad	Bad	Good	Very Good		
Faci-lity	Male	4 3.36%	22 18.49%	19 15.97%	6 5.04%	3	0.04**
	Female	0 0.00%	27 22.69%	37 31.09%	4 3.36%		
Res-pect to na-ture	Male	2 1.68%	11 9.24%	26 21.85%	12 10.08%	3	0.63
	Female	2 1.68%	9 7.56%	41 34.45%	16 13.45%		
Lay-out	Male	2 1.68%	8 6.72%	37 31.09%	4 3.36%	3	0.37
	Female	0 0.00%	11 9.24%	49 41.18%	8 6.72%		

Note: **significance at the 5% level

6. MAINTENANCE

Maintenance activities are a very essential aspect of recreational forest preservation. Table 5 shows the gender preferences on the study site landscape maintenance.

Results indicated no statistically significant difference in gender preferences for maintenance. Both male and female perceived the maintenance of both natural and man-made elements to be in good condition. On the other hand, a study done by Elmendorf et al., (2005) revealed that gender did not influence people's preference towards landscape including maintenance aspects though only a few differences were detected for the sceneries where water dominated the scenes. This is in line with Deming (1982) who claimed that most people give their opinions based on the people that they see, and they are either satisfied or dissatisfied or delighted or even on the continuum in between. However, it was observed that female (35.29%) rated this aspect slightly higher than male (26.89%). This is because women more likely than men to feel that maintenance and security, ethnic concerns, and traditional park landscapes were important (Donna & Harold, 2003).

Table 5: Preferance on Maintenance

Main-tenance	Gender	Preference Scale				df	Sig.
		Very bad	Bad	Good	Very Good		
Natural Element	Male	3 2.52%	7 5.88%	32 26.89%	9 7.56%	3	0.63
	Female	2 1.68%	14 11.76%	42 35.29%	10 8.40%		
Man-made Element	Male	4 3.36%	24 20.17%	21 17.65%	2 1.68%	3	0.11
	Female	2 1.68%	21 17.65%	39 32.77%	6 5.04%		

Note: **significance at the 5% level

Looking at cleanliness, Table 6 shows the results of gender preference for cleanliness. No statistically significance differences between male and female was detected. Both male (21.85%) and female (30.25%) rated cleanliness of the site as good. In another study, Fletcher & Fletcher (2003) reported that visitors agreed strongly that the parks studied were clean, but their satisfaction with their visit was related to their different perceptions of that park's cleanliness. However, Kõiva, (2016) found that women are very particular about cleanliness more than men due to their nature paying more attention to cleanliness.

Table 6: Preferance On Cleanliness

Clean-liness	Gender	Preference Scale				df	Sig.
		Very bad	Bad	Good	Very Good		
The whole park	Male	4 3.36%	19 15.97%	26 21.85%	2 1.68%	3	0.70
	Female	4 3.36%	22 18.49%	36 30.25%	6 5.04%		

Note: **significance at the 5% level

7. CONCLUSION

The tropical recreational rain forests are a wealth of flora and fauna that need to be conserved and protected for future generations. Their unique and scenic landscapes have attracted many people and organizations to explore and experience them. However, people see landscapes differently. Thus, by understanding these differences certain landscapes can be managed for the optimal benefit of both humans and the ecosystem.

This study explored gender differences in preference for a recreational rain forest park in Malaysia and found that gender in general have differences in preference. This can be seen where the numbers of female have rated for all variables tested in this study are more than male. However, only preference for facilities was shown statistically differences. Thus, this finding had urged the park management to pay attention to the provision of park facilities in their planning, development, and maintenance based on gender needs. Knowing what kinds of visitors coming to the park, and the type of facilities the visitors prefer are of paramount importance for adjusting park management techniques.

Observation on the results had shown that majority of the respondents had rated the park at the scale of very good and good. This informed us that the recreational forest management of the study site has put and shown a good efforts and commitment in preserving the natural forest from degradation. But, attention need to be focus on facilities' development due to gender has preference differences on it.

However, with a better understanding of the gender preference, the management of recreational forest area should be able to develop and manage a more comprehensive strategy to provide engaging and stimulating recreational forest parks for their users. Gender preferences, in particularly women preferences, must be taken into account when developing landscape management plan for the park. Then, it could improve recreational forest design and management in Malaysia and other areas with similar conditions in the future.

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