

Users' Perception Towards Selected Recreational Forest Landscape Maintenance In Selangor Darul Ehsan, Malaysia

Mohd Kher Hussein

Department of Landscape Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

ABSTRACT

Landscape maintenance plays an important role in ensuring the landscape sustainability of recreational forest. Proper landscape maintenance can enhance park's quality as well as increase user experience in the park. As new recreational forests are developed, the need for good landscape maintenance and management geared towards sustainability is crucial. The goal of this study is to understand users' perception towards recreational forest landscape maintenance and management. The objective of this study is to analyze users' perception towards landscape maintenance of recreational forests in relation to their existing management programs, and to discuss implications of maintenance and management of recreational forest towards sustainability. The study is conducted at three selected recreational forests in Selangor, namely Sungai Tekala Recreational Forest, Sungai Chongkak Recreational Forest and Templer Recreational Forest. A total of 533 respondents participated in this study. Results indicate that the present landscape maintenance standards of these sites are low reflecting weaknesses in the management system. Therefore, the management team of these recreational forests must improve their landscape maintenance and management approaches for sustainability including improving users' convenience, safety and experience.

Keywords: Landscape maintenance, perception, recreational forest and sustainability

INTRODUCTION

Landscape maintenance and management play important role in achieving recreational forest landscape sustainability. A good landscape maintenance approaches can enhance good appearance and longevity of the existing site facilities (Wan Mohammad,

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E-mail address:

mohdkher@upm.edu.my (Mohd Kher Hussein)

1995). Proper and detailed landscape maintenance can reduce environmental destruction, increase quality of life, increase users' experiences and enhance the beauty of the landscape. Therefore, the management of the recreational forests should prioritize the landscape maintenance as most users give high priority to these aspects when using the parks. Users are more sensitive towards the weaknesses of landscape maintenance in recreational forests especially when it relates to environmental quality and quality of life. Uncollected rubbish, damaged or dead trees, improper man-made landscape elements etc. may tarnish the image of the park resulting negative perception to the users. Giving priority to the landscape maintenance can increase users' perception towards recreational forest landscape as well as ensure sustainability of recreational forest landscapes in the future (Mohd Kher, 2012).

Landscape management and maintenance are the ways an evolving landscape keeps pace with evolving human needs and demands (Thompson & Sorvig, 2000). Maintenance works include routine checkup, recurring work, minor and major repair work and minor construction works (Sternloff & Warren, 1977). Landscape maintenance must be geared towards sustainability through good management and should be according to the highest possible standards (Sternloff & Warren, 1977) and best management practices. Unfortunately, most of the recreational forests have low maintenance standards and weaknesses in planning (Reeves, 2000). Often times, it is due to park managers working in the absence

of proper management standards and without any management philosophy (Osman *et al.*, 2006). Therefore, landscape maintenance must be planned and implemented in a proper way and with detailed program schedule in order to achieve the accepted goal and objectives. It is essential to have proper recreational forest landscape maintenance and management system with well-defined goals and objectives in order to achieve a quality of recreational forest landscape (Osman *et al.*, 2006). Proper documentation of the maintenance system is useful in employees' succession.

Field observations done by scholars on several recreational forest sites in Peninsular Malaysia, namely Gunung Ledang Recreational Forest at Tangkak, Johor; Kanching Recreational Forest at Rawang, Selangor; Lentang Recreational Forest at Bentong, Pahang; and Bukit Hijau Recreational Forest at Baling, Kedah find that landscape maintenance problems are crucial and in need of urgent actions. For instance, uncollected rubbish visible all over the parks affects flora and fauna and becomes a major problem to the recreational forests (Azilah & Raslinda, 2006).

How the users perceive the status of park maintenance to be is also a very important issue. It is important because user perception provides feedback to management about what people like or dislike and view of maintenance works. Indirectly, factors contributing to poor landscape maintenance planning and management can be gathered to contribute a better co-ordinated and systematic planning for the benefit of the

public and environment. On the other hand, perception study can also be applied as part of the management strategy towards sustainable development of recreational forests in Malaysia (Mohd Kher *et al.*, 2009). Users may see aspects that the management take for granted and may have different views about landscape maintenance and management for the areas (Deng, 2007). Thus, user information through perception study can aid in upgrading existing recreational forest management and maintenance approaches.

LANDSCAPE MAINTENANCE AND HUMAN PERCEPTION

The development of recreational forests in Malaysia aimed at conserving natural forests provides leisure, relaxation activities and improves quality of live through eco-system services. Therefore, their development must also take into account human needs and environment quality. Good environmental quality can be gained through quality development and management including good quality maintenance aspects (Osman, 2002). Thus, information gained from the users' perception helps in achieving good quality development of recreational forests in Malaysia. It is owing to the fact that perception is an active process where it not only depends on brain stimulus but also on experiences, motivation and attitude towards environment (Walgito, 1993).

It is believed that recreational forest landscape, in Malaysia, faces many management issues and problems resulting from how the landscape is perceived.

Landscape is often seen as efforts at planting of trees, shrubs and flowers. In actuality, landscape is a complex phenomenon that evolves continuously through time and space (Isil, 2012). It is a reflection of both natural processes and cultural changes throughout time. Landscapes can be a product of either only natural processes (natural landscapes) or human intervention on natural eco-systems (cultural landscapes).

Unfortunately, most recreational forests, in Malaysia, are not designed by trained landscape architects. Consequently, lower quality designed landscapes leads to problems in maintaining quality standard of elements in these parks (Roziya *et al.*, 2009). Insufficient of maintenance workers contributes to visual quality degradation of park elements (Chee, 1986).

Insufficient budget also contributes to the landscape maintenance problems (Nor Azian, 2008) specifically poor maintenance such as uncollected rubbish and broken gazebos. Furthermore, park managers themselves do not prioritize the importance of landscape maintenance in of the parks (Osman, 2005). The author strongly believes that the two factors contribute to the current low quality of maintenance in recreational forests.

On other aspects, studies by Osman *et al.* (2006) and Reeves (2000) show that low maintenance standards without good management procedures can lead to low landscape quality of landscape development areas and influence users' experiences. Low landscape maintenance issues and problems have resulted inconveniences to

users and affect their overall experiences in the park (Dorwart, 2004). The management team need to realize that having a good management procedure is the first step to accomplish the maintenance objectives as well to improve users' perception towards recreational forest landscape. Indirectly, it helps in achieving sustainable landscape of recreational forests.

Information on users' perceptions may play an important role in establishing standards of quality for recreational forest landscape maintenance (Dorwart, 2004). It is also valuable to establish maintenance and management priorities of recreational forests (Dorwart, 2004). The most important point is good and efficient landscape maintenance provides enjoyment and convenience to users and prolongs the existence of recreational forests (Fogg & Shiner, 1989). These studies also believe that good landscape maintenance will ensure users' safety especially while utilizing the provided facilities or even being within the vicinity.

It is also believed that users share similar perception on the importance of landscape maintenance (Elmendorf *et al.*, 2005). For instance, visitors perceive litter one of the most undesirable impacts in natural resource areas. In some ways, what people see in recreational forests portrays the aspect of management and maintenance of the park. If the surrounding environments appear to be under good maintenance, it portrays the efficiency of the management planning. It is due to majority of the landscapes been evaluated,

appreciated and perceived according to situations with good maintenance functions as the enhancement (Nassauer, 1997). For example, visitors' have positive perception towards jungle trekking of the Great Smoky Mountain National Park due to its good maintenance (Dorwart, 2007). They might have low perception if they find parts of the trails have uneven surfaces, potholes, over-littered with animal waste and display of poor maintenance work (Gobster, 1995).

Landscape maintenance plays an important role in the perception towards recreational forest landscape. It is due to good and proper maintenance increases people perception towards natural forests and increases the quality experience during visits. Based on this statement, the goal of this study is to understand park users' perception towards recreational forests' landscape maintenance and management. The objectives of the study are to analyse users' perception towards landscape maintenance of recreational forest in relation to their existing management programs and to discuss the implications of maintenance and management of recreational forests towards sustainability.

STUDY AREA

This study was conducted in Sungai Tekala Recreational Forest (S2), Sungai Chongkak Recreational Forest (S5) and Templer Recreational Forest (S7) in Selangor, Malaysia (Fig.1). These sites are easy to access by the public using public transport such as bus or taxi or use their own vehicles. The sites are also a popular spot for outdoor

activities of Klang Valley dweller as well as it became as tourist attraction.

Sungai Tekala Recreational Forest and Sungai Chongkak Recreational Forest are located in the Sungai Lalang Forest Reserved, a lowland dipterocarp forest. The total acreages of these parks are approximately 2,062 hectares and 2,865 hectares respectively. Templer Recreational Forest is located in the Templer Forest Reserved which is also a lowland dipterocarp forest. The total acreages of this park is approximately 853 hectares.

METHODS

The study is conducted using survey form through structured questionnaire to gather information from users' regarding landscape

maintenance of these recreational forests. The questionnaire is divided into two sections of demography and landscape maintenance aspects. Demographic information is needed for respondent's background data. The other section in the questionnaire attempts to elicit various aspects of landscape maintenance, management system, approaches, weaknesses, problems and satisfaction level. A '3' point Likert scales is used to measure users' perceptions. The scale is used in order to avoid a neutral response found in 5-point scales that can cause biasness to the middle response.

This study uses simple random technique approach in which users are selected based on their willingness to participate, availability on site (Rea & Parker, 1997)

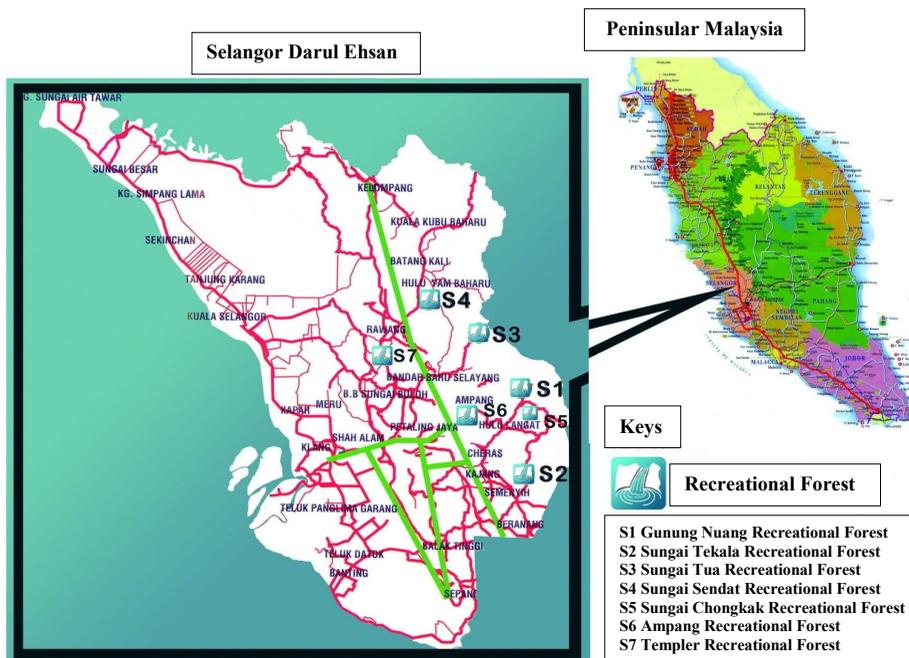


Fig.1: Map of Study Sites (Source: Forestry Department Peninsular Malaysia 2009)

and ability to respond to questions. List of visitors are approached and asked whether they agree to become respondents. The participation is strictly on voluntary basis.

A total of 533 respondents participate in this study. The respondents are users of the sites with breakdown of 189 users of Sungai Tekala Recreational Forest; 174 users of Sungai Chongkak Recreational Forest; and 170 users of Templer Recreational Forest. The Statistical Programme Social Science (SPSS) package analyzes the data for descriptive statistics such as frequencies.

RESULTS AND DISCUSSION

Demographic Profile of Respondents

Respondents background indicates almost equal numbers of male (53.7%) and female (46.3%) respondents (TABLE 1). This study divides the age of respondents into three

category with scale interval of 14 years; Young (18 - 32 years), Middle (33 - 47 years) and Old (48 - 62 years) (Pallant 2001; Ahmad Mahdzan 1983). The scale interval is derived by deducting the lower ages (18 years) from the higher age of respondents (62 years) and divide by three (3). The results show that half of the respondents are Young (52.0%), followed by Middle ages (34.5%) and Old age (13.5%). The Malays (72.8%) is found to be the majority participants in this survey, followed by Chinese (18.0%), Indians (9.0%) and others (0.2%). Almost half of the respondents (49.5%) hold certificate / Diploma / STPM / SPM / SRP, followed by bachelor degree (41.7%), master degree (3.8%) and PhD (0.4%). The distribution of academic qualifications shows that all selected respondents are rather well educated.

TABLE 1
Respondents Background

Respondents	Total	Percentage (%)
Gender: Male	286	53.7
Female	247	46.3
Age: 18 - 32 (Young)	277	52.0
(Year) 33 - 47 (Middle)	184	34.5
48 - 62 (Old)	72	13.5
Ethnic: Malay	388	72.8
Chinese	96	18.0
Indian	48	9.0
Others	1	0.2
*Education: Bachelor	222	41.7
Master	20	3.8
PhD	2	0.4
Others	264	49.5

Note: *Some respondents did not reply in this section (25 respondents)

User Perception Towards Landscape Maintenance Condition

TABLE 2 shows the results of users' perception towards landscape maintenance in the selected recreational forests. A high percentage of respondents (69.4%) perceive that the landscape maintenance of recreational forest with soft landscape elements are in bad condition. 73.1% perceive that man-made landscape elements are in bad conditions. In addition, 72.2% perceive that the site cleanliness is also in bad conditions. The mean score in TABLE 2 shows that respondents have similarity in perceiving the condition of the sites (M=2.26 to 2.35, SD=0.52 to 0.53). They agree that the managements presuppose and perform maintenance with lesser concerns on soft landscape, human-made landscapes and cleanliness of the recreation sites.

The management must increase their landscape maintenance activities and improve the current maintenance practice systems. This is critical considering landscape maintenance is the way to preserve landscape in order to fulfil the demand and user requirements (Thompson & Sorvig, 2000). In situations when landscape

maintenance and management is improved, visitors' satisfaction increases and the use of recreational forests is optimized (Reeves, 2000).

Users' Perception Towards the Main Problems of Landscape Maintenance

Results in TABLE 3 shows that majority of respondents agree that the managements face various main problems such as irresponsible visitors littering rubbish (96.9%), neglect use of rubbish bins (96.1%), vandalism (95.3%), vandalism of facilities (93.9%) and lack of maintenance staff (90.0%). Respondents agreed that these problems contributed to lower landscape maintenance quality in the recreational forests (M=2.50 to 2.70, SD=0.53 to 0.67).

In fact, it is difficult for the managements to resolve the issues of vandalism (Wahida, 2006) owing to the fact that they are closely related to human behavior. Vandalism is also an international problem, not isolated to Malaysia alone (Nurhayati, 2009). Vandalism transpires due to tension, anger, revenge or individual or group's tendencies to destroy something intentionally (Azilah & Raslinda, 2006). Thus, educational

TABLE 2
Respondents' Perception Towards Landscape Maintenance Condition

Subject	Good		Not Good		Other		Mean Score	Std. Deviation
	Total	%	Total	%	Total	%		
State the condition of soft landscape maintenance	106	29.4	250	69.4	4	1.1	2.35	0.52
State the condition of human made landscape maintenance	88	24.4	263	73.1	9	2.5	2.27	0.53
State the condition of cleanlines of the area	89	24.7	260	72.2	11	3.1	2.26	0.53

programs are one of the solutions that should be delivered to visitors in order to increase their civic awareness. Visitors must be educated regarding the importance of natural environment, sensitivities involved, do's and don'ts and management activities of recreational forests.

Environmental education programs can also be used to resolve the issues of environmental management. The programs increase the awareness on the relationships between eco-system functions, human intervention, and continuous management activities (Schneider, 1992). These programs also change people's environmental attitudes, beliefs, and emotions (Pooley & O'Conner, 2000). Therefore, this study suggests that environmental education programs should be introduced and emphasized on "activity based learning programs". The initiatives directly expose the participants to the real environment (Hudson, 2001).

User Perception Towards Landscape Maintenance and Management

TABLE 4 shows that the majority of respondents (92.2%) perceive that the study

sites lack in maintenance and management system. It should clearly indicate to the management that landscape maintenance is very important; in fact one of the main components in site management (Osman, 2005). Failure in giving serious attention to this aspect may possibly cause failure to the development and sustainability of the recreational forests (Osman, 2005; Reeves, 2000). Many landscape projects in urban area face quality degradation due to low maintenance standard and weak in development planning (Osman, 2005). This situation can happen in recreational forests if there is no concrete and immediate actions taken to resolve the problems. The managers of recreational forest need to prepare a comprehensive landscape maintenance plan. The plan should include maintenance schedules or programs in order to ensure their sustainability leading to improvement of users' perception (Ismail, 1997). The schedule of maintenance should be established for the maintenance crew to take care of recreational forest and its landscape (Fauzi, 1997). With the schedule, the crew can plan their work efficiently and

TABLE 3
Perception Towards Main Problems of Landscape Maintenance

Subject	Strongly Agree		Agree		Not Agree		Mean Score	Std. Deviation
	Total	%	Total	%	Total	%		
Vandalism	275	76.4	68	18.9	17	4.7	2.70	0.54
Irresponsible visitors littering rubbish	246	68.3	103	28.6	11	3.1	2.64	0.53
Vandalism of facilities	229	63.6	109	30.3	22	6.1	2.57	0.60
Neglect use of rubbish bins	223	62.1	122	34.0	14	3.9	2.55	0.57
Shortage of maintenance staff	231	64.2	93	25.8	36	10.0	2.50	0.67

ensure the park can be used at any time.

The results from this study also indicate that majority of respondents (84.8%) perceive that the maintenance system, specifically man-made landscape elements such as shelters, benches, toilets, bridges, and walkways, affect the quality of parks (TABLE 4). These problems are visible at the study sites where most of those elements are in bad conditions for example damaged roofs, unsafe benches, and decaying bridges. Such observable facts occur due to maintenance workers require more time on maintaining soft landscape elements such as the grass, trees, shrubs and flowers grown in the parks (Sternloff *et al.*, 1997). Maintenance works for man-made landscape elements are regarded

less important and carried out only when necessary. Osman (2005) also supports the same fact. Thus, today's recreational forests must be concerned about outdoor recreation and man-made facilities in order to maintain the park and facilities in good condition. It requires managers to provide a good management-maintenance systems and standards that include man-made landscape elements (Sternloff & Warren, 1997).

Furthermore, majority respondents (92.2%) perceive that lack of understanding on the importance of landscape maintenance as one of the major components in recreational forest management that contribute to the maintenance problems (TABLE 4). It is related to Osman's (2005) argument that the way the management takes

TABLE 4
Perception Towards Landscape Maintenance and Management

Subject	Strongly Agree		Agree		Not Agree		Mean Score	Std. Deviation
	Total	%	Total	%	Total	%		
Recreational forest problems are due to the management taking for granted and not being serious in landscape maintenance works	181	50.3	149	41.4	30	8.3	2.30	0.67
Weaknesses in management systems and low maintenance development plans contribute to the failure of recreational forest developments	106	29.4	225	62.5	29	8.1	2.30	0.62
Recreational forest has weak maintenance management	165	45.8	167	46.4	28	7.8	2.24	0.65
Management is lacking in understanding, not clear about the importance and the needs of landscape maintenance	158	43.9	174	48.3	28	7.8	2.24	0.65
Recreational forest does not have landscape maintenance systems especially for man-made landscape elements	74	20.6	231	64.2	55	15.3	1.98	0.59

landscape for granted causes many urban landscape issues. His argument supports the finding of majority (91.3%) of respondents in agreement that landscape maintenance problems in recreational forests are related to the failure of management team in giving enough priority to landscape maintenance works. At the same time, it is also due to the fact that most people perceive landscape mainly focuses on the beautification of land or space, planting of trees and addition of landscape elements to their aesthetic value (Osman, 2005). Consequently, lack of proper landscape maintenance systems is developed. Furthermore, the management ignores most of new landscape development areas after few years of development when difficulties arise in identifying their maintenance needs (Osman, 2005).

On another aspect, majority of respondents (94.5%) also agree that weaknesses in management systems and low maintenance standards without proper development plans contribute to the failure of recreational forest development (TABLE 4). This result supports Greenhalgh and a Worpole (1995) statement that often times the landscape managers work with no proper management standards and without any management philosophies. These results are also in line with Reeves (2000) argument that low maintenance standards with poor quality development plans contribute to landscapes deterioration. Moreover, Osman (2005) argues that landscape management in Malaysia, as a whole, faces major problems resulting from the lack of management systems. Therefore, the recreational forest

management team needs to design precise landscape maintenance and management plans in order to improve the quality of the park and ensure its sustainability.

Results in TABLE 4 show that respondents perceive park management teams fail in providing good maintenance management system for their parks ($M=1.98$ to 2.30 , $SD=0.59$ to 0.67). Therefore, the management of the parks need to realize that the maintenance of the landscape is an important predictor for preference, in need of proper maintenance systems as well as ground maintenance.

Users' Perception Towards the Effect of Landscape Maintenance on Site Development

TABLE 5 shows that more than 90% of respondents agree that lack of landscape maintenance leads to abandonment syndrome (97.5%), reduction in number of visitors (96.4%), degradation of visual quality (96.7%) and diminishing of visitor's experience (92.5%). Abandon syndrome ($M=2.70$, $SD=0.53$) is perceived as the most important effect of lack of maintenance followed by the diminishing of visitors' experience ($M=2.45$, $SD=0.67$).

In this regard, the park managers have the vital role in ensuring that their parks are properly maintained. It is necessary for the park managers to have good understanding of many fields including landscape architecture, horticulture, forestry and personnel management. The park managers do not have to be expert in all of these fields, he / she should have certain

degree of knowledge on each field. He / she must know when to seek the advice of an expert and must be able to discuss pertinent problems intelligently with such specialists. The park managers also should be able to find or get budget as well to put some allocation for maintenance purposes. At the same time, the staff that has the duty to maintain the park must also ensure he / she performs his / her due responsibilities.

LANDSCAPE MAINTENANCE AND MANAGEMENT IMPLICATIONS

The weaknesses of park management in giving priority to landscape maintenance of recreational forest have great implications towards healthy environment. Indirectly, it creates management issues such as low and weak landscape maintenance standard for recreational forests. Reeves (2000) argues that most of the development failure of recreational sites is close related with low maintenance standard and weak planning. It leads to abandonment syndrome happening to recreational forests in Malaysia.

Generally, the present community sees that the roles and functions of recreational forest landscape are important in their lives

and the management should be conscious of that. Today, recreational forest landscape development is not just for preserving and conserving the existing forest landscape, but also covers environment, social and economy aspects. Therefore, the maintenance and management aspects of recreational forest must also change in order to fulfil the needs from community, economy and environmental without sacrificing the needs of current generation and neglecting the necessity of future generation. Approaches in maintaining recreational forest landscapes should be changed from focusing only on *ad hoc* cleanliness activities without proper planning to maintenance with systematic plans.

Daily maintenance activities refer to effort in preserving, restoring and keeping all existing landscape elements in satisfaction and good conditions. The activities encompass cleaning works (floor, bench, chair and table), sweeping fallen leaves and throwing rubbish. While the purpose of preventive maintenance is for deterrent of damages or curbing of damage deterioration performed in periodic schedule that is weekly, monthly or annually. On the

TABLE 5
Perception Towards The Effect of Landscape Maintenance on Site Development

Subject	Strongly High		High		Low		Mean Score	Std. Deviation
	Total	%	Total	%	Total	%		
Abandon syndrome	285	79.2	66	18.3	9	2.5	2.70	0.53
Reduction in number of visitors	242	67.4	104	29.0	13	3.6	2.56	0.58
Degradation in visual quality	213	59.2	135	37.5	12	3.3	2.47	0.60
Diminishing of visitors' experience	230	63.9	103	28.6	27	7.5	2.45	0.67

other hand, corrective maintenance is to ensure landscape elements are functional and safe to use. It is accomplished through repairing or changing all the damaged elements. In this context, effective, efficient and comprehensive maintenance program and schedule are indeed necessary.

Landscape maintenance and management processes of recreational forest in Malaysia require an immediate paradigm shift. It is crucial to prepare and implement effective management systems leading to superior park environment and eradicating the possibility of users abandoning these recreational sites. Indirectly, it helps in increasing users' satisfaction and avoiding forest environment degradation.

CONCLUSION

In general, results from this study find that the quality of landscape maintenance and management of the study sites are low, weak, and seriously need improvement. The weaknesses are due to the managements' lack of systematic maintenance plans. Mere focus on site cleanliness such as sweeping, rubbish collection, toilet cleaning and chalets housekeeping is insufficient to cover the overall landscape maintenance tasks. Rationally, landscape maintenance should include all landscape elements which encompass soft landscapes, man-made landscapes, site cleaning and quality of water. Maintenance works must be programmed at regular intervals such as daily, weekly, monthly and annually based on needs and requirements of landscape types.

The management team also needs to change the management system of landscape maintenance considering this aspect is related to users' convenience and safety, especially on man-made landscape elements. If the management is able to provide proper and systematic landscape maintenance, it helps in increasing users' satisfaction on recreational forest landscape. The most important aspect is effective, efficient, comprehensive and systematic plans must be designed in order to achieve the management goals.

Landscape maintenance activities must not be taken for granted. The management team must give full commitment in ensuring the work is successful. Commitments in terms of staffing, time, budget and equipment are necessary. Good landscape maintenance can produce a healthy and safe environment in the park. It can also make the park available for users to use without any obstacles. It helps in achieving the sustainable development goal.

Results of people's perception on landscape maintenance in this study urge the management to take serious actions. If the management team fails or neglect to take urgent actions, it can lead to abandonment issue, decrease in numbers of visitors, degradation on visual quality and user experience. There is a need for the management to provide enough budgets every year for landscape maintenance aspect. It is of no point to increase the number of accommodation and facilities in the parks if the landscape maintenance has been neglected. In the end, it creates

various problems as discussed earlier. Maintenance of the man-made and soft landscape elements of the recreation area is mandatory for visitors' enjoyment and ultimately continuous use and existence of the recreation areas (Fogg & Shiner, 1989).

Landscape maintenance should be given priority from the time of early development planning stage. The nature of tasks actually is of service function and must be geared to meet the function, user need and environmental protection. Retaining good landscape maintenance can ensure sustainable recreational forest in the future.

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