

CHAPTER 1: INTRODUCTION

This chapter gives some brief information about Malaysia, the demographics and ethnicity of the Malay population and some details of women in a Malaysian context. The planning context for recreational forests is also outlined, together with the forest recreation concept and an overview of policies related to Malaysian forests. The rationale for conducting this research is outlined and the research aims and the importance of the research are explained. The objectives and research questions are also introduced. This chapter also explains the research design and briefly introduces the methodological approach taken in this study. The final section is about thesis structure.

1.1 Malaysia: Location and Demographics

Malaysia is a federation that consists of thirteen states and three Federal Territories (Kuala Lumpur, Putrajaya and Labuan) in Southeast Asia. The capital city is Kuala Lumpur. The country is separated into two regions by the South China Sea: Peninsular Malaysia and East Malaysia (on the island of Borneo) (Figure 1.1). It is located within 150 km north of the Equator (Latitudes 2-7 degrees North). The climate is hot and humid most times of the year and the country is best described as tropical, with high rainfall all year round especially in the lowlands. The wettest period is between mid-November and mid-January (Bowden, 2000, 2012).



Figure 1.1 The states and federal territories of Malaysia (indicated in pink)
(Source: <http://en.wikipedia.org/wiki/Malaysia>)

Malaysia is a multi-racial country. In 2012, the population was 29.3 million populations consisting of 93.0% Malaysian citizens and 7.0% non-citizens. The

population of Malaysia citizen comprises Bumiputeras (63.0%), Chinese (22.0%), Indians (7.0%) and others (8%). Bumiputeras consist of ethnic Malays (51.0%) and other Bumiputeras (12.0%) such as the Ibans and the Kadazans who largely live in the East Malaysian States of Sabah and Sarawak (Department of statistics, 2012). Thus the three main ethnicities in Malaysia are the Malays, the Chinese and the Indians.

In this study the term 'Malays' refers to Malaysian people with Malay ethnic heritage, 'Chinese' refers to Malaysian people with Chinese ethnic heritage and 'Indians' to Malaysian people with Indian ethnic heritage. Thus, in this study the term 'Malaysian' includes the three main ethnic groups (Malays, Chinese and Indians). The origins of ethnic diversity in Malaysia are explained in more detail below.

Islam is the official religion in Malaysia. "Islam is the State religion and all Malays are required to be Muslims" (Heng & Ngo, n.d, p.2). While other ethnic groups are free to practise any religion they choose (Heng & Ngo, n.d). Because of their Islamic culture, Malays, especially the women, are bound by certain norms when engaging in any kind of recreational or sports activities. Stodolska and Livengood (2006) demonstrated that the Islamic faith imposes certain direct restrictions on the leisure activities of Muslim immigrants in the United States of America. Modesty is an important factor influencing the leisure habits of Muslim immigrants. Muslim women have to obey regulations related to dress and there are restrictions on mixed-gender interactions which affect their leisure lives. The lives of married women are also constrained by their husbands and this affects their mobility and opportunities to travel (Stodolska & Livengood, 2006). However, these authors also found a "selective acculturation" aspect which "may involve people's assimilating non-essential elements of the mainstream culture" (p. 314) in the context of leisure activities of Muslim Americans.

Given this ethnic diversity, it seems likely that the ethnic and the cultural backgrounds of forest users will impact on recreational forest use in the state of

Selangor. According to Payne (2002), ethnicity and age play important roles in predicting park attitudes and preferences.

1.2 A Brief Explanation of Ethnic Diversity in Malaysia

In Malaysia, both the Malays and the indigenous people have a close relationship with rivers and forests. The Malay people originated in Borneo and then moved outwards into Sumatra and later into the Malay Peninsula (Source: <http://www.britannica.com/EBchecked/topic/359662/Malay>). The Malays were known as a river people because most of them “lived in scattered villages along the banks of the main rivers, which were their principal means of communication and the natural focus of political control” (Roff, 1994, p.1). In the 1990s, the majority of the settled populations were peasant farmers engaged in rice planting (Roff, 1994). They also fished in the rivers, reared some livestock such as buffaloes and goats, and supplemented their diet with coconut, tapioca, fruit and some vegetables grown on house land (Roff, 1994). They were also dependent on the forest economy, collecting forest products such as rattan, bamboo, ‘gutta-percha’ (a tropical tree native to Southeast Asia) and resin for trading purposes (Roff, 1994). However, many Malay people who live in semi-rural areas nowadays are employed in the agricultural production of palm oil and rubber, and to some extent, are also employed in rice plantations such as in the states of Kedah and Perlis. Some Malays who live in rural areas may still pursue a Malay village way of life. For example, a study by Aziz and Yusoff (2012) about Intergenerational Relationships and Communication among the Rural Aged in Malaysia in the state of Kedah stated that “The predominantly Malay population of the state are relatively conservative, religious and practises traditional values” (p. 197) where the majority of them are involved in traditional agricultural activities, especially *padi* planting (Aziz & Yusoff, 2012).

The Chinese came from China in the late nineteenth century to work in tin mines and logging camps (Strauch, 1981); and Indians were originally brought over from South India by the British to work in plantations, estates and railroads in the 19th century (Selvarajah & Meyer, 2008). However, some Chinese minorities in

Kelantan and Terengganu, and the Baba of Melaka, adapted to their local environments including the cultural resources. For example, the Baba (who inter-married with non-Chinese women in the early 18th and 19th centuries) use the Malay language as their daily spoken language and their food is influenced by Malay traditional food (Tan, 2001). Some Muslim came and settled in the northern state of Peninsular Malaysia. Their descendant who Yunnanese from China, who now lives in rural areas in Kuala Terengganu, also experienced acculturation “such as adoption of Malay language at the expense of the ‘Guangzhou language’, and assimilation: adoption of Malay identity” (Tan, 1991, p. 110). Based on the studies mentioned earlier (Stodolska & Livengood, 2006; Tan, 2001), it is possible that Chinese and Indian people brought up in villages or rural areas in Malaysia have also acculturated in terms of participating in recreational activities such as bathing and swimming in rivers; activities which are traditionally associated with the traditional Malay village way of life.

1.2.1 Malay women in Malaysian context

This section focuses on the Malay women because the Malays form the largest segment of the population in Malaysia. More literature will be presented in the Gender section, Chapter 2. Malaysian women play an equal role in meeting the demands of Malaysia’s knowledge-based economy, and Malay women perceive themselves as playing a strong, influential, and supportive role in their families (Abdullah et al., 2008). On the other hand, women’s lives are still strongly defined by more traditional gender roles. Women in many Asian countries are strongly committed to family responsibilities because of their gender role (Abdullah et al., 2008). The role of women is seen as taking care of children and housework, while men perform as breadwinners and heads of the household. Lie (2000), in her study related to two generations of women’s social life in a Federal Land Development Agency (FELDA) settlement in the state of Johor, stated that her interviewees frequently mentioned the right of a husband to make decisions on behalf of his wife. She found that in the 1980s, Malay women were “socialised to be shy, to keep to the domestic sphere, never to mix

with men outside the close family, and always to be accompanied in public” (p. 33). Those rules are still acknowledged but do not strictly remain in practice due to education and work factors (Lie, 2000).

Abdullah et al. (2008) carried out a study with 1.000 Malay women (aged 15 and above) from different age and occupational groups, levels of education, and income levels. These women came from both rural and urban areas. They found that Malay women hold on closely to their cultural values and expected to be strong mothers. Rural women place more importance on being an obedient wife compared with urban women. Abdullah et al. (2008) thought that this was due to the rural women having lower educational levels and being less likely to be employed. They also stated that both employed and unemployed women are still perceived to be primarily responsible for the home and children. This implies that because of women’s domestic responsibilities, they may be constrained from fully participating in recreational activities, and this was investigated in a study by Aziz (2006) which was entitled ‘Constraints to Participation in Outdoor Recreational Activities among Malay Females in Pulau Indah, Selangor, Malaysia’. The researcher surveyed a total of 456 residents from four villages in Pulau Indah. Her findings showed that the majority (60%) of the respondents agreed that their interest in outdoor recreation depended on the type of activities concerned and the equipment needed to participate (for example, for swimming activities they needed swimming suits to be provided). Their interest was also influenced by other constraints: physical capability (such as injury and poor health), lack of transportation to recreational facilities and unavailability of such facilities. In addition to the gender-based constraints faced by Malaysian women, religion also influences their participation in recreation. In their study on ‘The Understanding of Meaning and Cultural significance of Leisure, Recreation and Sport in Malaysia towards Capitalising Human Resources’, Aman et al. (2007) stated that Islamic principles such as dress codes may make it

difficult for some Malaysians, and especially Muslim women, to participate in recreation.

To sum up this section, Malay women in Malaysia, regardless of whether they are from an urban or rural area, are strongly bound by their roles as mothers and wives, therefore limiting their participation in recreational activities. Cultural and religious factors combine to affect their participation in recreational activities.

1.3 Recreational Forest in a Malaysian Context

Open space in Malaysia is defined by the Town and Country Planning (Amendment) Act 1995 (Nor Akmar et al., 2011). The requirement for open and recreational space is planned for in the Structure and Local Plans, and also in the layout plans of developments, by the planning authorities at state and local levels (Nor Akmar et al., 2011). According to the Planning Standard Guidelines for Open Spaces and Recreation (Department of Planning Urban and Rural Peninsular Malaysia), there are seven categories: play lot, playground, neighbourhood park, local park, urban park, regional park and national park. These categories differ in terms of size, location, characteristics and function. National parks were established in 1980 to conserve and preserve wildlife and living plants that are important to the fields of geology, archaeology and ethnology. They also provide other benefits in terms of science and scenic views for education, health, aesthetic value and public recreation by preserving and using these wildlife and plants (National Park Act 1980). Malaysian recreational forests are planned, developed and also separately managed by the Forestry Department Peninsular Malaysia. In Selangor, recreational forests (amenity forests) are situated in various locations between 5 km and 20 km of the nearest town and they differ in size between 400 and 2100 hectares (Source: Department of Forestry, 2003).

Nature is one of the main attractions in Malaysia. The Malaysia Tourism Board promotes the country via the tagline 'Malaysia Truly Asia' and highlights the various types of natural forests (ranging from shoreline mangrove to mountaintop

oak), rich with various flora and fauna (Malaysian Tourism Board). Malaysia's total land area is 32.9 million hectares of which 57% is natural forest and 43% of this forest is designated Permanent Forest Estate (PFE) (Woon & Norini, 2002). The natural forest of Malaysia has been described as follows: "The natural forest in Peninsular Malaysia consists of the Permanent Forest Estate (PFE); national parks, wildlife sanctuaries and wildlife reserves; and state land forests (targeted for conversion)" (K. Kumari, n.d., p.1). National parks, wildlife sanctuaries and wildlife reserves are protected under the Wildlife Act (1972) and state land forest is administered under Article 74 (2) of the Federal Constitution, meant for conversion (for example, to agriculture land) and resources such as for logging as income-generating (K. Kumari, n.d.). These forests are very important to the Malaysian economy and for social benefits (Woon & Norini, 2002). However, despite this, they are under threat. Malaysia is a rapidly developing country, and the landscape and forest land-use pattern is changing from forest to rubber and palm oil plantations and urban development due to rapid economic development (Abdullah & Hezri, 2008a). In Peninsular Malaysia alone, 0.4 million hectares (30%) of forested land was lost between 1974 and 1981 because of the expansion of rubber and oil palm plantations (Wan, 1985 cited in Abdullah & Hezri, 2008a). In Selangor, urban and built-up areas increased by about 26% between 1966 and 1981 at the expense of forested areas (Abdullah & Hezri, 2008a). The Census 2000 indicated that with respect to urbanisation, Selangor had the second highest proportion of urban population (86.6%) after the Federal Territory Kuala Lumpur (100%) (Department of Statistics, Malaysia, 2001). Even though recreational forests are protected as PFE, urbanisation can also adversely affect the characteristics and use of recreational forests in future. People are attracted to recreational forests for diverse reasons, including to the wildlife, water quality and cool and tranquil ambiance. Urban development has implications for these aspects of the forest, posing a potential threat to biodiversity, water quality, wildlife and tranquillity with the result that it becomes a place that is no longer enjoyable to visit. As a result, there will be underutilisation of recreational forest in the future.

Thus, it is important to fully evaluate the value and significance of recreational forests before their special qualities are further eroded by development.

1.4 Definition of Terms

Green space

Green space in this study is defined as any public outdoor space with amenities that provide social, health, environmental, and/or economic benefits to the users and/or the community (Wright Wendel, 2012).

Recreation

“Recreation can be defined as pastime, hobby and leisure activity. As a noun, it is defined as pleasure, leisure, relaxation, fun, enjoyment, entertainment, amusement; play and sport” (Oxford Paperback Thesaurus, 2006, p. 685).

Recreational forest

“Recreational forest is defined as areas in Permanent Forest Estate used for leisure, sports, research activities and education also conserving flora and fauna” (Manual Perhutanan, 2003b, p. 1628).

1.5 The Forest Recreation Concept

The Peninsular Malaysia Forestry Department was established in 1901 (Woon & Norini, 2002). The forest recreation concept was introduced throughout Peninsular Malaysia in 1967 by the Recreation Forestry Department, pursuant to the National Forestry Act (Jalill & Chee, 1983). The aims of the recreational forest developments are to provide basic recreational facilities for a range of communities, to encourage people to explore the beauty of the forest, as research and development areas and also to attract tourists for economic purposes. In Peninsular Malaysia, recreational areas were developed by the State Governments with technical assistance from the Parks and Recreation Division of the National Forestry Headquarters, Kuala Lumpur (Jalill & Chee, 1983). In addition, local authorities and some corporations in the private sector such as the Selangor Tourism Sdn. Bhd. are also involved in managing and developing some recreational forests in Peninsular Malaysia (Hussein, 2012).

There are two main types of forests: Permanent Forest Estate (PFE) and Urban Forest. The PFE is classified based on its four main functions which are forest protection (such as to control water resource, soil fertility and environmental quality), production forest (to provide continuous supply, production of all forest products at economically reasonable rates in the country for domestic, industrial and export use), recreational forest, and research and educational forest (for research, education and conservation of biological diversity). From 1967 to the end of 2004, 125 recreational forests were created in Peninsular Malaysia (Manual Perhutanan, 2003b).

The concept of recreational forests differs from urban forests concept in terms of their main characteristics and whether they are located in non-urbanised areas or in the urban periphery in scenic areas close to spectacular or unique natural features such as mountain/hill peak, river/waterfall, water catchment/reservoir/lake, islands, coastal area, mangrove and hot spring pool (Manual Perhutanan, 2003b). On the other hand, urban forests are implemented in urban areas to provide greenery, comfort and aesthetic benefits, and also to balance the impact of the built development. The objectives are to beautify the surrounding views; provide shade and green urban areas; be a buffer area to reduce air and noise pollution; balance the hydrology cycle; prevent soil erosion in the neighbourhood; provide a habitat to attract birds and insects; and as a source of timber and fruit (Manual Perhutanan, 2003b, p. 1670). In general, the urban forest, or as it is sometimes called the urban amenity forest, is a concept that encompasses the landscape or vegetation of a city (Justice, 1986; Webb, 1998). The National Landscape Department was established in 1996 and “entrusted with the responsibility for landscaping and greening the country, based on the approval of Economic Planning Unit (EPU)” (Aziz, 2012, p. 19), including the open spaces in Malaysia.

Based on the literature above, it can be concluded that in Malaysia, recreational forests differ from urban forests in terms of their locations, functions and characteristics. However, there are similarities between some recreational forests

and urban forests where they are managed by local authorities, and forest reserves are managed by the forestry department (Table 1.1).

Table 1.1 Comparisons between recreational forests and urban forests in Malaysia

	Recreational Forests	Urban Forests
Location	Non-urbanised areas or in the urban periphery in Permanent Forest Estate	In cities or towns
Function	Recreation, research and education	Provide greenery, comfort and aesthetic benefits that will make living and working in the city pleasant and enjoyable Not necessarily for recreation
Characteristics	In scenic areas close to spectacular or unique natural features such as river/waterfall	In the nature/forest reserves or unbuildable land and creek valleys of the city, such as urban parks and roadsides
Management and development	The Peninsular Malaysia Forestry Department, state forest departments, local authorities, private sector	The National Landscape Department, state forest departments, local authorities or municipalities

1.6 Policies Related to Malaysian Forests

The National Forest Council was established in 1971. The purpose of the National Council is enable the Federal Government and State Governments to have discussions from time to time on actions needed so that forestry administration and management can be adjusted in order that all related matters regarding forests can be resolved according to national interests. The National Forest Council consists of government Ministers, heads of the Forestry Department and the Deputy Prime Minister as the chairman (Manual Perhutanan, 2003a). The council also plays an important role in enforcing laws and acts in relation to national forests, such as legislation to prevent illegal logging, and to ensure sustainable management of the forest.

The current National Forest Act 1978 (Amendment 1992) is used by the forestry department to conserve and also to preserve their important roles in the country's economy and sustainable environment and manage the forests through sustainable forest practice (Manual Perhutanan, 2003a). In order to ensure that the Forest Act

1978 (Amendment 1992) is applied successfully, other related policies, such as the Biological Diversity Policy and Country Environmental Policy, were established.

The Biological Diversity Policy is aimed at assisting government agencies to implement strategies, action plans and programmes in relation to biodiversity. This policy emphasises two important aspects, which are, conservation and sustainable biodiversity use (Manual Perhutanan, 2003a).

The Country Environmental Policy provides guidelines for government agencies under the Federal and State Governments, as well as for the industrial sector, the local community and other stakeholders to ensure that the country's environment is clean, safe, healthy and productive for the current and future generations. It also provides for conservation of unique cultures and natural heritage, encouraging involvement from all sectors and communities, as well as sustainable use and production (Manual Perhutanan, 2003a).

1.7 An Overview of Forest Benefits

Recreational forests have the potential to provide multiple benefits to urban dwellers. These include benefits related to health and well-being (Konijnendijk, 2008), such as restoration from stress (Kaplan & Kaplan, 1989) and improvement in mood states (Ulrich et al., 1991).

According to Dawyer et al. (2003), urban forest upgrades “the quality of the urban environment and the well-being of its residents” (p.49). Nowadays, health is an important issue globally and in Malaysia. Most Malaysian adults have obesity problems that can lead to illnesses such as heart disease and diabetes. Only a small number of Malaysians have healthy lifestyles. According to the Malaysia Quality of Life (2002) statistics obtained from the Prime Minister's Department, only 15.4% of Malaysians exercise regularly.

Green spaces, including recreational forests situated within a few minutes' walk in neighbourhood areas, encourage the residents to engage in recreational activities (Gunnarsson & Öhrström, 2007). Many of these activities involve physical exercise.

Forests also encourage people to come into close contact with nature, providing opportunities for nature-based activities such as viewing scenery (Oku & Fukamachi, 2006), watching birds and animals, looking at trees and flowers (Lee, 2001), and also picking wild berries (Lindhagen & Hornsten, 2000; O'Brien, 2006).

Recreational forests have the potential to address many of these multiple social benefits. A detailed analysis of green spaces and recreational forest benefits is presented in Chapter 2. The literature outlined in that chapter focuses mainly on urban forests. Nevertheless, this is relevant because people use the recreational forests in this study for activities similar to those carried out in urban forests, and get similar benefits from them due to the recreational forests being located close to the urban periphery. The summarised literature also mainly pertains to a North American or European context. However, the researcher strongly believes that it is likely that the findings and theories related to urban forests outlined in Chapter 2 can be applied to both urban forests and some recreational forests in a Malaysian context. It should be noted though that this material may not be applicable to recreational forests that are located in non-urbanised or rural areas.

1.8 The Impact of Personal Characteristics on Forest Use

Personal characteristics such as age, gender and ethnicity are found to influence the use of green spaces, as discussed in Chapter 2. However, the existing body of literature on recreational use of forests or woodlands and the impact on these forests and woodlands, mainly consists of studies carried out in America (for example, Virden & Walker, 1999; and Sasidharan et al., 2005), with some studies from Europe and the United Kingdom (for example, Rishbeth & Finney, 2006). There is little research done on the impact of ethnicity on recreational forest use anywhere else in the world, and especially not in Asia. In addition, Konijnendijk et al.'s (2007) study entitled *Assessment of Urban Forestry Research and Research Needs in Nordic and Baltic Countries* indicated that "social and cultural values" were prioritised for future research in Denmark, Estonia, Finland, Latvia, Norway and Sweden. There is also a dearth of research dealing with the impact of religious beliefs (Islam) on the use of recreational forests; the only research this author has

come across relates to the leisure behaviour of immigrant Muslims in the United States conducted by Stodolska and Livengood (2006). There is also a lack of research on the impact of age and gender on recreational forest use in Malaysia.

Despite the forest benefits mentioned earlier, there are many problems related to recreational forest areas in Malaysia that might deter users. These problems include vandalism, poor accessibility, perceived insecurity and lack of management leading to poor quality of facilities (Amin, 2008). Md. Som and Yiew (1983) described these problems thus: “There were few problems related to management done by irresponsible users such as:- a) vandalised basic facilities or infrastructure; b) dirty the area with rubbish; and c) misused facilities provided such as cutting trees, set up fires in open space, table and bench used for cooking place” (p. 87). Goh (2002) claimed that poor maintenance of public open spaces and parks in Malaysia will lead to a decline in the number of visitors.

1.9 Research Aims and Importance of Research

Extensive research on urban woodlands has been done in United Kingdom, Europe and North America, but very little work has been done in Malaysia, or elsewhere in Asia. It is therefore not known whether the findings of the research to-date are applicable in the context of Malaysian recreational forests.

This study aims to address this gap, focusing especially on the impact of age, ethnicity and gender on recreational forest use. The author is not aware of any previous study that focused on the impact of ethnicity, age and gender together, although some existing studies did research one or more of these issues in a woodland/forest context such as those carried out by Jorgensen and Anthopoulou, (2007a), Ward Thompson et al. (2005) and Burgess (1995). According to Payne (2002), ethnicity and age play important roles in predicting park attitudes and preferences.

This study also aims to address the implications of the newly obtained knowledge for policy and management. Therefore, the broad aims of this study are to explore the effect of age, ethnicity and gender on the use of, attitudes towards, and

experience of recreational forests in Selangor, Malaysia together with users' expectations towards the forest environment. This study also aims to understand users' needs and their underlying motives for using recreational forests, as well as the values and meanings attached to recreational forests, based on users' culture and childhood experience. As Konijnendijk (2003) said,

“Urban forestry, by its very nature, can only be successful if meeting the multiple demands of ever-present urban societies” (p. 182).

It is important to investigate these aspects of forest users' activities, attitudes, experience, and expectations in Malaysia to add new knowledge and to explore existing theories in a fresh context. It is also important in order to help the Forestry Department of Peninsular Malaysia and Tourism Selangor to evaluate their current services and to fulfil current and future demand from forest users, thus enabling future improvements in terms of planning and management and enhancing sustainable future use of recreational forests.

1.10 Research Questions

The following research questions are addressed in this study:

- a) Who uses the recreational forests in Malaysia?
- b) What are the underlying factors that motivate people to use recreational forests?
- c) How do personal differences (age, gender and ethnicity) impact on forest use?
- d) What is the nature of Malaysian recreational forest users' experience?
- e) What are the similarities and differences between recreational forest use in Malaysia and woodland and forest use elsewhere?

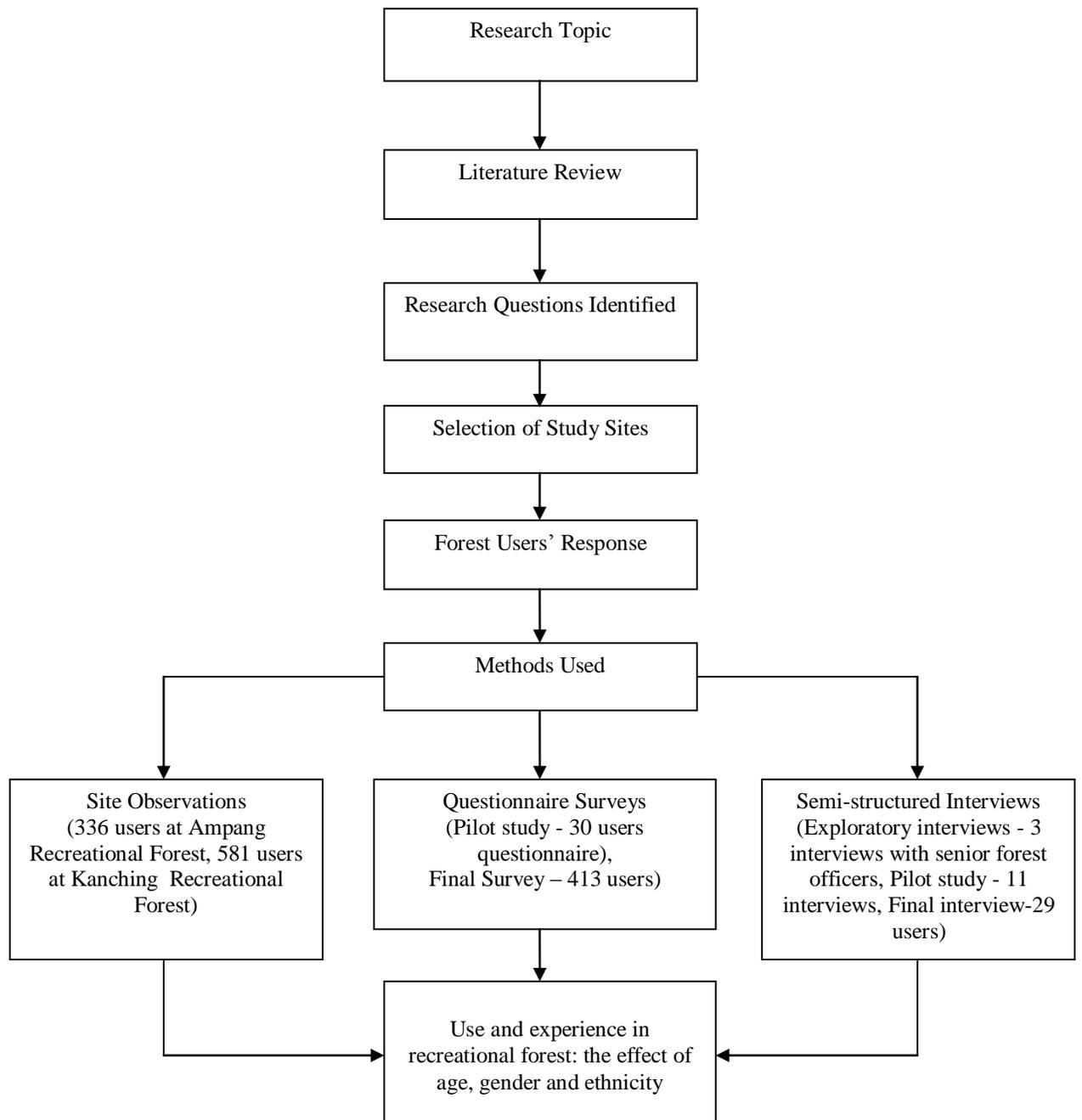


Figure 1.2 Flowchart of the research framework used in the study

1.11 The Research Design

Overview summary of research methods

A mixed methods approach, combining both qualitative and quantitative methods was used in this study (Figure 1.2). The qualitative approach comprised semi-structured interviews while the quantitative method consisted of site observations and a questionnaire survey. Details of the research methods are explained in Chapter 3. As the design research is exploratory, there is no pre-determined hypothesis underlying this research. However, this research is expected to identify differences between the use and experience of Malaysian recreational forests and previous studies related to woodland and forest use. Consequently, an area of enquiry has been mapped out for this study, namely, the nature of Malaysian use and experience of recreational forests; the impact of age, gender and ethnicity on forest use; and the social, health and cultural aspects of forest use.

Scoping and literature review

A detailed literature review was undertaken in relation to the research themes and its findings are set out in Chapter 2. The chapter includes a more detailed literature review regarding research undertaken in Western and Asian countries about the benefits of green spaces, qualities of restorative environments, social aspects and forest use, people's attitudes to green space, recreational pattern of green space use, and the impact of personal differences on people's experience of green space.

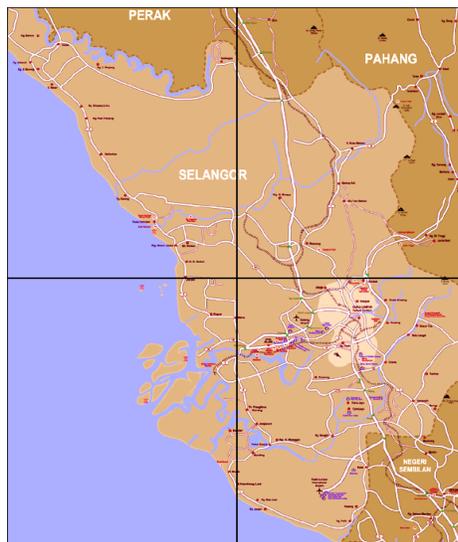


Figure 1.3 Map of Selangor State
(Source: <http://www.maps-malaysia.com/selangor/map.htm>)

Selection of study sites

There are nine recreational forests in Selangor out of which two recreational forests (Ampang and Kanching Recreational Forest) were selected as study sites (Figure 1.3 and Chapter 4).

The methodology is presented more fully in Chapter 3.

Ethical clearance

The researcher applied for ethical clearance to the university's Ethics Review committee before proceeding with data collection and field work. The ethical and practical approach to conducting this research is explained in Chapter 3.

1.12 Thesis Structure

This thesis consists of nine chapters. Chapter 1 gives some background about the study, research aims, research questions, along with the research design, and overall justification for the research. Chapter 2 is the literature review. The literature review covers previous research related to green spaces and related topics from various disciplines such as forestry, psychology and social science. Relevant studies on a broad range of 'green spaces' are reviewed to give a more holistic view of the literature pertaining to various types of green spaces including woodlands and parks, as opposed to focusing on literature specific to recreational forests, because of limited literature resources on the latter. Chapter 3 outlines the methodology describing the mixed methods approach and discusses the rationale for using it. It describes the range of methods used together with the approach to data analysis. In addition, the chapter discusses sample selection, and ethical and practical approaches. Chapter 4 reports on the descriptions of the study sites. Chapter 5 describes the respondents' characteristics and observations results. Chapter 6 details the quantitative results regarding forest users' attitudes and experiences in the recreational forests. It examines the general pattern of recreational forest use, variations in the use of the recreational forests, motives for recreational forest use, the impact of age, gender and ethnicity on recreational forest use and the forest users' expectations towards recreational forests. Chapter 7 investigates the

underlying patterns in the questionnaire data using a Principal Components Analysis and Analysis of Variance (ANOVA). Chapter 8 gives the qualitative results, which are organised under four themes: Activities and Experience, Value of the Recreational Forest, Forest Culture and Memory, and Issues Concerns and Expectations towards the Recreational Forest. Chapter 9 contains the discussion of the key findings, organised as follows: typology of recreational forest users, factors that motivate people to use recreational forests, activities in the recreational forests, the nature of Malaysian forest users' experience, and similarities and differences between recreational forest use in Malaysia and woodland use elsewhere. The final Chapter 10 is the conclusions chapter which indicates policy implications and the research's contribution, explains the limitations of the study, makes suggestions concerning directions for future research, and contains overall concluding comments.