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**UNIVERSITY COLLEGE LONDON
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**Management of the Conflict between
Conservation and Recreation
in Country Parks of Hong Kong**

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MSc International Planning

Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for
the award of the MSc International Planning at University College London:

I declare that this dissertation is entirely my own work and that ideas, data and images, as well as
direct quotations, drawn from elsewhere are identified and referenced.



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Table of Contents

List of Figures, Tables and Maps	5
Abstract	7
1. Introduction	8
2. Literature Review	10
2.1. Conservation and Recreation	10
2.2. Management of Country Parks	11
2.3. Perceptions on Country Parks' Management	12
2.4. Suggestions for Better Management	14
2.5. Limitations	15
3. Case Study of Hong Kong Country Parks	16
4. Research Design and Methods	20
4.1. Interviews	20
4.2. Survey	20
4.3. Observational Study	21
4.4. Limitations	22
4.5. Research Ethics and Risk Assessment	22
5. Analysis & Discussion	23
5.1. Legacy of Hong Kong Country Parks	23
5.2. Balance between Conservation and Recreation	24
5.3. Management of Conservation and Recreation	25
5.3.1. Facilities and Zoning	25
5.3.2. Internal Management System	29
5.3.3. Coordination of the AFCD with Other Organizations	30
5.3.4. Public Education and Participation	30
5.3.5. New Designation	32
5.4. Visitors' Preferences	32

5.5. Public and Private Interests on Conservation and Recreation	44
5.6. Suggestions to Improve Current Management	45
6. Conclusion	47
References	50
Appendices	55
Appendix 1. Sample Interview Questions	55
Appendix 2. Interviewee Information Sheet	56
Appendix 3. Interview Consent Form	60
Appendix 4. Survey Questions	62
Appendix 5. Risk Assessment Form	69

List of Figures, Tables and Maps

Figures

Figure 1. Indication of a Barbecue Site

Figure 2. Indication with Distances and Expected Durations

Figure 3. Information Board showing Country Parks' Regulations, a Map and a Poster

Figure 4. Location Information Board

Figure 5. Poster of 'Let's Go Plastic Free' Campaign with a Number of Supporting Partners

Figure 6. Road Sign Leading to the Woodside Biodiversity Education Centre

Figure 7. Woodside Biodiversity Education Centre

Figure 8. Popularity of Recreational Activities in Country Parks

Figure 9. Frequency of Country Parks' Visits

Figure 10. Average Time Spent in Country Parks

Figure 11. First Factor to Consider for Country Parks' Visits

Figure 12. Knowledge on Conservation

Figure 13. Knowledge on Recreation

Figure 14. Information Source of Conservation

Figure 15. Information Source of Recreation

Figure 16. Opinions on Country Parks' Objectives

Figure 17. Priority for the Three Objectives of Country Parks' Designation

Figure 18. Opinions on the Conflict between Conservation and Recreation

Figure 19. Satisfaction level on General Management of Country Parks

Figure 20. Satisfaction level on Recreation Facilities in Country Parks

Figure 21. Satisfaction level on Promotion of Conservation in Country Parks

Figure 22. Satisfaction level on Promotion of Public Education Programs of Country Parks

Figure 23. Satisfaction level on Security of Country Parks

Figure 24. Satisfaction level on Staffing in Country Parks

Figure 25. Involvement in Public Consultation

Figure 26. Effectiveness of Public Consultation

Figure 27. Advantages of Good Management on Country Parks

Figure 28. Disadvantages of Poor Management on Country Parks

Figure 29. "Take Your Litter Home" banner

Table

Table 1. Information on Selected Country Parks

Maps

Map 1. Hong Kong Country Parks and Special Areas (Agriculture, Fisheries and Conservation Department, 2019)

Map 2. Campsite Distribution in Hong Kong Country Parks (Agriculture, Fisheries and Conservation Department, 2019)

Abstract

Focusing on the two seemingly contrasting objectives, conservation and recreation, this dissertation investigates the current management practices of Hong Kong country parks and the opinions of country parks' visitors.

Despite being a highly urbanized and high-density city, country parks made up around 40% of total land area in Hong Kong. With the provision of recreational facilities, the important natural assets ensure the well-being of local citizens. At the city level, the strategic territorial plan "Hong Kong 2030+" aims to enhance accessibility and facilities to improve the liveability of the city, by leveraging on green assets such as country parks. There is certainly a foreseeable potential of country parks. Nonetheless, careful planning and management are required to balance conservation, recreation and education demands, which are the three main objectives of country parks in Hong Kong.

The management strategies and the various programs organized by the managing authority, the Agriculture, Fisheries and Conservation Department (AFCD) have been investigated. Interviews with stakeholders regarding opinions on the management of country parks have been conducted. Survey and observations in country parks have also been utilized to understand first-hand experiences of visitors.

Visitors are generally satisfied with the management of country parks, despite some respondents remain sceptical about the effectiveness of conservation and recreation programs. Majority of visitors agreed the three objectives of country parks. Conservation was ranked as the priority, as most respondents see the importance of conservation as the basis of public enjoyment. The survey shows a diverse view on whether conservation and recreation are in conflict. On the other hand, respondents were not fully aware of public participation opportunities on country parks' matters, showing a lack of effective promotion by the authority and a lack of interest among visitors. It is suggested that a sustainable management approach should be developed to strike a better balance between conservation and recreation.

1. Introduction

The tension between conservation and recreation in urban spaces, the balance between these two types of ideology and their related land use management have always been controversial. The philosophy of conservation conflicts with recreational use (Jim, 1989), presenting challenges to balance the two when considering different demands from various stakeholders. Conservation represents the protection of natural resources, biodiversity and the balance within ecosystems. On the other hand, recreational activities available in the countryside are popular getaways from urban environments.

Parks are categorized with different definitions in academic literature, for instance “national parks”, “country parks” or “urban green spaces”. They are of different sizes, depending on the geographical context and landscape. Nonetheless, the designations of these protected areas share similar goals, including environmental protection, provision of recreational opportunities and public education. The management of the conflict between conservation and recreation is therefore addressed accordingly to the aims of these parks.

24 country parks have been designated for “nature conservation, countryside recreation and outdoor education” in Hong Kong (Hong Kong. Agriculture, Fisheries and Conservation Department, 2018), taking up a total area of 443 square kilometres together with 22 special areas designated for nature conservation. This dissertation will focus on these designated parks and a few of them will be chosen as sites for the visitors’ survey and observational study.

The management of the two seemingly contradictory planning rationales, conservation and recreation in country parks of Hong Kong will be investigated. Without statutory requirements of a management plan, a lack of disclosure of these plans to the public (Lau, 2011), and unclear guidelines and regulations of country parks’ planning, there seems to be inadequate management planning regarding the tension, and a lack of proper evaluation of the implementation and visitors’ feedback. It is observed that visitors have slightly changed their preferences to more nature-intensive activities at ecologically sensitive areas, and therefore the accessibility and the protection of sensitive areas should be re-considered (Cheung, 2013). An increasing number of engagements in nature-based activities reflect the pressing need to balance conservation and recreation concerns, promoting the value of the natural environment while preserving these important sites.

Despite being a compact city with only 1,106.66 square kilometres of total area, with a population density of 6,830 people per square kilometres in 2017 (Hong Kong. The Government of the Hong

Kong Special Administrative Region, 2019), around 40% of the land area in Hong Kong are designated as country parks and nature reserves. The Country Parks Ordinance (2005) vested the management in the Country and Marine Parks Authority, while country parks are actively managed by the Agriculture, Fisheries and Conservation Department (AFCD) and its advisory body, the Country and Marine Parks Board (CMPB). Both conservation and recreation demands are addressed in the legal framework and governing rationale. On the other hand, the development control mainly lies with the Lands Authority according to suggestions from the Country and Marine Parks Authority. In practice, the governance between different authorities, the daily implementation and the opinions towards management practices are unclear. Development threats and urban encroachment to country parks have generated heated debates, for instance the government-initiated planning studies for housing developments in peripheries of country parks, in order to satisfy perpetuating housing demands. It is therefore interesting to study the extent to which the actual management due with the conflict, the measures taken to prevent overuse of country parks in Hong Kong, satisfaction levels of country parks' users, and the potential of these honeypots.

This dissertation aims to answer the key question: How to manage the conflict between conservation and recreation in country parks of Hong Kong? These two concepts seem to be contradictory as it is widely recognized that visitors can impact the environment and biodiversity. On the other hand, current practices will be examined to identify planning potentials to handle or minimize such conflict.

The following research questions will be addressed in this dissertation:

1. What are the current management practices in terms of conservation and recreation in Hong Kong country parks, including their advantages and disadvantages?
2. What are the satisfaction levels towards Hong Kong country parks' conservation and recreation management?
3. What are some of the suggestions to the management of country parks?

2. Literature Review

Literature related to national parks, country parks, and urban green spaces have been reviewed to understand academic discourses on conservation, recreation and their related management strategies. Although the literature considered different geographical, social and political context, these protected natural areas share similar objectives regardless of their locations. Therefore, the debates are applicable to the general management practices of country parks, as well as to the Hong Kong's case.

2.1. Conservation and Recreation

Common management practices and potentials for improvements are investigated through different research methods such as surveys and statistical analysis. Although the social, political and economic viability of different management systems need further investigation, these cases offer a background understanding of current management practices of country parks. Conservation and recreation have been two important goals of country parks' management. It is widely recognized that both conservation and recreation are of vital importance for the benefits and enjoyment of the countryside. Other than conservation and recreation, other objectives can also be observed in certain parks. For instance, national parks in Greece are designated for environmental protection, recreational support, environmental advocacy, research and socio-economic enhancement by promoting eco-tourism and traditional agricultural activities (Trakolis, 2001).

The objectives of country parks or national parks often reflect the conflict between conservation and recreation. The relationship between biodiversity protection and human enjoyment have long been recognized in academic literature. Jim (1989) suggested the critical role of conservation as the quality of recreational activities depends on how well conservation of the countryside is. It is recognized health and well-being improvements provided by green spaces in urban settings can be reinforced in policy agendas (Schipperign *et al.*, 2010). When considering social and economic objectives, McCarthy *et al.* (2002) suggested that conservation is a priority in order to support recreation and tourism. On the other hand, despite increasing recreational demands, these opportunities increase awareness of biodiversity and conservation, as first-hand experiences influence visitors' interest on country park issues (Papageorgiou, 2001).

As in Hong Kong, conservation and recreation, together with education are three key objectives of country parks' designation. The relationship between the two objectives is undistinguishable as the managing authority does not seem to prioritize either one in its programs and promotion of country parks.

2.2. Management of Country Parks

Although largely dependent on governance and administrative arrangements, designation of country parks or protected areas suggests special environmental care and protection (McCarthy *et al.*, 2002). National parks in the European Union are identified according to landscape conservation and recreation values, where conservation is often prioritized such that any activities within protected areas should not damage the natural environment, before considering socio-economic benefits (McCarthy *et al.*, 2002). Zoning is an example guiding the management, with a core area of stringent conservation restrictions and peripheral zones with more relaxed management (Trakolis, 2001). In terms of financial support, it is usually funded by the national government, sometimes with involvement of local authorities or private sector (McCarthy *et al.*, 2002).

Management objectives are often reflected in management plans, including a strategic vision and framework for daily management of national parks, although the legal status of such plans differ in different countries (McCarthy *et al.*, 2002). Legislation, planning and operational management practices present different ways to handle the tension (McCarthy *et al.*, 2002). For instance, the Sanford principle incorporated in Section 62 of the Environment Act 1995 mentions the overarching importance of conservation. When conflicts arise between purposes of national parks in the United Kingdom, the nature, wildlife and cultural heritage should be given greater attention than economic and social considerations. The National Parks (Scotland) Act (2000) demonstrates an integrated consideration of sustainability to protect designated areas by negotiating and mediating with different stakeholders, resembling the Scottish national planning policy guidance (McCarthy *et al.*, 2002). For example, potential long-term impacts in recreational infrastructures, such as skiing resorts causing long term pollution and erosion impacts should be taken into consideration (Young *et al.*, 2005).

Management practices also include direct ways such as signage and fencing, or indirect enforcement, for example informal interaction between staff and visitors (Park *et al.*, 2008). An integrated approach combines direct and indirect management with regulation, enforcement, redesign of facilities and education programs for sustainable conservation and public enjoyment

(The National Park Service Organic Act 1916). Visitor usages and their related impacts are widely discussed in literature regarding parks and outdoor recreation (Park *et al.*, 2008). Direct management aims to alter behaviour instantly, while indirect practices influence the decisions visitors make. It was observed in a study that indirect management practices are more acceptable than direct practices, suggesting the importance of education programs (Park *et al.*, 2008). However, indirect management practices alone do not induce instant behaviour changes, therefore adaptive management is suggested to continuously adjust management due to increasingly intensive recreation usages (Park *et al.*, 2008; Lau, 2011; Cheung, 2013).

Although management practices are in place, some impracticalities have been observed. As an example, the lack of comprehensive management due to private ownership of land within national parks, and the lack of community involvement have resulted in tensions between stakeholders (Trakolis, 2001). Trakolis's (2001) survey also raised questions on the effectiveness of official advocacy programs as it is found that the major source of information came from environmental organizations instead of the authority. Furthermore, some of the aims of country parks are not realized as expected at initial stages of designation, for instance failing to improve the socio-economic status of local people in protected areas. Common problems also include insufficient enforcement and monitoring, and inadequate protection of biodiversity, as well as a lack of financial support (Matthew *et al.*, 2018).

2.3. Perceptions on Country Parks' Management

From a survey study of urban green spaces in Fuyang, China, respondents reviewed that the ambience, accessibility, security, diversity of activities, and well-equipped facilities were the decisive factors of visiting green open spaces, in descending order of popularity (Zhang *et al.*, 2012). According to another study, accessibility was an important consideration, while green coverage and ambience were also among the highly rated visitation factors (Jim & Chen, 2006). Safety was related to the degree of vegetation cover as dense vegetation or woody plants represent reduced visibility, which could create unsafe perceptions (Bjerke *et al.*, 2006).

Regarding recreation activities, the most preferred activity is walking, among other leisure choices such as chatting, reading, playing chess, watching scenery etc. (Zhang *et al.*, 2012). Relaxation and entertainment were rated as the top reasons for countryside recreation, followed by fitness, socializing etc. (Zhang *et al.*, 2012). In terms of the facilities, benches and shelters were favoured, while in terms of the landscape, lawns and slopes received higher ratings than hills, rivers and pools. Safety and accessibility were critical to respondents (Zhang *et al.*, 2012).

A hierarchical conjoint analysis reviewed that some of the most important attributes for walking in rural areas were land-use, social security, tranquillity, and the level of crowdedness (Goossen & Langers, 2000). Considering the price, it was found that the higher the entrance fee of the national park in Malaysia, the higher the level of satisfaction among visitors due to their willingness to reduce congestion in the park and to fund conservation projects (Matthew *et al.*, 2018). An increase of staff responsible for monitoring and implementing conservation strategies and providing education support received positive feedback. For example, visitors suggested more opportunities for organizations and schools to visit these parks (Matthew *et al.*, 2018).

In terms of the benefits of local urban green spaces, the enhancement of urban microclimate and environmental quality were perceived as the two most important ecosystem services, out of environmental function, recreation and landscape, economic benefit, and other functions including traffic control and fire-hazard reduction (Chen & Jim, 2006). In the recreation and landscape category, aesthetic value and recreational value were highlighted (Jim & Chen, 2006). Researchers acknowledged the accentuation of specific ecosystem services as respondents were more familiar with services that are often related to direct personal benefits (Jim & Chen, 2006). Despite the willingness to visit the nature, largely urbanized built environments have decreased chances of direct encounter with wildlife and therefore ecological functions were not considered very important (Jim & Chen, 2006). In another study however, biodiversity richness was found to be directly related to the satisfaction towards national parks (Matthew *et al.*, 2018). Liability and security were two main concerns when looking into negative impacts. In addition, individual concerns in the development process were not addressed due to poor management and the lack of participation (Fraser & Kenney, 2000). The emerging conflict due to a lack of community participation from the designation to the management process was addressed in another study on the attitudes and effectiveness of administration and management projects (Trakolis, 2001). Respondents expressed their preferences for a transparent and accountable administration and management, with accessible development plans and available community discussions (Trakolis, 2001).

Individual demographic factors such as age and gender, and environmental factors can impact perceptions of green spaces (Schipperign *et al.*, 2010). In terms of demographics, age and education level were the main determinants of differences in responses, where younger and more educated citizens generally paid more attention to urban green spaces and therefore had a clearer idea on ecosystem services (Jim & Chen, 2006). Another survey indicated that education, income level and residence were related to the level of recreation needs (Zhang *et al.*, 2012). Education level was inversely related to recreation needs, and people who lived closer to central

urban areas had a higher recreation aspiration (Zhang *et al.*, 2012). People with higher socio-economic status showed less interest in green spaces when compared to those with a lower education or income level (Maas *et al.*, 2009).

Management-level sees the importance of education, conservation of the nature and sustainable development of ecotourism (Dangi & Gribb, 2018). Recreational activities did not appear to be compatible with the environment from the perspective of management level (Dangi & Gribb, 2018). The carrying capacity of a national park in the United States was reviewed as management staff agreed to set up visitor quota and parking limits, while the recreational businesses were more concerned about influence on their income and aesthetics (Dangi & Gribb, 2018).

2.4. Suggestions for Better Management

Papageorgiou (2001) suggested a mixture of regulatory and behaviour-oriented methods to provide necessary knowledge in the short term and induce behaviour change in the long run. The effectiveness of which can be tested according to visitors' awareness on whether specific activities are allowed. Better knowledge on protected areas can result in potential financial savings from less enforcement actions (Papageorgiou, 2001).

A survey suggested that public engagement can allow authorities to better manage citizens' expectations with continuous communication and cooperation, to jointly work towards a long-term strategic plan to maximize the benefits of green spaces (Jim & Chen, 2006). It coincides with the positive relationship between education level and the perception of natural environments. Communication between the managing authority and the operational employees supporting activities should also be enhanced (Dangi & Gribb, 2018). Public open spaces that are properly managed and maintained provide better social interaction opportunities for the community (Khotdee *et al.*, 2012).

Master plans on individual park and business plan for recreational agencies setting out guidelines to manage national parks, with careful investigation of different views and effective evaluation during the planning process were also suggested (Dangi & Gribb, 2018). Regarding visitor management, apart from increasing capacity and adopting zoning strategies, visitors' views and behaviours should be carefully studied to come up with appropriate management guidelines (Cheung, 2013).

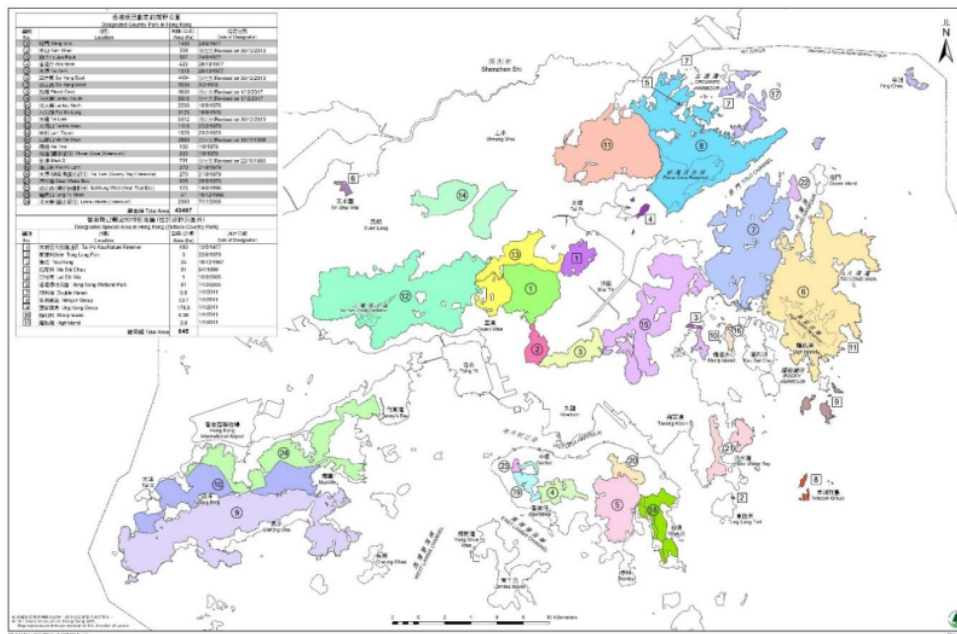
2.5. Limitations

Researchers have often assumed conservation as the priority in country park management. However, the relationship between conservation objectives and the accommodation of recreation opportunities, and their impacts to visitors are not clear in existing literature.

Literature focused on specific cities, or specific sites in a city. Some of the priorities of visitors were highlighted, however the relation to local planning policies and regulations can be investigated further for the specific local context in Hong Kong. For instance, the proximity of country parks in Hong Kong should not remain as a major concern as most country parks are accessible by public transport.

3. Case Study of Hong Kong Country Parks

Despite being one of the most densely populated cities around the globe (World Bank, 2017), the extensive coverage of country parks and nature reserves in Hong Kong represented by a 40% of total land area is one of the highest among other cities (Chen & Jim, 2012). Local country parks are a highly valuable asset for local citizens and overseas visitors (Wong, 2016), which is highly accessible to the local residents as 90% of the population resides within 3 km from country parks (Lee, 2017). At the city level, the overlapping of country parks with water catchment areas represents the potential of freshwater sources, while country parks also mitigate climate change and provide habitats for valuable biodiversity (Wong, 2016). The first few country parks were designated in 1977 with nature conservation, countryside recreation and outdoor education as the key objectives. The total area of country parks and special areas makes up 44,312 hectares of land in 2017 (Hong Kong, Agriculture, Fisheries and Conservation Department, 2019). Country parks in Hong Kong vary in size, ranging from less than 50 hectares to more than 4,500 hectares (Hong Kong, Agriculture, Fisheries and Conservation Department, 2019).



Map 1. Hong Kong Country Parks and Special Areas (Agriculture, Fisheries and Conservation Department, 2019)

In 2018, 12.3 million visitors were recorded (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019). In terms of the demographics of country park visitors, a survey showed that most users were between 25 and 44 years old (Cheung, 2013). The most common activities were leisure walking, fitness exercises, hiking, barbecuing, family picnics and camping (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019). On the other hand, visitors also engaged in nature studies, for instance observing flora and fauna, and participating in nature photography (Cheung, 2013). The top reasons of visiting a country park were good scenic view, accompanied by others, and accessible transportation (Trailwatch, 2019). Recreational facilities including tables and benches, barbecue sites, campsites, toilets and litter bins are provided in country parks (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019). Accessible footpaths along the hills and woodlands also provide exploration opportunities. However, the popularity of different types of activities differs among different age groups, for instance activities that require more energy were more popular among young people (Payne et al., 2002). The preferences of visitors have slightly changed, for instance there was a noticeable drop in barbecuing (Jim, 1989) and a significant rise of people participating in nature studies and photography, showing an increasing preference to nature exploration in more remote sites instead of the fringes of country parks which are less ecologically sensitive (Cheung, 2013; Trailwatch, 2019). A recent survey showed an increasing usage of country parks, with a 260% increase in the number of visits recorded when compared to a survey in 1990 (Trailwatch, 2019). More than half of the respondents visited country parks in the past year, and on average 5.9 visits were made among all respondents (Trailwatch, 2019).

Empowered under the Country Parks Ordinance (2005), the Agriculture, Fisheries and Conservation Department (AFCD) manages country parks and with a clear goal addressing both conservation and recreation demands. Apart from the legal framework, the Hong Kong Planning Standards and Guidelines (HKPSG) provides guidance on “determining the scale and site requirements in different land uses applicable to planning studies, town plans and development control” (Hong Kong. Planning Department, 2018, p.1). Chapter 4 on recreation, open space and greening presents the hierarchy of local recreation and open space. Country parks are included in the countryside and coastal areas category, of which only low intensity recreation use is recommended (Hong Kong. Planning Department, 2018). The compatibility of recreation land uses with the surrounding environment should also be considered. Planning standards and guidelines regarding open space and recreation facilities do not apply to designated country parks, in response to the need to conserve the vegetation cover, biodiversity and the scenic value in protected areas. Any intrusive development should be carefully studied in feasibility assessments. Chapter 10 on conservation states that country parks are statutorily zoned by the Town Planning Board vetted under the Town Planning Ordinance, under clause 4(1)(g) for ‘country parks, coastal protection

areas, sites of special scientific interest, green belts or other specified uses' for conservation and environmental protection purposes (Hong Kong Planning Department, 2018). Areas designated under statutory plans for conservation are presumably against development as any developments on zoned 'Country Park' areas are required to obtain prior consent from the Lands Authority with advice from the Country and Marine Parks Authority, including additional requirements of public consultation and Environmental Impact Assessment (EIA) for major development projects. On the other hand, the territorial strategic plan, "Hong Kong 2030+" considers conservation and recreation land uses at the city level. One of the key strategic directions for a liveable high-density city is the improvement of accessibility to recreational facilities, such as country parks (Hong Kong. Planning Department, 2016). In terms of creating capacity for sustainable growth, continual conservation is highlighted with plans to protect country park enclaves by gradually consolidating them into zoned country park areas or into statutory plans (Hong Kong. Planning Department, 2016).

Country parks in Hong Kong are managed with a three-tier zoning system, with considerations on the "accessibility, carrying capacity for recreational use and sensitivity to visitor impacts" (Cheung, 2013, p.231). The zoning system categorizes areas into high intensity recreation zones (zone 1), low intensity recreation zones (zone 2) and conservation zones (zone 3) (Jim, 2010; Jim & Wong, 2006). Zone 1 is accessible by public transport and well-equipped with recreational facilities allowing intensive usages. This zone is usually situated at the peripheries of country parks allowing most of the visitors to enjoy the nature while not inducing huge environmental impacts at these relatively less sensitive areas. Areas in zone 2 are less accessible by cars as they are further away from major roads. Three subzones are identified within zone 2, dispersed subzones (DSZ), extensive subzones (ESZ) and wilderness subzones (WSZ), with a decreasing level of accessibility. DSZs along major footpaths are for leisure purposes such as walking and picnic, ESZs are located at hilly landscapes with some barbecue and picnic facilities, while WSZs are the most inaccessible, with limited footpaths and campsites (Cheung, 2013). Zone 3 are more stringent conservation areas which are of "scientific, cultural and educational value" (Cheung, 2013, p.234). The inaccessibility of this zone represents the purposeful separation of recreation activities from ecologically sensitive areas, as restricted public access can effectively avoid disturbances (Cheung, 2013). Despite putting the zoning system in place, management may not be adequate and effective to avoid disruptions to the environment (Cheung, 2013). No zoning plans can be found on official documents and therefore the details and effectiveness remain unknown.

The importance of country parks is promoted by the AFCD through public education programs such as television advertisements, activities in the visitor centres and on-site excursions etc. Exhibitions and guided tours in visitor centres related to nature resources and biodiversity are open to the public (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019). Moreover, on-site

information boards and a mobile application have enhanced the public understanding and awareness to the natural environment. Education programmes for students and the public are also developed to encourage participation in conservation, for example the “Country Parks Volunteer Scheme” allows the public to experience the work of country parks including management, education and conservation (Hong Kong. Agriculture, Fisheries and Conservation Department, n.d.).

On the other hand, the government organizes consultation for country park matters. A recent public consultation was launched in February 2019, which aimed to collect public views on the four proposals to enhance the recreation and education potential of local country parks and special areas, based on a previous consultancy study (Hong Kong. The Government of the Hong Kong Special Administrative Region, 2019). Four proposals were shortlisted, to enhance existing facilities, to set up open museums for cultural heritage sites, to provide tree-top adventure activities, and to improve glamping sites and eco-lodges for campers (Hong Kong. The Government of the Hong Kong Special Administrative Region, 2019). Conservation was not left out in the proposals as the government recognized the need to conserve the environment while enhancing the quantity and quality of facilities. During the consultation, public forums and exhibitions were available and the public was encouraged to share their views via email (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019). Since then the department has been investigating public feedback, no further official reports or documents have been released.

It is widely recognized that an increasing number of visitors can cause detrimental impacts to the ecosystem (Jim, 2009). It is unclear that whether visitor management strategies have been effective in response to the change in visitors’ preferences, which have slightly moved from high intensity recreation zones to ecologically sensitive places when compared to 25 years ago (Cheung, 2013). On the other hand, the government’s proposal of subsidised housing development on the fringes of country parks have caused controversial debates. The Housing Society, a non-governmental and non-profit organization has been commissioned for a feasibility study to facilitate discussions on the suggestion raised by the previous Chief Executive in his policy address suggesting public housing and elderly flats developments on “relatively low ecological and public enjoyment value” (Ng, 2017) land within Tai Lam and Ma On Shan country parks’ boundaries. The study is expected to be completed in 2019, but to-date the report is not yet released.

Recognizing the issues and strategies set out by the authority, it is important to study the management of the conservation and recreation demands within the carrying capacity of country parks, and how are they perceived among visitors. Therefore, several methods will be used to analyse the current management practices and the opinions towards such practices, to arrive with some suggestions to the management of these valuable urban assets.

4. Research Design and Methods

4.1. Interviews

In order to understand the different views and suggestions to the current management, interviews with the managing authority and other stakeholders who are concerned about the development of country parks were conducted. 4 interviews were conducted, 1 of which with the Agriculture, Fisheries and Conservation Department (AFCD), 2 of which with non-governmental organizations and 1 with a previous staff from the AFCD.

Interviewees were asked open-ended questions around themes related to the conflict between conservation and recreation, the management of country parks, operational details, and suggestions to improve the management and development of country parks. Interview questions were open so that interviewees could freely express their thoughts on different issues, to minimize the biasedness in the interview questions. The sample set of questions is included in appendix 1. Emails were sent to the potential interviewees to invite them for a face-to-face interview which was expected to take around an hour. The venues of the interviews were suggested by the interviewees, which were mostly offices of the interviewees.

The interviews provided valuable information, feedback and opinions which guided the research and supported the analysis of current management practices.

4.2. Survey

In order to collect and analyse first-hand experiences of country park visitors on the management of the parks, a survey conducted randomly on-site was utilized. To minimize the biasedness and avoid selective sampling, both local visitors and tourists were surveyed, at different times of the day and week. The only pre-requisite of filling in the survey was that the respondents must have been to at least one country park in Hong Kong, so that they could relate their specific experiences of management practices. This was ensured by surveying only in designated country park areas.

Five country parks, Tai Tam, Tai Tam (Quarry Bay extension), Shek O, Kam Shan and Shing Mun were chosen as sites for the survey and the observational study. To represent the diversity of country parks of Hong Kong, these sites vary in size, location, and facilities.

Country parks	Size (in hectares)	Location	Facilities
Tai Tam	1,315	Hong Kong Island	Barbecue sites, reservoir
Tai Tam (Quarry Bay extension)	270	Hong Kong Island	Barbecue sites, biodiversity education centre
Shek O	701	Hong Kong Island	Barbecue sites, mountain biking trails
Kam Shan	339	New Territories (Central)	Barbecue sites
Shing Mun	1,400	New Territories (Central)	Barbecue sites, visitor centre, reservoir, camping sites

Table 1. *Information on Selected Country Parks*

The survey was divided into three sections (appendix 4), the first section consisted of questions regarding usage, considerations when visiting country parks and how well visitors know about conservation and recreation. The second section investigated satisfaction levels of the actual management, measured with a 5-point scale, from strongly disagree or strongly dissatisfied to strongly agree or strongly satisfied (Moore & Taplin, 2014). Questions on demographics were included in the last section.

The survey supported analysis of the opinions towards management of country parks based on first-hand experiences, which provided valuable perspectives on whether the implementation of programs based on the objectives of country parks are adequate and effective, and whether the visitors feel that more efforts should be made.

4.3. Observational Study

Observations during site visits provided a basic understanding of the usage of country parks. Multiple observations suggested some general characteristics of the people who visit country parks and their usage, which supplemented the survey and helped to further analyse the effectiveness of management practices.

To conceal the identity as an observer and not to interrupt visitors' usage, outlook and behaviour were kept generally consistent with other visitors (Peine, 1983). Observations were only made

when there was sufficient usage with suitable weather conditions as to minimize the obstructiveness of the observational study (Park *et al.*, 2008).

4.4. Limitations

The number of interviews and surveys is limited as there were no immediate benefits to the interviewees and that the research is limited to a few months. The subjectivity of a limited number of respondents is a major limitation and therefore interviews and other documentary analysis were taken into consideration for the analysis. The weather, which was constantly rainy and gloomy during summer months in Hong Kong, was also a challenge for conducting on-site survey and observations. On the other hand, the limited time frame of the research has limited the applicability of the results, especially from the survey and observations to other seasonal conditions and circumstances.

4.5. Research Ethics and Risk Assessment

No significant ethical risks were involved throughout the research and an ethical approval was not required. Limited personal information such as the names, job posts, contact information and other personal information was kept minimal and only used when contacting the interviewees. Interviewees and respondents of the survey are not identifiable in this dissertation. Anonymous participants did not affect the analysis of opinions. All interviews were conducted with participants' full and informed consent. The participant information sheet and consent form are included in appendix 2 and 3 respectively. The risk assessment form can be found in appendix 5.

5. Analysis & Discussion

5.1. Legacy of Hong Kong Country Parks

According to an interview with a previous staff from the AFCD (Interviewee C, 2019) who participated in the initial planning and designation of country parks, the intention of AFCD's stewardship of country parks stressed on nature conservation as the primary objective. Recreation according to him, comes second or third after education, as "without high quality of nature, recreation would not be able to take place" (Interviewee C, 2019). In other words, recreation opportunities depend on how well the environment is conserved. The urgency and opportunity of establishing a country park system in Hong Kong were already highlighted as Talbot and Talbot (1965) realized the rapid population increase, limited land resources, political and economic pressures that might limit the opportunity. It was clear that there was a long-established interest in environmental protection at the countryside to protect natural vegetation, prevent afforestation to prevent landslides and soil erosion, as well as providing aesthetic benefits (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968).

The history of country parks' planning and designation can be traced back to a report written by experts from the International Union of the Conservation of Nature (IUCN) after a survey for the then Agriculture and Fisheries Department. The establishment of a National Parks and Nature Conservancy Council was strongly recommended (Talbot & Talbot, 1965). A Provisional Council for the Use and Conservation of the Countryside was set up in 1967 for further investigation of country parks' establishment (Lee, 2017). In addition, the concept of permanence was also mentioned (Talbot & Talbot, 1965) highlighting the importance of a persisting system without political and economic disturbances. Areas in Hong Kong were classified into large reservation zones, into areas for multiple uses and reserves of different types in the report. For instance, Robin's Nest was identified as one of the areas to be examined of its conservation value, however it is still under investigation to be included into a country park area (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968).

In terms of management, the report suggested provision of adequate staff with proper training to be responsible for the research, management planning and execution of country parks' objectives (Talbot & Talbot, 1965). Public education was considered to complement enforcement to gradually diminish the pressure on enforcement actions, although still

considered necessary. It was thought that there would be “ample scope” (Talbot & Talbot, 1965, pp.24) to accommodate overseas visitors with promotion of recreational opportunities. The Provisional Council for the Use and Conservation of the Countryside was established in 1967 to advise the Governor on conservation and recreational matters, and the control and management of such areas (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968).

5.2. Balance between Conservation and Recreation

There are four general categories of protected areas in Hong Kong, including country parks and special areas, water gathering grounds, conservation-related zonings and restricted areas (Hong Kong. Information Services Division, Legislative Council Secretariat, 2016). Country parks and special areas designated under the Country Parks Ordinance (2005) hold 98% of the flora and fauna species in Hong Kong (Hong Kong. Planning Department, 2016). Country parks are not at the highest level of conservation importance, like the Mai Po Ramsar Site designated under the Ramsar Convention with international importance, which restrict public access to protect the ecosystem in the wetland (Interviewee A, 2019). However, conservation of landscape and environment is still vital in country parks, which also encourage public access and enjoyment, which was already recognized back in the 1960s (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968). Conservation was referred to the use of natural resources economically with cautious management and realization of wider community benefits, while recreation was defined as spending leisure time in a useful and enjoyable way, including indoor and outdoor activities (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968).

Despite concerns on potential negative environmental impacts of recreational activities, interviewee D (2019) agreed that public usage should be allowed. In her opinion, “first-hand experience is vital to encourage public understanding of the importance of nature conservation” (Interviewee D, 2019). Moreover, the public can also benefit from ecosystem services, especially nonmaterial benefits, such as recreation and ecotourism, as well as inspirational, educational benefits, cultural heritage values and sense of place (Millennium Ecosystem Assessment, 2003).

The managing authority thinks that both conservation and recreation objectives are met as reflected in the three objectives of country parks, nature conservation, countryside recreation and outdoor education. The importance of comprehensive ecological and landscape surveys

was explained, which aimed to identify or prioritize areas for protection and recreation respectively, and to attain harmony between the two objectives (Interviewee A, 2019). The interviewee said that one of the purposes of designation of country parks is to avoid the conflict between conservation and recreation, with the belief that AFCD's management control can ease the tension (Interviewee A, 2019). It is hoped that the environment and biodiversity can be conserved by restricting recreational use in ecologically sensitive sites by zoning.

5.3. Management of Conservation and Recreation

5.3.1. Facilities and Zoning

When asked about the implementation of the management objectives accommodating nature conservation and outdoor recreation, the AFCD said that the management system and facilities on-site have been carefully designed to ensure meeting the objectives (Interviewee A, 2019).

Talbot (1965) suggested a careful assess of the potential uses and values, to set out objectives and priorities before reaching a decision on zoning details, according to the complementary or destructive nature of different kinds of land uses. It was recommended to leverage on footpaths and provision of facilities to channel visitors to appropriate locations. For example, the footpaths, whether already paved with stones or concrete, should be maintained and further developed for recreational purposes, possibly with provision of benches and seats, rubbish disposal facilities, water facilities at picnic and camp sites (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968). Similarly, interviewee A (2019) mentioned that the compatibility of barbeque sites with the surrounding was carefully considered to minimize environmental impacts. As a result, most barbeque sites are located at the peripheries of country parks, which are easily accessible by public transport. On the other hand, the naming of hiking trails affects visitors' perceptions (Interviewee A, 2019). Named trails usually attract more visitors and are more well-maintained. The types of trails, such as family walks and country trails suggest the distance and level of difficulty, which can direct visitors to trails according to their fitness level and expectations. In addition, road signs directing visitors to sites which have the capacity for recreational use is commonly observed, such as maps and signs along hiking trails.



Figure 1. Indication of a Barbecue Site



Figure 2. Indication with Distances and Expected Durations



Figure 3. Information Board showing Country Parks' Regulations, a Map and a Poster



Figure 4. *Location Information Board*

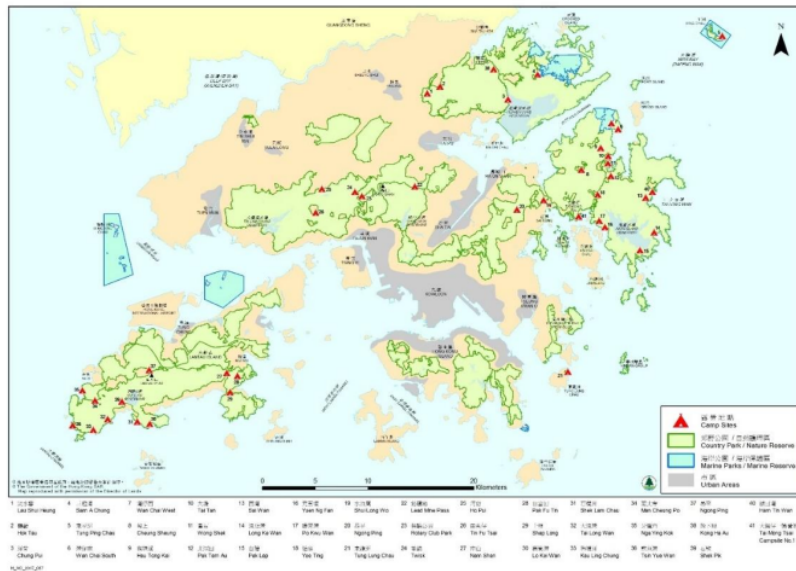
In terms of the activities, passive outdoor recreation activities are preferred by the authority. Interviewee A (2019) acknowledged that the preferences of visitors have slightly shifted to more nature-intensive activities, but he thinks that preferred activities still cause minimal environmental impacts, except in more intense mountain biking activities and activities that involve a lot of participants. The damage to the trails from mountain biking, which was termed “normal wear and tear” (Interviewee A, 2019), is undoubtedly more significant than the damage caused by hiking. Large-scale activities such as the annual trail running competition, Oxfam Trailwalker also induce conflicts between country park users and runners, with limited carrying capacity at the competition sites.

For existing management and potential development, concerns on the authority’s priority and strategies on country parks’ management were expressed (Interviewee B, 2019). Based on the feasibility study on the development strategy for Lantau, commissioned by the Development Bureau and prepared by an external consultancy, interviewee B (2019) expressed his concerns on the potential imbalance between conservation and recreation in country parks and their surrounding environment. The preliminary strategy aims to develop Lantau “into a smart and low carbon community for living, work, business, leisure and study while balancing and enhancing development and conservation” (Hong Kong, Civil Engineering and Development Department, 2018) by enhancing and diversifying recreational and tourism facilities. Interviewee B (2019) defined proposed recreation activities such as stargazing and skywalk as “informal” because of their spontaneous nature (King *et al.*, 2009). He expressed his concerns on unnecessary environmental damage with the potential development of recreation facilities such as an outdoor adventure park, water sports

centre cum aqua park (Hong Kong, Civil Engineering and Development Department, 2018) etc.

The feasibility study evidenced the need for new facilities by showing that local visitors are more interested in adventure-based activities, resembling global trends of demands for activities that improve their well-being. Adventure-based travel consist of three elements, including physical activities, connection with nature and cultural interaction. Despite some of the guiding principles, to balance conservation needs and respect natural resources, enhance opportunities of enjoying country parks and the nature, undoubtedly some of the missions are related to new economic opportunities. Aiming to prompt repeated visitation and income from visitors, coupled with the potential to outsource management of facilities to private companies, interviewee B (2019) was worried about improperly capitalizing natural resources in country parks without upholding conservation objectives once businesses take over the management.

Regarding the proposed booking system for campsites, interviewee D (2019) thought that it is a good way to control people flow within the carrying capacity. However, she questioned the actual enforcement, mainly how to ensure the proper use of facilities and how to avoid illegal trade of registered bookings.



Map 2. Campsite Distribution in Hong Kong Country Parks (Agriculture, Fisheries and Conservation Department, 2019)

Furthermore, the exact locations of the 61 proposed attractions in 14 recreation and tourism areas were not revealed in the feasibility study, therefore has drawn attention to whether the public or non-governmental organizations can provide comprehensive comments during the engagement exercise (Interviewee B, 2019). The study itself mentioned the feasibility depends on the location, for instance developments should be carried out in less ecologically sensitive areas (Hong Kong. Civil Engineering and Development Department, 2018), therefore the effectiveness of the engagement without specific locations on site selections is questionable. In addition, the carrying capacity is unknown as further technical assessments on transport, environment and social impact were requested in the report (Hong Kong. Civil Engineering and Development Department, 2018).

5.3.2. Internal Management System

The Country Parks Ordinance (2005) vested law enforcement power in the Country and Marine Parks Authority for reasonably suspects of committed offences. According to the interview with the AFCD, the internal management system consists of both top-down and bottom-up approaches (Interviewee A, 2019), although hierarchical management is still highly valued with different duties assigned to staff at different levels of the system. The management level sets out management priorities, plans and evaluates public education programmes of country parks, while operational staff at the country parks stands at the forefront of direct implementation of policies, guidelines and public engagement (Interviewee A, 2019). Country park rangers under the Ranger Services Division work at management stations in country parks, responsible for visitor services and education, law enforcement, management of visitor centres, patrolling, promotion of nature conservation and supervision of development of country parks (Hong Kong. Agriculture, Fisheries and Conservation Department, 2019).

Seasonal meetings between the management level and park ranger representatives encourage two-way discussions on management strategies and operational feedback (Interviewee A, 2019). Priorities and work duties are discussed to allow forward planning and evaluation work, encouraging bottom-up feedback from operational staff. Internal experience sharing is also encouraged, by looking for good practices and investigate the applicability for each district (Interviewee A, 2019).

Despite an internal management system in place, the AFCD admitted the inadequacy of operational staff in country parks, with around 20 to 30 staff in each management station and only around 5 to 6 park rangers for each few hundred hectares (Interviewee A, 2019). Therefore, the effectiveness of management of country parks may be limited due to the difficulties in human resources' management.

5.3.3. Coordination of the AFCD with Other Organizations

The AFCD has been coordinating with other government departments, as well as non-governmental organizations on country park matters. The Planning Department and the Lands Department are responsible for town plans' preparation and land matters in Hong Kong, while the AFCD is the management authority under the Country Parks Ordinance (2005), therefore these departments work closely on country parks' designation processes and related land matters.

In terms of the cooperation between the government and non-governmental organizations, interviewee D (2019) from a non-governmental organization reassured such capacity. The non-governmental organization helps visitors to pass on reports of destruction of country parks after verification. The interviewee thinks that public pressure is a direct push to the AFCD to improve management strategies and programs. Supporting partners in official education campaigns usually consist a number of environmental groups, showing a close connection between the AFCD and non-governmental organizations.

5.3.4. Public Education and Participation

Apart from the education programs mentioned in the case study session, Country Park Visitor Centres are equipped with facilities promoting "a better understanding and appreciation of the countryside" (Hong Kong, Agriculture, Fisheries and Conservation Department, 2018) and are open to the public free of charge. Thematic exhibitions, workshops, guided visits and education programmes are offered to let the visitors learn more about facilities, culture, history, landscape and biodiversity. However, the availability of education opportunities may not be fully realized according to personal experience at the Woodside Biodiversity Education Centre located near to the boundary of the Tai Tam Country Park (Quarry Bay Extension). During a visit on a weekend morning, there were less than 10 visitors at the visitor centre, despite obvious road signs pointing to the education centre. While the education centre has the capacity to

accommodate more visitors, it was not fully utilized. For instance, the documentary screening room can hold around 60 people, but there were only 3 visitors. According to personal experience, there can be more active promotion to allow more visitors to be involved in education activities during their visits to country parks.



Figure 5. Poster of 'Let's Go Plastic Free' Campaign with a Number of Supporting Partners



Figure 6. Road Sign Leading to the Woodside Biodiversity Education Centre



Figure 7. *Woodside Biodiversity Education Centre*

5.3.5. New Designation

The AFCD considers the conservation and recreation potential for extension of current country park areas or new designations, particularly the landscape quality, the value of the habitat and the aesthetic quality, and whether it is manageable in terms of staffing and facilities provision (Hong Kong. Planning Department, 2018). An ongoing potential study on Robin's Nest designation have brought heated debates on whether the size and boundary of the designation are appropriate.

5.4. Visitors' Preferences

Country parks are used by diverse age and gender groups. Out of the 53 respondents sampled, around 30% were in their 30s, around 17% were under 30 and another 17% were above 60, while around 53% of male respondents. It is observed that most of the visitors live in districts near to the country park that they were surveyed, which may suggest that proximity is one of the depending factors when planning their visits. There was no relationship between education level and visitors' preferences observed.

Hiking, running and photography were the top three popular activities. There were very limited respondents who said they would engage in barbecue, dog walking, mountain biking and camping, which can be accounted due to the seasonality of some recreational activities. Since the survey was conducted during summer, barbecue and camping may be less preferred. On the other hand, the survey was conducted at multiple occasions when there were sufficient visitors,

when there were limited opportunities for mountain biking considering the inconvenience to other visitors.

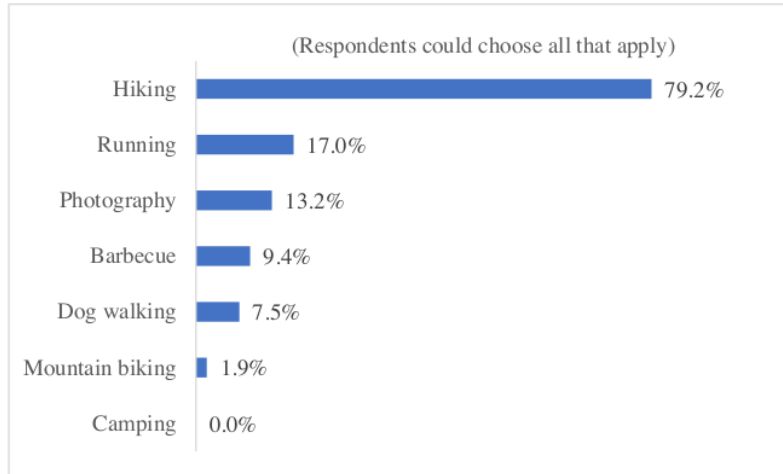


Figure 8. *Popularity of Recreational Activities in Country Parks*

In terms of the frequency of visits, the largest proportion of respondents visit at least once a week. Some of the responses of less frequent visits were overseas visitors. On average, 75.5% of visitors spend 2 to 4 hours in country parks.

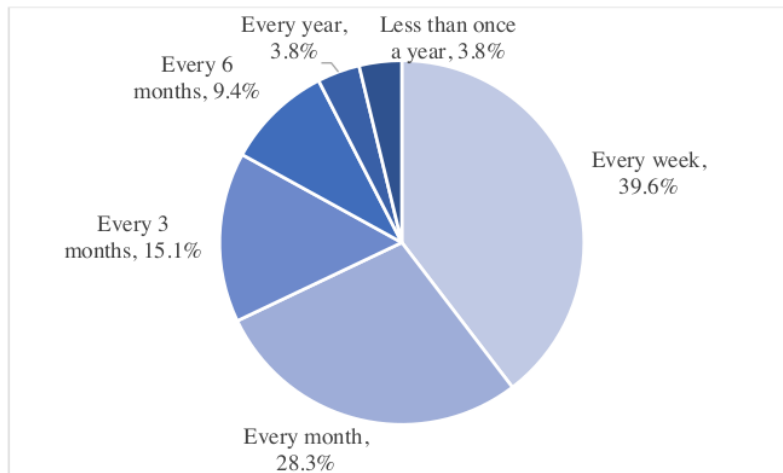


Figure 9. *Frequency of Country Parks' Visits*

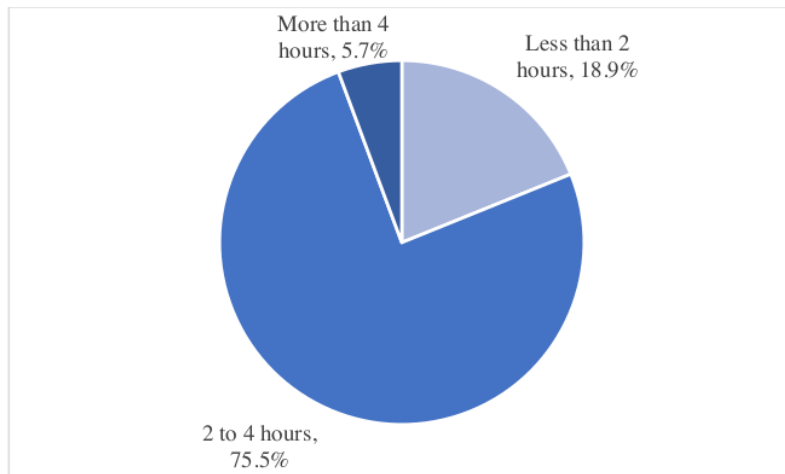


Figure 10. Average Time Spent in Country Parks

One-third of the respondents put the environment as the first thing to consider when planning their visits. Accessibility and security were also decisive, there was 0 response on biodiversity unexpectedly. Other responses recorded are considerations on the weather, personal health conditions and whether country parks are dog-friendly.

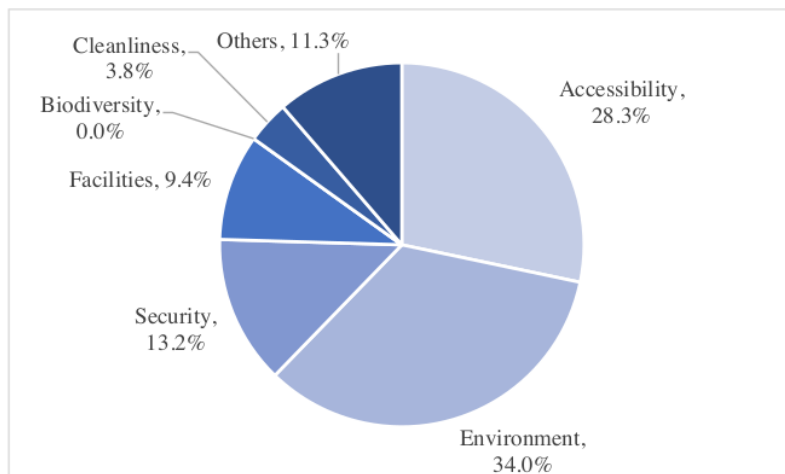


Figure 11. First Factor to Consider for Country Parks' Visits

When asked about whether they were informed about conservation and recreation, visitors were more aware of conservation when compared to recreation opportunities.

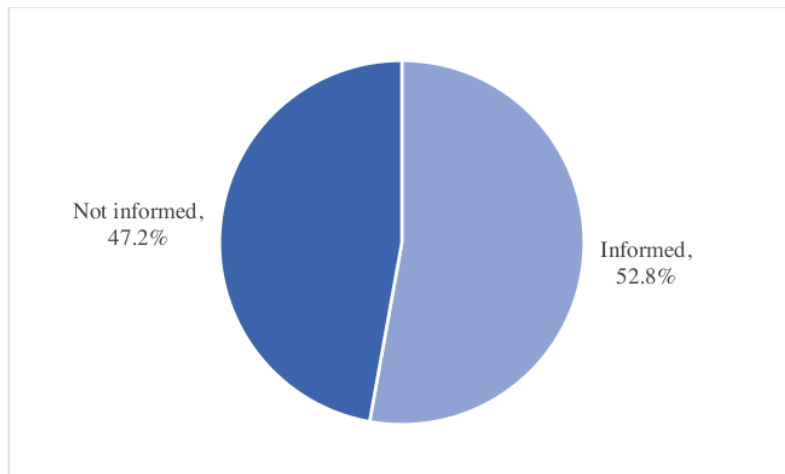


Figure 12. *Knowledge on Conservation*

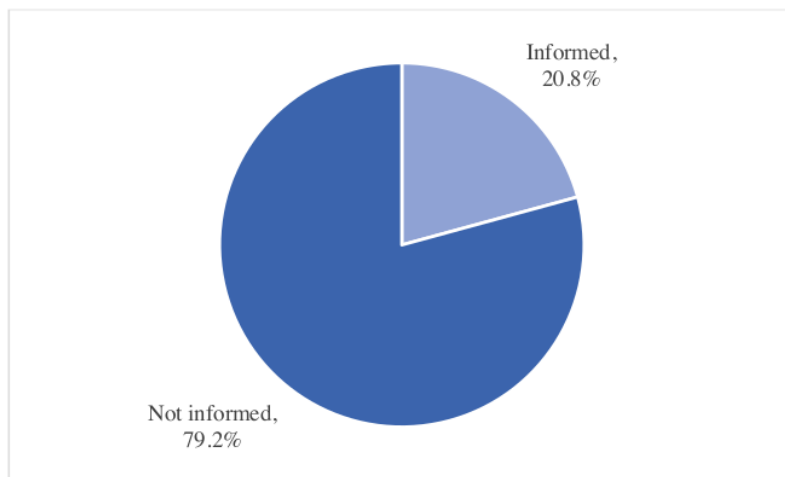


Figure 13. *Knowledge on Recreation*

For those who were informed about conservation, majority of the information was from the advertisements of the AFCD or signages in country parks. Several respondents received such information from non-governmental organizations. Other information sources were social media or university courses. For recreation opportunities, there were diverse sources of information, from the website of the AFCD, signages, environmental groups, friends, social media and first-hand experiences.

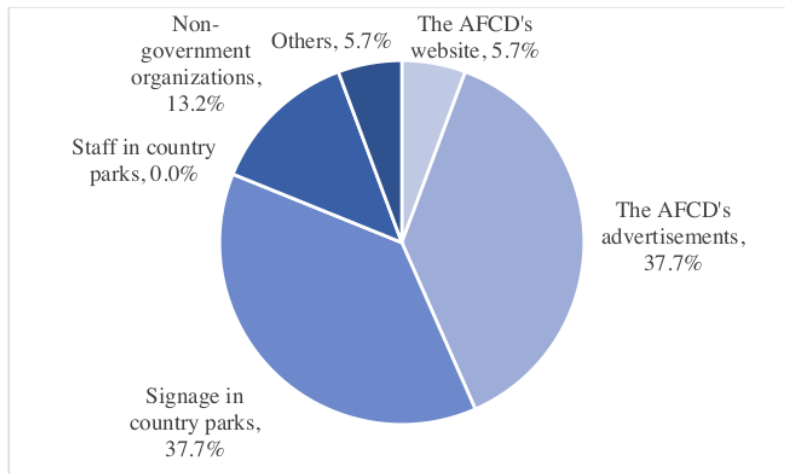


Figure 14. Information Source of Conservation

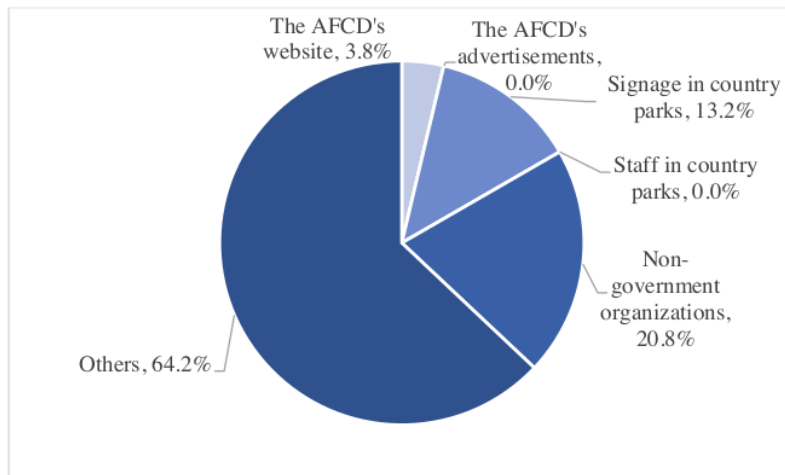


Figure 15. Information Source of Recreation

Regarding the objectives of Hong Kong country parks, majority of visitors agreed or strongly agreed with the three designation objectives, nature conservation, countryside recreation and outdoor education, only around 6% were neutral.

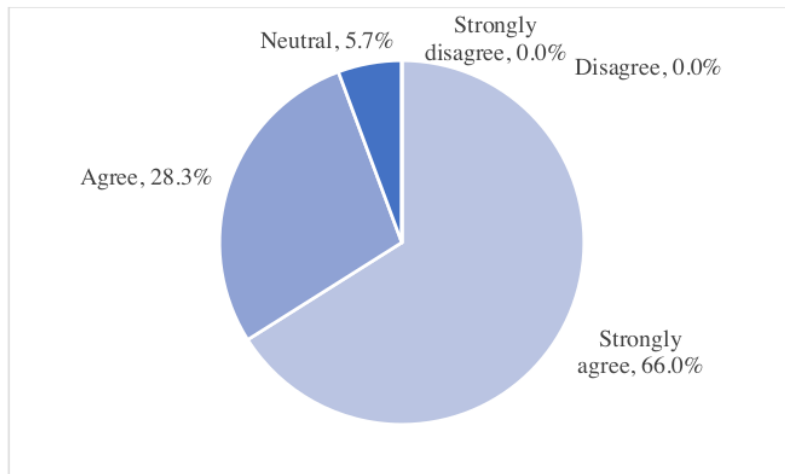


Figure 16. *Opinions on Country Parks' Objectives*

Nature conservation was ranked the most important by more than half of the respondents, less respondents put countryside recreation and outdoor education as the priority, resembling some of the academic views that conservation serves as the basis for recreational and educational activities.

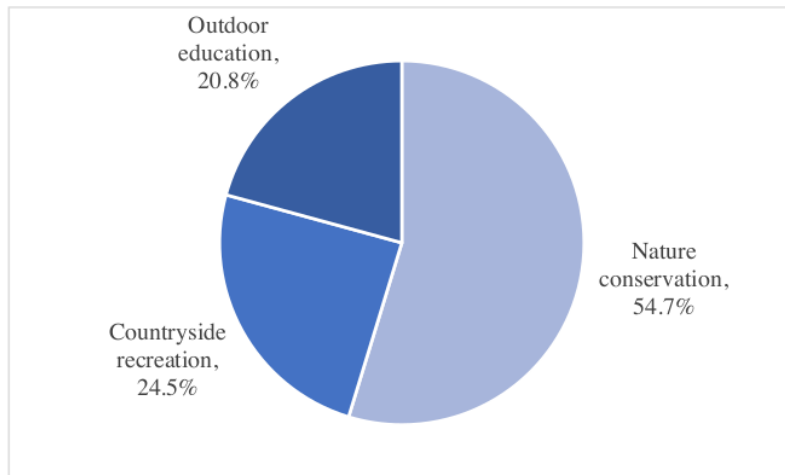


Figure 17. *Priority for the Three Objectives of Country Parks' Designation*

There were diverse opinions regarding whether there is a conflict between conservation and recreation. Some of the respondents did not agree that there is a conflict between conservation and recreation as they thought that the two objectives complement each other. Visitors could enjoy country parks while they learnt about conservation, sustainable development and

management. Contrarily, some thought that the two objectives are contradictory as visitors could bring harm to the ecosystem and interrupt habitats of biodiversity lives.

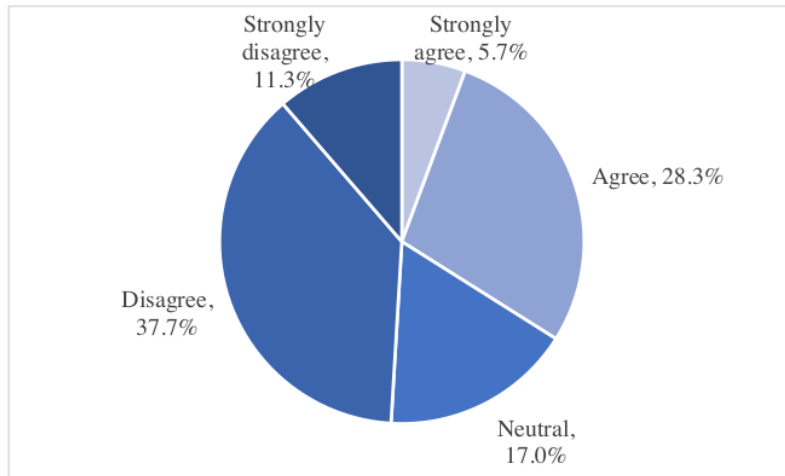


Figure 18. *Opinions on the Conflict between Conservation and Recreation*

Visitors were satisfied with the general management of country parks, with more than 76% satisfied or strongly satisfied, 20% were neutral and only around 3% were not satisfied. Some suggested more frequent cleaning and maintenance of facilities, more maps along hiking trails and installation of water filling stations. Some mentioned the lack of conservation-related education programs.

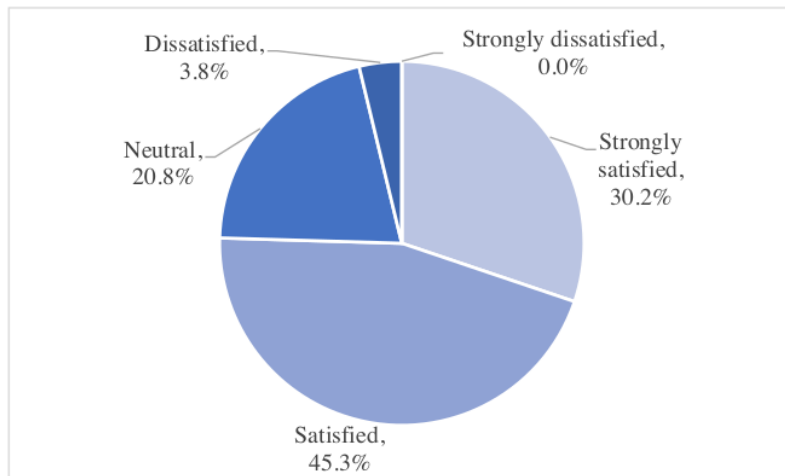


Figure 19. *Satisfaction level on General Management of Country Parks*

More than 67% of the respondents were positive on the the quality and quantity of recreation facilities, for instance hiking trails, picnic areas. Around 45% of visitors were unsure about the promotion of conservation and had no comments since they had not encountered a lot of promotion by the AFCD. Satisfaction levels with the public education programmes showed an even higher percentage of neutrality of around 53%, which reflects that in general visitors did not know how to evaluate these programmes due to a lack of first-hand experiences. For the security within country parks, a very high percentage of 90% felt safe, despite rare observations of staff or park wardens during site visits. For only one instance, a staff was observed in the car which was later seen in front of the visitor centre, others were cleaning or stationing at the education centre. Around half of the respondents were either satisfied nor unsatisfied with the staffing as they did not encounter staff very often, therefore were not able to comment.

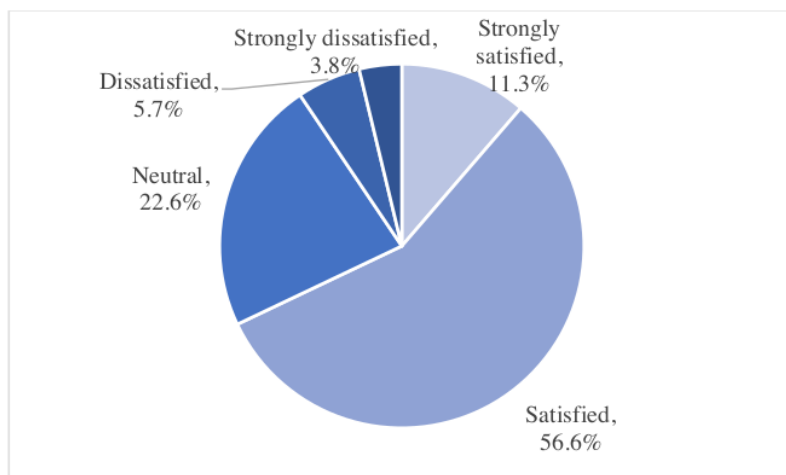


Figure 20. Satisfaction level on Recreation Facilities in Country Parks

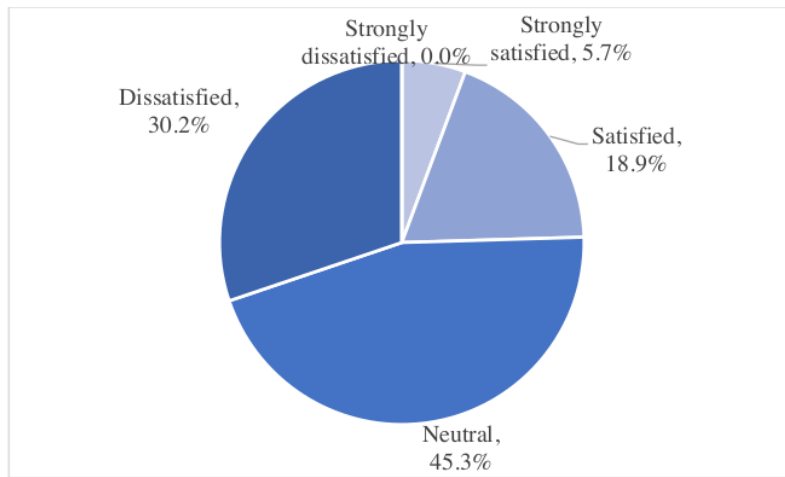


Figure 21. Satisfaction level on Promotion of Conservation in Country Parks

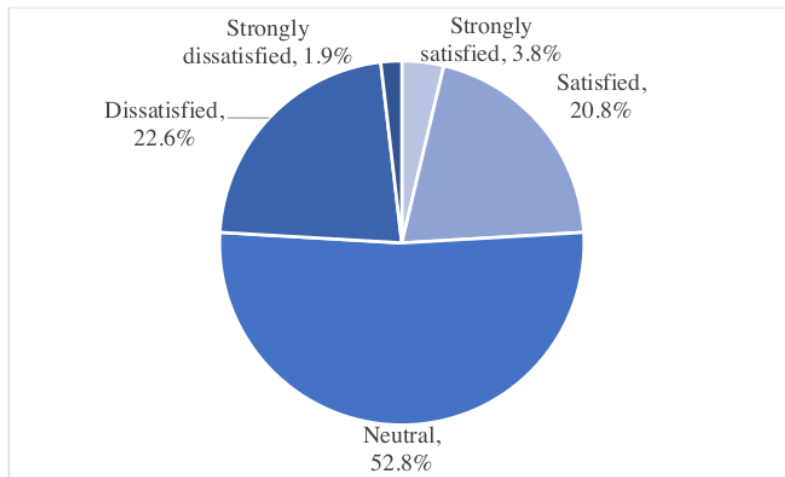


Figure 22. Satisfaction level on Promotion of Public Education Programs of Country Parks

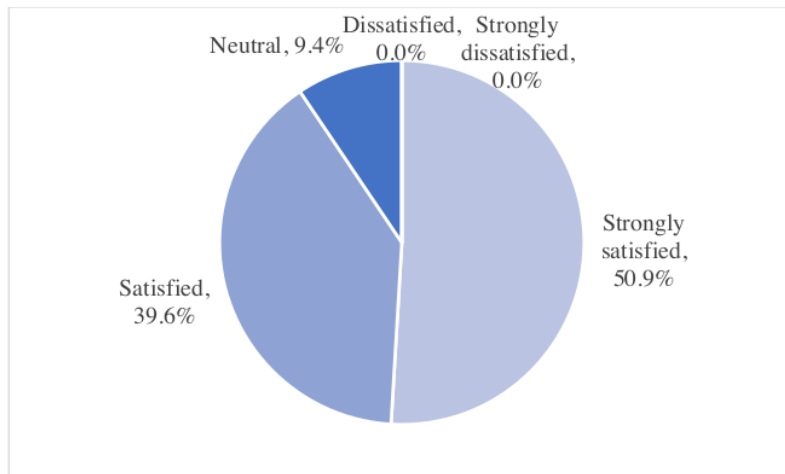


Figure 23. Satisfaction level on Security of Country Parks

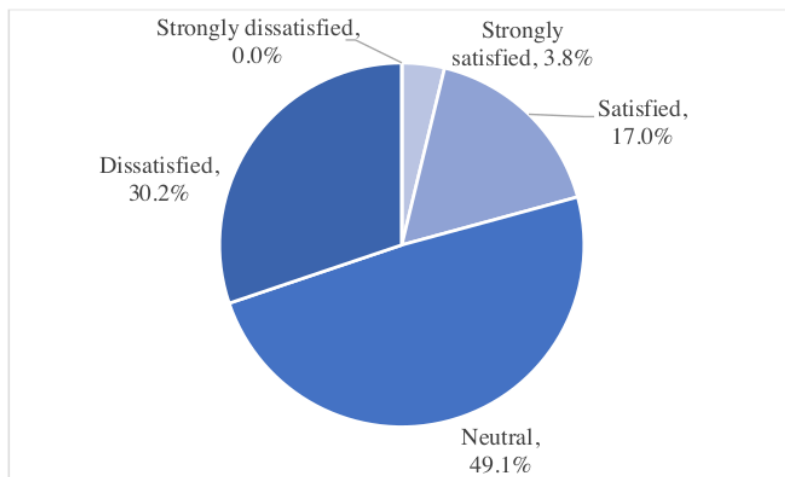


Figure 24. Satisfaction level on Staffing in Country Parks

Although public engagement is valued by the AFCD, the survey shows that more than 90% of respondents had not been involved in public consultation. Despite 30% of respondents being sceptical of the effectiveness of public engagement in influencing the actual management, more than 54% were confident in shaping the management if they had the chance to participate in public engagement exercises.

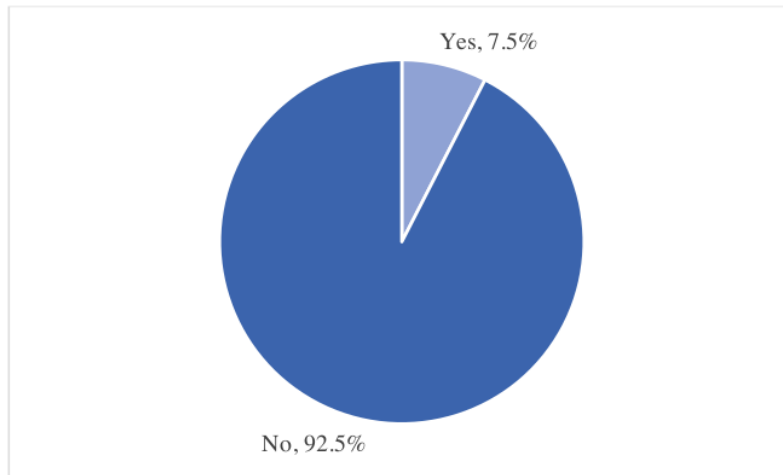


Figure 25. *Involvement in Public Consultation*

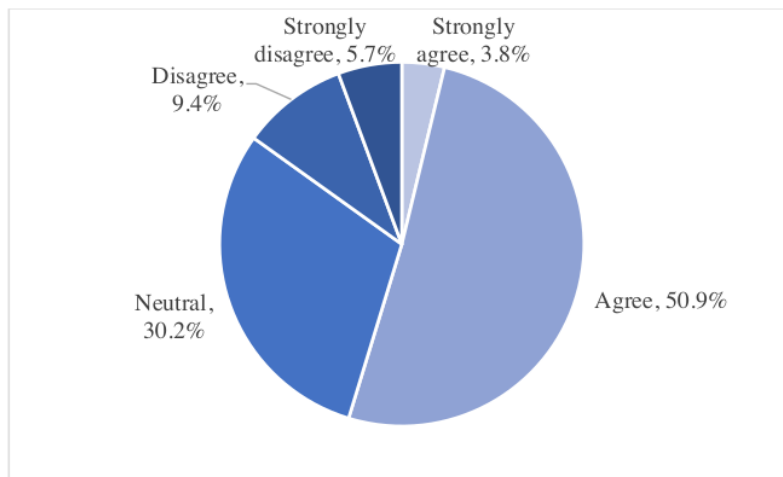


Figure 26. *Effectiveness of Public Consultation*

Respondents believed that good management practices in country parks can bring multiple benefits, enhancing biodiversity protection, improving health and well-being of visitors, increasing recreation opportunities, promoting environmental education and economic benefit from eco-tourism, in descending order of popularity. On the other hand, if country parks are not managed well, it may result in damage to the environment, threatening biodiversity, limited recreation opportunities and possible land allocation to development uses and causing conflict between stakeholders.

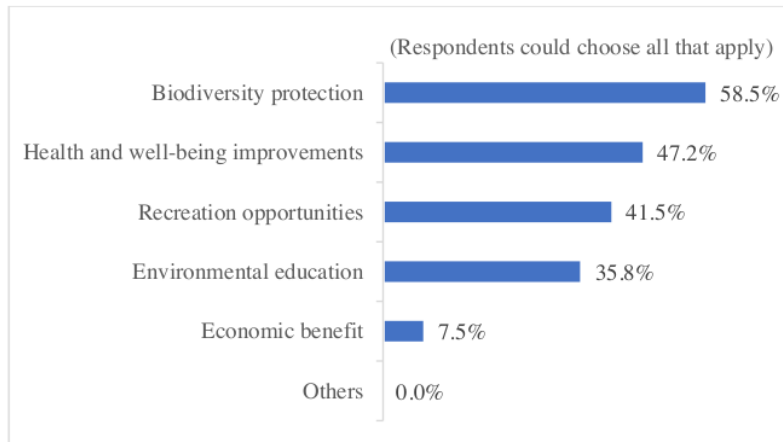


Figure 27. *Advantages of Good Management on Country Parks*

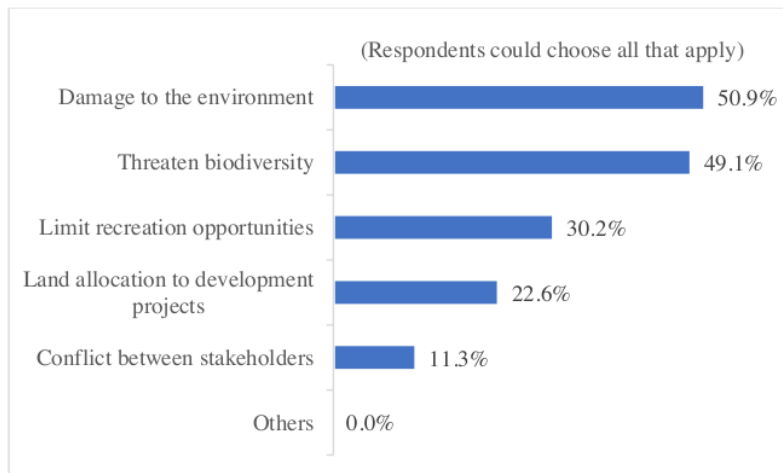


Figure 28. *Disadvantages of Poor Management on Country Parks*

Allowing public use and enjoyment is an important public education strategy to promote the importance of country parks. Programmes such as “Take Your Litter Home” aim to involve the

public in the protection of country parks. The removal of litter bins from trial sites and various publicity programmes have successfully decreased the amount of litter collected on trails (Hong Kong. The Government of the Hong Kong Special Administrative Region, 2016). Other than television advertisements and promotion on social media, there are multiple banners along trails in country parks and limited litter bins. Interviewee D (2019) suggested a more software-oriented approach to make promotion more effective, for example, outdoor classroom activities in country parks to learn about biodiversity and heritage. She agreed that public participation and empowerment are essential in improving the management of country parks. The transparency of such management strategies also offers better opportunities for the public to comment on different kinds of management, such as the frequency of cleaning, maintenance and the adequacy of facilities etc.



Figure 29. “Take Your Litter Home” banner

5.5. Public and Private Interests on Conservation and Recreation

1% of country parks, which is around 460 hectares are on private land (Hong Kong. Information Services Division, Legislative Council Secretariat, 2016). Interviewee A (2019) from AFCD reviewed that privately-owned land is not exclusive for designation of country parks. During previous designations in the 1970s, opposition was rare as private lands were often zoned for agricultural purpose, which did not cause any conflict with being designated as a country park area (Interviewee A, 2019). Land uses in Hong Kong are restricted by the land lease and that agricultural lands can only be used for agricultural purposes, unless the owner makes an application to change the land use.

However, the AFCD admitted that they tend to avoid private land when considering new designation of country parks, as to limit potential conflicts with villagers (Interviewee A, 2019).

For instance, they intend to de-route hiking trails away from the village and set up bus stations outside of the village to minimize conflicts with the villagers. It was suggested that the leases and rights of owners of these lands should be carefully examined when conservation proposals are to be made (Interviewee A, 2019). Conservation objectives may not be observed on lands which are privately owned or managed without cooperation between the government and private land owners (Interviewee B, 2019). The National Trust in the United Kingdom was mentioned as an example for its environmental and heritage conservation efforts and preventing inalienable land being sold or developed (Interviewee B, 2019). With support from its donors and volunteers, and income from grant-making organizations, the National Trust also allows public access of diversified natural environments (National Trust, n.d.). Interviewee B (2019) claimed that a lack of such system or cooperation for the protection of natural resources in Hong Kong makes conservation efforts of privately managed activities uncertain, as he was doubtful for an inclination towards business profits, especially on potential public-private partnership projects.

5.6. Suggestions to Improve Current Management

Interviewee D (2019) suggested a careful consideration of the cohesion between recreational activities and nature conservation, considering that human activities have an influence on the ecosystem, such as flora and fauna, water and soil. The appropriate usage of country parks within their carrying capacities is essential in maintaining the balance between conservation and recreational enjoyment. For instance, accessibility promotes more visits to nature environments, however some expressed their concerns on negative influences of the proximity of human activities to the ecosystem. The management of conservation and recreation therefore largely depends on the priority of the AFCD, their values and how these objectives are implemented.

In terms of recreational use, the potential of low-intensity recreational activities can be further explored for more diversified options. For instance, interviewee D (2019) suggested forest bathing which was originated in Japan in the 1980s, as a sensory opening therapy encouraging visitors to connect with the nature and was proven to be beneficial to physical and mental wellbeing.

In general, the survey respondents were quite satisfied with the current management practices. However, they suggested setting up more facilities, such as public toilets, water refilling stations and shelters, as well as more frequent upgrades and maintenance. In terms of public

participation, more education programs for students and the public were suggested, with more promotion to increase the reach of the programs and raise awareness on country parks' matters. Continuous public education is essential to progressively raise awareness and induce behaviour change. For instance, to reduce littering in country parks, other than discouraging waste dumping, ongoing education such as the "Take Your Litter Home" campaign, is necessary to promote waste reduction at our daily lives (Interviewee D, 2019). Positive or negative reinforcement coupled with educational programs are likely to cause behaviour changes. On the other hand, provision of facilities such as water refilling stations motivate visitors to turn to more environmentally friendly choices. However, interviewee D (2019) thinks that the AFCD should make more progressive installations, to assertively publicize the importance of conservation.

Looking forward, further research on the development on country park fringes is vital in response to the policy address in 2017 which suggested housing developments on the periphery of country parks. The importance of country park fringes, their values to the city and to the people should be studied scientifically for further public engagement opportunities. The planning department is fully aware of striking a balance between conservation and development, and to encourage sustainable rural development with respect to the traditional rural setting (Lee, 2017). However, evidence-based researches can allow the public and the decision makers to get a better sense of the potentials and limitations of country park developments (Interviewee D, 2019).

6. Conclusion

The consultancy report (Talbot & Talbot, 1965) initiated studies on the designation of country parks under the Country Parks Ordinance (2005). Back in the 1960s, there was already a clear urgency of environmental protection and conservation at the countryside (Hong Kong. The Provisional Council for the Use and Conservation of the Countryside, 1968). Political and economic disturbances was expected and therefore the permanence of the protection system of country parks was emphasized (Talbot & Talbot, 1965). Since then, 24 country parks and 22 special areas for protection have been designated for nature conservation, countryside recreation and outdoor education.

The managing authority, the Agriculture, Fisheries and Conservation Department still upholds these principles, constantly striking a balance between conservation, recreation and education. The three-tier zoning system, the internal management system, cooperation with other governmental organizations and environmental groups and public engagement exercises support the management of country parks. An integrated approach of direct and indirect management strategies including signage and fencing in country parks, education programs and advocacy campaigns can be observed, to alter behaviours and raise public awareness (Park *et al.*, 2008). However, the interviews and the survey showed an inclination of prioritizing conservation before recreational activities among stakeholders, as a basis for public usage and enjoyment, which reinforces views that the quality of recreational opportunities depends on conservation efforts (McCarthy *et al.*, 2002; Schipperign *et al.*, 2010; Dangi & Gribb, 2018). The three key objectives therefore may not be effectively meet visitors' expectations. Although countryside recreation and education are important and direct way of public participation, conservation efforts may not be adequately highlighted and promoted by the authority.

In general, the satisfaction levels among visitors are positive, for instance, regarding the safety, and the quantity and quality of recreational facilities. Nonetheless, there are a few minor drawbacks observed. Despite availability of public involvement in the management of country parks, the opportunities are not fully realized and utilized. Survey respondents reflect that the major source of information of conservation is from the AFCD, which partly resolves Trakolis's (2001) concern on the effectiveness of official advocacy programs regarding the information source. However, there seems to be a knowledge gap in terms of the public engagement details and a lack of interest to participate, as respondents were not aware of the public consultation exercises despite thinking that they would have influence management's decisions. Quite a number of respondents could not comment on the quality of education programs although they recognized the availability, which reflected the visitors' preferences should be further investigated for more successful activities. On

the other hand, the inadequacy of operational staff in country parks, as admitted by the AFCD, observed during site visits, slightly reflected in the survey, have limited the effectiveness of interaction between visitors and the authority.

It is not observed in this research that individual demographic factors affect visitors' perceptions on country parks' management, which contradicts to previous researches which suggested younger, more educated people are more eager for recreational activities in green spaces (Schipperign *et al.*, 2010; Jim & Chen, 2006; Zhang *et al.*, 2012).

In terms of local policies and regulations, the management power is vested with the Agriculture, Fisheries and Conservation Department and the Country and Marine Parks Board (CMPB) as its advisory body. Although without much details, the development potential of country parks is mentioned in official planning documents including the Hong Kong Planning Standards and Guidelines (HKPSG) and the territorial strategic plan "Hong Kong 2030+". However, further developments should be close monitored as the ongoing feasibility study of developing country park fringes may lead to new opportunities and challenges.

To evaluate the management effectiveness of protected areas, the IUCN World Commission on Protected Areas (WCPA) framework can be used as a reference. Management effectiveness is defined as "the assessment of how well the protected area is being managed – primarily the extent to which it is protecting values and achieving goals and objectives" (UN Environment World Conservation Monitoring Centre, 2018, pp.13). The framework focuses on six stages of protected area management, context, planning, inputs, process, outputs and outcomes, aiming to review the design, adequacy and appropriateness of management, and the delivery of the protected area objectives (UN Environment World Conservation Monitoring Centre, 2018). Guidelines on the framework can be carefully studied for the applicability of such management effectiveness evaluation on local country parks, based on local purposes and audiences, coverage and frequency of evaluation, capacities of participants, and the participating stakeholders (Hockings *et al.*, 2006). Review on the current management guidelines and practices exhibit advantages such as supporting an adaptive management approach, encouraging accountability and transparency with the management, and underpinning better management policies and practices (Hockings *et al.*, 2006).

Furthermore, internal benchmarking within local country parks or external benchmarking with other comparable national parks can allow the authority to better reflect on strengths and weaknesses, manage visitor expectations and facilitate planning and improvements with valuable performance data (Moore & Taplin, 2014; Kozak & Nield, 2004). Adaptive management can be

investigated for a continuous assessment and evaluation of management with intensifying usages (Park *et al.*, 2008; Lau, 2011; Cheung, 2013).

The conflict, or the balance between conservation and recreation has always been controversial. This research shows that the conflict is largely dependent on the management of natural resources. Undoubtedly the realization of the conflict depends on whether proper usage and protection are in place. The local authority has a comprehensive management system which satisfied most of the visitors surveyed. Nonetheless, improvements can be made in a progressive manner to promote nature conservation and public enjoyment in recreational facilities. A sustainable management utilizing the valuable natural resources will be beneficial to visitors and the ecosystem in the long term.

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Appendices

Appendix 1. Sample Interview Questions

- Conservation and recreation in Hong Kong country parks
 - What do you think about the conflict between conservation and recreation?
 - How to take a balance between the two objectives?
 - How to accommodate both values in country parks?
- Management of country parks
 - Policies and regulations
 - General management, e.g. zoning
 - Education programs
 - Public engagement
- Coordination between different stakeholders
 - Within the AFCD
 - With other government departments
 - With external stakeholders, e.g. NGOs, private land owners
- Advantages and disadvantages of current management practices
 - Balance between conservation and recreation
 - Adequacy
 - Effectiveness
 - Public awareness
- Potential of new designation projects and new operation mode in country parks, e.g. public-private partnership
- Suggestions to current management practices
 - Personal experience
 - Feedback from country park visitors

Appendix 2. Interviewee Information Sheet

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study:

Management of the conflict between conservation and recreation in country parks of Hong Kong (BPLN0039 Dissertation in Planning)

Department:

Bartlett School of Planning, University College London

Name and Contact Details of the Researcher:

Ching Nga Wong (c.wong.18@ucl.ac.uk)

Name and Contact Details of the Supervisor:

Yvonne Rydin (y.rydin@ucl.ac.uk)

1. Invitation

You are being invited to take part in a research project for the Dissertation in Planning module at UCL Bartlett School of Planning. Before you decide, it is important for you to understand why the research is being done and what participation will be involved. Please take time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

2. What is the project's purpose?

The module BPLN0039, is a major piece of work undertaken by students across all MSc programmes at UCL Bartlett School of Planning. It develops students' research skills and abilities and allows students to explore – in depth – a particular and usually complex area covered in their MSc core or specialist teaching. The module will allow students to apply theory to the analysis of a topic, design and execute an appropriate programme of research.

This research project aims to understand the management of the conflict between conservation and recreation in Hong Kong country parks. These two concepts seem to be contradictory, as it is recognized that visitors can cause negative impacts on the environment and biodiversity. Therefore, the current management practices of these country parks will be investigated to see how they deal with the conflicts, the satisfaction levels of visitors, and the planning potentials will also be investigated.

The project is limited to a period of five months, with its commencement on April 2019, and will end in early September with the submission of a written dissertation.

3. Why have I been chosen?

For the Agriculture, Fisheries and Conservation Department:

You are invited to participate because you are a member of staff of the Agriculture, Fisheries and Conservation Department in Hong Kong, the managing authority of country parks.

For non-profit organizations/ individuals:

You are invited to participate because you are a member from a non-profit organization who is concerned about country park developments in Hong Kong.

4. Do I have to take part?

It is up to you to decide whether to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. If you decide to withdraw you will be asked what you wish to happen to the data you have provided up that point.

5. What will happen to me if I take part?

The project is a five-month work which will end in September 2019. All personal information including names, post titles and contact information needed for the interview will not be disclosed. Information will be analyzed and compiled into a written dissertation, and will only be used for the purpose of the research project. All information will be discarded after the project.

6. Will I be recorded and how will the recorded media be used?

Audio recordings will be made only with your permission and will only be used for analysis for the research. No other use will be made of them without your written permission, and no one outside the project will be allowed to access the original recordings. All recordings will be disposed after the project.

7. What are the possible disadvantages and risks of taking part?

The interview would require time and effort from the participant, but will only be conducted under the participant's consent.

8. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those participating in the project, it is hoped that this work will reflect on the current management practices of country parks and relate to visitors' experiences, to help with future potential research.

9. What if something goes wrong?

The participant can always contact the researcher. If you wish to raise a complaint, the supervisor of this project, Yvonne Rydin can be contacted via y.rydin@ucl.ac.uk.

10. Will my taking part in this project be kept confidential?

All the information that is collected during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

11. Limits to confidentiality

Confidentiality will be respected subject to professional guidelines.

12. What will happen to the results of the research project?

The data collected from the interview will be analysed and presented in the written dissertation of the MSc degree. The interviewee will not be identified in the dissertation.

13. Local Data Protection Privacy Notice

Notice:

The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk

This 'local' privacy notice sets out the information that applies to this particular study. Further information on how UCL uses participant information can be found in our 'general' privacy notice [here](#).

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided across both the 'local' and 'general' privacy notices.

The lawful basis that would be used to process your *personal data* will be performance of a task in the public interest.

If you are concerned about how your personal data is being processed, or if you would like to know more about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

14. Contact for further information

Researcher: Ching Nga Wong (c.wong.18@ucl.ac.uk)

Supervisor: Yvonne Rydin (y.rydin@ucl.ac.uk)

Thank you for reading this information sheet and for considering to take part in this research study.

Appendix 3. Interview Consent Form

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study:

Management of the conflict between conservation and recreation in country parks of Hong Kong (BPLN0039 Dissertation in Planning)

Department:

Bartlett School of Planning, University College London

Name and Contact Details of the Researcher:

Ching Nga Wong (c.wong.18@ucl.ac.uk)

Name and Contact Details of the Supervisor:

Yvonne Rydin (y.rydin@ucl.ac.uk)

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
1.	I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in an interview.	
2.	I understand that I will be able to withdraw my data up to 6 weeks after interview.	
3.	I consent to participate in the study. I understand that my personal information (name, post title, contact information) will be used for the purposes explained to me. I understand that according to data protection legislation, 'public task' will be the lawful basis for processing.	

4.	Use of the information for this project only (a) I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified. (b) I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.	
5.	I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.	
6.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
7.	I understand that no promise or guarantee of benefits have been made to encourage me to participate.	
8.	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
9.	I agree that my anonymised research data may be used by others for future research. (No one will be able to identify you when this data is shared.)	
10.	I consent to my interview being audio recorded and understand that the recordings will be destroyed within 6 weeks after the data has been collected or following transcription. To note: If you do not want your participation recorded you can still take part in the study.	
11.	I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.	
12.	I am aware of who I should contact if I wish to lodge a complaint.	
13.	I voluntarily agree to take part in this study.	

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

Yes, I would be happy to be contacted in this way.	
No, I would not like to be contacted.	

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Researcher	Date	Signature

Appendix 4. Survey Questions

Management of the conflict between conservation and recreation in country parks of Hong Kong

This research project aims to understand the management of the conflict between conservation and recreation in Hong Kong country parks. These two concepts seem to be contradictory, as it is recognized that visitors can cause negative impacts to the environment and biodiversity. Therefore, the current management practices of these country parks will be investigated to see how they deal with the conflicts, the satisfaction levels of visitors, and the planning potentials will also be investigated.

The research project is a major piece of work undertaken by students across all MSc programmes at UCL Bartlett School of Planning. It develops students' research skills and abilities and allows students to explore – in depth – a particular and usually complex area covered in their MSc core or specialist teaching. The module will allow students to apply theory to the analysis of a topic, design and execute an appropriate programme of research.

This questionnaire aims to understand visitors' experience and their views on the management of country parks. It will take you around 10 minutes. All personal information recorded will solely serve the purpose of this research and will not be included in the final report. The information will be kept confidential and will be discarded after the project.

Your opinion is very much appreciated, thank you very much for taking part in this research.

Session 1: Usage of Country Parks and General Considerations

1. What do you normally do in country parks?

Check all that apply.

- Running
- Hiking
- Camping
- Mountain biking
- Picnic
- Barbecue
- Photography
- Others: *(Please specify)*

2. How often do you visit country parks?

Mark only one.

- More than once a week
- Every week
- Every month
- Every 3 months
- Every 6 months
- Every year
- Less than once a year

3. On average, how long do you stay for each visit?

Mark only one.

- Less than an hour
- 1-3 hours
- 3-5 hours
- More than 5 hours

4. What is the first thing that you would consider when visiting a country park?

Mark only one.

- Accessibility, e.g. Public transportation
- Environment
- Security
- Facilities, e.g. Shelters, barrier-free facilities
- Biodiversity
- Cleanliness
- Others: *(Please specify)*

5. Are you informed about nature conservation in country parks?

Mark only one.

- Yes
- No

6. How were you informed about nature conservation in country parks?

Mark only one.

- Website of the Agriculture, Fisheries and Conservation Department (AFCD)
- Advertisement from the Agriculture, Fisheries and Conservation Department (AFCD)
- Signage in country parks
- Staff in country parks
- Non-governmental organizations, e.g. environmental groups
- Others: *(Please specify)*

7. Are you informed about countryside recreation?

Mark only one.

- Yes
- No

8. How were you informed about countryside recreation?

Mark only one.

- Website of the Agriculture, Fisheries and Conservation Department (AFCD)
- Advertisement from the Agriculture, Fisheries and Conservation Department (AFCD)
- Signage in country parks
- Staff in country parks
- Non-governmental organizations, e.g. environmental groups
- Others: *(Please specify)*

9. To what extent do you agree with the objectives of Hong Kong country parks: nature conservation, countryside recreation and outdoor education?

Mark only one.

- | | | | | | | |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Strongly disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly agree |

10. Which of the three objectives is the most important to you?

Mark only one.

- Nature conservation
- Countryside recreation
- Outdoor education

11. To what extent do you think that conservation and recreation are in conflict?

Mark only one.

	1	2	3	4	5	
Strongly disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly agree

Session 2: Satisfaction levels on management in country parks

12. To what extent are you satisfied with the general management of the country parks?

Mark only one.

	1	2	3	4	5	
Strongly dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly satisfied

13. To what extent are you satisfied with the recreation facilities of country parks (e.g. quantity, quality etc.)?

Mark only one.

	1	2	3	4	5	
Strongly dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly satisfied

14. To what extent are you satisfied with the promotion of conservation of country parks?

Mark only one.

	1	2	3	4	5	
Strongly dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly satisfied

15. To what extent are you satisfied with the public education programmes of country parks?

Mark only one.

	1	2	3	4	5	
Strongly dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly satisfied

16. To what extent are you satisfied with the security of country parks?

Mark only one.

	1	2	3	4	5	
Strongly dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly satisfied

17. To what extent are you satisfied with the staffing in country parks?

Mark only one.

1 2 3 4 5
Strongly dissatisfied Strongly satisfied

18. Have you been involved in public consultation of country parks?

Mark only one.

- Yes
- No

19. To what extent do you agree that you can shape the management of country parks?

Mark only one.

1 2 3 4 5
Strongly disagree Strongly agree

20. What do you think is/ are the advantage(s) of good management practices of country parks?

Check all that apply.

- Recreation opportunities
- Biodiversity protection
- Economic benefit
- Environmental education
- Health and well-being improvements
- Others: *(Please specify)*

21. What do you think is/ are the disadvantage(s) of poor management practices of country parks?

Check all that apply.

- Threaten biodiversity
- Limit recreation opportunities
- Damage to the environment
- Conflicts between stakeholders
- Land allocation to development projects
- Others: *(Please specify)*

Session 3: Demographics

22. Age range

Mark only one.

- Below 18
- 18 – 29
- 30 – 39
- 40 – 49
- 50 – 59
- 60 or above

23. Gender

Mark only one.

- Female
- Male

24. Residence

Mark only one.

- Central and Western
- Eastern
- Southern
- Wan Chai
- Kowloon City
- Kwun Tong
- Sham Shui Po
- Wong Tai Sin
- Yau Tsim Mong
- Islands
- Kwai Tsing
- North
- Sai Kung
- Sha Tin
- Tai Po
- Tsuen Wan
- Tuen Mun
- Yuen Long

Others: *(Please specify)*

25. Education level

Mark only one.

- Secondary level or below
- Undergraduate or degree level
- Above degree level

Thank you very much for your participation!

RISK ASSESSMENT FORM FIELD / LOCATION WORK



The Approved Code of Practice - Management of Fieldwork should be referred to when completing this form
<http://www.ucl.ac.uk/estates/safetynet/guidance/fieldwork/acop.pdf>

DEPARTMENT/SECTION: THE BARTLETT SCHOOL OF PLANNING
LOCATION(S): COUNTRY PARKS IN HONG KONG
PERSONS COVERED BY THE RISK ASSESSMENT: Ching Nga WONG

BRIEF DESCRIPTION OF FIELDWORK: The field work will be a part of the BPLN0039 Dissertation in Planning module as a requirement of the MSc International Planning programme. The dissertation will require field work in country parks in Hong Kong. Interviews, questionnaires and observations will be conducted to identify and analyse the management practice of the country parks.

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section. If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box. **Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.**

ENVIRONMENT

The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard

e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.

Examples of risk: adverse weather, illness, hypothermia, assault, getting lost.
 Is the risk high / medium / low?

Low risk of adverse weather and getting lost.

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- work abroad incorporates Foreign Office advice
- participants have been trained and given all necessary information
- only accredited centres are used for rural field work
- participants will wear appropriate clothing and footwear for the specified environment
- trained leaders accompany the trip
- refuge is available
- work in outside organisations is subject to their having satisfactory H&S procedures in place
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

Weather reports will be checked prior to any field work and mobile maps will be used. Work will only be carried out during daytime.

EMERGENCIES

Where emergencies may arise use space below to identify and assess any risks

e.g. fire, accidents

Examples of risk: loss of property, loss of life

Work will only be carried out during daytime.

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- participants have registered with LOCATE at <http://www.fco.gov.uk/en/travel-and-living-abroad/>
- fire fighting equipment is carried on the trip and participants know how to use it
- contact numbers for emergency services are known to all participants
- participants have means of contacting emergency services
- participants have been trained and given all necessary information
- a plan for rescue has been formulated, all parties understand the procedure
- the plan for rescue /emergency has a reciprocal element
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EQUIPMENT**Is equipment used?****NO****If 'No' move to next hazard
If 'Yes' use space below to identify and assess any risks***e.g. clothing, outboard motors.*

Examples of risk: inappropriate, failure, insufficient training to use or repair, injury. Is the risk high / medium / low ?

CONTROL MEASURES**Indicate which procedures are in place to control the identified risk**

- the departmental written Arrangement for equipment is followed
- participants have been provided with any necessary equipment appropriate for the work
- all equipment has been inspected, before issue, by a competent person
- all users have been advised of correct use
- special equipment is only issued to persons trained in its use by a competent person
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

LONE WORKING**Is lone working a possibility?****YES****If 'No' move to next hazard
If 'Yes' use space below to identify and assess any risks***e.g. alone or in isolation lone interviews.*

Examples of risk: difficult to summon help. Is the risk high / medium / low?

Low risk of summoning help, travelling and working alone during daytime.

CONTROL MEASURES**Indicate which procedures are in place to control the identified risk**

- the departmental written Arrangement for lone/out of hours working for field work is followed
- lone or isolated working is not allowed
- location, route and expected time of return of lone workers is logged daily before work commences
- all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle
- all workers are fully familiar with emergency procedures
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

Work with partner(s) if possible, carry a mobile phone, leave a work plan at home prior departure, avoid bringing valuables.

ILL HEALTH

e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.

The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.

Examples of risk: injury, asthma, allergies. Is the risk high / medium / low?

Low health risk.

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- an appropriate number of trained first-aiders and first aid kits are present on the field trip
- all participants have had the necessary inoculations/ carry appropriate prophylactics
- participants have been advised of the physical demands of the trip and are deemed to be physically suited
- participants have been adequate advice on harmful plants, animals and substances they may encounter
- participants who require medication have advised the leader of this and carry sufficient medication for their needs
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

Ensure a good health condition prior any field trip, stop when experience any unwell.

TRANSPORT

e.g. hired vehicles

Will transport be required

NO

Move to next hazard

YES

Use space below to identify and assess any risks

Examples of risk: accidents arising from lack of maintenance, suitability or training
Is the risk high / medium / low?

Low risks of travelling on public transport.

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- only public transport will be used
- the vehicle will be hired from a reputable supplier
- transport must be properly maintained in compliance with relevant national regulations
- drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php
- drivers have been trained and hold the appropriate licence
- there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods
- sufficient spare parts carried to meet foreseeable emergencies
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

DEALING WITH THE PUBLIC

e.g. interviews, observing

Will people be dealing with public

YES

If 'No' move to next hazard

If 'Yes' use space below to identify and assess any risks

Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low?

Low risk of personal attack, causing offence and being misinterpreted.

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- all participants are trained in interviewing techniques
- interviews are contracted out to a third party
- advice and support from local groups has been sought
- participants do not wear clothes that might cause offence or attract unwanted attention
- interviews are conducted at neutral locations or where neither party could be at risk
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

Carry UCL ID card to identify myself when needed.

WORKING ON OR NEAR WATER	Will people work on or near water?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
<i>e.g. rivers, marshland, sea.</i>	Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low?		

CONTROL MEASURES Indicate which procedures are in place to control the identified risk

- lone working on or near water will not be allowed
- coastguard information is understood; all work takes place outside those times when tides could prove a threat
- all participants are competent swimmers
- participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons
- boat is operated by a competent person
- all boats are equipped with an alternative means of propulsion e.g. oars
- participants have received any appropriate inoculations
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

MANUAL HANDLING (MH)	Do MH activities take place?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
<i>e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.</i>	Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low?		

CONTROL MEASURES Indicate which procedures are in place to control the identified risk

- the departmental written Arrangement for MH is followed
- the supervisor has attended a MH risk assessment course
- all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
- all persons performing MH tasks are adequately trained
- equipment components will be assembled on site
- any MH task outside the competence of staff will be done by contractors
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

SUBSTANCES	Will participants work with substances	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
<i>e.g. plants, chemical, biohazard, waste</i>	Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low? Low risk of allergies to plants.		

CONTROL MEASURES Indicate which procedures are in place to control the identified risk

the departmental written Arrangements for dealing with hazardous substances and waste are followed

all participants are given information, training and protective equipment for hazardous substances they may encounter

participants who have allergies have advised the leader of this and carry sufficient medication for their needs

waste is disposed of in a responsible manner

suitable containers are provided for hazardous waste

OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

No know allergies, avoid touching plants.

OTHER HAZARDS	Have you identified any other hazards?	NO	If 'No' move to next section If 'Yes' use space below to identify and assess any risks
<i>i.e. any other hazards must be noted and assessed here.</i>	Hazard: Risk: is the risk		

CONTROL MEASURES Give details of control measures in place to control the identified risks

Have you identified any risks that are not adequately controlled?

NO **Move to Declaration**

YES **Use space below to identify the risk and what action was taken**

Is this project subject to the UCL requirements on the ethics of Non-NHS Human Research?

If yes, please state your Project ID Number

For more information, please refer to: <http://ethics.grad.ucl.ac.uk/>

DECLARATION The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.

Select the appropriate statement:

I the undersigned have assessed the activity and associated risks and declare that there is no significant residual risk

I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by the method(s) listed above

NAME OF SUPERVISOR: Yvonne Rydin

**** SUPERVISOR APPROVAL CONFIRMED ****