COLONIAL GARDEN CHARACTERS OF HILL STATIONS :
A CASE STUDY OF PENANG HILL, MALAYSIA

ROHAYAH CHE AMAT

A thesis submitted in fulfilment of the requirements for the award of the degree of
Master of Science (Architecture)

Faculty of Built Environment
Universiti Teknologi Malaysia

MARCH 2006
DEDICATION

To my parents, Che Amat Zulkifli and Habsah Will
who have given me the strength and determination to succeed;
and who always knew it was possible.
AKNOWLEDGEMENT

This research was made possible by the generous contributions of time, interest, insight and suggestion of numerous people. I wish to express my sincere appreciation and gratitude to my supervisor, Assoc. Prof. Dr. Mohd. Sarofil Abu Bakar, for his exceptional patience, encouragement, guidance, counsel, thoughtful support, advice, and major contribution throughout all stages of study. My special thanks to Dr. Hasnuddin Lamit who have made important contribution that have significantly improve the organization, clarity and content of this document. I am also indebted to Assoc. Prof. Ismail Said, Dr. Abdullah Sani, Dr. Syed Ahmad Iskandar, Assoc. Prof. Dr. Bashri Sulaiman, Dr. Aminatuzuhariah, Assoc. Prof. Zainul Hakim and Assoc. Prof. Dr. Mustapha Kamal Mohd. Shariff (UPM).

This research was sponsored by Universiti Teknologi Malaysia – Pembangunan Teknologi Perindustrian Scholarship. Thank you to Khazainun and Khairuzetti who introduced to me the topic of this research. Warm friendship from the residents of Penang Hill, Cameron Highlands, Maxwell Hill and Fraser’s Hill. Dato’ Seri Lim Chong Keat for valuable advices, Mr. Arunasalam (President of Penang Hill Resident Association), Mr. Dorairaj (PKBF), Mr. Rama (President of REACH), REACH committee members, Balai Polis Bukit Bendera, Penang Museum, Arkib Negara Malaysia, School of Graduate Studies UTM. Family and friends who continuously supported, Mohd Yusof Zaki, Hasnah, Samsiah, Samiah, Zulkifli, Sazali, Amalina, Mohd. Zaki, Najidah, Nazihah, Noordin and Noordina, Ayang Safiah, Arbina and Rozi, Norizan, Suriani, Mrs. Jaya, Zuliana and family, Mohd. Azrul Hisham Abdullah. My thanks are extended to my colleagues, Cik Mursyida, Surayah, Hazalan, Hafiz, Hanizun, Hisyam, Kasypi, Apriyan, Yendo who provided assistance at various occasions. Their views and tips are useful indeed.

My deepest gratitude and greatest debts to my mother, Habsah Will and my father, Che Amat Zulkifli who gave me support, strength and continuous encouragement. THANK YOU.
ABSTRACT

The importance of the study is to establish the colonial garden characters which was the most prominent features of Penang Hill. Penang Hill was built by the British for sanatoria and resort that portrayed and symbolized the cultural and social image of the Europeans. Picturesque and romantic atmosphere harmonized with natural surroundings were setting of Penang Hill during the colonial days. A garden compound was an important element in every bungalow where cultural activities and social interaction occurred. The garden elements are attributed to the cultural and historical heritage of Penang. It gave symbolic meaning with specific design, arrangement, appearance and content of cultural meaning for Penang Hill. The garden of Penang Hill whether appreciated for aesthetic qualities or cultural meaning is a valuable component in the heritage. The precedent studies on the English garden were adequate to convey its gardens’ characters. The studies on the garden restoration principles and procedures served as the precedents studies in establishing methodology for the research. The outline of research methodology includes historical research/literature review, oral history interview and site observation. This research will look at landscape as historical artifact that evokes nostalgia, character and identity of colonial garden at Penang Hill. The data will describe and define the character and establishment of the colonial garden. Historical research and site observation are set, in order to describe condition and appearance of the site with clear concept, character, elements and garden features. The historical records from various sources are used to find the past condition, particular past events and changing pattern of Penang Hill’s garden. The findings are categorized into two attributes that contribute to garden characters: physical and non-physical. There are five main findings can be drawn from this research: views and topography; garden design; plant materials; architecture and the memories.
ABSTRAK

# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1</td>
<td>Background of Case Study</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>Research Problem Statement</td>
<td>7</td>
</tr>
<tr>
<td>1.3</td>
<td>Research Questions</td>
<td>9</td>
</tr>
<tr>
<td>1.4</td>
<td>The Importance of Research</td>
<td>10</td>
</tr>
<tr>
<td>1.5</td>
<td>The Aim of The Research</td>
<td>11</td>
</tr>
<tr>
<td>1.6</td>
<td>The Objectives of The Research</td>
<td>11</td>
</tr>
<tr>
<td>1.7</td>
<td>Outline of Research Methodology</td>
<td>11</td>
</tr>
<tr>
<td>1.7.1</td>
<td>Literature Review</td>
<td>12</td>
</tr>
<tr>
<td>1.7.2</td>
<td>Oral History Interview</td>
<td>13</td>
</tr>
<tr>
<td>1.7.3</td>
<td>Site Observation</td>
<td>13</td>
</tr>
<tr>
<td>1.7.4</td>
<td>Findings and Recommendations</td>
<td>13</td>
</tr>
<tr>
<td>1.8</td>
<td>Organization of The Thesis</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>HILL STATIONS OF ASIA</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>INTRODUCTION</td>
<td>16</td>
</tr>
<tr>
<td>2.1</td>
<td>Development of Hill Stations</td>
<td>21</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Type of Hill Stations</td>
<td>22</td>
</tr>
<tr>
<td>2.2</td>
<td>Components of Hill Stations</td>
<td>24</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Bungalow Garden Compound</td>
<td>24</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Social Space</td>
<td>27</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Cultural Space</td>
<td>29</td>
</tr>
</tbody>
</table>
2.2.4 Visual Space 31
2.2.5 Behavioural Space 36
2.2.6 Economic Space 37
2.3 The English Garden 38
2.4 Development of Case Study, Penang Hill, Malaysia
   2.4.1 Chronology Development of Penang Hill 43
   2.4.2 Bungalow Garden Compound 49
   2.4.3 Social Culture and Activities 57
2.5 Summary 61

3 THE ENGLISH GARDEN DESIGN
3.0 INTRODUCTION 63
3.1 The Garden Design 64
   3.1.1 Phase of Garden Design 66
      3.1.1.1 The Transitional Phase 67
      3.1.1.2 The Arrival of ‘Capability’ Brown 69
      3.1.1.3 The Gardenesque 70
   3.1.2 Principles of Garden Design 74
   3.1.3 English Elements of Design 76
      3.1.3.1 Non-Living Materials 77
      3.1.3.2 Living Materials 80
   3.2 The Theory of Landscape Character 84
   3.3 Conclusion 88

4 RESEARCH DESIGN AND METHODOLOGY
4.0 INTRODUCTION 90
4.1 Literature Review 94
   4.1.1 Historical Research 94
   4.1.2 Photographs, Postcards and Paintings 98
4.2 Oral History Interview 100
4.3 Site Observation 102
4.4 Conclusion 103
5 RESULTS AND DISCUSSIONS
5.0 INTRODUCTION 105
5.1 Research Result : Landscape Character of Garden Compound
   5.1.1 Physical Attributes
      5.1.1.1 Views and Topography 107
      5.1.1.2 Garden Design 116
      5.1.1.3 Garden Furniture 129
      5.1.1.4 Plant Materials 148
      5.1.1.5 Social, Culture and Activities 155
      5.1.1.6 Architecture 159
      5.1.1.7 Structure and Space 162
5.2 Non-physical Attributes
   5.3.1 Expression 173
5.3 Recommendation for Penang Hill’s Garden Treatment
   5.3.1 The Planning System 175
   5.3.2 The Community 177
   5.3.3 Suggestion For Garden Treatment 177
5.4 Conclusion 178

CONCLUSIONS
6 6.0 INTRODUCTION 187
6.1 Comments on Methodology and Recommendation 189
6.2 Establishment of The English Garden Characters 190
6.3 Conclusion 192

BIBLIOGRAPHY 194

APPENDICES A - D 206-221
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE NO</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>The Summary of Hill Stations in Asia</td>
<td>40</td>
</tr>
<tr>
<td>2.2</td>
<td>The Summary of Components of Hill Stations</td>
<td>41</td>
</tr>
<tr>
<td>2.3</td>
<td>The Summary of Bungalow Compound</td>
<td>42</td>
</tr>
<tr>
<td>2.4</td>
<td>Summary On Chronology Development of Penang Hill</td>
<td>58</td>
</tr>
<tr>
<td>3.1</td>
<td>The Summary of Phase in English Garden Design of Eighteenth and Nineteenth Century.</td>
<td>74</td>
</tr>
<tr>
<td>3.2</td>
<td>Summary of The English Garden of The Eighteenth and Nineteenth Century.</td>
<td>89</td>
</tr>
<tr>
<td>4.1</td>
<td>Elements in Environmental Behaviour Observation.</td>
<td>99</td>
</tr>
<tr>
<td>5.1</td>
<td>The Comparative Findings on Views and Topography.</td>
<td>115</td>
</tr>
</tbody>
</table>
5.2 The Comparative Findings on Garden Design Elements. 129

5.3 The Comparative Findings on Garden Furniture. 147

5.4 The Comparative Findings on Plant Materials. 154

5.5 The Comparative Findings on Social, Activities and Culture. 158

5.6 The Comparative Findings on Architecture. 172

5.7 The Comparative Findings on Nostalgia. 175

5.8 The Summary of Overall Findings on Views and Topography and The English Garden Theory Applied. 180

5.9 The Summary of Overall Findings on Garden Design and The English Garden Theory Applied. 181

5.10 The Summary of Overall Findings on Garden Furniture and The English Garden Theory Applied 182

5.11 The Summary of Overall Findings on Plant Materials and The English Garden Theory Applied 183
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12</td>
<td>The Summary of Overall Findings on Social, Culture and Activities and The English Garden Theory Applied.</td>
<td>184</td>
</tr>
<tr>
<td>5.13</td>
<td>The Summary of Overall Findings on Architecture and The English Garden Theory Applied.</td>
<td>185</td>
</tr>
<tr>
<td>5.14</td>
<td>The Summary of Overall Findings on Expression/Nostalgia and The English Garden Theory Applied.</td>
<td>186</td>
</tr>
</tbody>
</table>
### TABLE OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE NO.</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The New Sunday Times reported on 19th September 2004 about an abandoned bungalow, the Crag Hotel in Penang Hill. The Crag Hotel built by the famous Armenian hoteliers, the Sarkies Brothers. After government leased the building to Uplands School (International School of Penang) until 1977, the building been neglected. In 1999, the site became a location for the Oscar-winning French film &quot;Indochine&quot;. (Detailed report on Appendix A).</td>
<td>7</td>
</tr>
<tr>
<td>2.1</td>
<td>Bringing up supplies to Indian hills as shown in rendering dating back to 1840s (Source : Jordan and Caro, 1996).</td>
<td>18</td>
</tr>
<tr>
<td>2.2</td>
<td>The Victorian woman in a sedan chair, a transportation at Indian hill station, 1730s (Source : Jordan and Caro, 1996).</td>
<td>18</td>
</tr>
</tbody>
</table>
2.3 The Indian Hill Station (Source: Kennedy, 1996).

2.4 The public square at Fraser’s Hill resembled an English green village and surrounding the square are Tudor style buildings. The square anchored in the middle with a stone clock tower (Source Text: Fee, 1998; Photo: Kanandiah, circa 1970s).

2.5 The church, dated 1857, on the Ridge (Shimla, India) has been a familiar and important landmark of the town since British days (Source: Sahai, 1997).

2.6 The bungalow Tudor-style in Fraser’s Hill, Pahang (Source: Author, 2003).

2.7 The Scottish-like building in Dalat, Vietnam (Source: http://www.DaLat.com)

2.8 Fancy Fair at Annadale, Shimla, India in 1839. Lithograph by Captain G.P. Thomas shown fancy fairs organized by Emily Eden and her sister at Annadale, a large pleasant valley shaded by pine, fir and deodar trees (Source: Mahajan, 1997).
Prince Waldermar’s Fete Champetre at Annandale, Shimla, India in 1845. An amateur artist A.E. Scott drawn of Fete Campetre hosted by Prince Waldemar of Prussia in 1846. The Prince who visited Shimla in 1845, arranged a dazzling outdoor entertainment at Annandale in return for the many balls and fetes organized in his honour. Myriads of lamps were suspended from branches of trees as the evening set in and turned the area into fairyland (Source: Mahajan, 1997).

A view of the Shimla Bazaar extending up to the hill slopes drawn by W.L.L. Scott, 1852 (Source: Mahajan, 1997).

Beautiful scenery of Baguio, Philippines (Source: http://www.baguiotravel.com).

Tea plantation at Nuwara Eliya, Sri Lanka as one of tourist attraction (Source: http://www.srilankaisladtour.com).

The postcard promotes beautiful scenery of Cameron Highlands (Source: http://www.holidaycameronhighlands.com).
2.14 Terrace of the Cameron Highlands Hotel, c 1938. The hotel overlooking the 9-hole golf course – the place where visitors could enjoy looking at English flowers and eating strawberries with fresh cream (Source: Aiken, 1994).

2.15 The picture shown servants on the back verandah: houseboy, water-carrier, Chinese nurse and cook (Aiken, 1994).

2.16 The map shows the topography of Penang Hill (Source: Aiken, 1994; Jones, 2002).

2.17 The layout of Penang Hill’s Bungalow (Source: Penang Hill Railway Pamplet, 2004).

2.18 The index on passengers of funicular hill railway who visit Penang Hill, 1924 – 1949 (Source: Courtesy Arkib Negara Malaysia, 1949).

2.19 View from Convalescent Bungalow (1818) by William Daniell. The great vista have a view of mountain ranges within Kedah Peak (left), Bukit Mertajam hills and Prai river (right) (Source: Aiken, 1994; Keat, 1986; Nasution and Wade, 2003).
2.20 View of Bel Retiro (c.1905) – Governor’s Bungalow. In the photo was the Governor’s family, fiends or visitor. The plank passage was the original structure of the bungalow (Nasution and Wade, 2003).

2.21 View from Bel Retiro, as a bungalow retreat of Yang Dipertua Besar Negeri Pulau Pinang (Source: Author, 2004).

2.22 View of Convalescent Bungalow (right) and Bel Retiro with flagstaff (left). The terraced garden to the right of Bel Retiro, the plinth on which Convalescent Bungalow rested, the building materials and the servants (Source: Aiken, 1994).

2.23 View of Convalescent Bungalow, a first division officer’s bungalow (Source: Author, 2004).

2.24 View of Crag Hotel – a main building of dining hall (Source: Arunasalam, circa 1950s).


2.27 View of the Tea Kiosk (Source: Author, 2004).

3.1 The evolution of the geometrical patterns that dominated English garden design in eighteenth century – from top to bottom, the Dutch, Forest, Serpentine and Irregular Styles (Source: Turner, 1986).

3.2 The Transitional Style: the plan moves from geometrical terraces through middleground (a serpentine) to an irregular background (Source: Turner, 1986).

3.3 The planting shows a small and simple English Garden, Britain (Source: Buczacki, 1988).

3.4 The drawing from J.C. Loudon’s Observations in 1804 that illustrated the different pattern lines of woodlands in the park according to desire effect of the Beautiful, Picturesque and Grand and Sublime (Banks, 1991).

3.5 An illustration of Mixed style at Wimbeldon House. The illustration shows a variety of features in the garden. The design introduced vases, pond with a fountain, flower baskets, trellis-work arbours, trees, shrubs and gravel grass walks (Source: Turner, 1986).
3.6 The illustration of Gardenesque style. The figure illustrates an English house or cottage garden with the elements in the garden: conservatory, arbour, trellis, statue, urns, old trunk of trees, floral bedding, trees, shrubs, grass, meandering walk and the architecture (Source: James and Lancaster, 1977).

3.7 The Lady Dutches’s Square shows the seats, alcoves and statues in the garden of eighteenth century. The figure shows that the trees (uniformity) have been used to enclosed the square to create sense of enclosure and privacy (Banks, 1991).

3.8 Repton’s design for Brighton Pavilion on 1806. The view from private apartments showing the flower beds with hoped edges, looks like basket of flowers, seats and statue (Fleming and Gore, 1979).

3.9 Original illustrating the steps of nineteenth century Victorian garden “the architecture embellishment of garden” (Source: Buczacki, 1988)

3.10 The illustration “View From My Own Cottage”, in Essex by Repton. The composition of planting of eighteenth century garden designed. Repton showed in this illustration many different styles of growing flowers: within circular bed, surrounded by hoop from varying
of height; a simple frame place on the lawn made climbers clamber up on the lawn and trees; flowering shrubs grow individually in the grass; and a basket-shape flower pot on the lawn (Source: Banks, 1991; Thacker, 1979).

3.11 The Repton’s Rule, the illustrations show a sort of natural appropriateness and opposition between the forms of architecture and the form of nature (Colvin, 1970).

3.12 The parterre at Mellerstain shows the romantic effect of contrasting two strong colour – purple lavender and scarlet roses (Source: Banks, 1991).


4.1 Research methodology development in establishing the English colonial garden of Penang Hill (Author, 2005).

4.2 The process of research methodology in establishing colonial garden characters of Penang Hill (Author, 2005).

4.3 Steps in using archives (Source: Ziesel, 1981).

4.4 Summary of data of historical research (Birnbaum, 1994).
5.1 Map of Penang Hill shows Bel Retiro located on high peak of hill (Source: Courtesy of Arkib Negara Malaysia, circa 1960s).

5.2 Section of Bel Retiro Avenue adapted from map on Figure 5.1.

5.3 Avenue from A (Figure 5.2) - view from Convalescent Bungalow in 1818 an excellence impressions and visual experiences to visitors (Source: Aiken, 1994; Keat, 1986; Lembaga Muzium Pulau Pinang, 2002).

5.4 Avenue from B (Figure 6.2) - View from Strawberry Hill (1818) was a drawing or engraving by William Daniell in 1821, captured the same views as Figure 6.3 but in nearer features and details of surrounding areas (Aiken, 1994; Keat, 1986; Lembaga Muzium Pulau Pinang, 2002).

5.5 The village bungalows of Crag Hotel (Source: Khor, 1989).

5.6 Section of Crag Hotel Avenue adapted from Figure 5.6.

5.7 View from a window of the Crag Hotel looks towards the jungle around the hotel (Source: Author, 2004).
5.8 The engraving by William Daniell, 1818 shows the Bel Retiro at vantage point of hill, captures best view of the plains and sea (Keat, 1986; Lembaga Muzium Pulau Pinang, 2002).

5.9 Possible Design of Bel Retiro. A sketch of a terrace garden at Bel Retiro. The elevated position of the site provides good view of surroundings and defines by transition levels by composition of colours, tones textures and views. The undulating land of Bel Retiro has been composed into beautiful terrace garden and emphasized picturesque building. The design adapted the English garden principle where topography of the ground was important in every garden design of that era (Author, 2005).

5.10 Possible Design of the Crag Hotel. The design shows the concept of the English garden of the nineteenth century in imitating the nature and demonstrates a proper connection between architecture, surrounding scenery and garden that blend harmoniously. The irregular lines of the original rain forest formed a background of these bungalows (Author, 2005).

5.11 The entrance of Crag Hotel (Source: Nasution and Wade, 2003).
5.12 Possible Design of The Landscape Plan of Bel Retiro. The design have applied the principle of the English garden in uniformity and continuity in planting arrangement. The application was to express the avenue and composition of the design by enhancing the picturesque effect. The illustration also shows the small formal garden was enclosed by trees and irregularity of original forest (Author, 2005).

5.13 Bel Retiro’s ground planted with the local tree Ru Bukit (*Dacrydium elatum*) (Source: Banfield, 1977; Nasution and Wade, 2003; Ritchings, 1950).

5.14 A photo show the garden that emphasizing the beautiful foreground of Bel Retiro, based on historical research, circa, 1950s (Source: The Penang Museum, 1986)

5.15 Possible Design of Bel Retiro. The design shows the concept of imitating the nature by the English garden and demonstrates a proper connection between architecture, surrounding scenery and formal garden that blend harmoniously. The illustration also shows the implementation of the English garden theory of small enclosed garden that secluded by natural scenery. As a governor’s bungalow, the garden was laid to enhance and emphasized the picturesque and grandest architecture. The elements of lily pond, fountain, parterre with
broad vista that framed by well-established *Juniperus sp.* and *Dacrydium elatum* to enhance the formal garden design (Author, 2005)

5.16 Views at Crag Hotel, Penang Hill of the path to the entrance porch (Source: Nasution and Wade, 2003).

5.17 View from Figure 5.16 at Crag Hotel, Penang Hill (Source: Nasution and Wade, 2003).

5.18 View from Figure 5.17 at Crag Hotel, Penang Hill (Source: Nasution and Wade, 2003).

5.19 View towards the dinning hall (main building) at Crag Hotel, Penang Hill (Source: Nasution and Wade, 2003).

6.20 Possible Design Of The Landscape Plan of the Crag Hotel. The sketch shows the concept of personal space in secluded area of the Crag Hotel to create sense of enclosure. The elements in the English garden of the era – pots with flowering plants; hurdles as boundary of garden; terraces on elevated land; shrubberies and trees to create shades and silhouettes in order to create the ambience of the English garden (Author, 2005).

5.21 Tea Kiosk, Strawberry Hill, Penang Hill. The old photo shows circular planting beds and potted plants as used in the garden (Source: Wade and Nasution, 2003).
5.22  Tea Kiosk, Strawberry Hill, Penang Hill. The photo shows low iron-cast hurdles as a border between grass and pathways. The picture also depicts flowering shrubs in the pots and planted immediately near the bungalow (Source: Aiken, 1994).

5.23  Tea Kiosk – the low hurdles, grass, pathways and potted plants created vistas towards the sky (Source: Courtesy of Arunasalam, circa 1933)

5.24  Possible Design Of The Landscape Plan of Tea Kiosk, Strawberry Hill. The design was contrast with development of garden during that era. The garden was possibly to design in order to enhance the wide views of Strawberry Hill. The garden been enclosed by terraces. The design was take advantages of the view as the main elements in the garden. The formal garden is designed to enhance a storey of bungalow. The principle of the English garden can be interpreted as transitional idea of direct connection with the bungalow, formal design, the pleasure ground of shrubbery and transition between flowering plants and trees (Author, 2005).
5.25 A tennis court is where the two water lily pools and fountain located. This ample space is possibly where social gathering and intercourse occurred during colonial day (Photo Source: Author, 2004).

5.26 The abandoned hexagonal-shape conservatory at Bel Retiro, Penang Hill shows the interest of the Europeans towards exotic plants (Source: Author, 2004).

5.27 A pergola supported by cast-iron pillars at Bel Retiro’s terraces garden (left) and the cast pillar at Tea Kiosk, Strawberry Hill (right) – previously where a pergola located. The simple series of stone steps and arbour (pergola) add enormous interest to Bel Retiro’s garden (Photo Source: Author, 2004).

5.28 Bel Retiro with potted plants (show the species of *Celosia argente*), located along pathways (concrete) and steps, lamp post and seat to capture the best views (Source: Postcard, circa 1950s).

5.29 Postcard of Bel Retiro shows the species of *Hydrangea mycrophylla, Daisies sp. Bougainvillea spp.* located along pathways (concrete). The elevated ground is connected by steps. The postcard also shows the lamp post and seat to capture the best views (Source: Postcard, circa 1950s).
5.30 The elements found during site observation at Bel Retiro’s garden—statue (left); lamp post (middle) and pot (right) (Source: Author, 2004).

5.31 A postcard of Crag Hotel by bungalows and walks (Source: Aiken, 1994; Nasution and Wade, 2003).

5.32 The view towards the bungalows at Crag Hotel. The figure shows a servant (in Indian costume) carrying something while the European man is using binocular to captured the surrounding views (Photo Source: http://rds.yahoo.com, circa 1890s).

5.33 The Crag Hotel with potted plants; balustrades and series of step to show change of level (Source: Arunasalam, circa 1920s).

5.34 The Crag Hotel be enclosed by hurdles or fences (Source: Nasution and Wade, 2003).

5.35 The Crag Hotel—sitting area enclosed by raised-pillar potted plants (Source: Aiken, 1994).

5.36 Tea Kiosk with potted plants; seat to capture the views; grass and pathways in parterre design (Source: Nasution and Wade, 2003).
5.37 Tea Kiosk with cast-iron low hurdles, planting beds, grass and path made of compacted soil. The bungalow viewed from far is Bel Retiro, the governor’s bungalow (Source: Arunasalam, circa 1970s).

5.38 Possible Design Of Tea Kiosk. The garden applied formal design of the English garden with circular flower of flowering and perennial, potted plants and low hurdles. The design implemented the theory of natural features as decoration in the English garden with simple ingredients of original forest trees, grass, shrubberies and magnificent views (Author, 2004).

5.39 The Tea Kiosk. The place has been torn down and neglected (Photo Source: Courtesy of Cik Mursyida, 2003).

5.40 A concrete stump (left) on staircase where potted plants will be located with narrow channel to flow water to drain during plants’ watering (Source: Author, 2004).

5.41 Two types of pots found at Tea Kiosk (Source: Author, 2004).

5.42 The stairways (left) to Tea Kiosk and hedge or boundary (right) used stone and concrete.
The Crag Hotel, circa 1890 shows line of original trees of pine (Araucaria sp.) to enhance the natural beauty of place (Source: http://rds.yahoo.com).

The Crag Hotel, circa 1890 shows line of original trees of pine (Araucaria sp.) was to enclosed the path and to create sense of enclosure, avenue and privacy (Source: http://rds.yahoo.com).

Aquatint by William Daniell, 1821 shows two Europeans men with the servant admiring the view from Haliburton’s Hill (Source: Aiken, 1994; Keat, 1986; Lembaga Muzium Pulau Pinang, 2002).

The Crag Hotel, a space (A) where leisure activities occurred (Source: Nasution and Wade, 2003).

The Crag Hotel, a space where leisure activities occurred from different view and angle (Source: Wade and Nasution, 2003).

The Europeans enjoyed themselves playing tennis at the space in Figure 6.41 (Source: http://rds.yahoo.com).
A painting of Convalescent Bungalow and Bel Retiro by Charles Henry Cazalet, 1856. The material used in constructing the bungalow was made by mud or woven-mat walls, pyramidal attap-covered roof, verandah. The structured was supported by slender wooden posts and split green-bamboo screens (could be rolled up) protect from glare (Source: Aiken, 1994).


The Crag Hotel, 1989 previously was a hotel before the government leased to Uplands School and now be abandoned (Source: Khor, 1989).

The Tea Kiosk, 1970s (Source: Arunasalam, circa 1970s).

An example of the Plan of Bungalow No. 1 and No. 2 of the Crag Hotel shows spaces and verandah as an integral part of the bungalows (Source: Jabatan Kerja Raya, Penang, circa 1970s).

Tea Kiosk bungalow, Penang Hill. The place served refreshment and typical design of PWD and similar plan with Tea Garden below (Source: Aiken, 1994).
5.55 The bungalow at Tea Garden, Maxwell Hil. During colonial the place is planted with tea ‘Assam’ sp. (Author, 2004).

5.56 The Cottage at Ootacamund (hill station), India (Source : Bhratt, 2002).

5.57 The building façade of Bel Retiro, Tea Kiosk and Crag Hotel, Penang Hill (Source : Author, 2004).

5.58 The figure shows the similarity of roof style of Penang Hill with the roof style of cottages in England (Reid, 1977).

5.59 In contrast material that is used to build Crag Hotel, timber – wood and concrete base.

6.60 The Tea Kiosk bungalow (A) and one of the bungalow at Crag Hotel used large framing, the commonest form of framing and usually left as open as possible, strengthened or decorated with braces (B). The Bungalow No. 1 and No. 2, Crag Hotel used closed studding – the frame is divided into narrow panels by studs (C). The wattle and daub frame has deteriorated and replaced by panel of brick called noggin. It was the most expensive method of framing and building for wealthy and more status conscious (D).
5.61 The windows and door that are built in bungalows at Penang Hill. The eaves are fringed with ventilated fascia board and louvers on door to allow air into interior even the door closed.

5.62 The verandah of Crag Hotel (at dining hall building) to capture the view of surrounding area (Source: Author, 2004).

6.63 A passage to walk down to view the valley and jungles around Crag Hotel (Source: Author, 2004).
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>APPENDIX</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>News and Issues on Penang Hill</td>
<td>206</td>
</tr>
<tr>
<td>B</td>
<td>A Letter To Editor by C. Jackson, Penang Gazette, 21st September 1933</td>
<td>211</td>
</tr>
<tr>
<td>C</td>
<td>Summary On Methodology of Garden Restoration</td>
<td>213</td>
</tr>
<tr>
<td>D</td>
<td>Questionnaire of Oral History Interview</td>
<td>220</td>
</tr>
</tbody>
</table>
CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

Hill stations originated from the Netherlands East Indies and the British India in the early nineteenth century (Aiken, 1994). The term of hill station was for sanatoria or change of air (Aiken, 1986; 1987; 1994; 2002; Kennedy, 1996; Kenny, 1997; Shennan, 2000). The hill station is an area that was located at heights of nearly 10,000 feet above the ground level (Kennedy, 1996). The area was a place where Europeans developed for their exclusive place (Aiken, 1994; Freeman, 1999; Chatterji, 2003; Crossette, 1998; Kennedy, 1996; Kenny, 1997). The hill stations symbolized Europeans’ power (Kennedy, 1996; Kenny, 1997; Chatterji, 2003) and social life (Aiken, 1994; Kennedy, 1996; Kenny, 1997; Shennan, 2000; Chatterji, 2003).

These small ‘imperial belvederes’ (Aiken, 1986; 1987; 1994; 2002) located in isolated area (Aiken, 1986; 1987; 1994; 2002; Kenny, 1997; Buda, 1985; Crossette, 1998) had offered temporary refuge from the humid of tropical climate (Aiken, 1986; 1987; 1994; 2002; Butcher, 1979; Chatterji, 2003; Freeman, 1999; Jordan and Caro, 1996; Kennedy, 1996; Kenny, 1997). The ‘belvedere’ is an Italian term for the fine view (Hunt, 1992). Refuge according to Appleton (1975) is an environmental condition, situation, object or arrangement conducive to hiding
or sheltering. The hill stations being described as sanatorias (Aiken, 1986; 1987; 1994; 2002; Kennedy, 1996), health resorts (Butcher, 1979; Crossette, 1998; Freeman, 1999) and holiday retreats (Crossette, 1998; Shennan, 2000) reinforces the idea of class and ethnic colonization (Aiken, 1986; 1987; 1994; 2002; Kenny, 1997) in Asia.

These sanatorias and health resorts stretched from India, Simla (Shimla), the “Queen of Hill Stations” (Aiken, 1986; 1987; 1994; Chatterji, 2003; Crossette, 1998) was summer capital of India before independence and now the capital of Himachal Pradesh (Aiken, 1994; 2002; Kennedy, 1996). Another Indian hill stations were Ootacamund, Mussoorie, Naini Tal, Darjeeling (Aiken, 1994; Allen, 1975; Chatterji, 2003; Crossette, 1998). Nuwara Eliya was the highest city in Sri Lanka developed by British (Freeman, 1999). Penang, Sapa and Dalat of Vietnam was originally built by French and Bogor, Indonesia (formerly known as Buitenzorg) was built by Dutch (Savage, 1984). American built Baguio in Philippines (Aiken, 1994; Freeman, 1999) and inscribed in the World Heritage List as “8th Wonder of The World”. The style and atmosphere of these European or American hill stations were copied in the colonies (Crossette, 1998) and created cool retreat as reminders of England, closer to home (Aiken, 1986; 1987; 1994; 2002; Crossette, 1998; Kenny, 1997; King, 1974; Shennan, 2000).

The British established four hill stations in Malaysia are Penang Hill, Maxwell Hill, Fraser’s Hill and Cameron Highlands (Aiken, 1986; 1987; 1994; 2002; German, 1926; Kennedy, 1996). All these four hill stations were small and modestly developed (Aiken, 1986; 1987; 1994; 2002). None of these hill stations except for Cameron Highlands have grown and developed since the end of colonial period, 1957. There were numerous proposals for their developments (Aiken, 2002). Cameron Highlands, the only colonial hill station in Malaysia had experienced appreciable growth, mainly for commercial and agricultural development (Aiken, 1994; 2002).
1.1 Background of Case Study

The case study, Penang Hill is situated on the third highest peak of Penang Island (Pulau Pinang), Malaysia at 2,495 feet (760 m). Pulau Pinang also called, as Prince of Wales by Francis Light was the fourth presidency of East India Company on 1786 (Aiken, 1987, Davies, 1962; Low, 1972). Historically, Penang Hill was the oldest hill station in the British Empire and built in the late eighteenth

Penang Hill was known as the Government Hill, Great Hill, The Hill (Aiken, 1986;1987; 1994; 2002) and Bukit Bendera or Flagstaff Hill, where in the early days was site of beacon (Aiken, 1994; 2002; The Penang Museum, 1986). The general area of Penang Hill is a complex of hills and spurs (Peng et al, 1991). Aiken (2002) stated that slopes, river and sensitive granite-derived soil characterize Penang Hill area.

The important heritage and historical aspects of Penang Hill as suggested by Peng., et al (1991) are :-

i- Cultural and natural features that express the Hill’s historic character.
ii- Relationship between buildings and open spaces.
iii- Pre-war buildings and their appearance (interior and exterior).
iv- Historic surroundings of buildings.
v- General historic of Penang Hill.
vi- Views and vistas.
vii- The Hill itself as a backdrop of the city, Penang Island.

In addition, Aiken (2002) determined Penang Hill’s cultural heritage as:

i- A culture that reflects the historic character and evolution of landscape;
ii- Cultural values and attachment of the place;
iii- Written and pictorial records of landscape and culture.

These statements revealed Penang Hill as a special place. The place evoked the image of natural beauty and historical significance (Aiken, 1986; 1987; 1994; 2002; Granroth, 2002; Nazima and Mohamad, 2002).
This research dealt with the main character of the hill stations, garden compound. Compound or ‘garden’, provides external space around the house for leisure (King, 1974). The garden has been an important aspect of the hill stations’ landscape (Aiken, 1986; 1987; 1994; 2002; King, 1974). The garden became an integral part of the European cultural heritage (Aiken, 1986; 1987; 1994; 2002; Chartteji, 2003; Eldowney, 1980; King, 1974). The Europeans attempted to recreate little England called ‘home’ (Aiken, 1986; 1987; 1994; 2002; Butcher, 1979; Eldowney, 1980; Freeman, 1999, German, 1926; Scrivenor, 1931; Sim, 1946; Shennan, 2000) by remaining familiar features and characters of the architecture, landscape, social and culture that segregated from other races (Aiken, 1986; 1987; 1994; 2002; Chatterji, 2003; Eldowney, 1980; King, 1974).

Since 1960’s, Penang was marketed in Europe as one of few tropical resorts in Asia with direct first flight access (Bukit Pinang Leisure, 1990). Aiken (2002) stated that more than 3.25 million visited Penang in year 1998 and generated Penang Hill into a tourism destination. The Penang Island Structure Plan of 1987 (MPPP, 1987), development of Penang Hill was quoted as :

“Penang Hill shall be designated as an area of special characteristics. Its natural vegetation, topography and character as a hill resort must be maintained and conserved and development shall conform to and not destroy these special characteristics. Penang Hill shall be enhanced as a hill resort by improving and increasing the various lookout points and by the establishment and improvement of paths and walkways, gardens, natural areas and other facilities.”

(MPPP, 1987: Section of Penang Hill)

The statement indicates the main intention of the government to improve, maintain and enhance special characters, heritage and historical aspects of Penang Hill.

Penang Hill is one of the colonial legacies that still provides venue of enjoyment for both locals and foreign visitors (Nazima and Mohamed, 2002). In order to restore, maintain and enhance special characters of Penang Hill, the
government needs to establish its landscape’s characters. Conceptually, landscapes have a holistic and complex character, which bridge natural and cultural aspects (Tuan, 1974). This research will analyze the bungalow compound, which was one of the main characters and cultural artifacts in Penang Hill as also determined by Aiken (2002).

Penang Hill was a product of colonial that represents the society with taste, character, lifestyle and value (Aiken, 1986; 1987; 1994; 2002; Crossette, 1998). The hill station portrayed an idea, a point of historical reference (Crossette, 1998) and social interactions (Aiken, 1986; 1987; 1994; 2002; Chatterji, 2003; Crossette, 1998; Eldowney, 1980; King; 1974). Penang Hill reveals something that the country inherited and demonstrated some differences from other nations (Crossette, 1998; Nazima and Mohamad, 2002).

In view of heritage diversity, it is reasonable that Penang Hill brings different things to different culture and heritage (Nazima and Mohamad, 2002). The significance and fact of Penang Hill was largely a product of colonialism (Crossette, 1998; Nazima and Mohamad, 2002) and our historical heritage (Aiken, 1986; 1987; 1994; 2002; Nazima and Mohamad, 2002; Peng, et al, 1991), that need to be conserved or restored. As a tourist attraction, the Hill requires careful planning and further involvements from various organizations in order to protect its unique historical cultural and natural heritage for the present and future generations.

The constraints of this research is the limitation in descriptive data about the bungalow gardens of Penang Hill and Aiken (1986; 1987; 1994; 2002) only made few comments about the gardens during the colonial time. In order to strengthen the contents of this research, an oral history interview and site observation were carried out. The process of inventory and analysis was based on descriptive and pictorial data.
1.2 Research Problem Statement

The composition of Penang Hill’s atmosphere has greatly changed since the end of the colonial period (Aiken, 2002; Peng, et al, 1991). Penang Hill itself has changed very little over the past fifty years or more (Aiken, 2002). As reported on several newspapers (Figure 1.2 and Appendix A) which witnessed that several bungalows were abandoned and need to be repaired or required a complete rehabilitation.

Figure 1.2: The New Sunday Times reported on 19th September 2004 about an abandoned bungalow, the Crag Hotel in Penang Hill. The Crag Hotel built by the famous Armenian hoteliers, The Sarkies Brothers. After government leased the building to the Uplands School (International School of Penang) until 1977, the building been neglected. In 1999, the site became a location for the Oscar-winning French film “Indochine”. (Detailed report on Appendix A).
In addition, the most controversial plan proposal for the development of Penang Hill was in the year of 1990 (Aiken, 2002; Peng et al., 1991). The development proposal was drawn up by Berjaya Corporation (Aiken, 2002; Peng et al., 1991) with two hundred rooms hotel on the site of former the Crag Hotel, a condominium development, a cable car linking the Botanic Garden to the hill station, a shopping and entertainment complex and theme parks (Aiken, 2002; Bukit Pinang Leisure, 1990; Peng et al., 1991). The project has not gone ahead because of opposition by an organization called ‘Friends of Penang Hill’, whom stated their opposition of the projects in a book called ‘Penang Hill : The Need To Save Our Natural Heritage’ (Peng et al., 1991). The book intended to protect natural and cultural heritage of Penang Hill.

Recently, on 17th February 2003, Penang Hill Company Hotels and Restaurants Sdn. Bhd had signed memorandum of understanding with the Penang State Government on project involving the restoration of government’s bungalows; Convalescent, Woodside, Hillside, Fern Hill and Strawberry Hill (The Penang Hill Company, 2003). The project is still in progress and Penang Hill Company was targeted to be completed within three years (The Star, 2003). Although there are many proposals from various organizations, the most important issue or aspect is to bring back the glorious days of Penang Hill and for the posterity.

Davies (1962) stated that the British regarded Penang as a health spot during the colonial days and declared as the healthiest in India. Why is it important to establish the landscape character of Penang Hill especially its garden compound? Landscape character is an important element that express the unique sense or spirit of place (Antrop, 2004; Hunt, 1992; Tuan, 1974). The character defines the identity of Penang Hill (Aiken, 1986, 1987, 1994, 2002; Nazima and Mohamad, 2002). Antrop (2004) stated that the distinguished landscapes contribute to local or national identity.
1.3 Research Questions

The research questions will focus on defining the garden character of Penang Hill’s bungalow compound that also evolved historical research and site observation. The research questions evolve around the idea, concept, style of Penang Hill garden design; the significant elements of garden that portrayed colonialism; the special character of garden; and nostalgias and memories that can influence the mental image of garden.

The questions were designed to answer the identification of Penang Hill’s garden in order to establish its characters. The data that are collected from historical research, oral history interview and site observation will help to establish the garden characters. The materials that characterized Penang Hill as an English garden and portrayed the ambience of England formed and analyzed. Whenever the English gardens have influenced the development of Penang Hill, the basis of the whole principles and theories of the English garden should be applied and conceptualized in its gardens.

The answer of questions of this research will depict the establishment of the colonial English garden in the eighteenth and mid-nineteenth century during its glorious time. The questions for this study are as follows:

i- What was the idea, concept or style of garden design of Penang Hill?

ii- What was the mental picture that attached to the place or special characters of the garden?

iii- What were the elements of the garden?
1.4 The Importance of Research

The English garden was the most significant image that Penang Hill besides its post-war buildings of colonial era. The gardens provide a setting for period buildings, evidence of the past and of social and culture change (The Burra Charter, 1999). Penang Hill’s gardens shall be classified as historic garden. Its garden was an integral part of European cultural heritage (Aiken, 1986; 1987; 1994; 2002). Penang Hill as an established hill resort during colonial (Aiken, 1986; 1987; 1994; 2002; Penang Gazette, 1923; German, 1926; 1995) has an ability to fulfill the criteria as historic garden.

According to Singh (2000) as she referred to The Historic Sites and Monuments of Canada (HSMBC), an independent body stated in the first report in June 1975, there should be six criteria in considering of historic garden:

i- The significance work of art or product of creative mind;

ii- The garden that possesses in a pronounced form of characteristic qualities of period;

iii- Was designed by a significant landscape architect or designer;

iv- Whether or not the garden has been associated with figures or events of national historic significance;

v- Whether it contains plants or of outstanding botanic significance;

vi- Whether it represents some regional or national ecological significant noting that prime consideration is the aesthetic significance.

The Hill was recognized as one of the finest sanatoria of British colonies (Penang Gazzette, 1923). The gardens were the product of British (Aiken, 1986; 1987; 1994; 2002; Chatterji, 2003; Crossette, 1998; King, 1974) who brought an idea, took determination and effort to design the hill as substitute to England (Aiken, 1986; 1987; 1994; 2002; Crossette, 1998; King, 1974; Kennedy, 1996).
1.5 **The Aim of The Research**

The aim of this research is to identify Penang Hill’s garden characters. The identification and establishment of the characters cover three bungalows’ compound: the Bel Retiro, the Tea Kiosk (Strawberry Hill) and the Crag Hotel. This will consider as an effort to establish the character of English colonial garden compound that beautify Penang Hill during the colonial era.

This research draws from the period of the British colonial settlement in Penang Hill, late eighteenth century until the end of the colonialism in the nineteenth century.

1.6 **Objectives of The Research**

The following objectives are formulated to achieve the aims of research:

i- To analyze the three bungalow sites for its landscape character during colonial period.

ii- To identify the landscape characters of Penang Hill based on historical research and physical evidence.

1.7 **Outline of Research Methodology**

This research is to identify and develop landscape character as alternative restoration processes of landscape hill stations in Malaysia. The chronological
development of this research entails historical research, observation and evaluation of bungalows and gardens’ significance and integrity of landscape style designed. The findings of this research intend to provide the establishment of landscape’s colonial English garden of that era, according to principles, philosophy and techniques. It will also establish the guidelines for restoration of the gardens at Penang Hill.

1.7.1 Literature Review

The main goal of this exercise is to study the chronological development of hill stations in Asia and Malaysia in order to explore the synchronization of landscape development of each hill stations. The significance of the studies is to obtain in-depth understanding of hill stations’ garden character.

As part of the literature review, historical research is an important aspect of the research method in order to identify the garden character of bungalows compound at Penang Hill. The historical research entails a study and review of bibliographies, books, journals, newspapers and other materials that contribute to the identification of garden character of Penang Hill.

The literature review compares the gardens’ elements of each hill stations in Malaysia and India that have similarity in period of development. This exercise is to gain the depth, breath and wealth of garden compounds’ design principles in order to establish the garden character of Penang Hill. In addition, old photographs and paintings included in this exercise will form part of primary data. These materials contribute as evidence to define the original layout of the garden.
1.7.2 Oral History Interview

Ziesel (1981) stated that interviewing the respondents (who experienced of the past) is to uncover historical data, and must taken into account the gliding events which take place over time. This method is a supporting element to strengthen the evidence of historical research and literature review. The oral history interview is an attempt to provide a place for interviewee to tell his or her history as he or she remembers it, and for the interviewer to ask questions that stimulate memory (Department of Oral History, 1998).

1.7.3 Site Observation

In order to ascertain about some notable aspect of the site and garden features, a site observation method was conducted. The observation will be based on literature review and oral history interview. The original plans of the bungalows for the case study are not available. In order to get a better evaluation of the study area is by observing and recording the historical elements left on site.

1.7.4 Findings and Recommendations

In this research, the findings will be depicted by descriptive and pictorial data. Physical and non-physical features will define the characters of the bungalow. The physical features include topography and view; garden design and furniture; plant materials; social, culture and activities; and architectural aspects. In
addition, the non-physical attributes are expression from individuals who had visited the place.

1.8 Organization of The Thesis

Chapter 1 of this research includes brief introduction to the overall structure of this research. The context and background structures show the research problem statement, the aim and purpose of the research, outline methodology and organization of the thesis.

Chapter 2 provides the overall reviews of chronology development of colonial hill stations in Asia and Malaysia. The literature review will cover an overview of historical research of hill stations in Asia and Malaysia. This exercise is to study and determine the genesis and purpose of development of the area. It is important to determine the similarities and differences between its landscape styles, value and historical aspects. The sources of evidence are documentation, archival records, interviews, direct observations and physical artifacts. Documentation includes letters, memorandums, agendas, administrative documents, formal studies, journals, newspaper cutting and other articles appearing in the mass media. Therefore, archival records include photographs, engraving, pictures, drawing, maps, charts, surveys data, personal records and written description of the place. Besides, this chapter also includes historical context of Malaysia hill stations such as the significance of landscape; the evolution of landscape; component of hill stations; social and leisure and; architecture and garden.

Chapter 3 is the section contains the study on the English Landscape of the eighteenth and nineteenth century in England. This is important in order to look at in detail the meaning, style, design, culture, character, identity and significance of English Landscape. These will help to capture the character of the study area.
Chapter 4 provides a methodology and analysis of the research. This will establish the appropriate techniques and methods in this research.

Chapter 5 is a chapter of findings and discussions of the research. This will entail into clear understanding of findings and discussions of an overview of the whole content of research.

Chapter 6 is the final chapter that concludes the findings of the research and establishment of Penang Hill’s colonial garden. The findings will form the basis for guidelines for restoration of compound area or garden of historical bungalows on Penang Hill.
The suitable treatment of these gardens is believed to provide depth, richness, inspiration and aesthetic enjoyment. Antrop (2004) stated that special places and monuments received a symbolic value and act as landmarks that allow orientation in time and space. The gardens of Penang Hill as Yahner (1997) coined is tangible evidence of the past that give depth meaning and sense of time. The English colonial garden of Penang Hill is believed to serve as historical reminders and symbols, provide recreation and establish distinguishing features that define a community physically.

The ideas or recommendations listed, could comprise some items on future research agenda; as the primary ideas or ingredients for broadening the understanding of Penang Hill and hill stations of Malaysia, which may include:

i- Exploring the relationship between the culture context of bungalow and its garden;

ii- Hill stations culture influence of built environment;

iii- The visual structure of hill stations’ landscape – on sequential development of landscape a point of observation towards clarifying the basic visual characteristics of landscape;

iv- Landscape meaning and value according to people’s experience – mental image of hill stations landscape;

v- Comparative cultural study on hill stations development;

vi- Landscape or garden restoration of hill stations.
BIBLIOGRAPHY


Gopinath, S. (2002). *Hill Stations of Tamil Nadu In Tourism India*. India: Karnataka State Tourism Development Corp.


Moggridge,H.T. (1986). On The Repair Of The Great Parks Of The English Landscape Movement In Ecology and Design In Landscape, The 24th


Romero, V.V. (1999). *General Guidelines For The Rehabilitation Of The Historic Hispanic Gardens Of La Ciudad, Santo Domingo, Dominican Republic.* Ball State University Muncie, Indiana. MLA


The Historic Sites and Monuments Board of Canada (1975). *The Historic Sites and Monuments*. Minister of Canadian Heritage


**WEBSITES**

National Park Service *The Reynolds Gardens.*

http://www2.cr.nps.gov/hli/currents/reynolda/intro


Olmsted Center for Landscape Preservation – www.nps.gov/frla/oclp.htm

Cultural Resources Management Magazine – www.cr.nps.gov/crm/

National Trust For Historic Preservation – www.nthp.org/

https://www.denix.osd.mil/denix/Public/Library/NCR/Conf02/taylor.pdf


http://www.plantzafrica.com

http://www.aboutflowers.com

http://www.vassl.com; http://www.plantlife-org.uk

http://www.mrbotanical.com

Krul Book Antiquation _Photographs of Southeast Asia*

http://rds.yahoo.com
Penang Hill is one of the oldest colonial hill station established by the British during their time in Malaysia. Explored in the late 18th century, a horse trail was cut by the Waterfall Gardens (present day Penang Botanic Gardens) to the summit of the hilly spine of Penang, allowing the British to escape from the chaos of George Town to the cooler climate on the hill. With its misty morning trails, vegetable and flower farms and charming colonial bungalows, Penang Hill (or Bukit Bendera) has been a popular hill resort since the 18th century when visitors were taken up on horseback or special