



UNIVERSITI PUTRA MALAYSIA

***VISITOR PERCEPTIONS ON PLACE ATTACHMENT TO THE IRANIAN
NATIONAL BOTANICAL GARDEN AS A RECREATIONAL SITE***

FARZANEH SAROOKHANI

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UNIVERSITI PUTRA MALAYSIA
BERILMU BERAKTI

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By

FARZANEH SAROOKHANI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

April 2013

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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April 2013

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The National Botanical Garden (NBG) of Iran, which represents different regions of natural resources in Iran, has the potential to be used as a recreational site. As a national resource, NBG has drawn different viewpoints from different visitors. This study addresses visitors' perceptions towards recreational experience preferences and attachment to NBG. The Place Attachment Theory was used to explain the feelings, perceptions, ideas, meanings, and demands of the visitors about recreational activities in this garden. Meanwhile, the Q-methodology was employed to analyse the subjectivity of the visitors' opinions. The Q-sample list of 52 statements requires 25 respondents to have the required diversity of viewpoints in this study. Three different Factor Groups emerged from the Q-sort data and these were named as follows: (1) Educational Group, (2) Emotional Group, and (3) Functional Group. The Educational Group focused more on "outdoor learning" but did not express functional attachment to NBG and their emotional attachment was found to be low. The Emotional Group revealed that their recreation experience preferences were mostly through

“spirituality” and “enjoyment of nature” that had led them to their emotional attachment to NBG. However, this particular group of visitors had no interest to do “physical activities” or be engaged in “social and family relationship” and they did not express any functional attachment to NBG as well. Finally, the Functional Group preferred “spirituality”, “outdoor learning” and “enjoyment of nature” in their recreation experiences. Those in this group felt more place dependence on NBG as a recreational site, although they did not feel emotional attachment to it at all. Therefore, place attachment in these factor groups was not strong enough to prevent them from substituting NBG with other places to do their recreational activities. The respondents noted that they needed to spend more time at NBG and just visiting the place could not create place identity for them. Recreational activities give them an opportunity to spend more time in NBG to feel attached to the place and make well-developed link with this place. Hence, the most important implication from this study is for managers to have a better understanding of the feelings of visitors, as well as their needs, and their relationships with NBG to make their participations in recreational activities meaningful and in the end, to protect this recreational site.

Keywords: Botanical gardens, recreation, place attachment, Q method.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PERSEPSI PELAWA TERHADAP TAUTAN TEMPAT KEPADA
TAMAN BOTANI NEGARA IRAN SEBAGAI SATU TAPAK REKREASI**

Oleh

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Taman Botani Negara (NBG) Iran yang mewakili pelbagai aspek sumber asli di Iran digunakan sebagai satu tapak rekreasi. Sebagai salah satu sumber asli, NBG tersebut telah menarik pelbagai sudut pandangan daripada pelbagai jenis pelawatnya. Kajian ini menghuraikan persepsi pelawat terhadap rekreasi dan perasaan tertaut kepada Taman Botani Negara Iran tersebut. Teori Tautan Tempat telah digunakan untuk menjelaskan perasaan, persepsi, idea, makna, dan jangkaan pelawat bagi menyertai aktiviti-aktiviti rekreasi di taman rekreasi ini. Kaedah Q telah digunakan untuk menganalisa kesubjektifan pendapat pelawat-pelawat. Sampel Q yang mengandungi 52 kenyataan hanya memerlukan 25 responden untuk memperoleh sudut pandangan yang paling terpelbagai dalam kajian ini. Tiga kumpulan faktor yang berbeza telah diperolehi daripada data *Q-sort* dan dinamakan: (1) Kumpulan Pendidikan, (2) Kumpulan Emosi, dan (3) Kumpulan Kefungsian. Kumpulan Pendidikan lebih menumpukan kepada pembelajaran luar dan mereka tidak menyatakan sebarang tautan kepada NBG tersebut. Sementara itu, Kumpulan Emosi menyatakan bahawa

pengalaman rekreasi yang mereka peroleh melalui kebanyakannya aktiviti kerohanian dan menikmati alam semulajadi telah membina tautan emosi mereka terhadap NBG tersebut. Akhirnya, Kumpulan Kefungsian, yang mengutamakan Kerohanian dan Menikmati alam semulajadi dalam pengalaman rekreasi mereka telah menyebabkan mereka merasai tautan kefungsian terhadap NBG berkenaan. Bagaimanapun, tautan tempat dalam kumpulan faktor ini masih tidak cukup kukuh untuk menghalang mereka daripada menggantikan NBG dengan tempat lain bagi menjalankan kegiatan rekreasi mereka. Responden-responden mengatakan bahawa mereka perlu menghabiskan lebih banyak masa di NBG tersebut untuk menjadikan mereka merasa lebih tertaut kepada NBG sebagai satu tapak rekreasi. Hal yang sedemikian juga boleh menjadikan mereka merasa sebahagian daripada ekosistem berkenaan, di samping NBG itu dapat memenuhi peranannya sebagai penghubung di antara pelawat-pelawat dan alam semulajadi. Oleh itu, implikasi terpenting daripada kajian ini ialah agar para pengurus dapat memahami dengan lebih baik perasaan, kehendak, dan perhubungan para pelawat dengan NBG tersebut untuk menjadikan penyertaan mereka di dalam aktiviti rekreasi lebih bermakna, dan justeru itu, menyumbang kepada perlindungan untuk tapak rekreasi ini.

Kata kunci: Taman botani, rekreasi, tautan tempat, kaedah Q

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CHAPTER 1

INTRODUCTION

1.1 Botanical Gardens in the World and their Roles in Well-Being

The first botanic garden in the world was established in Italy between the 16th and 17th centuries, and it was initially built for studying of medicinal plants. Since then, the concept of botanical garden has been transformed into a kind of entity which contains collections of plants for scientific purposes, conservation, education, and display (Jackson, 1999).

Today, botanical gardens have become national resources for the improvement of human life that help people in many ways, including plant introduction, creation of friendly and peaceful environment, education of the public and promotion of environmental awareness (Kuzevaov & Sizykh, 2007). They also have cultural, aesthetic and recreational importance (Kuzevaov & Sizykh, 2006). These gardens are informal, aesthetically pleasing, and well placed to show the interrelationships between plants and humans (Jones, 2000).

With more than 2200 botanic gardens in 153 countries currently in existence, they play an important ecological role in both national and international development (Kuzevaov & Sizykh, 2007). Hence, there is a worldwide network for botanical gardens connected to local tour guides to conduct educational programmes and

showcase the country's flora (Minter, 2004). Every year, more than 200 million people visit botanical gardens. This is about one in 33 persons in the world (Willison, 2006).

According to Kuzevaov and Sizykh (2006), botanical gardens of the world were developed mostly because of the demand and interest of people in exotic, medicinal, and beautiful plants collected from different regions and countries. They further said that the number of botanical gardens in each country is positively correlated with the country's human development resource. Kuzevaov and Sizykh (2007) also noted the following tangible and intangible aspects of botanic gardens as important contributions to figure out humankind's benefits from plants and biodiversity.

- Tangibles aspects: Plants and their derivatives, and other living creatures, land, water, buildings, facilities, tools, machinery, computers and other material resources.
- Intangibles aspects: Information, ideas, technologies, educational programmes, public programmes or events, authority, reputation, senses, as well as other non-material and human resources.

Kuzevanov and Sizykh (2006) describe botanical gardens as the institute that connects the nature and people through the introduction of plants for economical and cultural uses (see Figure 1.1).

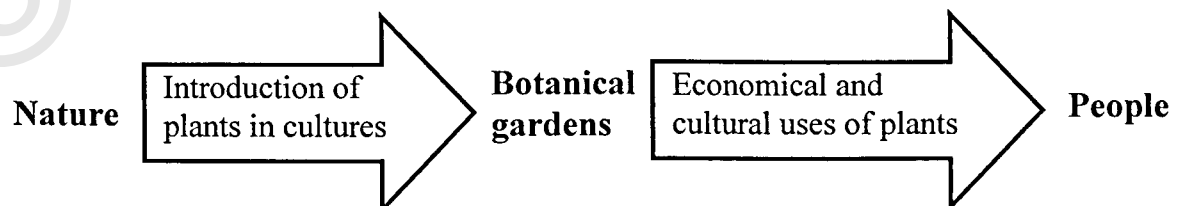


Figure 1.1 Botanical gardens, nature, and people

Each botanic garden identifies the strategy and direction of development of scientific or educational projects and socioecological roles. Its position is based on resources and public demand (Leadlay & Greene, 1998). As botanic gardens are highly diverse in their characteristics, structures, functions and locations, it is impossible to find any identical botanic gardens even within the same country (Kuzevanov & Sizykh, 2006). The uniqueness of each botanic garden is based on its climatic condition, location, socioeconomics, environment, history, and ethno-cultural tradition that determine its regional role as a complex ecologically valuable resource (Kuzevanov & Sizykh, 2006). Therefore, the impact of botanical gardens on the society and on the environment is the result of their characteristics, positions, and links with the public.

In short, botanical gardens influence our life in many ways that make them important as a resource for public use in a community. Botanical gardens in the context of urban green areas have an important role for sustainable life in the city. From the late 20th century, the roles of botanic gardens have begun to grow due their involvement in the economical development and rational use of biodiversity, and environmental education for the local people (Kuzevanov & Szykhz, 2006). They believe that botanic gardens are mobilized for conservation and development. These gardens can use new methods of evaluation to demonstrate their value and potential for sustainable living in the local community (Minter, 2004). Therefore, botanic gardens are more than just pretty places. Instead, they are unique places that contribute to human well-being.

In the literature reviewed, many different benefits have been mentioned for botanical gardens such as promoting sustainability, biodiversity, conservation, education, nutrition, health, and development in a community. For instance, Botanic Gardens

Conservation International (2005) reported that these natural resources contributed in many aspects of well-being, including improvements to healthcare, nutrition, financing poverty alleviation and providing social benefits. The current or ongoing trends of activities within botanic gardens have experienced a greater shift from the traditional to that of a higher technology. Most botanic gardens in the world have already upgraded their resources and gradually adopted new technologies. This means that they are starting to make a greater shift towards managing and strengthening their responsibilities for education and recreation, and other public activities and tradition. Some of these activities and aspects of human well-being have been defined in the following sections.

1.1.1 Biodiversity and Conservation

For years, botanical gardens in different regions have been the popular sources of ornamental trees, fruit, and medicinal plants, which have prospective values for the purposes of nutrition and healthcare for local communities (Kuzevanov *et al.*, 2002). They promote improved nutrition and health through their support of home gardens and environmental restoration (Waylen, 2006). Nowadays, botanic gardens have moved their focus from home gardening to conservation and education (Maunder, 1994).

Botanical gardens are associated with conservation of natural resources and education of people (Ballantyne *et al.*, 2008). Although the main function of botanical gardens is introducing and selecting new plant varieties to preserve indigenous wild species and enrich the flora of the regions, they also raise awareness on local environmental

issues and play an important role in saving biodiversity and the quality of life on earth. Some studies have shown that the public demand for education and conservation programmes in botanical gardens needs to be supported and directed to ensure that the link between biodiversity and human well-being can be increased (Waylen, 2006). These institutes frequently support research programmes ranging from horticulture and conservation to climate change (Primack & Miller- Rushing, 2009).

Botanical gardens are taking more responsibilities in educating the public for global environmental changes and conservation of the world (Mintz & Rode, 1999; Willison, 1997). The Council Heads of the Australian Botanical Gardens (2005) claim that raising public awareness on the importance of biodiversity leads people to understand and protect of biodiversity.

1.1.2 Public Activities and Traditions

Botanical gardens in the world are more than places for representing the plants; on the national level, they also have national traditions and symbols that make them intangible resources for communal welfare. They can be used to keep the traditions and symbols which have meanings, values, and they can be involved in educational fairs and recreational activities for local communities. The roles of botanical gardens in maintaining local traditions and community identity are typically seen as vital by the management and staff of these resources (Ballantyne *et al.*, 2008; Kuzevanov & Sizykh, 2006; Miller *et al.*, 2003; Pinheiro *et al.*, 2006).

Although botanical gardens are able to offer many features and programmes for public experience, enjoyment, education, and recreation, providing these facilities and opportunities needs public support and adequate funding. These gardens need sources of funding and realistic business plans to achieve their goals. In order to obtain a substantial amount of funding, these recreational sites' positive potentials to the participants in programmes associated with friendship or membership, volunteerism, and partnerships have to be publicised. If more membership programmes are offered, more facilities will be needed to satisfy visitors' needs and enjoyment, and to promote their involvement to ensure the future growth and appreciation of these recreational sites.

Fees from educational programmes and recreational tours can generate revenue for the upkeep of these types of programmes. Collaborations with universities and providing classes for students with educational resources provide several grants for botanical gardens each year. Although these gardens already have a good track record as tourism and recreational sites, they still need to access more responses from their audience and to promote the effectiveness of their education programmes (Kuzevanov & Sizykh, 2006). The development of effective community programmes in botanical gardens enhances this role and enables them to solve some of the environmental problems.

1.1.2.1 Public Education

Botanical gardens provide informal learning experiences to promote the importance of plants that influence the values and attitudes of their visitors (Willison, 1997). Allen

(2005) reported that people of all ages and backgrounds used the University of Oxford Botanical Gardens and arboretum with the simple educational philosophy that is, using live interpretation and storytelling as a powerful and effective technique. The importance of these programmes in botanical gardens is in connection with promoting education for sustainability and development in society.

Providing educational and interpretive signs that explain the appropriate use of the botanical gardens will enhance the site's sustainable use. Furthermore, developing an interpretation plan will make it easier to monitor use, protect facilities, and establish an understanding of the uniqueness of botanical gardens. This will avoid them from being perceived as just other city parks (Banner *et al.*, 2003). Meanwhile, signs and information displayed in the gardens will promote local interest and future participation on the botanical gardens grounds. Interpretative signs should be placed in all sections of the area and they should inform visitors about prohibited uses of these places, especially with regard to the uses of lakes in the gardens. In addition, safety measures will help improve the visitors' experiences of viewing nature at botanical gardens. Moreover, guided tours provide recreation opportunities that facilitate learning through interaction with knowledgeable interpreters.

They require well-designed interpretations that can communicate the importance of conservation and educational programmes for future well-being (Ballatyne *et al.*, 2008). Without such interpretations, these gardens will only be a little more than attractive parks or urban spaces. Therefore, to have effective interpretation, the knowledge, interests, perception and motivations of visitors need to be fully understood (Ballantyne *et al.*, 1998).

1.1.2.2 Restorative and Recreational Site

Despite the widespread emphasis placed on the conservational and educational benefits in these gardens, they also possess a high potential for tourism and recreational activities. Although some visitors value the educational experiences and opportunities of being able to see unusual or rare flora, the greatest appreciation of botanical gardens is related to their psychological, restorative, and recreational benefits (Connell, 2004; Ballantyne *et al.*, 2008). The governmental and public authorities are interested in the roles of botanic gardens in the recreation and tourism industry.

They are valuable sites for tourism and recreation that provide a huge range of benefits. The natural environment setting of botanical gardens may fulfil recreationist's social and individual recreational needs. The role of botanical gardens as an urban green area has gained significant importance in garden visiting in the last 10 to 15 years (Minter, 2004). Still, as mentioned by Crilley and Price (2005), most visitors in botanical gardens enjoy viewing plants, and only few are motivated by the desire to learn about the flora and plants.

Visitors enjoy and are fascinated by the abundance of greenery, landscape, walking tracks, and water views. This period of effortless concentration may have calming psychological effects which instil a feeling of well-being. The natural environment of these places helps visitors to feel relaxed. They also help them get rid of overloaded-gathered stress throughout the day's activities and provide them with the opportunity to get away from the noise and crowded environment of modern day life.

Watching the natural features at the botanical gardens is a significant opportunity that helps visitors practice activities that allow them to hear the sounds of nature, experience the smell of plants, see the sights, and be in touch with their surroundings. Walking, jogging, cycling areas, canoeing and trails within these places facilitates recreation and learning opportunities by providing a natural environment for users while dispersing visitors and reducing impacts. In fact, these places provide a close natural setting for families to enjoy the outdoors. Moreover, they can also be an area for building community ties.

Finally, botanical gardens equipped with recreational facilities can meet the needs of a general day visitor seeking a pleasant environment and feeling attached to it. Culture and ethnicity play a large role in the perception of recreation because different groups or individuals have different views with regard to how recreation in botanical gardens should be viewed, especially as a part of a holistic construct of landscape design, botany, sociology, geography, psychology, management, and so on. However, the reasons of visiting botanical gardens, the frequency of visitation, the satisfaction levels of visitation, and the comparison between these green areas with other public green spaces are largely unreported (Ward *et al.*, 2010). This study focuses more on recreation in botanical gardens, and a discussion will further elaborates on this subject.

1.2 Recreational Resources in Iran

With a population of more than 70 million, Iran spans around 1.6 million km sq. wide in size, and has various climatic conditions. The diversity of landscapes extends from Caspian Sea in the north to the Persian Gulf in the south covered with the forests,

mountains, dry lands, deserts and semi-tropical landscapes. The difference of temperature of two areas located not very far from each other makes up the significance of the conditions that enable one to go skiing on the Zagros Mountains, and at the same time, going to the beach of the Persian Gulf for swimming and water skiing. The significant differences in altitudes, combined with climatic variations, create unique natural ecosystems that provide vast possibilities for the growth of different plant species. Thick forests with broad leaves, junipers, and the beautiful wetlands make the unique natural scenery that attracts familiar guests, especially migratory birds.

Therefore, Iran is a country that benefits from having different ecosystems, and has good tourism potential. Naturalists and eco-tourists are seeking an opportunity to get familiarised with Iran's beautiful nature, ecological values, ecosystems, and scenic views and rich biodiversity.

Historically, and as an old country, Iran has for so long been associated with archival sites in the forms of museums, religious sites, mosques, churches, and temples which possess physical attributes to attract tourists' interest. In this context, it is important to remember that the majority of attractions throughout Iran, such as museums, craft galleries, shops, and leisure facilities natural sites like lakes, waterfalls, caves, have both local and or national appeals. A cluster of such miscellaneous cultural features in a locality or region may generate sufficient interest in the people to explore and perhaps stay for a few days.

At the national scale, some locations in Iran have a variety of cultural attractions that attract Iranians as well as foreign visitors. Most cultural attractions in Iran are associated with the diversity of its people, and also iconic cultural figures. Among other, Hafiz and Saa'di, the two great Iranian poets in Shiraz, the gravesite of Abu Ali Sina (Avicenna) in Hamadan, Omar Khayyam's grave in Neishabour, and many other cultural sites attract quite many cultural visitors. In addition, many other Iranian cities are also enriched with such cultural attractions.

Iran, being a predominantly tribal society in the past four thousand years, could now be one of the most important tourist attractions domestically and internationally. Visiting the tribal people is important for the Iranian tourists because of the genuine Iranian culture and lifestyle that reflect the ancient culture of Iran which is still prevalent within these tribal groups; they are not highly affected by the modern industrial life (Organization for Planning and Budget, 1991).

The most popular recreational resources among Iranians are the national and local attractions such as historical ancient regions, natural landscapes, museums, traditional food and drinks, and entertainment (Zamani Farahani, 2003). These cultural attractions, with tangible and intangible elements, are important factors of Iranian nation's identity (A'arabi & Izadi, 1999) such as religious sites, mosques, churches, music, arts, poetry and literature, painting, sculpture and so forth. In addition, recreational activities, especially outdoor recreational activities are popular among Iranians and these activities play a vital role in Iranian public lifestyle.

In spite of facing the advent of urbanization and modern life, Iranians still prefer seeking and enjoying fresh air and natural environments on weekends. In the past, they had direct connection with the nature, as a part of their rural household. Today, however, there is a great need for green and peaceful places. The results of an observational study by Aminzadeh and Ghorashi (2007) have shown that Iranians like to have picnic on the ground in natural environments such as the inner parts of forests or gardens. People also tend to camp in groups, and they also prefer natural landscapes for their recreational activities.

Literature on natural tourist attractions in Iran indicates that the country is endowed with a lot of intact natural attractions. Natural attractions such as caves, lakes, desert, forests, gardens and parks in the different parts of Iran are popular destinations for recreationists. For example, the existence of many caves in different parts of Iran such as the "Cave of Ali Sadr" in Hamadan is a natural wonder, which is annually visited by thousands of domestic tourists. Similarly, Uromiyeh Lake in the North-West of Iran is increasingly becoming famous for its medicinal mud and high salty water; it is visited by thousands of domestic and international medical tourists per annum.

As reported by Sheykhi (2009), most Iranians especially those at the high-end segment perceive a seaside resort of the Caspian Sea as a major attraction. The more educated Iranians prefer the "deserts" of central Iran, while others may be attracted to religious sites of Mashhad or historical places of Shiraz, Isfahan, and so forth. Nonetheless, there seems to be no national consensus on what is considered as the main tourist attractions among Iranian visitors.

Iranian gardens are green environments filled with symbolisms that remind Iranians of a series of their beliefs. In addition to having an aesthetic quality, gardens are considered as recreational sites. Moreover, public parks in Iran are rooted in the gardens. The first European style public park in Iran was built in late 1940s (Daneshpour & Mahmoodpour, 2009). These public parks, like many other parks, serve casual public functions that provide pathways and seating facility for people to have relaxation and socialization. Within a region, several opportunities are available for people to choose a site or a setting, and currently in Iran, such sites or settings are being offered, although they are still limited to catering for the public. These sites include national parks, state parks, and neighbourhood parks, which are usually used for recreation.

Persian gardens have been one of the most prominent recreational resources, incorporating architecture and plants, water rills and shade-giving pavilions. Cyrus's garden, built around 500 BCE, seems to offer the background to all later garden development (Hobhouse, 2004), in which the outline of Cyrus's garden is still viewable. Pairidaeza, which is the Persian word that was filtered into Greece as Paradeisos, originally referred to fenced gardens to keep out the wind or marauders (Hobhouse, 2004).

Iranian garden design, its elements and structure are coordinated and matched with the Iranian beliefs (Asanloo, 2002). Nine Persian gardens were registered in Unesco Heritage office in 2011. Garden in hot and dry lands is a manifestation of revival of soil and also a symbol of the paradise on earth (Diba & Ansari, 1995). As lightning is important, and dry heat got to be rid of, sunlight and shade become important factors

of structural design in Persian gardens. Water is also a significant factor in Iranian gardens and this can be found in the canals, pools, water jets, and bents (Motaheddin, 1995). Each of these sources of water uses special tools and installations to fulfil recreationists' pleasure. Still water reflects the sky and repeats the depth of the endless sky on the earth (Faghieh, 2005). The sound of water jet can be transformed into whispers and also provides the whole space with whisperings (Nilufari, 1984). Water springs originate from lower levels of palace. After running into the pool in front of the building, the whole garden seems to float through the canals (Diba & Ansari, 1995). Qanat, which is a form of underground tunnel below the water table, is used to irrigate the garden. There are skilful manoeuvres to show water in quantity more than real. Meanwhile, vegetation in Iranian gardens is a sign of intelligence and knowledge; one can see that both the beds of cultivation in the garden and the pharmaceutical use of herbs have been considered in their design (Khalil Nezhad, 2005). Dividing the trees in two sides will make a garden look longer than it actually is (Diba & Ansari, 1995). Places with potentials of gardening were mostly used for the location of these gardens, and the landscape point would give the sense of location as the most significant characteristics of Iranian gardens (Mir Fenderesli, 2004).

Therefore, outdoor recreational activities are popular among Iranians as they love going to areas with natural setting on the weekends. Under the impact of industrialization, like others, Iranians have started spending more time for leisure to reduce the pressures and stress from urban life. Traditionally, visiting family was the most important way of spending time for leisure among Iranians, but due to changes in their culture and lifestyle, people are getting more involved in some other recreational activities as well. Moreover, because of communication networks and

high education levels, the younger generation in Iran are involving themselves more in recreational activities. Furthermore, this trend has been projected to increase even further. Nowadays, many people travel and visit places of attraction.

Governmental and private companies have shown their interests to getting involved in the tourism industry. The national tourist organization, which is known as Iran Cultural Heritage, Handicraft and Tourism Organization, is involved in the planning and development of tourism in Iran. It is responsible in providing information and facilities for domestic travellers. The Tourism Department in this organization has its offices in 30 provincial cities in Iran. Therefore, there is a need for the implementation of an integrated management to promote leisure and tourism development, and this apparently requires a detailed understanding of the recreationists' opinions and their needs.

The experience of Sisangan Forest Park in Iran shows that if the design of the setting has not satisfied the needs and preferences of the recreationists, the recreationists themselves will then design or redesign the place as to their likings (Aminzadeh & Ghorashi, 2007). These activities can damage ecological and natural resources. Thus, it is important for the local management to equip the natural recreational sites and optimize their usage at the same time (Saraj *et al.*, 2009). Natural resource managers believe that recreation experiences in urban area pave the way for urban residents to learn and care about, and even become advocate for, these areas (Dwyer & Barro, 2001). Therefore, recreation experience preferences of recreationists should be fully understood to increase the proper use of these natural resources as recreational sites.

Without exception, Tehran, as the capital city of Iran, has also been facing a high growth rate in its population, and urbanization has further led to a rapid disappearance of rural landscapes and gardens. Along with this problem, came the loss of recreation opportunity in natural sites that were previously accessible to urban dwellers and this further led to the emergence of urban problems such as providing open spaces to the public for leisure activities (Daneshpour & Mahmoodpour, 2009).

Therefore, there is a growing pressure from the public in Tehran for park planners and managers to provide more open spaces to be used as recreational sites. Additionally, not all research institute parks (including the NBG) are currently open to the public for them to enjoy recreation activities. This is because these parks are only open to researchers and special interest groups. Several discussions with experts in park planners in Iran have concluded that it is about time for park managers to “re-examine” the main purposes of the establishing such parks to include for recreational use as well.

Literature has also indicated that as a national resource, NBG cannot be limited to conservation and education purposes only; they have to contribute a specific role in recreation as well. This is clearly stated in the missions of botanical gardens which says that they are for psychological, restorative, and recreational benefits to the public (Ballantyne *et al.*, 2008; Connell, 2004).

Iranian NBG, as a combination of setting and personal experiences, is associated with the sensory stimuli encountered through people’s interaction with the natural environment. However, little or none has been done to examine the perception of

Iranians towards their recreational experience preferences and interaction with this national resource.

1.3 Problem Statement and Justification

In Tehran, there are currently 17 major city parks located all over the city. This is not including the many other small neighbourhood parks and protected national parks. However, for a city with a population of 12 million, the number of these parks is still insufficient to cater for the everyday recreational needs of the residents. Moreover, given the current high demand for more recreational spaces, opening NBG for recreation is becoming an important necessity.

In order to justify the new role of the research area as a recreational site, a few questions need to be answered. First, how important are such parks to the visitors? What are the visitors' thinking and perceptions in relation to recreation in these parks? How do they feel attached to this national resource? To what extent are they dependent on the park as a recreational site? Such are some examples of critical but fundamental questions that need answers before a proper justification can be forwarded to support the need for the NBG to be used as recreational site.

To find out how visitors perceive this place, their feelings and ideas, the importance of place and the extents that they are dependent on NBG to participate in recreational activities can help to understand their perceptions towards place attachment to NBG. Therefore, understanding visitors' attachment to this place may be helpful to develop the relationships between the public and NBG, as well as to plan opportunities for

recreational activities, and provide a good environment for the people to participate in recreational activities.

Understanding visitors' place attachment and their recreational experience preferences leads to find out the ways to enhance their participation in recreational activities in this place. Furthermore, the visitors' recreation experience preferences are important factors that determine how they perceive attachment to NBG. This is because the perspective of recreationists and the recreational experience preferences of the people can affect place attachment (Anderson & Fulton, 2008).

This study is an initial attempt to describe Iranian visitors' perception towards their recreational experience preferences and attachment to NBG. In more specific, the study was carried out to find answers the following questions:

- 1) What is the meaning of NBG to the visitors as a recreational site?
- 2) To what extent are the visitors dependent on it for recreational activities?
- 3) What are the viewpoints of the visitors towards the attachment to the Iranian NBG?
- 4) What are the similarities and differences in the perspectives of visitors towards recreation and attachment to NBG of Iran as a recreational site?

In order to determine visitors' viewpoints towards recreation in NBG and the special meaning of the site for them, the first question is related to place identity. Place identity reflects an emotional connection (Kyle *et al.*, 2003, 2004; Moore & Graefe, 1994). In addition, the meaning of a place is an important factor for emotional place bonding (Farnum *et al.*, 2005). A visitation to a botanical garden can carry different

meanings to different people (Lewis, 1996). This meaning is a complex pattern of beliefs, preferences, values, and feelings towards these places. In other words, how tangible or intangible resources in NBG are assigned meanings and values by visitors.

The second question is the extent to which the visitors are dependent on it for participating in recreational activities. Williams *et al.* (1992) clarify place dependence as the ability of a place to satisfy needs and goals. Place dependence is used to explain the functionality of the setting at NBG for recreational activities as compared to alternatives in the achievement of recreational goals.

The third question is the visitors' feelings being attached to NBG. Place attachment is defined by Low and Altman (1992) as a positive emotional bond with a particular place. Through the visitors' evaluation of NBG, their emotional and functional attachments to these places provide a means to understand their perceptions towards the place, and also towards performing recreational activities in NBG. Meanwhile, functional bonding is explained by how visitors are dependent on the place for recreational activities. However, emotional bonding is explained by place identity and feeling of visitors towards their attachment to this place as a recreational site. Emotional bonding is the importance that individuals attach to places. This study took into consideration both the emotional and functional bonds with the place as the two dimensions of place attachment.

Finally, this study examined the factors that made their different viewpoints distinguished from each other. The fourth question includes the similarities and differences in the visitors' viewpoints. Visiting these gardens draws various

perceptions, feelings and place bonding to this place as recreational sites. The way in which individuals react and interpret their natural environment is a multifaceted phenomenon, while different individuals derive attachment or feel attached to various landscapes in different ways (Fredrickson & Anderson, 1999). Therefore, the similarities and differences between their opinions should be understood to find out how the different visitors attach to these places.

Understanding how different groups of visitors perceive and relate to various settings, what similarities and differences there are between them, might aid this study in the attempt to understand the varieties of recreation experience preferences of different groups and to help managers who are providing various opportunities to satisfy the needs of the various visitor groups, with more emphasis on the consensus viewpoints.

1.4 Significance of the Study

Over the last century, big cities have been facing high population growth rate, and this is due to the rapid movement of people into urban areas. This urbanization has impacts on the quality of both the local and regional environments (Lundqvist *et al.*, 2003). Changes in land use, pollution, loss of habitat and biodiversity, and increasing resource demands are some examples of the adverse impacts (Wilby & Perry, 2006). The results of insufficient natural spaces within towns or cities have led to a decrease in ecosystem services and benefits of green areas for sustainable living within the urban areas (Chiesura, 2004; Pyle, 2003). In addition, there is a continuous process of rural land disappearance, including rural recreational sites. Thus, using green spaces in the urban environments has become a crucial aspect of fulfilling the goals of

environmental quality for a sustainable human society (Rotenberg, 2008; Schopfer *et al.*, 2004).

Therefore in the big cities and towns with poor environmental quality, botanic gardens running greening projects that improve human well-being, community relationships, and crime reduction (Kuo & Sullivan, 2001). Botanical gardens affect well-being significantly. In addition, they have the potential to become models of sustainability themselves. Through their activities and their education programmes, botanical gardens promote the means by which everyone can become involved in creating a more sustainable way of life (Kuzevanov & Siykhz, 2006). The use of botanical gardens as public green spaces has been applied in both developed as well as the developing countries (Pinheiro *et al.*, 2006).

Since recreational plans in botanical gardens aim to interpret sustainable living and experiencing nature, these goals could not be developed if the local visitors' viewpoints, interests, and concerns regarding recreational activities in these sites were not understood. The emotional or symbolic meanings of the botanical garden and the importance that visitors express for the place are dependent upon its roles as a recreational site. According to Halpenny (2006), the meaning and significance of a place varies between individuals and groups of visitors.

Obtaining messages and information that visitors deliberately or inadvertently send about place meanings of NBG, and different perspectives of visitors towards participation in recreational activities in this place, are useful for developing programmes to maintain and enhance recreational participation and meaningful

connections to this place. These meanings can be used to improve the place identity of visitors and to strengthen their place bonding to this recreational site.

Management of recreation in NBG depends on the quality of information. Managers of natural resources need to know people's personal bonds or attachments to these specific places or landscapes (Kaplan & Kaplan, 1989). The better the quality of information presented to the management concerning the sites, the better the opportunity will be for the visitors to have valuable activities from efficient management approach (Hornback & Eagles, 1999).

Furthermore, satisfaction of recreationists will be influenced by the ability of NBG to meet their various needs and goals as well as to fulfil the requirements of their recreational activities. The results would be better than if the decisions were made by managers (Wardell & Moore, 2005). Consequently, they will know and understand the visitors' ideas and viewpoints better, and have higher chances that the facilities and services will meet their needs and expectations.

Therefore, it is essential for managers of recreation in NBG to understand the subjective, emotional, and symbolic meanings associated with this natural recreational site. Managers can make smart choices in providing place attachment as a way of uniting individuals who are concerned about the resource (Cortner & Moote, 1999; Flora, 2000; Williams & Stewart, 1998).

Since a sense of place influences the public's acceptance of management strategies and their plans for recreational activities, knowledge from this study could be used to

provide supports for building infrastructure support activities that reflect the desired meanings for the place. Finally, the results of this study may aid authorities responsible for managing NBG to reformulate the planning process for managing the botanical gardens according to the factors expressed in the perceptions of the community.

Furthermore, this study can aid outdoor recreational planners and designers to find out what practices or emotional feelings could intentionally integrate a sense of place in similar educational resources as well. Finally, by understanding the visitors' perceptions and the emotional bond between them and the place, the results could be useful in developing planning guidelines that strengthen a sense of place or help preserve the authenticity of botanic gardens, and other public lands for recreational activities.

Although significant research has been done on place attachment and recreational resources, there is still a need to understand the nature of perception of place attachment and recreation experience preferences. Therefore, to understand the perception of visitors towards performing recreational activities in NBG, their attachment to this national resource through the recreational activities has been made the objective of this study.

1.5 Research objectives

The overall objectives of this study are to understanding the perspectives of the visitors towards recreational experience preferences and place attachment to NBG. In particular, the study was carried out with the following objectives:

- To determine the meaning of NBG and the visitors' feelings towards the place as a recreational site.
- To determine how they are dependent on NBG for participating in recreational activities.

1.6 Definitions and Measurement of Key Terms

Botanical garden is an institution holding documented collections of living plants for the purpose of scientific research, conservation, display and education (Jackson, 1999). Botanic gardens have a special environmental, educational, scientific, cultural, aesthetic, and recreational importance (Kuzevaov & Sizykh, 2006). This study considers NBG of Iran as a recreational site to study the visitors' attachment to this area.

Recreation refers to restoration or recovery, and also implies recreating of energy or the restoration of ability to function. Recreation contains the concept of restoration of wholeness of mind, spirit, and body (Kelly, 1996). Outdoor recreation may concern the environment through the cultivating of an aesthetic appreciation for natural places (Cottrell, 2003). This study considers only

those outdoor activities conducted within the compounds of NBG as recreational activities.

Place attachment involves the meanings and symbols visitors assign to a specific geographical area or category. It also represents a concept of valuing a recreation setting that encompasses both functional and emotional/symbolic meanings and attachments (Schreyer *et al.*, 1981). In this study, two dimensions of place attachment, namely, emotional attachment and functional attachment that are defined as place dependence and place identity were applied to investigate the perception of NBG's visitors towards recreation and attachment to this site.

Place identity is the dimension of place attachment that defines the individual's personal identity in relation to the natural or physical environment by means of a complex pattern of conscious and unconscious ideals, beliefs, preferences, feelings, values, goals, and behavioural tendencies and skills relevant to this environment (Proshansky, 1978). In recreation study, it is recognized as an important factor for participating in outdoor recreational activities (Haggard & Williams, 1992). In this study, place identity explains visitors' feelings, ideas and meaning of NBG as a recreational site, which create emotional attachment to NBG.

Place dependence is another dimension of place attachment. It explains the perceived strength of association between persons and a specific place related to the quality of the current place to satisfy the individual's goal and needs compared

with other places (Stokols & Shumaker, 1981). In recreation study, place dependence refers to the importance that recreationist attached to the place for participating in recreational activities (Jacob & Schreyer, 1980). In this study, place dependence explains to what extent visitors are dependent on the NBG for recreational activities and how they perceive functional attachment to this recreational site.

1.7 Summary

In this chapter, botanical gardens and their roles in the community have been explained. Botanical gardens have contributed in many aspects of well-being and in providing social benefits. These natural landscapes are more than just containers for biodiversity and conservation. They are excellent sites for recreation and millions of people are attracted to botanic gardens every year because of their plants, gardens and green areas. The main activities and aspects of human well-being in botanical gardens have been defined as listed in the following:

- Conservation of biodiversity; establishment of gene banks and cultivation of diverse plant collection.
- Promotion of educational and public awareness; publication, libraries, environmental educational programmes, sharing of skills and technologies, displays, interpretation, classes, and training courses.
- Introduction of nutrition values; introduction of new resources of edible plants and evaluation gardens and nurseries.
- Enhancement of healthcare; scientific knowledge about cultivation and use of medicinal plants.

- Enrichment of community welfare; facilities for recreation, ecological tourism, public activities and traditions, friendship, transferring the sense of beauty, greening area, and involvement of the local community in environmental conservation.

Outdoor recreational activities are very popular among Iranians. With the disappearance of rural lands, there is a growing pressure from the public, especially in big cities like Tehran, for park planners and managers to provide open spaces that people can use as recreational sites. Therefore, the role of national resources such as NBG cannot be limited to conservation and education only, but they have to contribute a specific role in recreation. Botanical gardens are said to have contributed in many aspects of well-being and they also provide social benefits such as being excellent sites for recreational activities. NBG in Iran, as one of these natural resources, is considered as a research area in this study to understand visitors' recreational experience preferences and their attachment to this place.

Visitors, through their feelings, values, preferences, beliefs, and goals that are expressed to NBG, develop cognitive connection between themselves and this recreational site. Different people give different meanings to botanical gardens; not all visitors find the same meaning in these gardens. Hence, understanding them will in turn lead to a better understanding of the participants' feelings, needs, and relationships with the recreational sites such as NBG. In particular, this information will certainly lead to understanding how and why participants are dependent on NBG for their recreational activities.

NBG also needs well-developed links with the public to develop its role in the local community. The efforts directed towards understanding the factors influencing visitors' attachment to NBG as a recreational sites will advance the understanding of the visitors' relationships with these places. Finding out the different patterns of the visitors' perceptions, feelings and their recreational preferences in NBG will help to enhance the meaningful participants' engagement in recreational activities and to strengthen their place identity to this place. Their recreational experience preferences and how they perceive the place play important roles in emotional bonding to this place.

Finally, the research in the field of recreation in NBG can serve the needs of recreationists by studying their opinions and preferred settings, and these findings can be a source of information for decision makers. Having an understanding of the perception of the visitors on the meaning of this place and their relationship with it may help park planners and managers to plan opportunities for recreational activities and to provide a good environment for people to participate in the recreational activities at these recreational sites.

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