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Impacts of the Rapid Development in Recreational Demand on the Desert Environment: A case study of the Dammam region of Saudi Arabia

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PhD
The University of Edinburgh
2015
Declaration

I composed this thesis and the work is my own. No part of this thesis has been submitted for any other degree or qualification.

Tareq Alrawaf
Abstract

As the capital city of the Eastern Province of Saudi Arabia, Dammam has undergone rapid economic development in the last fifty years. Desert areas on the outskirts of the city have become outdoor recreational places and picnicking areas, despite not being designed for such use nor having basic facilities. In fact, local residents are finding these sites more attractive than the projects established specifically by the city authorities for recreational purposes.

This research examines if socio-cultural factors in Saudi society are the only reasons for this pattern of outdoor recreation and also, the resulting impact on the desert environment itself. A mixed-methods approach is used, based on questionnaires, go-along interviews and participant observation, in order to understand how people are using the desert and what it means to them. The physical and ecological condition of the popular sites was also compared with the condition of an unused and also, a protected area in the same region. In addition, a Global Positioning System was used to establish the mutually acceptable distances maintained between desert picnickers to satisfy privacy and territorial needs.

The research shows that Dammam residents use desert areas as outdoor recreation spaces to escape from their urban environment, allowing women, particularly, to be close to nature and retain their privacy, besides experiencing a feeling of freedom and undertaking numerous activities with the full confidence that no stranger will intrude. It also shows that for many users, the silence of the desert and its remoteness enhances spirituality, and contemplation of God’s natural creation. In general, it builds a picture of family members and also groups of single males gathering in the desert for specific recreational reasons, highlighting the importance of such recreation in local people’s lives across different ages and genders.

This increasing number of desert users, however, is found to be damaging the desert environment and its long-term sustainability is threatened by vehicle use, litter, fires and erosion. This is an urgent issue for residents and the professional and governmental bodies responsible for its management. Thus, this research also establishes basic guidelines for new developments that can better manage and protect the desert environment.
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Chapter One: Introduction

“To return to the Empty Quarter would be to answer a challenge, and to remain there for long would be to test myself to the limit... It was one of the very few places left where I could satisfy an urge to go where others had not been... but I believed that it could give me more than this, that in those empty wastes I could find the peace that comes with solitude, and, among the Bedu, comradeship in a hostile world” (Thesiger, 2007, p. 18).

1.1 Introduction

Saudi Arabia, the largest country in the Middle East, is located in the Arabian Peninsula, covering about 2.24 million km² and occupying about 80% of it (Al-Sulbi, 2008). The Saudi Arabian desert comprises the Ad Dahna Desert, the Great Nefud Desert, and the Empty Quarter (Figure 1). It makes up one of the three largest deserts in the world, alongside the Antarctic and Sahara deserts. It is characterised by a hot, dry climate and is classified as an arid region comprising about 5% of the world’s arid regions (Amin, 2004). It consists mainly of harsh desert, with the exception of some oasis areas in the middle and east, and mountains in the south and south-west that rise from the Red Sea to the west. It is considered one of the driest countries in the world, with desert comprising 70% of its area. Despite Saudi Arabia being surrounded on three sides by sea and occupying the largest part of the peninsula, it experiences water shortages (Al-Abdullah, 1998, Bahammam, 1995). Minimal rainfall, too, has led to temporary semi-drought conditions and vegetation deterioration.
The discovery of oil at the beginning of the 1930s was followed by industrialisation and an increase in population, which led to the rapid growth of all Saudi cities. This has had many adverse consequences on the fragile desert environments of Arabia. In addition, damage inflicted during the first Gulf War in 1991, the Iraq war in 2003-05, construction, oil exploration, vehicular use, livestock overgrazing, cutting firewood, land cultivation and recreation have all put great pressure on the desert environment (Laity, 2008, Edgell, 2006, Amin, 2004). Consequently, it has changed markedly from being productive to non-productive, as a result of inadequate land management of the desert (Amin, 2004).

Some examples of the impact of adverse consequences on the fragile desert environments are shown in Figures 2-4, below:
This study will focus on the influence of socio-cultural factors in Saudi society that have shaped the rapid development in and demand for recreation in the desert environment. It will examine how social needs have led to the growth in outdoor recreational activities in the desert rather than in urban open spaces. As a consequence, the extensive use of vehicles in desert areas for off-road driving, particularly four-wheel drive and sports utility vehicles, has seen the destruction of fragile desert surfaces. This greater use of the desert stems not only from the local population’s attachment to it, inherited from previous generations, but also the absence of suitable traditional recreational areas and native landscapes within the open spaces of major cities. Furthermore, affordable fuel prices, four-wheel drive vehicles and GPS have further led to easy access to all desert areas outside the city, which has led to an unprecedented number of picnickers going there on a daily basis. All the main cities of Saudi Arabia have experienced rapid development,

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1 This will be explained in detail in Chapters Two and Three.
however, the greatest and most rapid has happened in the Eastern Province, which has made its surrounding desert, therefore, subject to the greatest pressures.

Dammam city is the capital and largest city of the Eastern Province of Saudi Arabia, the most oil-rich region in the world, and home to the main seaport in the country (Al-Ghonamy, 2010).

It is the third largest city in Saudi Arabia, after Riyadh and Jeddah. Like other major cities in the kingdom, Dammam has experienced rapid development in the last fifty years due to the oil boom of the mid-1970s. This rapid modernisation was evident after the 1970s as a result of the improvement and economic flourishing of the 1960s, especially in the three main cities of Riyadh (Figure 5), Jeddah, and Dammam. Their growth has encouraged the government to launch numerous large-scale projects to rebuild the cities (Al-Naim, 2008b).

Figure 5. Riyadh, the old city; and as it is today (Riyadh Region Municipality, n.d.-a, Riyadh Region Municipality, n.d.-b)

Dammam, like other Saudi cities, no longer offers the traditional narrow design and human scale formerly found within its boundaries (Figure 6). It is now home to many recently-created projects such as public parks, recreational projects, and one of the longest waterfronts (The Corniche) in the Middle East, which was designed as an open space for recreational purposes (Al-Abdullah, 1998), with main roads and shopping streets, and a broad network of grid and radial streets in residential areas bringing about a complete transformation of the environment.
As the idea and contemporary forms of public gardens and waterfronts – the main urban recreational facilities in Dammam – is new to Saudi society, these spaces emerged without precedent and resulted in a lack of cultural context and resonance with the needs of the local society (Al-Abdullah, 1998, Bahammam, 1995). This was due to the designs being based on foreign examples which, consciously or unconsciously, have imposed foreign urban design values, ideas and functions on them (Addas, 2015, Al-Abdullah, 1998, Bahammam, 1995, Al-Shahrani, 1992). In adapting to these foreign influences, following the development of the Saudi Kingdom after the discovery of oil, designers have failed to understand and respond to the socio-cultural values existing in and respected by that society, particularly the needs of local people for privacy and territory in recreational design (Al-Abdullah, 1998, Bahammam, 1995). A recent study by Addas (2015) has found that Saudi public open spaces - due to their design - fail to meet the needs of local people, whether individuals and/or families.

Accordingly, many Saudi residents did not find their needs and desires met by these modern developments, specifically with regard to their need for privacy and territory when having a picnic. As a result, the desert countryside emerged as an alternative recreation area for them.
1.2 Main Argument and Research Framework Hypothesis

The built environment, in general, has undergone several developmental stages prior to reaching the complex form of the present day. This development has mirrored human development. From the first environmental problem, which was searching for shelter in order to protect humans, physically, mankind has sought protection and solved this problem in two ways: by either building a small shelter using the available materials or finding a ready shelter, like caves (Bahammam, 1995).

Different forms of shelter were developed in various geographical locations and societies, however, they all had the same purpose – to address the same needs and provide physical protection. As humans evolved, their needs changed and other aspects became important, for example, religious and spiritual beliefs and values emerged as significant elements relevant to people's lifestyles (ibid). Thus, socio-cultural values have come to influence the forms of the built environment (Al-Abdullah, 1998, Bahammam, 1995, Rapoport, 1994, 1990, 1977, 1976). Hall (1998), in his book *Beyond Culture*, states “Culture is man's medium; there is not one aspect of human life that is not touched and altered by culture. This means personality…the way they think, how they move, how problems are solved, how their cities are planned and laid out.” (Hall, 1998, p. 16).

In fact, in the field of human environmental behaviour, many argue that socio-cultural values are the inspirational forces that influence the final form and shape of the built environment, in particular, Rapoport (2005, 1994, 1984, 1980, 1977, 1976) and also, Altman (1975, Altman and Chemers, 1984). It is believed that the spatial relationship and organisation of spaces that people use is linked to different activities that are guided by a coherent and organized set of rules shared by the users of that environment as part of their culture (Bahammam, 1995). Rapoport (1977), in his book *Human Aspects of Urban Form*, talks about how the accumulation of these rules in society is what makes up the lifestyle of people, stating that: “The rules which guide the organization of space, time, meaning and communication show regularity because they are linked systematically to culture” (Rapoport, 1977, p. 14). Knowing these rules can help to achieve a better understanding of people’s behaviour and also help in forecasting how and why they will behave in a particular
way (Reisinger, 2009, Reisinger and Turner, 2003) and following these rules can maintain harmony and order in a society (Reisinger, 2009).

It can be said, then, that the form of the built environment, its use and meaning to users is what gives it its identity and character. This character resides not only in physical objects, but these carry certain meanings, which, in turn, translate into action, thus, “meaning is not something apart from function, but is itself a most important aspect of function” (Rapoport, 1990, p. 15).

Thus, the ‘meaning’ of the built environment means those images and values – apart from the users' culture, beliefs, and norms which are a part of their cultural background – should be reflected in that environment, and should allow users’ patterns of behaviour to happen within it (Al-Abdullah, 1998). A look at the human physical environment and what it consists of – buildings, streets, neighbourhoods, gardens, furnishing, clothes, and so on – will offer a much greater insight into its meaning and role in society, which, in turn, establishes group identity (Rapoport, 1990). In other words, as Hall, in his book Beyond Culture, states: “What man chooses to take in, either consciously or unconsciously, is what gives structure and meaning to his world” (Hall, 1998, p. 88). This can clarify the importance of the relationship between the built environment and cultural background – the images, values, symbols and ideas – shared by those people which, in turn, leads to their judgements and choices (Rapoport, 1976, 1984). This is obvious, since what gives man his identity – no matter where he is born – is his culture (Hall, 1998, p. 44).

A built or designed environment, therefore, means that the space has been organised and structured in a way that reflects certain ideas or rules for its users. However, if the space has not been organised and structured in that way, there will be miscommunication between man and his built environment. In other words, man’s interaction with his built environment will result in satisfaction/dissatisfaction that affects his judgement of it, which in turn will lead to certain choices (Bahammam, 1995). In this regard, we can consider Rapoport’s notion of an “environment which gives satisfaction to people, its sensory quality in all modalities; the positive and negative effects on human feeling, behaviour or performance and its meaning”
(Rapoport, 1977, p. 61). Thus, studying the meaning is studying the logic of culture applied to the built environment (Al-Abdullah, 1998). Accordingly, when we refer to the ‘meaning’ of the built environment, including the outdoors, we refer to all those aspects beyond the face value of its physical properties: all those other things in life to which people attach significance and value, including their norms, purposes, beliefs and ideas, as expressed through the choices they make about the built environment and the behaviours they show there. Rapoport states that: “Any consideration of the built environment must take into account not only the hardware but also people, their activities, wants needs, values, life-styles and other aspect of culture” (Rapoport, 1994, p. 461).

In other words, the physical expression of the person’s feeling towards his/her built environment and its meaning to him/her are derived from the forms and degree of interaction between that person and the environment (Bahammam, 1995). This indicates that it provides cues for behaviour (Rapoport, 1977) and it gives direction for the actors (people) and how they should act (Reisinger and Turner, 2003). That means people’s behaviour outdoors is influenced by the context of the physical environment which surrounds them (Altman and Chemers, 1984), as well as their cultural background (Reisinger, 2009, Reisinger and Turner, 2003) and thus, understanding culture can help to interpret, understand, and predict other people’s behaviour (Reisinger, 2009), because culture determines and guides human behaviour (Landauer et al., 2013, Reisinger, 2009, Reisinger and Turner, 2003, Weiermair, 2000). and it is the foundation of interaction between man and his built environment, where it gives direction for the actors and how they should act (Reisinger and Turner, 2003, Rapoport, 1977).

The relationship between people and their environment is complex, with many overlaps and interconnections. In relation to this, Bell (2009) points out that:

“People do not tend to think of the physical environment as a separate entity from the social or economic environment, nor separate from the actions they take or the perceptions they hold.”(Bell, 2009, p. 23)
In any given culture, there are rules or defined systems, which govern people’s choices about which elements are important and inform them how they should behave (Reisinger, 2009, Reisinger and Turner, 2003). These have to be followed and respected by people to maintain harmony and order in a society (Reisinger, 2009). In addition, knowing these rules can help to accomplish better understanding of people’s behaviour and also help in forecasting how and why they will behave in a particular way (Reisinger, 2009, Reisinger and Turner, 2003).

From the previous statement, it can be seen that the approach of the main argument of this study stems from this understanding. This study is about a) the relationship between socio-cultural aspects and the built environment and b) how misinterpretation and misunderstanding, as well as ignorance of the socio-cultural aspects which strongly affect the use of and interaction between people and their built environment, has driven the rise in the number of desert picnickers, whether families or groups of friends, in recent years. This force stems from the socio-cultural values of these desert users, and it is thought to play a significant role in the landscape development of these outdoor recreation areas in the desert on the outskirts of Dammam city.

The fitness and coherence between the form and its purpose are needed in order to gain advantage from the built environment (Al-Abdullah, 1998, Bahammam, 1995). This means that the built environment must respond to and take into account all the socio-cultural aspects, needs and values of its users (Rapoport, 1994). Thus, the argument that this thesis investigates and supports is that the socio-cultural aspects of human behaviour are among the main motivations by which the built environment is produced and shaped. In other words, the built environment provides cues for behaviour for its users in the form of verbal and non-verbal communication (Reisinger, 2009, Rapoport, 1976). As a result of this, according to Reisinger and Turner (2003), people behave differently based on their perception of the environment, and understanding the meaning of the built environment helps to communicate with them and can indicate the best suited behaviour for any given situation (Reisinger, 2009).
Thus, we need to bear in mind that how people perceive and react to their built environment plays a vital role in this communication, because people behave differently based on their perception of the environment, according to Reisinger and Turner (2003). This makes perception an important element of culture (Reisinger, 2009, Truong and King, 2006, Reisinger and Turner, 2003). This is due to the fact that people vary across cultures and they are attached to different values, norms, rules, beliefs and attitudes which lead them to perceive things differently and thus behave differently (Reisinger, 2009), which also needs to be taken into account. It can be concluded, then, that the construct of the built environment should respond to the socio-cultural needs, symbols, and values of its users and that these should be reflected in ways that allow appropriate interaction with it.

Understanding a particular built environment requires the socio-cultural needs and values of its users to be assessed. These are invisible forces that have to be recognised through intensive investigation of the behaviours and interactions reflected in the spatial organisation of the built forms in a particular built environment.

1.3 Statement of the Problems

As discussed above, the influence of socio-cultural values is made manifest in any built environment, since it refers to the images and values of a culture, as distinct from the users’ culture, beliefs, values, and pattern of behaviour in that environment, which ought to be reflected in that culture’s physical structures. Unfortunately, ill-adaptation of Western forms ‘foreign’ to Saudi cities has forced a new lifestyle onto local citizens. Due to ignorance of local people’s socio-cultural needs and values, a conflict has become evident between the built environment and the traditional Saudi lifestyle (Al-Naim, 2008a, Matsuoka and Kaplan, 2008, Abu-Gazzeh, 1996).

As a result of this failure, users may not be comfortable in such projects, pointing to a need for the built environment to respond better to their socio-cultural needs, symbols and values, otherwise people may not interact with it as desired. This highlights how the socio-cultural values of a society can play a principal role in
organising and controlling the relationship between both the physical environment and its users, and among the users themselves.

It can be argued that the traditional built environment and lifestyle, as well as a number of cultural and social values, have been significantly and dramatically altered since the government imported westernized urban design principles. This urban growth was not based on the traditional urban planning principles which have been followed in Saudi Arabia for many centuries (Al-Hemaidi, 2001). This new type of spatial arrangement and urban form, argues Al-Hemaidi, has destroyed the identity of the traditional built environment and the traditional lifestyle, characterized by a harmonious relationship linking the past and the physical environment (Al-Hemaidi, 2001, p. 192). Unfortunately, that change did not help people to adapt their behavioural styles within a conservative culture to the new look of the urban form and its spatial organization and arrangements. Misunderstandings of just how socio-cultural and religious complexities affect the structure of the spatial and architectural domains in today’s Saudi Arabian society have led to conflict (Abu-Gazzeh, 1996). This is especially evident in a culture influenced by Islam which enforces gender segregation, according to the requirements of the Muslim Holy Book, the Quran. Women are required to maintain a greater amount of privacy than men, especially in their clothing (Figure 7.A). As design cannot change human behaviour (Calthorpe, 1993), many Saudi families have taken to erecting a boundary around their sitting areas in recreational open spaces to define their territory, in order to achieve their desired level of privacy, especially for women (Figure 7.B).

Figure 7. A. Women wearing the Abaya outdoors; and B. Erecting a boundary around their sitting area (Murray, 2013; Source: author, 2011)
Thus, this territorial behaviour of picnickers is evident in the parks, public gardens, open spaces, and waterfronts of the city. Behaviourally, women’s response has been to wear their veil and loose black *Abaya* robes while in these outdoor environments. However, that does not allow them to undertake activities easily, and it minimises the benefit they can gain from being out in open spaces, arguably, the main purpose of going out for recreation in the first place. It is clear from this reaction that the new spatial arrangements in urban open spaces have made it difficult for families to achieve the desired mutual distance they wish to observe from others when they are there.

Accordingly, the concept of privacy has become a subject of growing concern, not only amongst users (Al-Naim, 2008a, Al-Hemaidi, 2001, Abu-Gazzeh, 1996), but also for architects, urban designers, landscape architects, and social scientists involved in urban development projects in Saudi Arabia (Abu-Gazzeh, 1996).

There is no doubt that the desire for privacy, which is defined by Rapoport as the avoidance of unwanted interaction (Rapoport, 2005) with other people, is one of the fundamental socio-cultural aspects of human life. Indeed, Altman (1976) argues that it is a basic human need and as such, exerts a major influence on the human environment in all societies (Altman, 1975, Rapoport, 1976). In Muslim and Arab societies, however, the need for privacy is notably higher than it is in other societies (Gifford, 2007). For instance, according to Al-Hemaidi, “Most of the imported urban forms and the spatial organization have been rejected by the residents because of their physical and behavioural implications. Physically, the residents responded by erecting high concrete fences” (Al-Hemaidi, 2001, p. 198).

This response by Saudi residents can be seen in Figure 8.A, which shows how they have responded by erecting fences and covering building facades. This will be discussed further in Chapter Three. In addition, most restaurants in Saudi Arabia have started to provide partitions for those who need privacy (Figure 8.B).
Similarly, territoriality is another key aspect of environmental behaviour (Rapoport, 1976), and influences human behaviour and wellbeing. It is a concept that infuses every aspect of our daily lives but also that of animals (Altman, 1975). It is natural to define spaces and mark them for specific uses and different purposes in different settings; each of us creates visible and invisible boundaries against others by trying to avoid them at particular times (Altman, 1975). There is, however, a gap in the existing research on privacy and territory in Saudi Arabia with a focus on the religious, cultural, social, and psychological variables related to it. This study aims to address this gap by providing detailed information obtained through research findings on privacy and territoriality in Saudi Arabia with regard to the use of the desert as a recreational space. One example of the way privacy and territoriality is observed in the Saudi socio-cultural context is the use of partitions, windbreakers or cars to segment open spaces territorially, which is a clear indication of the rejection of this adaptation to Western design principles (Figure 9).
This conflict has led Saudi people, and especially families, to look for alternative places to enjoy their recreational pursuits. Figure 10 illustrates the physical limits of recreational opportunities in Dammam metropolitan area and its surroundings, due to the built environment having been adapted to Western design principles.

![Figure 10](image)

**Figure 10. Illustration showing the limits of the areas for recreational opportunities in the Dammam metropolitan area and its surroundings (Source: author)**

The desert, or any other undeveloped areas (such as under construction and as yet uninhabited) located on the outskirts of Dammam have proved to be popular choices that seem to satisfy people’s need for privacy, while still catering to their ability to enjoy full use of these open spaces for activities, without the restrictions of the built environment (Figures 11.A and 11.B).
These recreational developments can be seen as a reaction to a sense of loss of identity, not only with regard to buildings, where some local Saudis erect fences and seal off first-floor windows to achieve their privacy, as revealed above, but also in urban land space, where some families erect a boundary around their sitting area to achieve privacy. This choice speaks of how deeply people are influenced by their previous experiences, personal attachments, images, and collective memory that are passed on to each new generation (Aspinall, 2010, Hunziker et al., 2007, Davenport and Anderson, 2005, Parsons and Daniel, 2002, Rapoport, 1977).

The feeling of culture shock (Rapoport, 1977) and a sense of threat or interference from outside concepts has led Saudi people to feel disappointed at losing the traditional images to which they were attached (Al-Naim, 2008a), which results in them living in a place where ‘culture is missing’. Local Saudi people have felt like strangers in their own environment because the "language" of the designed environment is foreign to them. In this regard, Rapoport (1980) states that:

“The design of the environment can be seen partly as a process of encoding information so that users can easily decode it. If the code is not shared, not understood, or inappropriate, the environment does not communicate: its ‘language’ may be foreign to the users.” (Rapoport, 1980, p. 28)

Consequently, it is not unreasonable to view the westernized pattern of the built environment as a negative influence that has spread until its impact has been detrimental not only on Saudis’ wellbeing, such that they are suffering from a loss of

Figure 11. A A desert area; and B. An area under construction on the outskirts of Dammam (Baldwin, 2008; Source: author, 2011)
identity within their own environment, but also on the fragile desert environment. This view has resulted in an increasing number of Saudi people going to the desert for recreational purposes since they reject the outdoor open spaces in their western-style built environment. It is not being matched successfully to local users’ social and cultural needs and expectations. In other words, the built environment is having negative effects on its users’ feelings, behaviour and wellbeing.

1.4 Hypothesis of the Thesis and its Argument

Because of the forementioned western styles of developing the built environment of Dammam, especially for recreational projects, and the miscommunication of planners and builders with users, local Saudi people have not used these spaces as predicted. Thus, in recent years, sites, including desert areas located on the outskirts of the city, have become increasingly popular outdoor recreational places, despite not being designed for recreational use, nor having basic facilities and accessibility. The recreational projects established in urban areas for such purposes, such as public gardens and waterfronts, have been rejected. This outcome has raised many questions regarding user behaviours, the failure of recreational projects (Addas, 2015, Faris, 2006, Bahammam, 1995, Al-Shahrani, 1992), and the success of these other sites outside the city centres.

There is, therefore, a clear need to understand the effect of socio-cultural values on the human built environment and, in particular, to understand users’ relationship to outdoor recreational environments. This need has guided this research project to explore what aspects have driven the rise in the number of desert picnickers, whether families or groups of single friends, in recent years. It will be discussed in the following section to gain a better understanding of people’s behaviour in the outdoors. This behaviour depends on people’s upbringing and their background, such that it influences the actions, reactions and activities by which they achieve their desired levels of privacy in order to control their territory and to fashion their use of the space in which to practise certain activities (Altman and Chemers, 1984).
The aim of the literature review is to strengthen the existing literature on the concept of the relationship between socio-cultural values and activities in the desert environment. It is also to test the thesis hypothesis, namely, that due to misunderstanding, as well as ignorance of the social-cultural needs of users of recreational sites in Dammam city, a new phenomenon of outdoor recreation has emerged on the desert outskirts of Dammam. These urban, planned recreational sites were designed and constructed without considering Saudi Arabian society’s needs and values, thus, some people have made a choice and looked for a suitable alternative environment, the desert.

1.5 Aim and Objectives of the Research

Based on the main argument presented in section 1.2., that the built environment is a result of the socio-cultural needs and values of its users, this study has investigated how the socio-cultural aspects can control the outcome, form and shape of the outdoor recreational environment. The investigation focused on studying local Saudis’ new patterns of outdoor recreation on the outskirts of Dammam city and the relation to the outdoor recreational environment within the city.

To understand this phenomenon, it is essential to look at the influence of socio-cultural factors on Saudi society and trace its roots. This has been undertaken by:

a) studying how social needs have forced users to engage in outdoor recreational activities in the desert area or other undeveloped areas rather than in urban open spaces;

b) examining and understanding people’s perceptions, use, needs, and activities in desert environments; and

c) showing the impact of human activities on the desert environment.

This study, therefore, aims to discover the factors that influence people’s choice of destination, such as cultural factors, and the relevant demographic variables for this new pattern of outdoor recreation.
The research intends to find out to what extent socio-cultural aspects can control the outcome, form and shape of the outdoor recreational environment and how they influence people’s choice of destination for recreation outdoors, including their motivations for outdoor recreation. The investigation has focused on studying local Saudis’ new patterns of desert recreation on the outskirts of Dammam city and assessing their relationship to the outdoor recreational environment provided in the city and in what way it influences their choices. Certain objectives were set for this research in order to achieve the aim of the study: firstly, to obtain a deep understanding of the general influence of socio-cultural aspects, the needs and values and their effect on human behaviour in controlling the built environment; secondly, to identify and define the socio-cultural aspects which might be considered the most important aspects influencing the use of the outdoor environment for recreation; and thirdly, to understand fully outdoor recreation on the outskirts of the city and its physical environment.

1.6 The Significance of the Research and its Original Contribution to Knowledge

To date, landscape architecture research in Saudi Arabia has focused on the development of outdoor recreation areas. Only four studies have considered the socio-cultural aspects relevant to Saudi users. These are mainly concerned with the use of natural beaches in Dammam City (Al-Abdullah, 1991), public gardens in Jeddah City (Al-Shahrani, 1992), public gardens with roadsides in Al-Riyadh City (Bahammam, 1995), local users' behaviour at the recreational seafronts in the Dammam area (Al-Abdullah, 1998) and motivation and attachment in the use of public open spaces in Jeddah (Addas, 2015). However, none of these studies has investigated only the relationship between socio-cultural values and people’s behaviour in the desert, but also their perceptions of the desert and desert affordances. Consideration of the long-term sustainability of the desert environment is also missing in the existing literature. It is crucial, then, to investigate, test, and analyse the beneficial effects that users experience in the desert environment, and their impacts, given the desert of Saudi Arabia covers 70% of its total land mass.
Empirical research is required, therefore, in relation to people’s perceptions, preferences and use of desert environments, and from an environmental psychology perspective, to build a conceptual framework to revise and analyse studies examining person-environment relations in desert settings.

This thesis’ originality and importance is the fact that this is the first time in Saudi Arabia that a study has been conducted applying qualitative research methods, such as go-along interviews and participant observation, with women. Including women in qualitative research methods is unique in Saudi Arabia’s conservative culture, since they are not allowed to sit with and/or talk to a male stranger who is not related in blood (Mahram). Being a male researcher posed another related problem. In a conservative, Muslim society like Saudi Arabia, a man engaging in dialogue with a woman is restricted. This is especially true for those women/families who have chosen the desert for recreational purposes, as privacy is often the key reason for going there. In addition, the Quran commands that conservative Muslim women are not allowed to unveil their faces to any males except their sons, fathers, brothers, husbands or nephews but certainly not to strangers. Consequently, it was only possible to carry out interviews with females that were ‘Mahram’ for me (i.e., women related by blood or marriage).

Thus, this study is unique since there was a need to develop a technique to allow the research to reveal the aspects that have driven people to go to the desert, especially women in a conservative culture, for their recreational pursuits. It is also valuable because it opens up the possibility of finding issues that otherwise might be kept hidden. Its research examines people’s perceptions and use of the desert environment. Furthermore, its findings and recommendations can be used to help structure future research in this area.

1.7 Research Question and Approach

The failure of recreational open spaces to fulfil their intended purpose or to meet the needs of the people they are designed for in the Saudi Arabian urban environment is discussed in this thesis. That failure results from ignoring and misunderstanding
Saudi socio-cultural aspects as well as its religious complexities. The key question that this study addresses is: Are the socio-cultural factors and religious complexities of Saudi Arabia the main reasons for the rapid increase in recreational demands on the desert environment or are there other factors? To answer this question, the following categories are examined: socio-cultural values and the built environment, affordances and perception.

Sub questions:

**Socio-cultural values and the built environment**

- What role do privacy and territory play in the development of this new phenomenon of outdoor recreation in the cultural context of the conservative, Islamic country of Saudi Arabia?

**Affordances**

- How can the desert offer positive affordances for its users?

**Perception**

- What perceptions do Saudi people have of the desert, and what kind of influence does it exert on them?
- Does their choice of going or not going to the desert have a direct bearing on their region of origin and/or
- Is this influence related to their personal attachments, images, and collective memories that are passed on to each generation, which they hold toward these places, or is it part of the socio-recreational tradition in the society?
- Or, is this influence related to their associated perceptions, passed on to them by their parents while they were children?(Ward Thompson et al., 2008)

These outcomes are achieved through a critical review of the literature relevant to the socio-cultural values of human behaviour and the environment, with specific reference to the individual’s perceptions and his/her cognition of both the built and natural environments, particularly the desert environment. Furthermore, this review focuses on the influence and potential that the natural environment has on benefitting human wellbeing and provides a link to the desert environment. The aims of this study are achieved through the conceptual research framework as described below.
1.8 Research Intentions

I have claimed that due to misunderstanding, as well as ignorance of the social-cultural needs of users in public gardens and other outdoor recreational sites in Dammam, a new phenomenon of outdoor recreation has developed on the desert outskirts of the city and it is based on a new understanding of the desert environment. As mentioned above, recreational sites in Dammam were designed and constructed without considering the needs and values of Saudi Arabian society; thus, some people chose to look for alternative suitable environments. The concepts of public gardens, open spaces, and a sprawling waterfront are new in their contemporary forms to Saudi society, and have emerged without precedent or thinking about public perceptions. As their design was based on foreign examples, they are in distinct contrast with and in isolation to the native environment, and these designs do not adequately encompass the socio-cultural and religious aspects existing in and respected by the society.

1.9 The Scope of the Study

The research studied local people (male groups and families) in two specified areas in the desert (Figure 13), at locations 40km to the west and 40km to the north-west of the outskirts of Dammam city. This was done in order to determine the influence the socio-cultural aspects had on destination selection, use and modification of selected sites in relation to users’ picnicking, including outdoor recreation motivations, and their perception of the desert.
The aim of this study is to record, document and interpret local Saudi families’ and male groups’ outdoor recreational patterns in the desert environment. It will allow firm judgements to be made about how social needs have forced users to engage in recreational activities there, or in other undeveloped areas, rather than in urban open spaces. It will also help to identify and understand people’s perceptions, behaviour, use, needs, and activities there. It aims to show the impact of activities on the desert. This was achieved by taking photographs of the effects of people’s (male groups and families) outdoor recreation behaviours in the case study locations. These were compared with photographs of an unused area and a protected area in the same region (located 100 km to the west of the city) on the outskirts of Dammam, in order to study the physical and ecological condition of the sites (Figure 13).
Furthermore, GPS and an electronic survey method was used to measure the mutually desirable and respective distances that desert picnicker groups keep from each other in the desert to add a mathematical measure or scale to the existing studies of outdoor recreation on the outskirts of Saudi cities.

In addition, it is hoped that the study’s findings will be useful to local landscape architects and municipal officials in the future design of desert public recreational facilities. When doing so, they should consider the uniqueness of Saudi families’ and male groups’ socio-cultural needs and desires. The desert’s fragile environment has to be taken into account also, by managing and monitoring these areas, using the theories of carrying capacity (Wagar, 1964), limited acceptable change methods (Stankey and Manning, 1986), and the zoning concept, which defines and suggests area of graded protection and recreation intensities, according to the respective suitability and sensitivity of the natural environment (Burger-Arndt, Bell, 2009, p.183). The zoning idea was developed by the US Forest Service, and is now used in various forms elsewhere (Bell, 2008 and Bell, Apostol, 2008). In relation to the zoning concept, Burger-Arndt and Bell state that

“The zoning concept … thus outlines and recommends the acceptable or desirable spatial and seasonal pattern for specific recreation activities from the view of ecological sustainability, location priority zones for protection, for
compatible outdoor recreation and for the development of recreation infrastructure and facilities.” (Burger-Arndt and Bell, 2009, p. 183)

In that way it can ensure that both the quality of visitor experience and the ecological integrity of the place will not be negatively affected by the increasing number of visitors in the same area (Stankey and Manning, 1986, Mares, 1999, Ipcc, 2008).

The study also develops basic guidelines for establishing new developments that can help to manage and protect the desert environment.

1.10 Location, Climate and Historical Background of Dammam City

In order to study any new informal behavioural pattern vis-à-vis people and their relationship to the built environment, we need to study the location and history of the place, to reveal the hidden forces that might influence this pattern, directly or indirectly. This suggests a relationship between aspects of the environment and how people experience or react to them (Kaplan, Kaplan & Ryan, 1998). Dammam is the capital and largest city of the Eastern Province, the largest administrative region in Saudi Arabia. It is the third largest city in Saudi Arabia, after Riyadh and Jeddah, the most oil-rich region in the world, and home to the main seaport in the country (Al-Ghonamy, 2010, Saudi Arabia Market Information Resource, 2010).
Dammam is located on the Arabian Gulf coast opposite Bahrain, at 26° 26’ 0” north and 50° 7’ 0” east, and about 250 miles (400 km) east of Al Riyadh, the capital of Saudi Arabia. Dammam is surrounded by the sea for about 80km, from the northeast to southeast, and the desert sand dunes bound and surround it from the west, which is the area of concern in this study. The area, in general, is hot in summer, with an average temperature between 47° and 50° Celsius on the hottest days; often the hot weather starts in May and reaches its peak in July and August, and continues until September. The cold weather starts in December, reaching a minimum temperature of 2° Celsius in the coldest months, which are January and February. The average annual rainfall is approximately 47mm in Dammam (Al-Abdullah, 1998) and humidity exceeds 75% along the coast (Al-Sulbi, 2008). North and north-west winds are dominant in the area.

Until 1938, the city of Dammam consisted of a group of fishing and pearl diving villages before it started to be transformed dramatically with the discovery of oil in commercial quantities in a field named after Dammam. This initiated a period of remarkable growth, not only in the Eastern Province, but in the whole kingdom. The oil discovery, however, particularly offered opportunities for employment in Dammam city, and acted as a catalyst for its increasing settlement (Al-Sulbi, 2008, Al-Abdullah, 1998).

Since the oil discoveries of the 1930s, many people have moved to work in the Eastern Region, mainly to Dammam, the regional capital, so this city is considered a mix of different elements of the Saudi population. At that time, Dammam had more job opportunities due to the number of companies in the region after the oil discovery, and the ancillary facilities also attracted workers from different regions of the country. The work, social activities and opportunities in Dammam, along with the attractions of the built-up area, attracted high numbers of migrants to the city. In 1953 (Al-Abdullah, 1998), due to increasing economic development and population growth, Dammam city was nominated as the capital of the Eastern Province. By 2003, the built-up area had grown from only 34 hectares in 1934 to more than 19,500 hectares, and according to the 2004 census, the population had increased to exceed 1.2 million inhabitants (Al-Sulbi, 2008).
There is no doubt that this growth in the built-up area was a mainly a direct result of the flourishing economy and other factors, like government development policy and plans. Despite the fact people all belonged to the same country, those who have moved to Dammam to find a job are from different backgrounds and surrounding environments, since Saudi Arabia consists of five main regions: North, South, East and West and the central region of the Najd. The western region is considered as the coastal region, the south is more mountainous, the north is a flat land and the Najd consists of desert and oases. Although they have the same religion, some of these areas are considered to be more conservative and religious than others. For example, the Najd population (especially in Al-Qassim area) is mainly regarded as more conservative than other populations in Saudi Arabia.

Dammam, like other Saudi cities, no longer offers the traditional narrow design and human scale within its boundaries. It is now home to many recently-created projects, with main roads and shopping streets, and a broad network of grid and radial streets in residential areas for a complete change of environment. In addition, it has the head office of Saudi Aramco, the world's largest petroleum company, King Abdulaziz seaport, King Fahd Airport, King Fahd University of Petroleum and Minerals, Dammam University and King Fahd Causeway, which connects Saudi Arabia with the Kingdom of Bahrain. Being Dammam Metropolitan, the capital city of the Eastern Province, it sits on the junction that connects the Arabian Gulf countries, namely Bahrain, Kuwait, United Arab Emirates, Qatar and Oman, with the kingdom (Al-Jubayr, 2014).

The discovery of oil in Dammam city and the development of the Saudi petroleum industry has drawn sizable local and foreign investment to the Eastern Province (Al-Jubayr, 2014). This has led to an increasing number of non-Saudi workers who are there with their families, not only in Dammam but also in other main cities in the kingdom. According to the statistics of the Ministry of Labour for 2011, the total labour force working in the private sector in the kingdom stood at 7.8 million (Ministry of Labour, 2011, cited in Almubarak et al., 2012). In contrast, in 1974, the population of Saudi Arabia was 6,162,805 million Saudis and 77,4397 non-Saudis (total 6,938,202). These numbers have since increased to over 19 million Saudi
citizens and 9 million non-Saudis, with a total of over 28 million (The Ministry of Economy and Planning, 2011, cited in Almubarak et al., 2012, p. 361). The majority of non-Saudis working in the kingdom are from different backgrounds, surrounding environments, religions and different cultures that influence their needs and desires for privacy and measures of territory. For example, in Muslim societies, the ideal is different from others, in that people’s need for privacy is higher than in other societies (Gifford, 2007). Dammam Metropolitan, then, has come a long way from being a small fishing village to become a major commercial port on the Arabian Gulf and a modern city by any standard.

1.11 Thesis Structure
This thesis consists of ten chapters. Chapter One provided the direction and perspective needed to have a bigger picture of the detailed information forthcoming in the later chapters. It also stated the aim and objectives of the research, its significance and original contribution to knowledge, the research intentions and also, the research question and approach.

Chapter Two addresses the importance of understanding the influence of socio-cultural aspects, through theoretical discussions based on the literature dealing with this topic. This is considered the most important topic of this study on the human built environment in general and on Saudi society in particular. It also focuses particularly on outdoor recreation in the desert and users’ needs and perceptions. It also deals with the affordance of the built environment versus the desert environment. Finally, it highlights the benefits of the natural environment.

Chapter Three explores Islamic and Saudi Arabian forms of recreation before and after the discovery of oil. Finally, the chapter describes the forms of outdoor recreation currently taking place in the desert outskirts of Dammam city.

Chapter Four gives an insight into the influence of human behaviours on the desert, and gives a historical perspective, comprising a brief idea about the processes of
change in Bedouin life and their settlements and finally, background information as to how the desert is viewed from both western and Arabian points of view.

Chapter Five discusses the case study research, the design of the research methodology and use of the mixed-method model applied in this study, a combination of quantitative and qualitative methods. It also describes the research setting, the research process and difficulties and obstacles. So too, it describes the solutions for the research strategy, such as adapting methods designed for Western countries and cultures to non-Western ones like Saudi Arabia without considering the latter’s social and cultural values, which is problematic, as explained earlier. It describes the research procedure and finally, due to the notably different results obtained in the three methods employed (questionnaires, go-along interviews, and participant observation) to investigate how picnickers select a desirable ‘acceptable’ distance between other picnicking groups in the desert environment, it describes the use of GPS as a tool to clarify this difference and narrow down error. GPS was not planned initially; it developed when I went home.

Chapter Six presents the findings of the quantitative method (questionnaires A and B), which were designed and distributed to two different groups: Group A, who go to the desert, which was distributed close to their picnicking area; and Group B, who did not go to desert, which was distributed within the city to students at Dammam University.

Chapter Seven presents the findings and analysis of the qualitative research method involving the ‘go-along’ interview, which was conducted with desert users in their natural setting, in order to gain a more in-depth understanding of some responses to the open questions used in the questionnaires.

Chapter Eight presents findings and analysis of the participant observations, which were conducted with the desert users in their natural setting. In addition, there is an interpretation of the photographs taken, to evaluate and compare the physical and ecological condition of the sites with an unused area and a protected area in the same region.
Chapter Nine presents the findings and analysis using the Global Positioning System and electronic survey to reinforce and identify the acceptable distance between picnickers in the Saudi desert environment. It will be possible to establish the mutually acceptable distance between picnickers in this desert environment and thus, to indicate the acceptable social carrying capacity, ‘the density of picnickers, number of units that could be accommodated in a defined area’ for any further desert recreation development; and finally,

Chapter Ten provides a brief discussion of the research study’s conclusions, with an overview of the results. In so doing, the chapter shows how the research makes both a contribution to the study of landscape architecture, and the limitations of the study, and makes recommendations for future research into the potential of outdoor desert recreation, as well as guidelines for establishing new developments.
Chapter Two: The Socio-Cultural Matters that Influence Recreational Use of Desert Environments

2.1 Introduction

This chapter will discuss the body of literature that exists in relation to the influence of socio-cultural aspects on the human built environment in general. It will then focus particularly on the outdoor recreation environment in the desert and users’ needs and perceptions. It will consider the affordances of built versus desert environments for users and assess the particular benefits of the desert environment.

2.2 Definition of the Socio-Culture of the Built Environment

'Social' and 'cultural' are distinct and separate terms. Culture is an ideational concept, it is the blueprint for social variables, which are the more concrete manifestations and outcomes of culture (Rapoport, 2005, p. 94). Socio-culture consists of two concepts: the ‘socio’ term refers to the social system and the culture of a people. Akpor-Robaro (2012) defines it as consisting of all those elements of the social system which positively or negatively affect and influence people’s behaviour and their performance in general.

‘Culture’, however, has a wide range of meanings among scholars, regarding the concept and what it contains (Hofstede, 2009, Reisinger, 2009). The term culture is derived from the Latin word cultura, which means to cultivate (Reisinger, 2009, p.86) and it strongly influences the environment in which people are raised (Reisinger and Turner, 2003). Most studies, especially in tourism research, refer to culture in its broader sense, as was mentioned in the study by Landauer et al. (2013), ‘culture’ is commonly defined “as the set of customs, values, norms, beliefs, habits, arts, and patterns of lifestyle shared within a group or society” (Landauer et al., 2013, p.97) while to Reisinger and Turner (2003), culture consists of “patterns of human behaviour and people’s values that determine their actions” (Reisinger and Turner, 2003, p.12).
However, for anthropologists, it is people’s way of life that includes their behavioural patterns, feelings, acting and attitudes (Hall, 1959). Tylor, often regarded as the father of anthropology, defines culture as follows: “[It] is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (Tylor, 1871, p. 1). Similar to Rapoport (2005, p. 77), culture is not a ‘thing’ but rather has the nature of an idea, or a construct: Rapoport suggests it is more like a label for many things people think, believe and do and how they do them. Thus, it can be regarded as the process by which people learn the requirements of their surrounding culture and acquire the values and types of behaviour which are regarded as fitting in that culture (Rapoport, 1980).

The separate aspects of, and combination between, the social and cultural factors that set the rules that give direction to and govern the behaviours of a group of people include a wide variety of concerns and responses related to attitudes. Knowing these underlying rules can help to achieve a better understanding of people’s behaviour and also help in forecasting how and why they will behave in a particular way (Reisinger, 2009, Reisinger and Turner, 2003). Applying these rules directly to people’s behaviours in any setting and it defines what is appropriate or acceptable among others (Rapoport, 2005). Thus, to maintain harmony and order in a society, these rules need to be followed (Reisinger, 2009, p. 87). According to Hofstede (2009), this set of unwritten rules of the social game in a group or society is the culture. Reisinger and Turner (2002) point out that culture refers to a stable and dominant character of a society, shared by most of its individuals and remaining constant over long periods of time and Reisinger (2009) develops this view, seeing culture as a historically formed system of meanings that gives significance and direction to peoples’ lives (Reisinger, 2009, p. 33).

In yet another approach, Altman and Chemers (1984) identify ‘culture’ as consisting of four components, which will be used for the aim and purposes of this study. These are:
Firstly, culture refers to beliefs and perceptions, values and norms, customs and behaviour of a group or society… Secondly, the term culture is used to indicate that cognitions, feelings, and behaviours are shared among a group of people in a consensual way… Thirdly, the term culture implies that these shared beliefs, values, and styles of behaviour are passed on to others, especially children, and that the socialisation and education of new members of the culture help preserve consensus from one generation to the next… Fourthly, a society’s values, beliefs and practices involves more than ‘mental’ and ‘behavioural’ processes; culture appears in objects and in the physical environment. (Altman and Chemers, 1984, pp. 3-4).

2.3 The Relationship between Socio-Cultural Aspects and the Built Environment

To understand the built environment, a definition of environment is necessary. Rapoport (1980, p. 11) defines environment as a series of relationships between things and things, things and people, and people and people. This environment generates and reflects relations and transactions between physical elements and people (ibid).

There are rules or defined systems, in any given culture, which govern people’s choices about which elements are important, which less so or not important at all and informs them how they should behave (Reisinger, 2009, Reisinger and Turner, 2003). The environment influences human culture and is part of every culture in the world. It will be important, therefore, to acknowledge both the way that people and their culture affect the environment, and the way that the built environment affects and influences people and their culture. Both Rapoport (1977) and Altman and Chemers (1984) argue that the built environment, people, and culture are one, and that we cannot understand each individually if they are separated. As environment is closely linked to culture and social structure, any disregard of a people’s culture and the social aspects of the built environment will directly affect society and the meaning and relation with it, since “meaning is not something apart from function, but is itself a most important aspect of function” (Rapoport, 1990, p. 15). However, if
the interaction between man and his built environment is, ultimately, misunderstood or inappropriate, then that will likely lead to public disengagement with it and apathy (Rapoport, 1977). How people thus perceive and behave towards their built environment plays a vital role in this communication (Reisinger, 2009, Truong and King, 2006). Rapoport (1977) claims that people engage with their environment through different filters, each intimately linked to such elements as culture, personal values, symbols and norms. It can be concluded, then, that images of the built environment should respond to the socio-cultural needs, symbols, and values of its users and those who interact with it. A look at the built environment and what it constitutes, therefore, will offer much insight into its meaning and role in society².

When we talk about the built or designed environment, therefore, we mean that the space has been organised and structured in a way that reflects certain ideas or rules for its users. Al-Abdullah (1998) pointed out that references to the meaning of the built environment means referring to the images and values which should be reflected in the built environment and its inhabitants’ pattern of behaviour in that built environment. This is a clear indicator of the importance of the relationship between cultural background and the built environment.

In this regard, Reisinger and Turner, in their book, *Cross-Cultural Behaviour in Tourism: Concepts and Analysis*, describe the influence of socio-cultural aspects on the environment, thus: “Different cultures have different rules of interaction, the expectations and meanings of rules also differ across cultures. The rules that are socially accepted in one culture may have quite different meanings in another.” (Reisinger and Turner, 2003, p.139). This is due to the fact that people vary across cultures and they are attached to different values, norms, rules, beliefs and attitudes which lead them to perceive things differently and thus behave differently (Reisinger, 2009). The importance of socio-cultural aspects relative to the built

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² The US National Institute of Environmental Health Sciences (2009) defines the built environment as follows: “The built environment encompasses all buildings, spaces and products that are created, or modified, by people. It includes homes, schools, workplaces, parks/recreation areas…It includes land-use planning and policies that impact our communities in urban, rural and suburban areas.” (NIEHS, 2009, cited in Moore and Cosco, 2010, pp. 34-35).
environment is clear, to avoid any miscommunications and inappropriate behaviour (Rapoport, 1980). Thus, traditional environments can be seen as providing a better fit between spatial organization and culture, communication and behaviour (Rapoport, 1976). Similarly, Reisinger (2009) points out that having a similar cultural background, history and traditions facilitates in understanding the meaning and reducing this misunderstanding between man and his built environment. Furthermore, people are more likely to behave appropriately in those places which have meaning for them (Rapoport, 1990), and understanding the meaning of the built environment helps to communicate and can indicate the best suited behaviour for any given situation (Reisinger, 2009).

In the past, human health was primarily threatened by infectious diseases and epidemics. However, the scale of health measurement has been altered in recent decades: it is reported that now our health is often impacted and gradually threatened by so-called lifestyle-related diseases (Vries, 2010, Ward Thompson, 2010). According to the World Health Organization (WHO), “Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (World Health Organization, 1946).

This definition by the WHO supports Jackson and Kochtitzky’s statement that the “built environment influence[s] public health as much as vaccines or water quality”, (cited in Moore and Cosco, 2010, p. 39). Aspinall (2010) goes further, stating that “understanding people’s choices and preferences is therefore essential to caring for them and supporting their quality of life” (Aspinall, 2010, p. 179). Thus, if the output of the built environment is not successfully matched and appropriate to users’ socio-cultural aspects, needs, norms, values, symbols, and expectations, it will become obvious that this environment is not healthy for its users. The ‘virus’, as it were, of the westernised pattern of the built environment, which has affected the majority of Saudi’s cities since their economic revolution of the 1960s, is not welcomed and appreciated by locals and residents, as they cannot comfortably engage and participate in these outdoor recreational venues. Therefore, due to this outside influence, Saudis have experienced the culture shock of being strangers in their own community. In relation to this, Rapoport stresses: “If the code is not shared or
understood, the environment does not communicate…this situation corresponds to the experience of being in an unfamiliar cultural context, culture shock.” (Rapoport, 1990, pp. 57-58)

So, too, Ward Thompson emphasises the role of cultural aspects in making a place suitable: the social, the desires, the needs, and how these all together influence one’s health. She asserts: “…to understand what qualities of the environment are important to people’s quality of life, we need to acknowledge … desires and needs … understand the cultural, the social and the individual influences on what people seek, perceive … around them.” (Ward Thompson, 2010, p. 235).

2.4 Behavioural Aspects Related to Socio-Cultural Values

Behavioural aspects refer to what people do – how they should behave towards their physical environment and towards particular groups of people (Reisinger, 2009), according to their reading of the situation and what it means to them (Rapoport, 1980). People’s behaviour outdoors is influenced by the context of the physical environment which surrounds them (Altman and Chemers, 1984), as well as their cultural background (Reisinger and Turner, 2003; Reisinger, 2009). According to Reisinger (2009), understanding culture can help to interpret, understand, and predict others’ behaviour. He sees culture as a foundation of human behaviour. This is due to the fact that culture determines and guides human behaviour (Landauer et al., 2013, Reisinger, 2009, Reisinger and Turner, 2003, Weiermair, 2000): it is the foundation of interaction between man and his environment, where it gives direction for the actors and how they should act (Reisinger and Turner, 2003). In the same vein, Rapoport (1977) notes, “People then act according to their reading of the environmental cues and thus the ‘language’ must be understood” (Rapoport, 1977, p. 10). This suggests that people react to their environment depending on what it means to them. People often link certain forms, shapes or designs of, for example, urban areas, houses, or gardens, to what it means to them. Thus, the design of the environment can be seen partly as a process of encoding information so that users can decode it easily (Rapoport, 1980, p.28). Rapoport (1990) also states that people act and behave differently in different settings. This suggests that these settings
somehow influence expected behaviour. Reisinger, in his book, *International Tourism: Cultures and Behavior*, offers a further explanation of how individuals respond to their environments:

“Those who are of a similar culture perceive these elements in the same way; they have similar values, norms, rules, beliefs, expectations, behaviors and language. On the other hand, those who belong to different cultures perceive these elements in different ways...and behave differently.” (Reisinger, 2009, p. 120)

Understanding people’s interactions with their environment can reveal its meaning for users (Hofstede, 2009, Reisinger, 2009, Reisinger and Turner, 2003, Al-Abdullah, 1998, Bahammam, 1995). Therefore, the more we know about how people see their environments and what they know about it, the more we will understand their behaviour and emotional reaction to it (Zeisel, 1984). In relation to this, Rapoport (1976) argues that if the shape of the built environment is related to people images, values and symbols then it will provide a better fit between spatial organization and culture, behaviour, and people’s activities.

Rapoport emphasises that the only way to narrow the gap between the perceptual and associational, when designers understand the role of symbolism, is to apply it in their design and have some mutuality of symbols recognised by the public. He gives the example of a symbol in the “Mosque and its court in Iran as a symbol of paradise” (Rapoport, 1974, p. 58). However, he later argues that despite the increase of interest in the subject of culture among scholars, culture has been little applied in design (Rapoport, 2005).

The meaning of the built environment, therefore, as mentioned earlier, refers to those images and values, apart from users' culture, beliefs and values, which should be reflected in it, and *users’ pattern* of behaviour within that environment. However, if the interaction between man and his built environment is ultimately misunderstood or inappropriate, then the environment will not communicate, which will likely lead to public disengagement and an ambiguity whereby the code or "language" is neither shared, nor understood (Rapoport, 1980).
This research gives due attention to the aforesaid relationship between socio-cultural values and associated behaviour in the built environment to explain how ignorance of users’ social-cultural needs and desires in public gardens, and other recreational sites in Dammam city, have forced them to engage in outdoor recreational activities in desert environments. Establishing what these factors are would provide information as to what has triggered users to behave in this way.

2.5 The Culture of Saudi Arabia

Saudi society is an Islamic society which is heavily influenced and controlled by regional Islamic denominations and the influence of Shariah (Islamic law). Society’s values and lifestyle are affected, and indeed governed and controlled by Shariah. Users’ perceptions and behaviour, therefore, are affected not only by their cultural values, previous experiences, and expectations, as pointed out by Truong and King (2006), but also by what they want that accords with their faith and deep beliefs. Consequently, religion often dictates behaviours which are seen as integral to a culture (Reisinger, 2009).

Addas (2015) pointed out in his study that Saudi Arabia presents a conservative image of Islam. The influences of Islam are evident in Saudis’ relationship with daily life. Islam is a religion based on two main sources, the Quran and Sunni. The Quran is the only Holy Book of all Muslims as it is the word of God, ‘Allah’, which was revealed to the prophet Mohammad (peace be upon him). The ‘Sunni’ encompasses the sayings and actions of the Prophet Mohammed (peace be upon him). Thus, Muslims act and behave according to these teachings. Islam is not only a religion; it is a complete way of life that has laws and solutions for every situation, in every place and time. From an Islamic perspective, Shariah give a direction to how Muslims should behave; thus human acts are of four types: Halal (allowed), Haram (forbidden) Musstahab (commendable), and Makruh (reprehensible) (Al-Abdullah, 1998). Fundamentally, it is a concept of accountability for those actions to Allah as is mentioned in both the Quran and Sunni.
This means that human behaviour in the built environment, within general Muslim society and Saudi Arabian society in particular, has rules and values which govern and control its use. Anyone’s single act will be judged according to these categories, even his/her recreational activities or behaviour (Addas, 2015, Alturki, 2001, Al-Abdullah, 1998, Bahammam, 1995, Al-Shahrani, 1992, Faris, 1997). The way in which individuals within Saudi society act and react toward the physical environment is affected not only by culture, but also by what they want to do without contravening their faith and beliefs. Thus, all aspects of Muslim life will be subject to the approval of the religion, according to these categories of action. Islamic law is not against any particular activities, recreational, for example, but rather directs and encourages people to the right sort in which to engage and participate.

2.6 Socio-cultural Values Influencing the Recreational Behaviour of Saudi Society in the Outdoor Environment

Rapoport argues that different groups stress different things, rank and relate them differently, so that, for any group, there is a core of elements which are important and which define the group to itself and to others and which are not easily given up (Rapoport, 1980). Bahammam (1995) argues that many of these elements can be detected through a series of questions – who does what, with whom, when and in what context, and which settings are appropriate? (Bahammam, 1995). In this study, therefore, we need to understand what behavioural aspects are considered the most important in designing an environment that is culturally supportive of its group. The most important elements which influence a group are those of its cultural core. This core can be expected to influence the behaviour of society; these then relate, organisationally, to the place or space and to society’s needs (Bahammam, 1995). There are three important specific values in Saudi Arabian culture that affect individuals’ participation in and use of outdoor recreation: privacy, territoriality, and the nature of activities undertaken (Al-Abdullah, 1998, Bahammam, 1995, Hammadi, 1993, Al-Shahrani, 1992). Together, these three values give outdoor spaces different functions and meanings from those in other cultures (ibid.). In the next section, those important values of Saudi society will be discussed which
influence, strongly, people’s choice of picnic areas. They will be discussed from different perspectives to clarify their importance to society and its culture and to understand their involvement in design.

2.6.1 Privacy

Different groups have different needs for, and forms of privacy (Rapoport, 2005) which make the desire for privacy a fundamental element of the socio-cultural aspect of human life. Desired privacy is identified by Kaya and Weber (2003, p.302) as “an individual’s ideal level of contact with others at any specific time, whereas achieved privacy refers to the actual level of contact experienced by an individual at a particular point in time.” It remains a vital basic human need, can be found in most environments (Kaplan et al., 1998), and has a major influence on the built environment, not only for a Muslim society but for all others. Rapoport defines privacy as “a human universal in the sense that there is always some avoidance of unwanted interaction, i.e., control of interaction …” (Rapoport, 2005, p. 81).

Built forms achieve privacy through physical means. Thus, privacy is an important element in the design of an environment (Rapoport, 1976). Planning, arranging and creating an order of spaces which work together to create privacy in different cultures aim to fulfil the users’ needs for privacy (Altman, 1975).

All cultures have privacy needs. However, differences exist between cultures because there are varying needs. For example, in Arab societies, people’s need for privacy is greater than in other societies (Gifford, 2007). Furthermore, Gifford states, “Privacy preferences, expectations, needs, values, and satisfaction are influenced by personal characteristics, the social situation, the physical setting and culture” (Gifford, 2007, p. 237).

The built environment in Saudi society is governed by strict rules in relation to privacy that control and manage people’s behaviour (Addas, 2015). This is due to the Saudi culture, as a conservative Muslim society, in which the need for privacy, both for individuals and groups, especially the family, is highly respected (Al-Abdullah, 1998). According to Bahammam (1995), in regard to the built environment in Saudi
Arabia, two main forms can be identified, “privacy between sexes and family privacy,” each of which plays a unique role in organising the various levels of social contact and identification of what is public and what is private. Addas (2015) argues that the desire for privacy, especially for females, is among the social and religious factors that have influenced the use and perceptions of Saudi open spaces. This is true because one specific element that Islamic law emphasises in its teaching, involves the segregation of men and women, in both public and private surroundings, unless they are Mahram (related by blood or marriage).

Privacy is closely related to crowding: both are linked to psychological processes (Gifford, 2007). Thus, it will be useful here to explain the term privacy as opposed to feelings of crowding. Crowding is an individual and psychological experience that varies between people themselves within cultures: there are personal or environmental factors that have an influence on this feeling (ibid.). It is not strongly related to the number of other persons around (Gifford, 2007), but rather is related to a feeling of a lack of control over the physical environment (Kaya and Weber, 2003), unlike privacy where an individual has a sense of control (Gharaei and Rafieian, 2013). Altman (1975) believes that crowding occurs only when an individual gets less privacy than is desired, which means that the level of social contact goes beyond people’s needs. This is supported by Gifford’s (2007) concept of crowding, which is the failure to obtain privacy. In other words, privacy might have been achieved, yet is less than desired; however, too much privacy is loneliness and leads to social isolation (ibid.). In relation to this, Gharaei and Rafieian (2013) point out that crowding occurs when people are asking for more physical space or when their territory has been entered. Walden et al. (1981) suggest that users’ satisfaction only occurs when there is a balance between the ideal level of desired interaction, the value of privacy, and the actual amount of interaction with others: thus, they have achieved privacy (Walden et al., 1981). However, when the interaction increases above the ideal level, a feeling of crowding is experienced (ibid.); that is, when the feeling of crowding appears that means the feeling of privacy has decreased to below its desired level, due to the amount of social contact among people who are using or sharing the same area, which can vary for different people. Gharaei and Rafieian (2013) point out that there are factors that lead some people using the same area to
feel crowded while others do not. This is due to the fact that the feeling of crowding is subjective, and is a psychological experience that is experienced differently by individuals (Kaya and Weber, 2003). For example, at the beginning of the 1990s before the increase in population, Saudi locals, in outdoor recreation, tended to sit without barriers and women enjoyed walking around their seating area more comfortably due to the desired distance being kept between them and other picnickers and due to the very low number of picnickers sharing the same area. Thus, in one way or another, these distances kept between picnickers achieved users’ desired privacy and reduced the amount of interaction to the ideal level, so that there were no feelings of crowding. However, recently, there has been an increase in population and greater numbers of people are seeking the same areas for recreational purposes. These issues together have increased the density, reduced the ideal level of privacy, and increased the amount of interaction with others, which has led Saudi locals to feel crowded in recreation areas.

It might appear here that there is an overlap between crowding and density. Density in this study is related to the social carrying capacity. Density is identified by Kaya and Weber (2003) as a physical condition involving spatial limitations, in other words, the amount of physical space per person, while crowding is more related to feelings, as mentioned above. That involves a limitation in the space that is suitable for the number of people using the same area. This idea of density is associated with two aspects: the number of people and the amount of space available per person: i.e. social and spatial density (Kaya and Weber, 2003). Any increase in the number of users beyond the amount of space available is called social density, which I refer to in this study as the social carrying capacity. In other words, if the number of users is higher than space limitations, that means the social carrying capacity is high in the area and the distance between users that is often kept to achieve their desired privacy without barriers, as I mentioned in the above example, has diminished. This aspect will directly influence users’ desired privacy, once distances kept between users have shrunk due to the increase in the number of people. Moreover, it will also influence the feeling of crowding, due to the increase in the amount of social contact among people who are using or sharing the same area. Both crowding and social carrying
capacity have an influence on privacy and can reduce users’ satisfaction (Wagar, 1964), as will be explained later in this chapter.

A Muslim woman in Saudi society, when she leaves her house or private place and goes into public spaces, is obliged to observe certain dress codes. In particular, she is required to wear a veil and loose, black Abaya robes to cover her entire body, so as not to reveal her figure. Based on the Quran’s command, she is strictly not allowed to unveil her face to any male except her husband, and beyond that, her son, father, uncles, brothers, or nephews. While she cannot be seen by a male stranger, she can unveil her face and wear whatever she pleases when around close female friends. Within Islamic society, the conservative view stresses that a woman should cover her entire face and body in public, while a less conservative view would argue she can keep only her face and hands uncovered in public.

Women cannot participate in certain public activities; however, they can do so in the desert, where they can remove their veil and robes. Addas (2015) found out that when females go to the desert, they behave as if they are at home with regard to dress. This allows them to be active easily, and enjoy a full sense of privacy and freedom. For example, they can drive a car, which they are only allowed to do in the desert, and also enjoy more passive activities, such as sitting together with all the family members. Moreover, women can eat more easily, since normally that requires privacy, as they need to remove their veil.

The majority of Saudi citizens take a conservative view, which means that in public, a woman must keep her veil over her face at all times, whether in recreational or other open spaces, and only remove it when she is with her family. Strictures apply also to Muslim men, who must not stare at women and must lower their gaze in their presence, as the Quran commands.

The requirements apply to all women, except young girls less than seven years old. Bahammam (1995) says that the separation between public and private domains is evident both in female behaviour, wearing Niqab and Abaya robes that veil the entire face and body in public, and also in the entrance to a building that veils inner spaces from the public.
Women may behave differently within the family, by removing their *Niqab* and *Abaya* robes, in the private interior of a building or at home, as depicted in the following diagram.

![Diagram of human behavior from public to semi-private to private domains](image)

**Figure 15.** The sequence of women’s behaviour, from public to semi-private domains in terms of wearing their veil (Bahammam, 1995, p. 46)

The diagram in Bahammam’s work (1995) showing the dress code for women in a sequence from public to semi-private domains, in terms of wearing their veil, will not be much different from the practice today, primarily because Saudi Arabia, unlike other Islamic countries, is a conservative Muslim society. It has a strict Islamic culture even compared with other Arab neighbours in the Gulf area surrounding it (Ezzi et al., 2014). For example, gender segregation in social settings or the workplace are imposed, but this does not exist in Kuwait, which has the same religion, and women walk without veils in the United Arab Emirates, and Bahrain (ibid.). Saudi Arabia follows Islamic law and its commands in a way that has never changed in the light of the progress and development of the country. Addas (2015) points out that, despite the enormous development in the country, Islam, in Saudi Arabia up to today, still applies in everyday life: local people’s behaviour and their dress codes are enforced strictly by social norms and mixed public contact is prohibited by Islamic values and social norms. This is according to the command of
the holy book, the Quran, which is a crucial part of all Muslims’ lifestyle (Ezzi et al., 2014)

Saudi Arabian citizens, like any others, want to get outdoors and enjoy fresh air, recreation, escape from being indoors and recover from their daily fatigue. People also enjoy being outside with friends or family and doing activities together. However, the required privacy levels, to make outings enjoyable, are important to ensure women and families enjoy maximum benefit (Addas, 2015, Al-Abdullah, 1998, Faris, 1997, Bahammam, 1995, Al-Shahrani, 1992). Similarly, Addas (2015) in his study notes that families often seek locations in open spaces that can offer them suitable levels of privacy.

Family privacy in Saudi society has to be maintained. It influences the design of public gardens and waterfronts in Saudi Arabia, since most users are families (Addas, 2015, Al-Abdullah, 1998, Bahammam, 1995, Al-Shahrani, 1992). Activities involving family members that require some privacy, for example, eating, talking, playing with children, or playing football, are difficult to do in front of strangers, and thus, a woman will keep her veil on throughout the activity. This inhibits her from benefitting fully from being outdoors (Bahammam, 1995). Similarly, Al-Abdullah (1998) found that for the family’s sake of privacy and segregation, in places of recreation on beaches, cars are driven right to the edge of a viewpoint or shoreline to minimise exposure and to provide a visible barrier. While this offers greater privacy, it undermines the aesthetics of a place. Understandably, women and families tend to go to open spaces only if they are going to feel free there. Privacy, especially in Islamic societies, must be evaluated as a socio-cultural aspect that impinges on use of outdoor recreational open spaces. People should feel less restricted there, not more so than at home (Al-Abdullah, 1998, Bahammam, 1995, Al-Shahrani, 1992).

Consequently, this study presents the nature of privacy in Saudi society as an important socio-cultural factor influencing its citizens’ behaviour in the outdoor environment. It considers, therefore, Saudis’ perceptions of the built environment and how these affect their choice of picnicking sites on the outskirts of Dammam city. It describes, too, the nature of that specific problem as it affects Saudi society
relative to its engagement with the desert environment and new behaviour patterns. Kaplan, Kaplan, and Ryan, in their book, With People in Mind, assert that: “The patterns are not formulas. Rather their purpose is to suggest a relationship between aspects of the environment and how people experience or react to them” (Kaplan et al., 1998, p. 3).

Similarly, Alexander et al. speak of the idea of patterns in their book, Pattern Language (1977): “Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice” (Alexander et al., 1977, p. x). Consequently, the new pattern of outdoor recreation that is taking place in most Saudi cities must be carefully examined to understand fully users’ perceptions of the desert environment and its influence on their wellbeing.

### 2.6.2 Territoriality

Human beings are territorial by nature. We define and use spaces for particular reasons and different purposes in various settings and environments. We create visible and invisible boundaries against other individuals and natural objects, and we defend our territory against unwanted intrusion, through practices which are established, borne out and reflected by cultural conventions of behaviour toward those boundaries (Bahammam, 1995). Hall (1959) in his book, The Silent Language, defines it from a social or behavioural approach, thus: “The act of laying claim to and defending a territory is termed territoriality” (Hall, 1959, p.187). Likewise, Altman (1975) goes further in describing and defining ‘territorial behaviour’, in a way that corresponds with the aims of this research, stating:

“self/other boundary regulation mechanism that involves personalization of or marking of a place or object and communication that is 'owned' by a person or group…to regulate social interaction and to help satisfy various social and physical motives.” (Altman, 1975, p. 107)
Similarly, Hall, in his book, *Hidden Dimension*, describes how people from different social and cultural backgrounds use space in various ways with different boundaries, “people carry around with them internalizations of fixed-feature space learned early in life. It isn't only the Arab who feels depressed unless he has enough space’ (Hall, 1966, p. 106).

People’s behaviour supports the idea that humans are territorial (April et al., 2010). Brown (2009) explains territorial behaviours as those “that ‘owners’ use to signal to others the boundaries of a territory and, if necessary, prevent others from accessing the territory” (Brown, 2009, p. 44).

April et al.’s (2010) definition is: “Territorial behaviors can be used to establish a desired level of privacy through the regulation of information or social exchange with others” (April et al., 2010, p. 47). Accordingly, territorial behaviours can establish a desired level of privacy through the regulation of information or social input that can be exchanged with others and this regulation has an influence on other behaviours.

Territoriality, after privacy, appears to be the most prevalent aspect of environmental behaviour (Rapoport, 1976). It is a concept that infuses every aspect of our daily lives. It serves to define and articulate the boundaries between the self and others, regardless of whether that is an individual or a group. Thus, ‘territory’ is not limited to human beings, as animals also define their territory (Tuan, 2001). In *Design for Outdoor Recreation*, Bell describes users’ behaviour in an open space, revealing that it reflects their needs and desires for territoriality by asserting “[a] picnic spot has to fulfil some territorial requirements. For many people it has to become ‘defensible space’ for the duration of the visit” (Bell, 2008, p. 79). Thus, the desires and needs of the territorial aspect can be an obvious indication of a basic human need and exerts a crucial influence on human behaviour, though it manifests itself in varying degrees, from some people who want to be alone, others who want to be near other people, and a range in between. As a result, picnickers prefer to sit far away from even the edge of a trail (Bell, 2008). In his study, Bell identifies and highlights the relation between human desire and the need for territoriality and personal space by
categorising and illustrating the differences in that space and how this desire can influence individual choice of outdoor recreational participants’ sitting areas. The territory’s dimensions can also shift through time, its size and location dependent on the socio-physical context (Al-Abdullah, 1998, p. 132).

Altman (1975) categorises the differences between ‘being territorial’ and exhibiting ‘territorial behaviour’, the former often symbolized by markers or other indicators of ownership, or by occupancy itself as a symbol of territorial control (Altman and Chemers, 1984, p. 140), whilst the latter behaviour in humans refers more generally to a boundary or privacy regulation.

Territoriality has become a much discussed social concept (Gifford, 2007). However, it is less applicable in design terms, especially in relation to outdoor recreational projects (Al-Abdullah, 1998, p. 132). Domination of a territory, such as creating privacy, is influenced by personal characteristics, the social situation, physical setting, and it can also demonstrate a shift through time, size and location, depending on its socio-physical context (Gifford, 2007, Al-Abdullah, 1998, Altman, 1975). Gifford goes further, combining issues of privacy, personal space, and territoriality, and emphasising their influence on daily life and behaviours (Gifford, 2007, p. 230).

In this study, territory will be considered as the space occupied by individuals or groups of males or families which they need to undertake their activities.

The defining and marking of territory can be physical, verbal, or non-verbal. For example, Saudi locals, in outdoor recreation, tend to use barriers, such as windbreakers or the placement of their cars to define and mark their territory. These allow families to be more comfortable, especially as the spaces become more crowded with picnickers, since that is often unsettling. April et al. (2010) mention that perceptions of crowding have been shown to be positively correlated with physiological arousal discomfort (April et al., 2010). If territory remains undefined, or crowding occurs, Saudi women will feel uncomfortable outdoors if they must wear their veil all the time. They will not interact fully with their family in their activities, leading to them questioning the value of recreation when it is more restrictive than being at home. Territoriality, therefore, is important in Saudi society.
in terms of the relationship between individuals or groups and society (Al-Abdullah, 1998, Bahammam, 1995). For example, Al-Abdullah (1998) and Bahammam (1995) found that, in recreational open spaces, territorial aspects are evident when single males come into the territory occupied by seated family groups. Their physical presence or noise usually provokes disquiet among the families and sometimes makes them leave.

Altman and Chemers (1984) further argue that territorial behaviour not only establishes and maintains personal identity, but that it plays a fundamental role in a person or group’s wellbeing. They indicate also that territorial behaviour is one of several behavioural mechanisms that support privacy.

It will be useful, here, to differentiate between privacy and territoriality. Gifford acknowledges, “The four space management processes (personal space, territoriality, crowding, and privacy) overlap in some ways” (Gifford, 2007, p. 244). However, for this study’s purposes, territoriality will be considered as being related to the space occupied and used by individuals or families, which they need for picnicking and such activities, and where they would feel annoyed by other intrusions, especially when a space becomes crowded with picnickers. April et al. (2010) define crowding as what can happen when an increasing number of people share the same place in a particular environment. As mentioned above, the perception of crowding and sharing space can cause discomfort in users who arrived in the space first.

April et al. (2010) state that the “perception of crowding could vary when other factors are taken into account, such as the perceived discomfort to the other people in the situation” (April et al., 2010, p. 47). The sense of personal space, territoriality and privacy, therefore, lessens to the point of being absent as a result of crowding. Undoubtedly, patterns of territoriality have crucial influences on human behaviour and wellbeing and are fundamental in any culture. It is important to recognise that territoriality has a two-way influence; how a territory affects people, and how people’s culture affects personal use of the territory through their activities.

The increasing population of the area, especially in the Dammam metropolitan area, should be addressed too. This has increased the negative affordances offered by the
existing outdoor open spaces because the visual carrying capacity for users in open spaces has been impacted by the increasing number of people seeking such spaces for recreational purposes. In addition, the lack of neighbourhood parks has increased pressure on the Dammam metropolitan waterfront, since it is the only open space left along the coast. Availability can influence people’s satisfaction, since the main concern of carrying capacity is the number of users. Stankey and Manning (1986, p. 49) state that “user perceptions and opinions of what types and level of use are appropriate are an essential element of carrying capacity prescriptions”.

In addition, the use of space is not only limited to locals. In recent years, these areas have become mixed, with tourists and migrant workers and their families making up a third of the region’s population. Since visitors and immigrants have various cultures, ethnic groups and backgrounds, with assorted beliefs and values, their definitions of privacy and territory are completely different to those of locals. Addas (2015) found out in his study that visitors and immigrants often see the privacy aspect as less important than local people do in Saudi open spaces. This is due to the fact that different cultures have different rules for defining, establishing, and maintaining social relations and have different notions of physical proximity and privacy (Reisinger, 2009). This aspect of differences in cultural background can cause, in one way or another, social interaction problems and conflict between tourists and the host (local users) (Reisinger and Turner, 2003) and thus result in negative outcomes (Reisinger, 2009).

Another factor is that the distance between users fluctuates greatly in open spaces when they are defining and defending their territory and privacy and avoiding unwanted interaction. This avoidance of unwanted interaction may be controlled, as Rapoport (2005) mentions, by such strategies as organization of time, spacing or use of physical elements. Thus competition for suitable space was another issue that prompted local users to find alternatives or go to an environment more appropriate to their needs and desires.
2.6.3 Activities

While the built environment should support and enhance users’ activities and lifestyle, the Saudi outdoor recreational space does not do this. The term ‘user’ can be defined as the person who uses or operates something (Pearsall, 2001). In this interpretation, users refer to those who interact with and use the place, who are exposed to the environment, and who are often closely connected with it (Lynch and Hack, 1984, Lynch, 1990). However, in this study, the term will refer to Saudi users of outdoor recreational projects, those who interact frequently with recreational areas and have their needs and desires met through their use.

The type of activities engaged in, the nature of the site, and how users behave are not the only aspects that affect people. Saudi outdoor places are deeply influenced by other factors, including Islam. The hot climate, too, can influence people’s choices and prevent them from being outside in the daytime, especially in summer. Thus, outdoor recreational areas are becoming frequently more crowded with picnickers at night-time, starting from 4.30pm daily and peaking at the weekend, when it is hard to find enough space with the desired level of privacy. In effect, local Saudi users will not feel happy in such circumstances, since they will be forced to interact with others to an uncomfortable degree. Thus, misunderstanding the kind of activities or context which users desire in open spaces, coupled with the elements and forms that are not appropriate to their needs, desires, and culture, are vital issues for consideration. For example, outdoor recreation areas which are too open, or exposed in such a way that families cannot be private, especially when it is crowded and there are no hedges or structures to provide privacy, do not meet their needs. Consequently, Saudi families will feel uncomfortable, as is evident from their behaviour (Al-Shahrani, 1992, Bahammam, 1995, Al-Abdullah, 1998), surrounding themselves and their picnicking sites with visual barriers, rather than sitting in too open a space without any barriers.

Questions need to be asked about the kind of activities offered in formal city outdoor areas that have led people to abandon such developments. For example, whether there is enough space for users to carry out their activities; whether the site meets their needs or matches their desires; and whether the open spaces are suitable for the
activities people want to undertake without distraction from and intrusion by other users.

The activities undertaken by users in the built environment are like those that take place in any outdoor recreational area, so they will have natural elements which, potentially, can establish the private space required for the kind of activities that are fitting for the place. Conversely, if the physical setting is not suitable for certain types of activities, it will not be used fully. Different activities clearly require various forms and spatial arrangements. However, knowing how users behave and what recreational activities they carry out in the spaces they have chosen is a crucial issue in this study. Studying people’s perceptions, behaviours, needs and desires in desert recreation, therefore, will provide valuable insights into the new patterns of recreation emerging on the outskirts of Dammam city. This can be seen as a reaction to the adoption of recreation projects of foreign design in a conservative society like Saudi Arabia.

One activity that Saudi families enjoy in outdoor recreation areas is sitting together in a circle on the ground in a grassy or paved area, while having a barbecue, talking and eating, while their children play around them (Bahammam, 1995). A conflict arises when these places become crowded, as families, especially, will then not have the freedom and privacy they wish. It has become a trend for users to protect their territory, as mentioned above, and obtain their privacy by using barriers. The problem is that these often decrease the very feeling of openness in nature which was desired in the first place.

The challenge is not just particular to designers in Saudi Arabia but is worldwide. Designing places fit for human purposes and to meet recreational needs is not easy. What is crucial is to understand the culture as a common value in design (Kang and Suto, 2013). Indeed, the nature of the site and how users will act and behave, is greatly influenced by socio-cultural aspects, and thus, the role of symbols, which play an important role in the way man perceives his environment, needs to be considered in any culture (Rapoport, 1974).
What, then, is the concept and definition of recreation and what is the relation between activities and recreation? The Encyclopedia of Leisure and Outdoor Recreation (2005, p. 412) defines recreation as “activities, either active or passive, enjoyed either outdoors or indoors, which take place during leisure – as opposed to non-work – time.” In fact, the word recreation can refer to any activities. However, not everyone accepts these activities are recreational unless it helps the individual to reduce their daily stress and overcome fatigue. Furthermore, it also depends on a person’s desires and perception of recreation (Bahammam, 1995), for example, the activity of shopping, for some people, is a kind of recreation, while others see it as a chore; going for coffee or to the pub, for some, is recreational, while for others, it is not. According to the Encyclopedia of Leisure and Outdoor Recreation (2005, p. 5) “activity refers to a virtually endless number of activity labels (e.g. camping, hunting, hiking, football, hockey, swimming, and television viewing) and activity categories such as games, sports, and hobbies.”

Bell and Petursson (2009) define outdoor recreation as those activities that people can undertake as part of a daily or weekend routine, which help them to relax and reduce the stress often caused by everyday life. Bell and Petursson highlight too the difference between active and passive activities, stating that “Activities range from the very passive, such as sitting, relaxing or enjoying a view to the very active, such as skiing, mountain biking or horse riding” (Bell and Petursson, 2009, p. 1).

In Saudi, men have many opportunities to enjoy recreation outdoors within the built environment to carry out their desired forms of recreation. Their recreation is often considered to be more ‘active’ than women’s, and they have more freedom than women to travel freely in open spaces without restrictions. However, for women, their opportunities in mixed public recreational places are of ‘a passive’ type (Faris, 1997) since they are required to veil their faces. Frequently, women cannot be comfortable in open spaces, so their behaviour is very different from men’s and, crucially, it is different to how they would behave when enjoying recreation privately. However, when they are in nature in a desert area, such as on the outskirts of Dammam city, women and men become more active in their recreation since there are fewer restrictions and the feeling of being alone is increased.
The same holds true for non-Saudi users. A recent debate in an online community of immigrants working in Saudi Arabia involved them in wondering what kind of outdoor activities are acceptable for women and female children (HoosierExpatm, 2010)³.

As Barth (2001) notes, “Industrialization and urbanization around the centres of Dhahran and Jubail have led to an increase of recreational activities in the surrounding deserts” (Barth, 2001, p. 387). Dhahran and Jubail are two industrial cities near to Dammam within the Eastern Province. It has been argued that outdoor recreational projects in the built environment are not suitable for conservative Muslim societies. The demand for the high levels of privacy required, especially for families, is seen as leading to demand for appropriate recreational sites rather than having recreational facilities that restrict both men and women’s freedom. Since Saudi recreational behaviour is not only affected by its culture, social aspects and norms, but also deeply influenced by Islamic law, consideration of how these forces interact is crucial to obtain an understanding of how these spaces will be used.

While some might think that Islamic law prohibits outdoor recreational activity, this is not true. Islamic law and Sunni, which directs Muslims’ lives, encourages all kinds of activities, with the exception of unlawful ‘Haram’ activities, such as gambling, which are prohibited, as stated in the *Quran* (Al-Hialali and Khan, 1984). Further, participating in any kind of activities that might lead one to commit sin, harm others, or cause distraction or discomfort for other people, is classed as unlawful enjoyment (Al-Hialali and Khan, 1984).

The influences of Islam are clear for Saudis in their daily life. Muslim societies, lifestyles, and values are affected, ruled and controlled by Islamic Shariah. Users’ perceptions of the activities they like to undertake are affected not only by culture,

³ Mirfarali states: “I have never been in Jubail but have spent a certain amount of time in Dammam. Even though the atmosphere in the Eastern Province is more liberal compared to Riyadh, I do not think that you will be able to do such activities as a family. Maybe someone can correct me if I am wrong but I do not think that there are any outdoor activities for women in the kingdom, unless you go out into the desert and drive (which my wife did). Welcome to Saudi Arabia.”
but also by their faith and beliefs. The consequences of cultural norms and religious observance is thus of the utmost importance in planning and maintaining appropriate recreational spaces in Saudi Arabia.

As a result, misunderstanding cues in the built environment, and especially in recreational projects, the public has not behaved as city planners had expected, precisely because they feel it offers negative affordances. This new type of spatial arrangement and urban form, argues Al-Hemaidi, has destroyed the sense of the traditional built environment and traditional lifestyle that was identified by a harmonious relationship linking the past and physical environment (Al-Hemaidi, 2001, p. 192). Al-Naim (2008) states that that “change was limited to physical issues rather than values; the people of Riyadh remained traditional in their living patterns even if they appeared physically very modern.” (Al-Naim, 2008b, p. 129).

Unfortunately, that change did not encourage people to adapt their behavioural styles within a conservative culture to conform to the new look of the urban form and its spatial organization and arrangement. Rather, it has forced local people to escape to other places that can offer affordances that meet their needs. Saudi society seemed not yet ready to embrace social and physical changes and people resisted cultural globalization (ibid).

2.7 Affordances of the Built Environment versus the Desert Environment

The inharmonious features of the built environment have corresponding negative affordances for its users. Bell states, “When it comes to physical activity and using places, it is known that the absence of negative features is as important as the presence of positive features (or affordances)” (Bell, 2010, p. 265). To understand the affordance of an environment, we need to examine the definition of affordance itself. This neologism was created by Gibson, who states, “The verb ‘to afford’ is found in the dictionary but the noun ‘affordance’ is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the
Bell’s statement regarding the positive or negative features which an environment affords agrees with Gibson’s theory of affordance, in which he states, “The affordance of the environment is what it offers the animals, provides, and furnishes, either for good or ill” (Gibson, 1979, p. 127).

Both Bell and Heft argue that affordances are not always positive. Bell gives an example of how the environment can be both positive and negative for different users, depending on age, needs, or gender. He states that “…affordance can also be negative… – a bench that is too low for an old person to sit on is a negative affordance for them while it may be fine for a younger person – from the positive affordances.” (Bell, 2010, p. 264)

A wide-open space will not suit a conservative culture, such as exists in Saudi society, where privacy and territorial issues are paramount. Heft highlights the relationship between the environment and individual, asserting that “affordances are relational properties of the environment taken with reference to a specific individual” (Heft, 2010, p. 17). If the output of the built environment is not appropriate for one user, it becomes a negative feature. That means the output, in this case, the new look of the Saudi built environment, is not appropriate for local people and thus it becomes a negative feature for Saudi users.

As mentioned above, Rapoport goes further and distinguishes the positive and negative effects that the environment can afford, when he states: “[An] environment which gives satisfaction to people, its sensory quality in all modalities; the positive and negative effects on human feeling, behaviour or performance and its meaning, these could be called the psychological and socio-cultural aspects of the environment” (Rapoport, 1977, p. 61). This relation of satisfaction via the positive psychological and socio-cultural affordances of the environment to user is my main theoretical framework.

Gibson (1979) notes that the environment offers more than merely a place for humans and animals to live, but also shelter, water, fire, objects, tools, and a platform from which to display our human potential. Further, the environment frames our sense of value: “The ‘values’ and ‘meanings’ of things in the environment can be
directly perceived. Values [and] meanings are external to the perceiver” (Gibson, 1979, p. 127). Grahn et al. (2010) go further, defining the affordances of the environment as offering meanings which include the whole body, sensory experiences, emotion, one’s surroundings, people, and objects. These meanings gain especial significance when shared between members of a community. Heft, on the other hand, identifies affordances as opportunities for action, with differences in culture affecting whether a particular environment attracts or resists it. He thus considered the environment to be a part of a perception-action process (Heft, 2010).

Hence, Saudi citizens, in misunderstanding cues in the recreational projects of their built environment, have not behaved as city planners expected, precisely because that environment offers negative affordances. Thus, in recent years, it is sites such as the desert areas on the outskirts of Dammam city, rather than public gardens, recreational projects, and planned waterfalls, which have emerged as more popular outdoor recreational areas for Saudi residents. However, this confusion evident in people’s preference for these picnicking areas has raised considerable concerns regarding the failure of recreational projects and the success of other sites in desert areas outwith the urban fabric of the Dammam metropolitan area.

A number of studies (Faris, 2006, Al-Hijji, 1989, Bahammam, 1995) have observed increasing numbers of outdoor recreational areas emerging within the urban fabric of the capital city of Ar-Riyadh as well, such as the paved roadsides and vacant lands along major roads. Also, the trend of picnicking has increased dramatically overall, however, none of these studies has assessed the increasing volume of outdoor recreation in the desert area. Similarly, Rapoport emphasises that if the shape of the built environment is not related to the images, values, and symbols of its intended uses, and if it does not act on people, at least partly through an intelligible method of communication, then it will not have any link with culture (Rapoport, 1976). Thus, it is obvious that the built environment has not been successful in providing a positive affordance for Saudi families, especially in their recreational areas.

Residents, therefore, began looking for other, more suitable environments and relationships between physical space and culture, communication, behaviour, and
their activities. As a result of normal reactions toward these unfamiliar new developments, “people perceive problems and possible solutions in different ways; they define ‘basic needs’ differently and give them different priorities; they define standards (space, ‘slum’ or comfort) and also ideal environments differently; they give different meaning to concepts such as density or privacy” (Rapoport, 1977, p. 28). People are thus trying to find a suitable environment and identify different solutions to match their needs and desires.

The natural environment provides people with a fitting alternative to the negative factors they encounter in urban settings, such as noise, busy-ness, and invasion of privacy. Bell states that a “natural area contributes to stress reduction or to attention restoration and it could therefore be that it lacks many of the negative factors presented by stressors found in other settings, such as noise, traffic, concern over personal safety, as well as the affordances for meditation or contemplation provided by quietness, soothing sounds or attractive plants” (Bell, 2010, p. 264). Moreover, culture in any environment is seen as a communication system that provides cues for behaviour, and which can be seen as a form of both verbal and non-verbal communication (Reisinger, 2009). As a result, people behave differently based on their perception of the environment, according to Reisinger and Turner (2003), echoing a sentiment expressed by Gibson (1979). This makes perception an important element of culture (Reisinger, 2009, Truong and King, 2006, Reisinger and Turner, 2003). The users of the built recreational facilities in Dammam city were not expecting to confront the westernisation of their built environment, with its disregard for their desires and emotional attachments, and they adjusted their behaviour accordingly.

Thus, it is essential in this study to investigate whether the lack of affordances in the Saudi built environment, especially in outdoor open spaces, is responsible for the new pattern of outdoor recreation in the Saudi desert and whether it offers positive affordances for users. It is also important to focus on users’ perceptions and their behaviours in different natural environments such as the desert environment, a field which lacks considerable research.
2.8 Public Perception of Recreational Places

A sense of place is a general concept which describes the relationship between people and their (local) spatial settings, including such facets as place attachment, place identity, and place dependence. Place attachment speaks to a strong and positive relationship; place identity symbolises those aspects of personal identity which are reflected by the environment and its social and personal meanings, and relates to a positive emotional link between a group and its environment. Place dependency relates to how well a setting serves to achieve one’s goals, given the existing range of options (Hunziker et al., 2007). Similarly, Kianicka et al. (2006) state that “people establish different relations to places, depending on their cultural values, interests and individual experiences” (Kianicka et al., 2006, p. 55).

The absence of a sense of place in the built environment of Dammam has forced local people to leave those spaces and escape to the desert, since it is that desert which is perceived to be linked with their cultural values, social meanings, and personal experiences; they see it as a place for them.

Tuan (2001) points out that transferring space to place cannot happen unless groups or individuals link a space with their cultural, social meanings, values, and personal experiences, and become familiar with a particular space. Rapoport (1977) sees perception as the most fundamental mechanism linking people and their environments. People’s perceptions of their open spaces in the built environment are often ignored. Aspinall addresses this question of expectation in his study, where he points out that it is not the only issue that influences public perception: what people want to see is also a crucial concern in people’s perceptions. He states, “perception is also influenced not only by what people expect to see but also by what they want to see – that is, motivational factors, which include their hopes, desires and emotional attachments” (Aspinall, 2010, p. 180).

In relation to this, Hunziker et al. (2007) refer to people’s perception in two moods – one as space and one as place – claiming that those moods are received differently depending on our “biological inheritance” and our psycho-social cultural background. In the space mood, people perceive space based on their biological
needs, however, in the place mood, people perceive place based on their self-reflection (such as personal experiences and achievements) and social integration (including values, norms, symbols, and meanings). On the other hand, the authors emphasise that a sense of place is the general concept which describes the relationship between people and their local spatial settings. They do, however, include other concepts, such as place attachment, place identity, place dependence, and the amount of time that people spend in a place, as deepening the relationship between user and place.

Kurz and Baudains (2012, p. 190) go further in their empirical study, and conclude that “although the attitudes of individuals appear to be important to the ways in which people perceive and interact with urban landscapes, such preferences and practices are also highly influenced by the local social and environmental context”. They emphasise that gaining a wider understanding of the relevant psychological and social factors is a fundamental issue in enhancing the relationship with the built environment. Atik et al. (2013) argue that “we perceive and value landscape according to our culture” (Atik et al., 2013, p. 238). Moreover, Dixon and Burrgeim (2000) point out that personal preferences and experiences also influence people’s relationships with place. In this regard, personal preferences have more weight in influencing people’s relationship with a place.

Furthermore, the adaptation of the Western model in the built environment was not limited to the output of the design of this environment, but also influenced the landscape itself, since the native landscape was ignored too. Thus, the relationship that should link the idea of place identity between local users and their open spaces has decreased in power.

Addressing native landscapes in open spaces is another issue mentioned in the literature. Velarde et al. (2007) note that using a landscape that is taken from the cultural geography of a people will help to link it to the idea of place identity, which can enhance and maintain both health and wellbeing. Taylor (2008) also stresses that the connections between landscape and identity, and therefore, memory, are
fundamental to understanding landscape and the human sense of place (Atik et al., 2013).

Kurz and Baudains (2012) demonstrate how geographical differences influencing people’s attitudes and preferences can be noted in their perceptions of natural plants. They emphasise that there are strong indicators of this relationship in the difference between people’s preferences for native plants in their garden over non-native plants. This correlation, they feel, underlines and signifies the importance of the general preference for “native” landscape over human-dominated or built landscapes.

From the previous theories and studies, as explained above, the total disregard for users’ culture, perceptions and desires for privacy and territory in the available recreational spaces in the Saudi urban environment creates an unfamiliar cultural context, and manifests itself in culture shock. Since city dwellers could not decode the design environment, it did not communicate to them, so they have escaped outside the city boundaries. The role of culture can be seen, then, to have a significant effect on people’s perceptions of their environment. An examination of how the desert has led people to view and use it as a place of recreation to relieve their stress will provide valuable insights into the role of culture in shaping public perceptions.

On the other hand, from a study conducted in the city of Hail in Saudi Arabia, Al-Shammeri (2008) argues that a disregard of people’s perceptions of their desire for privacy in recreational projects in the city is not the only reason for this dilemma. Rather, it is that the population and geographic factors of the city also affect recreation and tourism in the countryside. Hail residents tend to go to the countryside – ‘the desert’– and enjoy their freedom and privacy frequently throughout the year. However, Hail city is different from Dammam city geographically and by population, as the area consists of desert and oases. Also, most of its residents used to live a primitive and more traditional life, since the majority were Bedouins, who have only recently adopted a more modern way of life. This might explain why Hail residents are going to the desert. In general, people’s perception of their desert
environment has led them to draw on their cultural heritage, memories of the desert and what it offers and contains.

The lack of public input and participation in the design of the Saudi built environment is another issue that has led to a perception of disrespect for the local culture, religion, and history of the community, especially in regard to open spaces (see Matsuoka and Kaplan, 2008). A further result of Dammam public spaces being based on non-traditional, Western design styles has been the lack of integration of particular socio-cultural aspects of a conservative society that are based on Sharia (Islamic law). This has led users to feel insecure and uncomfortable in such developments and, as noted, they have found alternatives that better match their needs. Matsuoka and Kaplan (2008) argue that in relation to the urban landscape, there is a need to obtain greater public participation to identify a design that meets human needs as well as the local culture, religion, and history of a particular region. They identify what has happened in the Middle East as a result of a breakdown in traditional community social networks. They blame the non-traditional, Western-style residential layouts currently being introduced, especially in Saudi Arabia, for affecting human behaviour and wellbeing. A consequence of these developments is the loss of nearby natural settings that previously yielded positive effects in creating privacy outdoors. Moreover, they attribute to such developments a loss of a sense of community identity, which strongly influences user behaviour and wellbeing. Planners, designers, and decision-makers, therefore, need to learn from such past mistakes, and counterbalance them by introducing successful practices. The impact of urbanisation and modernisation on three crucial aspects of society – place quality, place identity and place dependence – have thus a clear, distinctive, and important role in Saudi society, especially with respect to open recreational spaces.

Thus, Arabs have looked to the desert as providing the origins of their culture and religion. Saudi users’ perceptions of the environment, therefore, are affected not only by culture, previous experiences, and expectations but also by what they regard as fitting relative to their Islamic faith and their native landscape. This will be explained in detail in Chapter Four, where a focus of this study will be users’ perceptions and behaviours in different natural environments, such as the desert environment. Based
on the findings of this literature review, this study assumes that the socio-cultural aspects which reflect Saudi society’s needs and values are the key reasons influencing its outdoor recreational behaviours in the desert. The empirical research will investigate the impact of these socio-cultural factors on the feelings and behaviours of the desert picnickers on the outskirts of Dammam city. It also intends to discover if the desert provides a positive affordance for Saudi families, especially in their recreational areas and how this is achieved.

2.9 The Benefits of the Natural Environment and its Ability to Provide Restoration

There is lack of research as to whether the desert environment enhances the effectiveness of humans in the same way as green and semi-green nature has been reported to do. To date, most academic researchers have been concerned with green nature. The absence of studies on this topic might be due to Western attitudes to the desert, such that they have delayed scientific discoveries of desert parts of the Earth (Alturki, 2001). This attitude was prevalent until recently. This will be discussed in detail in Chapter Four.

This gap in the literature presents a basic challenge for the research. The majority of people perceive the desert as an empty and arid area, whereas the people who have lived there for centuries have a different perception and perspective. As Kaplan (2001) suggests, time spent in nature may allow one to recover from mental fatigue, enhance personal effectiveness and promote a sense of renewal. If an understanding can be gained as to how people experience and perceive open spaces for recreational purposes in their everyday life, and a desert environment in particular, this might lead to an understanding of the relations between the desert, people.

From another angle, a considerable amount of recent health research has concentrated on the influence of the natural environment with respect to stress-related diseases. The study by Velarde et al. (2007), for example, reinforces the findings of Rachel and Stephen Kaplan, who developed Attention Restoration Theory, which clarifies the role of natural environments and their significant effects
of restoration on human mental fatigue (Kaplan and Kaplan, 1989). It is defined here as “Restoration is the process of renewing physical, psychological and social capabilities diminished in ongoing efforts to meet adaptive demands” (Konijnendijk, 2008, p. 136)

Kaplan and Kaplan (1989, p. 176) address restoration as follows: “Restorative environments offer a concrete and available means of reducing suffering and enhancing effectiveness”. They thus help people to recover from the state of mental fatigue where that is caused by too much directed attention resulting in an overworked capacity for such attention (Korpela, 1991). The term restorative, and its relation to environmental preferences and psychological benefits, in particular of the wilderness and nearby natural environments, was introduced by S. and R. Kaplan. Most of their research has focused on wilderness and natural environments, although they emphasize that there are many kinds of environments that can be restorative (Kaplan, 1983, Kaplan and Kaplan, 1989). However, none of their, or any other study, has focussed on the desert environment to ascertain whether it can offer restoration.

Ulrich’s “stress recovery theory” (Ulrich, 1984, Ulrich, 1999) supports this claim. His findings indicate that natural landscapes have a profound ability to create a stronger positive health effect on personal wellbeing than urban landscapes, by mitigating stress and increasing restoration. Ulrich (2002) found that viewing natural landscapes, even for less than five minutes, leads to positive changes in blood pressure, heart rate, muscle tension, and brain activity, which can create significant restoration. In relation to this, a number of previous studies indicate that observing or visiting the natural environment and landscapes enables people to experience more easily positive feelings such as pleasure and happiness in natural environments (Hartig et al., 1999, Kaplan, 2001, Parsons et al., 1998). This can produce faster recovery after experiencing stressful or mentally fatiguing situations (Parsons et al., 1998).

Tuan (1990) suggests that “the more chances a place allows of simultaneous use of the senses, the more fascination humans find in such a place” (cited in Alturki, 2001,
and some studies suggest that a stay, even for short time in any natural environment, can reduce harmful stress in people who are affected by mental fatigue (Nordh et al., 2009). Bell et al. (2007) suggest that a high aesthetic quality may not be required for a stress reducing effect, but might be helpful to attract people to the recreational area (Bell et al., 2007).

Grahn et al. (2010) make a similar point in their study of designing a therapeutic garden at Alnarp, which aims to rehabilitate its visitors from their stress and personal crises. This garden has been designed to make different demands of participants with all levels of stress. The aim was to merge theories focusing on horticultural therapy and the restorative value of nature and integrate these with different theories from environmental psychology, landscape architecture, medicine, occupational theory, physiotherapy, and psychotherapy, in one place. The basic foundation of this therapy constitutes eight different dimensions: Serene, Nature, Rich in species, Space, Prospect, Refuge, Social and Culture.

The therapeutic garden raises important questions relative to whether the desert environment can provide and afford these eight dimensions that have been applied successfully at Alnarp for rehabilitation. Another study, conducted by Aspinall et al. (2013), The ‘urban brain’ is one of the first to use a mobile EEG system outdoors and EEG-based emotion recognition software to record and analyse the emotional experiences of a group of walkers who walked for 25 minutes in three types of zones in Edinburgh: from an urban shopping street to a route through green space and finally, to a street in a busy commercial area. Their analysis showed that when participants were moving into the green space zone, they had a higher degree of meditation and lower levels of frustration, engagement and arousal, whereas when they were moving out of it, they registered higher engagement. This finding supports

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4 The authors explain these stages thus: “The experienced nature dimension that has been most important at Alnarp, a therapeutic garden especially in the beginning of rehabilitation, is Refuge, followed by Nature and Serene. Later, when people start to explore the environment, the dimensions Space and Rich in Species seem to be important, followed by Prospect. When people start searching for Symbolic Values, the dimension Culture seems to be important. And little by little, the dimension Social becomes important during the rehabilitation program.” (Grahn et al., 2010, p.154).
the benefits of walking or other forms of physical activity in green space as a mood-enhancing experience.

However, Korpela and Hartig (1996) go further and indicate that any environment, not necessarily a natural environment, or place such as a café or one’s room at home appears to afford restorative experiences that aid emotional and self-regulation processes. This is especially true, they argue, if this place becomes a favourite for its user. In his previous studies, Korpela (1991) found that users often went to their favourite places not only to relax or calm down, but also to clear their minds after threatening or emotionally negative events and to forget their worries (Korpela et al., 2001, Korpela and Hartig, 1996).

In The Relation between Being Away and Privacy in Urban Forest Recreation Environments, Hammitt (2000) highlights the importance of “being away” and what influence it has on visitors' desire for privacy. He states “The importance of the being away phenomenon had a significant association with visitors’ desire for privacy, the level of privacy achieved, and the functions that privacy served.” (Hammitt, 2000, p. 521)

Being away from home in the desert environments might induce a positive feeling which is more satisfying during and after a desert visit. The influence of the desert environment, therefore, needs to be tested on desert users.

Many recent studies have demonstrated that the natural environment can offer health-promoting benefits (e.g. Abraham et al., 2010, Bell and Petursson, 2009, Pröbstl et al., 2009, Kaplan, 2001, Parsons, 1991, Ulrich et al., 1991). They argue that if the natural environment helps people to recover from stress and mental fatigue, according to the theory of attention fatigue (Kaplan and Kaplan, 1989), then landscapes should, accordingly, have the potential to promote mental wellbeing through that restoration which links landscape and health. Similarly, Abraham et al. (2010), from a review of previous studies, conclude that the natural landscape is more effective for people in terms of its restorative powers than an urban landscape. Parsons and Daniel (2002) note that most studies into environmental perception have shown a visual preference in people for a natural environment rather than urban
environment, across a range of different cultures. Hartig et al. (2003), furthermore, found that walks in an urban landscape have less effect on the ability to concentrate than walking in natural landscapes, which was found to offer a strong and positive effect on concentration.

However, none of these, or any other studies, has focused on the desert environment to ascertain whether it can offer stress reduction and recovery from mental fatigue, as other natural environments of a green and semi-green nature have been reported to do.
3 Chapter Three: A Brief Overview of Recreation

3.1 Introduction

Academic research accepts, generally, that recreation plays a vital role in modern life in many societies; indeed, it is essential to it. Health professionals stress that proper recreation refreshes people physically or mentally, helping to maintain health and the body’s muscular ability, as well as being restorative, mentally (Pröbstl et al., 2009, Bell and Petursson, 2009, Pigram and Jenkins, 2007, Bell et al., 2007). So what is recreation? The term ‘recreation’ comes from the Latin word ‘recreatio’, meaning “to refresh or to restore” (McLean and Hurd, 2012, p. 24). Gray and Pelegrino define recreation as “an emotional condition within an individual human being that flows from a feeling of wellbeing and satisfaction” (Gray and Pelegrino, 1974, cited in McLean and Hurd, 2015, p. 19). Bell (2008) refers to the term recreation as any kind of activities that are carried on out of the home and within the normal daily routines.

Crucially, the word ‘leisure’ is another important term that has often been erroneously substituted for the word ‘recreation’. In this study, ‘leisure’ will be used in its widest sense, as will be defined below, since some recreation professionals use ‘leisure’ and ‘recreation’ as if they were interchangeable, ignoring dictionary definitions and common usage (Pigram and Jenkins, 2007).

Pigram et al. (2007) elaborate on the confusion that arises over the random and interchangeable use of the terms ‘leisure’ and ‘recreation’. However, they clarify this confusion simply by linking leisure with time and recreation with activity (Pigram and Jenkins, 2007, p. 7). In the Encyclopedia of Leisure and Outdoor Recreation, ‘leisure’ is a term derived from the Latin word ‘licere’, meaning ‘to be permitted’ however, in much contemporary academic literature it is viewed as activity, or as an attitude of mind, or as an amount of time (2005).

For the purposes of this study, there is a need to define ‘outdoor recreation’ more narrowly. Bell and Petursson (2009) define outdoor recreation as those activities that people can undertake as part of a daily or weekend routine which help them to relax and reduce the stress often caused by everyday life. They explain: “Outdoor
recreation includes a number of activities that take place in settings that range from private and public gardens, public parks, urban woods, along waterways, at the seaside, on and around lakes, in forests, the countryside, mountain areas and wilderness” (Bell and Petursson, 2009, p. 1). Similarly, Bell et al. (2007) referred to recreation as comprising activities that are undertaken out of doors in places where people can access nature, as part of their daily or weekend routines (Bell and Petursson, 2009).

In this study, ‘outdoor recreation’ refers to any type of conscious enjoyment that people seek, anytime and anywhere, under the condition of it occurring in the desert environment. This enjoyment may include activities that are often thought of as meeting basic needs, such as eating, or activities that have a social structure, such as talking, or any other activities, like walking, collecting sticks, building fires, sliding on the sand, playing football, watching nature or the sunset and stargazing. In effect, ‘recreation’ will be used to describe any safe and harmless activity that affords enjoyment and refreshment to participants in an outdoor environment.

Individuals today are suffering from increasing stress due to their occupational roles. They spend more time sitting in front of computers or watching television and are walking less, while the main reasons for stress include the complexity and busy-ness of daily life in urban areas. Thus, there is now a wide recognition of the benefits of recreation in people’s lives, leading to this subject receiving a remarkable increase in attention from academics (e.g. Pröbstl et al., 2009, Bell and Petursson, 2009, Bell et al., 2007, Pigram and Jenkins, 2007).

Society, in general, benefits from recreation, since it offers people the opportunity to get together in one environmental setting, especially family members, and with locals from the community. As Cushman and Laidler (1990) argue, recreation “can also be seen as a social institution, socially organised for social purposes” (cited in Pigram and Jenkins, 2007, p. 7). It is also a valuable educational tool; children, teenagers and adults can learn more easily if education is enjoyable. Furthermore, recreational travel can develop and strengthen relations between nations, and lead to people’s greater awareness and understanding of their surrounding environment as they
interact with, and enjoy it. Finally, recreation is a significant economic factor (Pröbstl et al., 2009, Pigram and Jenkins, 2007). Thus, recreation is vital to both individuals and society (Pigram and Jenkins, 2007).

3.2 History of Recreation in Saudi Arabian Culture & Highlights of the Case Study

3.2.1 Recreation before the Discovery of Oil

It is no surprise that such a conservative, Islamic culture as Saudi Arabia will be different to any other. Many factors have played a major role in shaping and influencing recreation, whether in the nation’s past or present. Besides those cultural aspects which derive from a conservative Muslim society, the harsh climate is a fundamental issue. In such a hot, dry, desert area, outdoor recreation poses a unique challenge to Saudi residents. Most people tend to visit outdoor areas at the same time, after 5pm, especially in summer when temperatures rise to 45°C or higher. In winter, there are also harsh extremes, when the temperature drops significantly at night. Based on the shortage of rainfall, Saudi Arabia is considered one of the driest countries in the world, with the desert comprising 70% of its area. The aridity in the region causes hardship. In the 1930s, it could only support a small population, about 1.5 to 2 million (Al-Abdullah, 1998), encompassing a few traders and fisherman and half of this number were ‘rural settled’ cultivators, village craftsmen and shepherds, and finally, a quarter of the population were wholly nomadic, following their animals yearly to find better grazing land (ibid.).

In such harsh conditions, the Saudi population had no time to participate in, organize, nor afford any kind of recreational activities, except the occasional celebration and religious holiday (Bahammam, 1995, Al-Abdullah, 1998). Hunting or camping were pastimes limited to wealthy residents only. King Saud, for example, habitually went to the desert in summer, before sunset, with some of his entourage and guests to have dinner and relax. King Faisal followed this practice (Faris, 2006) and wealthy Saudi residents used to go to their farms for recreational purposes (Bahammam, 1995, Al-Abdullah, 1998).
Ordinary Saudi people, therefore, used their houses to recuperate. In the evening after work and when the temperature dropped, they would take advantage of the open space housing system, familiar in all Arabic-Islamic countries, which consisted of an interior courtyard to avoid the indoor heat (Alturki, 2001) (Figure 16).

Figure 16. Old houses in Al Riyadh capital city, showing the open space inside the house where the family can gather in private (Wynbrandt, 2010, p. 205)

This open space housing system was designed and shaped in a way that responded not only to the hot arid environment but also to Islamic cultural and social traditions (Figure 17). Mahgoub (2008) states that “the courtyard was an important feature that provided shelter from the harsh climate as well as safety and privacy for the family” (Mahgoub, 2008, p. 154).

Figure 17. The verdant, shady inner courtyard of a home in Cairo (Thermal Delight in Architecture by Lisa Heschong, n.d.)
Courtyard houses were closed from the outside and open internally (Mahgoub, 2008). The interior courtyard (*hwash*) was used for most of the social and cultural activities, such as neighbourhood meetings (women together), and for recreational purposes, when all the family would gather in the evening for coffee and tea. This was a space which met people’s need for privacy when telling stories and catching up on news, besides being able to hold wedding parties or any other family or religious holiday celebrations there (Bahammam, 1995, Al-Abdullah, 1998, Alturki, 2001). Narrow shaded alleys were used by children and youths to play in during the day (ibid.), while open spaces around mosques were used by men after prayer (Figure 18).

Figure 18. Blue Mosque Courtyard in Istanbul, Turkey (Randam, 2010)

Hammadi (1993) points out that the outdoor patterns of Muslim countries, especially in Middle Eastern settlements, showed a considerable history of designed public open spaces but little of public parks. There were Suqs (markets), public courtyards, streets and alleys, each of which served as social meeting areas, but the urban form is introverted, and inward looking. According to Hammadi, “This is an adaptation to the harsh climate as well as a reflection of the social patterns of close-knit family and clan life - the extended family. This pattern is still largely intact today. Allied to this is a keenly felt need for privacy - for the individual, for the family unit, and between men and women” (Hammadi, 1993, p. 4).

This open space system was efficient, socially and physically. Outdoor open-air recreation, then, before the discovery of oil, was limited to wealthy Saudi residents
who used their farms for recreation, or they could go on camping and hunting trips outside the city into the desert.

### 3.2.2 Recreation after the Discovery of Oil

A dramatic change occurred in Saudi lifestyles, due primarily to working and living conditions after the discovery of oil in the 1930s, resulting in a flourishing economy in Saudi Arabia in both urban and rural environments and the increase in Bedouin settlements in towns.

Most citizens either worked for the government or large companies. However, in the east coast region, most citizens worked for Aramco (the Arabian-American Oil Company). Consequently, both types of workers started to enjoy regular working hours, time off at weekends and annual holidays, in addition to religious holidays (Bahammam, 1995).

Thus, Saudi citizens gained extended leisure time, allied to transport developments and a country-wide network of roads. Significantly, incomes also flourished, affording the average citizen greater opportunity to pursue leisure. All these issues influenced the overall view of recreation which people now see as a holiday activity (Bahammam, 1995, Al-Abdullah, 1998, Al-Shahrani, 1992).

These economic improvements freed Saudi people to think about recreation after work, so they looked for enjoyable activities, which would relax them, and which they could undertake while observing their privacy needs. Outdoor activities included relaxing on their farms, in nearby valleys and desert areas located close to the city, and on beaches (Bahammam, 1995, Al-Abdullah, 1998, Al-Shahrani, 1992, Hammadi, 1993, Alturki, 2001).

As the city expanded, in 1955, the Al Riyadh municipality created its first recreation project, then public gardens. All major Saudi cities followed suit thereafter (Bahammam, 1995).

Saudi citizens, by the beginning of the 1970s, were benefiting generally from oil price increases. This was reflected, markedly, in their lifestyle, in terms of car
ownership. The road network was also affected by the oil price increase which encouraged people not only to benefit from new parks and public gardens but from the ability to travel far, purely for enjoyment (Bahammam, 1995). For example, people began travelling to remote areas such as the desert in the spring, especially after rainfall, when it turns into a green carpet overnight, or even for week-long camping trips there. They also visited attractive natural landscapes. A ‘National Park’ was developed and constructed in the Asir region of the western mountains (Bahammam, 1995, Al-Abdullah, 1998, Hammadi, 1993). Additionally, other natural parks were established in the Al-Ahsaa Plantation Project in the eastern desert of Saudi Arabia (ibid.). In the 1980s, the idea of a recreational seafront was introduced, during the massive government extension of public recreational facilities all over the country. Jeddah city, in the west, benefited greatly from this coastal project. Within almost ten years, the Dammam metropolitan area, located on the east coast of Saudi Arabia, followed suit by developing a recreational seafront as well and some public parks. Finally, the desert has recently become more popular not only with Dammam residents but also in all other cities. A study of this trend of outdoor recreational pattern in the desert should reveal the relevant socio-cultural aspects that have shaped and enhanced its popularity.

3.3 Recreation in the Context of Islamic Saudi Culture


Any disregard of a people’s culture and social aspects in the built environment will directly affect that society and the meaning of the environment to it. Therefore, it is important to re-emphasise the role which socio-cultural values play in such a conservative Islamic society as Saudi Arabia. The research study here will
investigate the most dominant and specific aspects and values that affect Saudi citizens’ recreational behaviour outdoors. Recreation, in the context of Islam, then, should be examined to understand these values and how they operate and shape the culture. Arguably, Islamic teachings are the main influence on Saudi society. This study will therefore consider not only its influence on citizens’ social values, but also how it affects their recreational behaviour.

3.4 Case Study: Outdoor Recreation taking place on the outskirts of Dammam City: Causes and Effects

As today’s public gardens and waterfronts – the main urban recreational facilities in Dammam city – are new to Saudi society, they were without precedent and lacked cultural context and resonance with society’s needs, since the designs were based on foreign examples (Al-Abdullah, 1998, Bahammam, 1995, Hammadi, 1993, Al-Shahrani, 1992). In adapting these, designers have failed to understand and respond to Saudi society’s socio-cultural values, particularly privacy and territorial needs in recreational design (Al-Abdullah, 1998, Bahammam, 1995). Initially, such projects were acceptable since they allowed locals to keep enough distance between themselves and others. However, problems have arisen since the increase in population and city expansion.

According to Manning (2001), carrying capacity refers to the “amount and type of use that can be accommodated in parks and related areas without unacceptable impacts to park resources and/or the quality of the visitor experience” (Manning, 2001, p. 93).

Accordingly, in relation to carrying capacity, a 1998 PhD research project that examined Dammam recreational seafronts, found that the distances between groups of users were ranging from 15m at peak, with visual barriers, up to 60m without barriers (Al-Abdullah, 1998). More recently, two Masters studies, which focused on recreational waterfronts in two different cities within the Eastern Province, have documented that the distance has decreased to 2.5m at peak with visual barriers and up to 12m without barriers (Al Sarhani, 2004, Umran, 2002).
Arguably, the waterfront and parks were acceptable at the beginning of the 1990s because Dammam city had fewer residents, and the density of its social carrying capacity was very low. According to De Ruyck et al. (1997), social carrying capacity refers to “… the maximum visitor density at which recreationists still feel comfortable and uncrowded” (De Ruyck et al., 1997, p. 822).

However, by the 2000s, with an increasing number of picnickers in outdoor recreational areas, thanks to population increases, particularly the influx of foreigners in Dammam city, there has been a corresponding reduction in the preferred distance between picnickers, as studies then show (Al Sarhani, 2004, Umran, 2002), taking the social carrying capacity in recreational areas to its highest point. Bell refers to “social carrying capacity, which might be the numbers of people encountered in a particular place which reduce the experience of solitude” (Bell, 2008, p. 16). This may occur especially when there is no sense of enclosure to offer visual separation, which, in turn, means the areas will not afford privacy and distinctness (Kaplan et al., 1998). Besides, individual judgements of a place’s high or low social carrying capacity can differ, depending on cultural and social backgrounds and expectations (Bell, 2008). However since the beginning of the 2000s, places like the waterfront and parks have become so crowded that the sense of space has gone. The number of picnickers is now much beyond the carrying capacity for these open spaces.

Clearly, these developments have led to conflict between the old and the new in local society. When Aramco (Arabian-American Oil Company) established its housing projects in the Eastern region of Saudi Arabia between 1938 and 1944, they were among the first to introduce new concepts of space-use and home images from a Western perspective into such a traditional and conservative society (Al-Naim, 2008a). However, as explained in Chapter Two, this approach has had a strong negative influence, engendering a feeling of culture shock and a sense of threat or interference from outside concepts, a consequence of the conflict between traditional cultural values and the introduction of Western design.

In his study, Al-Naim identifies it thus: “The threat from interfering outside elements to the social and physical identity created for the first time a social reaction towards
the physical environment” (Al-Naim, 2008a, p. 128). Citizens felt like strangers and had concerns, especially when they evaluated the surrounding environment from their previous experience and what they wanted to see. He states that “the sentimental reaction towards the traditional images in Saudi Arabia can be attributed to the sadness and emptiness felt by people at the loss of these images rather than an expression of their actual identity” (Al-Naim, 2008a, p. 142).

Saudi people questioned how they should behave in such open recreational projects. These new housing projects were a kind of hybrid, with different spatial concepts and images than the ones they were used to. The houses had no courtyards (hwash) which, as explained above, consisted of an open but private space system reflecting Islamic cultural, social and environmental traditions.

Al-Naim (2008a), Al-Hemaidi (2001) and Bahammam (1992) explain how Saudi people reacted to contemporary architecture in Saudi Arabia, claiming that these new built environments have had a clear influence on people as they modified their houses to meet their needs. Al-Naim states that “people made changes in their houses to meet their religious and social values. This showed the importance of respecting the cultural core, which exists in people’s minds” (Al-Naim, 2008a, p. 144). For example, Figure 23 shows how Saudi residents have responded to most of the imported urban forms and the spatial organisation in this context, their home;

- Physically, residents responded by erecting high concrete fences, placing corrugated sheets over building facades, and sealing off the first floor windows.
- Behaviourally, they responded by not using the yards for women’s activities (Al-Hemaidi, 2001, p. 198).
This phenomenon of ‘house adjustment’ returns us to Al-Naim’s study. He noticed that ‘the native people still persisted with their own spatial concepts and images and resisted the imported ones. They considered them as strange things’ (Al-Naim, 2008, p. 128). This indicates a clear resistance to the adoption of Western design in their built environment.

The open spaces for recreation have also been influenced by Western building forms and thus have little or no relation to native, traditional, and conservative society, nor their natural landscape. This explains why local Saudi people felt like strangers and sought a solution that could help them define their territory there. Moreover, the presence of foreigners who came from Asia, Africa and Western Europe, with different cultural backgrounds to Saudi locals, added another problem, since they did not have the same desire for privacy and territory as the local picnickers, resulting in them sitting very close to them. Thus, greater numbers of both Saudi citizens and foreigners has meant that the preferred distance that local picnickers like to keep from other people has decreased significantly, as indicated in previous studies by (Al Sarhani, 2004, Umran, 2002), and has taken the social carrying capacity in recreation areas to its highest point. This has led some people to find an alternative place for recreational purposes and one which can fulfil their desire for privacy and territory.

An unusual behaviour observed in users, as a result of the impact of greater numbers, is that they put up any kind of visual barrier in open spaces such as parks. This can be seen as a result of people’s desire for that place to meet their religious and social values and which reflect the cultural core that has existed in their collective
consciousness for centuries. For example, Figure 20.A, below, shows how the increased social carrying capacity has led to shrinkage of available space to below the preferable distance locals would like observed between picnickers:

- Physically, many Saudi families have taken to erecting a boundary around their sitting areas in recreational open spaces to define their territory in order to achieve their desired level of privacy, especially for women (Figure 20.A).
- Behaviourally, women’s response has been to wear their veil and loose, black 
  *Abaya* robes while in these outdoor environments. This will not allow them to perform any recreational activities easily and limits the benefit they can gain from being out in open spaces (Figure 20.B).

![Figure 20. A. Saudi families erecting a boundary around their sitting areas; and B. Women wearing their veil and loose, black *Abaya* robes (Source: author, 2011)](image)

### 3.5 Types of Recreation in the Desert

The need for privacy is one of the major social-cultural aspects that uniquely characterises Saudi society. Yet, as we have seen, this need is not respected in the existing designs of public open spaces for recreational purposes, such as the aforementioned parks and waterfront. Women, for example, cannot participate in certain activities, such as eating, talking, and playing with their children in public spaces since these require some level of privacy and women cannot remove the veil in public (Bahammam, 1995). Thus, women engaging in recreational activities in these public areas will not experience the freedom they seek nor gain much
enjoyment. Saudi users, especially families, it has been found, go to other sites in
different environments where they can maintain their preferred distance between
themselves and other picnickers, so maintain their privacy. It has become part of the
socio-recreational tradition in society to accommodate users’ desired levels of
privacy and their needs for visual protection without surrounding themselves with
visual barriers.

Based on informal observation carried out in 2011, this research found that desert
picnickers, who were there at the end of the day and overnight, and then returned to
the city, especially women, carried out different kinds of activities—whether passive
or active—without any distractions that might restrict them from these activities in a
public recreational space. Different activities were observed, such as sitting and
talking, eating, watching the sunset and stars, walking, playing football and setting
up a fire without any restriction that might stop both men and women from gaining
benefit from being outdoors.

The ability of desert picnickers to be involved, both passively and actively, gives the
desert a unique aspect that allows users to experience privacy but also benefit from
being outdoors and participate in all kinds of activities without having any concerns.

The desert (Sahara) is highly significant for Arabs who live in the Arabian Peninsula,
whether Bedouins or non-Bedouins, not only in relation to their history and
geography, but that their love of the desert is felt to be in their blood, and in the
culture, norms, and traditions of Bedouin life. Arabian countries in general and the
Arabian Gulf countries in particular admired the desert culture, even after the
remarkable development and economic flourishing of the 1960s (Al-Naim, 2008b).
Even though Saudi locals have beautiful homes and live a modern life, they like to go

However, we need to bear in mind that this trend of outdoor recreation in natural
environments has also been observed in other societies. Academic research accepts,
generally, that the number of people participating in outdoor recreational activities in
recent years has increased (e.g. Rupf et al., 2014, Pröbstl et al., 2010, Bell and
Petursson, 2009, Pröbstl et al., 2009, Cordell, 2008). This modern trend, known as
nature-based recreation, is defined by Cordell (2008) as “outdoor activities in natural settings or otherwise involving in some direct way elements of nature—terrain, plants, wildlife, water bodies.” (Cordell, 2008, p. 4). This includes forests, lakes and rivers, mountains, coasts and other spectacular scenery. This form of recreation has a history going back to the pursuits enjoyed by the higher social classes and then the middle classes (Bell et al., 2007). This new trend of outdoor recreation in a natural environment started after the agricultural and industrial revolutions in the 18th and 19th centuries, particularly in Britain but then in other countries. However, it was limited to wealthy classes who could afford to pursue outdoor recreational activities like hunting, shooting and fishing (Bell, 2008). This type of outdoor recreation was limited to rich people, especially in the 18th century, before the development of the middle class and the growth of outdoor recreation in the 19th century, after the railways permitted easier travel for those with free time (Pröbstl et al., 2009). From the beginning of the 19th century, picnicking activities and sports events were practised on open, common land outside the urban areas of Britain. For example, Box Hill (Figure 21) was increasingly popular at the turn of the 19th century for picnicking. Jane Austen, in her novel, *Emma*, gives a description of a picnic:

“They had a very fine day for Box Hill … Nothing was wanting but to be happy when they got there. Seven miles were travelled in expectation of enjoyment, and everybody had a burst of admiration on first arriving…Jane Austen, *Emma*.” (Reconstruction of a scene from Jane Austen's *Emma*, 2008)
To Andrew Hubbell, Wordsworth invented picnicking and saved British culture. He states:

“Yet picnicking is the pleasurable pursuit of a leisured people... creates relationships between small groups of people, natural landmarks, and cultural ideals. These relationships form a consciousness of national identity. Picnicking, especially for early nineteenth-century picnickers, was thus away of performing Britishness.” (Hubbell, 2006, p. 44)

Outdoor recreation in the 20th century increased due to the reduction in the working week: with more time off, participation in recreation increased. People in urban areas started to have significant free time and flexible, available income. Due to the flourishing economy in the mid-1920s, freedom to travel through car usage and ownership also increased dramatically, and there were good roads on which to drive, especially in the United States (Bell, 2008). Consequently, greater numbers of people drove further from home at weekends and on vacation, as the paving of roads made both the countryside and urban recreational resources easily accessible.

In the USA, the practice of outdoor recreation in the natural environment started after the Second World War and emerged as a major component of many Americans’ lifestyles (Cordell, 2008). At that time, outdoor recreation in a natural environment was most common in the USA, Britain, and Western Europe, which experienced a remarkable upsurge in such recreation, due to the economic growth in all these countries. As Pröbstl et al. (2009) state, after the Second World War, especially in western Europe, “the increase in mobility, facilitated by an extensive road network for cars, an increase in mass car ownership and growth of the amount of free time opened new opportunities for recreation and tourism” (Pröbstl et al., 2009, p. 12) and by the start of that period, outdoor recreation in the natural environment was available to the majority of people and was not limited to wealthy people. Up to the present time, the demand for outdoor recreation in nature has been rising and the types of recreation have become more diverse (Pröbstl et al., 2010). Thus, we can

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3 In English-speaking nations, and especially in Britain, the word countryside is used often in connection with recreation that takes place away from urban areas (Chubb et al., 1981, p.7).
conclude that these trends for outdoor recreation in the natural environment are not new and have been observed in other societies.

So what does the desert mean to Saudi Arabian people? In this study, two well-known desert locations are considered which are in daily use by local people. These two areas should provide an excellent pointer to aspects of human behavioural patterns in the desert environment and their causes and effects. However, before starting this investigation, we need to consider the desert itself, its topography and temperature, the influence of human behaviours on the desert, and finally, the way the desert is viewed from a Western and Arabian viewpoint, so that we can obtain a bigger picture of it.
Chapter Four: A Brief Overview of the Desert Environment in Saudi Arabia

4.1 Introduction

This chapter gives background information about the influence and impacts of human behaviours on the desert, including a brief account of the changes in Bedouin lifestyles and their settlements. Also, it discusses how the desert is viewed differently from Western and Arabian perspectives. Finally, it explains the conceptual framework.

4.2 The Influence of Human Behaviours on the Desert

Saudi Arabia, the largest country in the Middle East, is located in the Arabian Peninsula, covering about 2.24 million km² and occupying about 80% of it (Al-Sulbi, 2008).

This environment has become more fragile recently, because of greater numbers of recreational desert picnickers throughout the year, as was explained in detail in Chapters One to Three.

However, over the past five decades, it also has suffered from construction, oil exploration, vehicular use, livestock grazing, woodcutting, land cultivation, and recreation (Laity, 2008, Edgell, 2006, Amin, 2004). The other significant impact is from the fact that there is less rainfall, which has led to semi drought and vegetation deterioration. These once productive deserts have also become non-productive, due to the absence of land-management (Amin, 2004). The region suffered, too, during the 1991 Gulf War and the 2003-05 Iraq war, as armies’ vehicular traffic over the fragile desert pavements, laid down over thousands of years, caused their destruction in large areas of north-eastern Saudi Arabia (Edgell, 2006). All these factors have contributed to desertification. According to Amin (2004), further desertification in

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Saudi Arabia could occur due to natural or man-made causes. He suggests minimizing this threat through an extensive education-oriented programme.

The term desertification is defined by the United Nations Convention to Combat Desertification (UNCCD) as “land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities” (UNCCD, 1994, p. 4). Similarly, Rapp (1974) defines it as: “The spread of desert-like conditions in arid or semi-arid areas, due to man’s influence or to climatic change” (Rapp, 1974, cited in Goudie, 2006, p. 42). The Millennium Ecosystem Assessment defines it with more emphasis on causal factors: “Desertification is caused by a combination of factors that change over time and vary by location. These include indirect factors such as population pressure, socioeconomic and policy factors, and international trade, as well as direct factors such as land-use patterns and practices and climate-related processes” (Millennium Ecosystem Assessment, 2005, p. 9). Edgell argues that increased global warming and climatic changes in the last 50 years have been entirely negative, especially for Arabia, where the most widespread land degradation is vegetation degradation in rangelands, caused by overgrazing and woodcutting (Edgell, 2006).

4.3 Human Impacts

As mentioned above, the oil discovery in the area was followed by industrialization and population growth, which led to the rapid growth of all Saudi cities and many adverse consequences on its fragile desert environments. Amin (2004), in his study on the extent of desertification in Saudi Arabia, describes how it can be caused by the demands of increased populations that settle on land to grow crops and graze animals. Bader (1989), in a study on the scientific means and studies used to stabilize dunes in the eastern region of Saudi Arabia, concluded that the vast expansion of cities, industries, roads, and agricultural development has led to the sand drift and dune movements that are the most serious natural problems facing not only Saudi Arabia but the whole Arabian Peninsula. In terms of human influence on the desert, several factors have had specific effects, including:
- **Construction.** A city like Dammam (Figure 22), the focus of this study, is one of the biggest industrial cities in the country and now occupies large areas of desert. Its industrial and residential areas have expanded inland towards the desert in the west because it is bordered by the sea to the east, and no empty land exists to the north and south, since Dammam is almost integrated in the south with Al Khoobar city, and to the north with Saihat city. Further, it needs many roads and airfields to service the city.

![Figure 22. Expansion of urban centres in Dammam city westwards into the desert (Source: Google Earth, 2014)](image)

- **Oil exploitation** has led to the construction and expansion of settlements and asphalted or unpaved roads into the middle of desert, while pipelines and gas/oil separation plants have also impacted on the fragile desert ecosystem (Figure 23).

![Figure 23. Oil field in the desert of Saudi Arabia (Haider, 2012)](image)

- **Vehicles.** The most significant impact on the desert is the use of cars for off-road driving (Laity, 2008). Cheaper cars and low gas prices have encouraged people to travel further, evident in the extensive use of mostly four-wheel cars in desert areas, and these are destroying the fragile surfaces. Edgell states that “thin soils built up over thousands of years never recover from the passage of vehicles” (Edgell, 2006, p. 84). The availability of four-wheel cars has encouraged more woodcutting in the area because firewood is a good income source but this has led to a reduction in vegetation in all areas (Edgell, 2006) (Figure 24).
• **Overgrazing.** The greater number of camels (Ryan and Stewart, 2008) and sheep (Edgell, 2006) in the Gulf area has caused the loss of natural vegetation and undoubtedly increased aridity (Figure 28). Barth (2001) argues that the major cause of vegetation loss is overgrazing. Edgell (2006) points out that “since the oil industry in Saudi Arabia established the Tapline, with numerous pumping stations and available water, the Bedouin have changed from nomadic grazing to yearlong grazing, as new water supplies opened up areas that were previously less accessible seasonally” (Edgell, 2006, p. 83). Consequently, livestock, especially camel numbers have increased (El-Keblawy et al., 2009, Gallacher & Hill, 2006). A study by Barth (2001, 1999) found that overgrazing during the last few decades of the 20th century in the eastern province of Saudi Arabia, plus supplemental trucking of water and feedstuff, had changed the vegetation significantly. Thus, one conclusion is that the growing rural population has caused increased aridity because of increased livestock numbers (El-Keblawy et al., 2009, Ryan and Stewart, 2008, Edgell, 2006, Gallacher and Hill, 2006, Barth, 2001, Barth, 1999). Specifically, camel grazing is the main source of desert degradation. In 2001, the national herd was approximately 400,000 (Bourn, 2003). By 2008, it had increased significantly, estimated at 870,000 (Mickdady, 2010); in effect, its population density in Saudi Arabia had increased to 0.12 camels/ km² (El-Keblawy et al., 2009).
- **Cultivation.** In the last forty years, arid areas of Saudi Arabia have been cultivated (Figure 26), with adverse consequences (Edgell, 2006). Centre-pivot irrigation has facilitated wider land use. It is based on wells drilled into aquifers (Elhadj, 2004), often between the dunes, to grow wheat and other crops unnaturally in desert areas. However, this water will never be replenished, and it has reduced groundwater, causing palms and other big shrubs, like tamarisks, to die (Edgell, 2006).

![Figure 26. Satellites trace the appearance of cultivation as circles in the Saudi Arabian desert (Landsat, 2012)](image)

- **Recreation.** The deserts surrounding most Saudi cities have become outdoor recreation places and picnicking areas, recently (Figure 27). Extensive use of off-road, four-wheel drive and sports utility vehicles has destroyed its fragile surfaces. However, this is still on a small scale compared to the major impact which overgrazing causes (Barth, 1999).

![Figure 27. Two male desert picnickers’ overusing firewood and overuse of four-wheel drive and sports utility vehicles (Source: author, 2012 and Hail, 2012)](image)

These aforesaid factors have added to the extent of desertification in Saudi Arabia.
4.4 Perceiving the Desert from Different Points of View: Western versus Arabian

Deserts play a role in the origins of the three monotheistic religions, Judaism, Christianity and Islam (World Heritage Committee, 2001) and there are many spiritual links between people and the desert evident in the history of religious belief systems of the world. For example, Barbour, in *Handbook of Solitude* (2014), explains how hermit monks lived in desert or mountainous areas, valuing the healing power and silence of wilderness (Barbour, 2014) that was conducive to meditation and encounters with God. Conversely, the connection between the desert and devil was strongly evident in early Christianity, evoking a bleak perception of the desert in the West, which delayed scientific discoveries of desert parts of the Earth (Alturki, 2001).

In America, this relationship between the devil and deserts was reinforced when the early American settlers saw the native people worshipping spirits of holy places as a form of devil worship (Alturki, 2001). This is, perhaps, further emphasized by the Judeo-Christian Old Testament narrative of God’s punishment of the Jews to wander in the Sinai desert for forty years, a time marked by “death, disorder, and darkness” (Alturki, 2001, p. 312). This attitude was not overcome until recently, when Westerners began to think of the desert as other than a hostile and inhospitable landscape (ibid). By contrast, the Arabian desert has excited a romantic interest and appreciation of its natural beauty, especially for travellers influenced, by Arabic writers such as Ibn Battuta, Al-Idrisi and Yaqut, which have obtained a wide readership. The writings of non-Arabic travellers, such as T.E. Lawrence, Gertrude Bell, Thomas Philby and Wilfred Thesiger also changed Western perceptions. For example, Gene Lindsey, in his book, *Saudi Arabia*, states that “Saudi Arabia contains some of the harshest, bleakest desert and mountain terrain in the world ... Yet, despite its severity, it has a serene type of beauty: a timeless quiet in which the brightness of the sands is contrasted against the starkness of the mountains ... ” (Lindsey, 1991, cited in Alturki, 2001, p. 227). In relation to this, Thesiger, when he crossed the Empty Quarter of Arabia, stated that “in those empty wastes I could find the peace that comes from solitude” (Thesiger, 2007, p. 18). Gertrude Bell, the English traveller, author and government official (Figure 28), known as the Desert
Queen and daughter of the desert, explored the Middle Eastern desert as a way of escaping the restrictions, then, of a woman’s life in Western society. She also indicated her love for the desert and its beauty (Wallach, 1996).

Figure 28. King Saud of Saudi Arabia with Cox and Gertrude Bell in 1916 (Bell, 1916)

Historically, the desert (sahara, in Arabic) has a significant meaning for the Arabs of the peninsula, whether Bedouin or non-Bedouin, because love of it is felt to be in their blood, and in the culture, norms, and traditions of being a Bedouin, the largest tribal group. Both Bedouin and non-Bedouin in the Gulf countries have retained the culture of, and attachments to, the desert. Kathleen Kelly, in her book, *Landscaping the Saudi Arabian Desert* (1976), says that “the desert, any desert, is alien to all but those who, whether by birth or by affection, are wise in its beauty and its ways” (Kelly and Schnadelbach, 1976, p. 1).

Despite that, Saudi Arabia, historically, consisted of several different tribes in different regions, Each region maintained specific social and physical characteristics, and tribes shared the same Arabic-Islamic cultural values (Jones, 2010, Wynbrandt, 2010, Al-Naim, 2008a). Saudi Arabia is the source of the Islamic Revelation by the Prophet Mohammed. In addition, Mecca is the direction to which all Muslims in the world turn, and is symbolic of Islam. Thus, traditional religious and cultural values in Saudi Arabia are heightened, compared with other Muslim Middle Eastern countries and the other Gulf countries in the peninsula.

From 1919, Bedouins began to drift from the desert into villages (*Hujar*) (Jones, 2010, Wynbrandt, 2010). Despite their resettlement after oil discoveries and the influence of modernism on these tribes (Figure 29), Duran Bell argues that “Bedouin culture [has] drifted into the urban cultures of the Middle East. Important culture elements have flowed from the desert into the villages, not the other way.” (Bell, 2004, p. 28)

![Figure 29. Conflicts between old and new after the discovery of oil. ‘A Bedouin man and his camel crossing paths with modern machines (Wynbrandt, 2010, p. 210)'](image)

Thus, settlements of Bedouins in towns may have influenced urban cultural perceptions, not only through culture, norms, customs, and traditions, but also via people's increasing love of and attachment to the desert, such that recently, it has become honourable to go to the desert and own camels (Little, 2011), with significant numbers of people in the Gulf area now doing this (Ryan and Stewart, 2008).

7 *Hujar* the settlements created by Ibn Saud to house formerly nomadic Bedouin communities (Wynbrandt and Gerges, 2010, p.318).
This return to the past finds resonance with what King Faisal of Saudi Arabia anticipated when he wished that his country could achieve economic growth and modernization without compromising the traditions of Islamic identity and Arabic norms and culture (Alghamdi, 2007). Thus, arguably, the relationship between communities and their local native ‘desert environment’ has become stronger due to the westernization of the built environment, in an inverse way. Alturki states that: “Modern Arabian cities are isolated from both the desert environment and culture. They are built in a way that created two separate worlds, a familiar urban-exotic and unfamiliar wild-native” (Alturki, 2001, p. 187). Modernization was clearly observable from the 1970s, especially in the three main cities of Riyadh, Jeddah, and Dammam, as a result of the 1960s economic improvements, which permitted the government to launch numerous large-scale projects and rebuild the cities (Al-Naim, 2008b). To Kathleen Kelly, a landscape architect in the early 1970s, “the development now taking place in Saudi Arabia must also adapt to the desert and give the urban Saudi the means of adapting to the desert in the city” (Kelly, 1976, cited in Alturki, 2001, p. 259).

This isolation of the native environment and imposed Western modernity has increased local communities’ yearning for local traditional styles to be observed in the built environment. The nearby desert, thus, on the outskirts of their cities, has become Saudis’ only free, open area, especially for city-based families who seek privacy, territory, silence, less heat and a calming recreational refuge.

Many people consider the desert a place of natural scenery, a refuge, and a place for recreation and camping (Addas, 2015, Al-Shammeri, 2008, Faris, 2006, Alturki, 2001, Al-Hijji, 1989, Faris, 1997, Al-Shahrani, 1992). Camping overnight or for longer in the desert – known locally as El-bar or Barriah (wilderness) – has been a long-established trend since the time of the Prophet Mohammed (Pbuh), as an ideal not only for seeking enjoyment of the natural world, but also as a place of contemplative silence to reflect on the bounties of almighty God and to give due thanks. The first revelation from Allah descended upon the Prophet Mohammad when he was on the outskirts of Mecca city, in the desert. In the Holy Quran, God said, “Read in the name of your lord who has created all that exists” (Al-Hialali,
Khan, 1984, p. 842). Alturki (2001) states that that “Omar bin al-Khattab (the second Caliph, 568-644 AD) used to command the people of Medina to go out to the desert in spring to acknowledge the blessing of Allah and to learn how the earth becomes alive after Death” (Alturki, 2001, p. 183).

The Quraish tribes used to have their children spend their first two to four years in the desert, to learn the correct Arabic formal accent, as well as athletic traditions and skills, such as horse and camel riding (Alturki, 2001). Despite the desert’s wild environment, it was considered to be a healthier place for children (ibid.), a sort of boarding or private school, where students could live and study in one place. The prophet Mohammed lived in one of the most arid places on earth and his faith is related to the desert. For Arabs, as pointed out by Gaballa in the conference on Desert Landscapes and Oasis Systems in Egypt (2001), that deserts give us more than we expect; they can be seen as a gift from God (reported in the World Heritage Committee, 2001, p. 1). Writing of the founder of the Kingdom of Saudi Arabia, King Abd al-Aziz (1880-1953), known in the West as Ibn Saud, Gerges et al., (2010, p. 165) explain that ‘part of his childhood was spent among the Bedouin, where he learned of desert life and warfare.’ Clearly, the desert was not segregated from urban life, even with the foundation of Saudi Arabia. Similarly, Faris (2006) mentions that King Saud habitually went to the desert in summer before sunset, with some of his entourage and guests, to have dinner and relax. King Faisal followed this practice until his death in 1975.

Michael McKinnon (1990) in Arabia: Sand, Sea, and Sky, points out that despite modernism and alterations to the built environment in Saudi cities, the desert remains the Saudis’ first priority among recreational places (cited in Alturki, 2001, p. 187). In spite of the new developments in Saudi Arabian cities, Al-Naim argues that it would be incorrect to say that “traditionalism no longer exists. Riyadh is still considered a conservative city, not in its architecture but in its urban life… the city and its people resist cultural globalization. There is a belief that they should ‘think global’ but also ‘act local’ (Al-Naim, 2008b, p. 145). He concludes that, despite the huge change in Saudi Arabia’s built environment, it has been limited to physical elements rather than values or norms. Charles Horne asserts “even though they [Saudis] have beautiful
homes with all the modern conveniences, they still like to go out to the desert and set up a tent” (Horne, 1999, cited in Alturki, 2001, pp. 186-187).

This regard for the desert can be seen as an indication of Saudis’ yearning for their cultural and heritage landscape and maintaining their traditional spatial concepts and organization in recreational activities. The oil and industrial revolutions and urbanism, influenced by modern technology, rapidly took people away from the simple life, without considering or respecting their local culture and traditions. Saudi people, then, have reacted strongly against modernization (Al-Naim, 2008b), not only in their daily life but also in their way of enacting cultural and heritage recreational patterns, which might be seen in the practice of outdoor recreation in the desert, as a consequence of the traditions that still pervade Saudi society (Al-Naim, 2008b). These recreational developments can be seen as a reaction to a loss of identity, relative to modern buildings and the urban landscape, and how people have been deeply influenced by previous experiences, personal attachments, images, and the collective memory that was passed on to each new generation (Aspinall, 2010, Hunziker et al., 2007, Davenport and Anderson, 2005, Parsons and Daniel, 2002, Rapoport, 1977).

Thus, it is important to examine critically the influence and history of the socio-cultural factors in Saudi societies on their new pattern of outdoor recreation in the desert environment. This study also aims to discover what influences people’s choice of destination, such as recreation motivations, cultural factors and demographic variables, and to what extent this pattern benefits them. The attitudes that give rise to these new patterns of outdoor recreation occurring on the outskirts of Saudi cities are not only a reflection of a tradition, but also a clear response to the entire physical environment, as discussed in Chapters One and Two. Undoubtedly, any society would be challenged by such rapid technological change and economic development coupled with its need to preserve and maintain its traditions and identity.

This study argues that the new, pattern of outdoor recreation taking place in Saudi Arabia, whether sitting surrounded by a windbreaker or escaping to the desert outside the city walls, is a clear reaction from native users to the cultural shock engendered
by the westernization of their built environment. This has motivated them to recall
their traditional images of recreation; thus, users looked for solutions that could meet
their social needs, such as the need for privacy. Al-Naim, for example, mentions that
“even when people moved out, they carried with them the traditional spatial concepts
and organization and applied them in their new houses” (Al-Naim, 2008a, p. 141). It
has become essential to understand, therefore, whether the increasing number of
desert picnickers throughout the year on the outskirts of Dammam city, especially
families, are there because of the disregard by urban planners and developers for the
socio-religious and cultural complexities of Saudi Arabia, or is it, as Bell (2008)
states in his book, Design for Outdoor Recreation, that “many people now believe
that it is important to be able to escape from the city in order to reconnect ourselves
to our roots in the wilderness, the forest, or the natural and semi-natural landscape of
the countryside” (Bell, 2008, p. 26).

4.5 Changes in the Urban Fabric (pre and post western interventions)

The below map illustrates the change in the urban fabric, before and after the
intervention of Western design. Previously, people used to live in a traditional
environment which met their desires and needs relative to their social and cultural
values, and in terms of their homes or recreational activities, as Figure 30 shows. For
example, in Dammam city, like other cities in Saudi Arabia up to the early 1930s,
people used to live in houses built from locally available material, like mud and/or
palm trees to create their shelter. Whole communities, at that time, were created with
mud-brick and timber houses were designed in the traditional way that reflected
people’s own spatial concepts and images, with narrow irregular footpaths to achieve
their desired privacy (Al-Naim, 2008). However, with the intervention of Western
design, the conflict between traditional cultural values and the introduction of
Western building styles became clear in the city, after the Arabian-American Oil
Company built its first housing projects in the eastern region of Saudi Arabia
between 1938 and 1944, with a different concept of space and a new image of the
home (Al-Naim, 2008). This was followed, in 1947, by the first grid pattern planned
cities in Saudi Arabia: Dammam and Al Khobar, designed by the Aramco Company,
which employed American engineers and surveyors. Thus, the impact of Western-style housing had a significant influence on local people (Al-Naim, 2008).

In general, this development meant Dammam no longer offered the traditional environment that used to exist within its boundaries. It is now home to many recently-created projects, with main roads and shopping streets, and a broad network of grid and radial streets in residential areas, resulting in a complete change of environment. The discovery of oil and the industrial development in the area has led also to an increase in the number of non-Saudi workers who are there with their families. Thus, Dammam’s growth has been fast and dramatic, from being a small village to become a major modern city, by any standard.

The reaction to the imposed Western forms can be seen clearly in Dammam’s urban fabric, which has developed exponentially since its introduction until the present, as explained in Chapter Three. Saudi citizens have responded to most of the imported urban forms and the spatial organisation in this context (their home) in two ways:

- Physically, residents have responded by erecting high concrete fences, placing corrugated sheets over building facades, and sealing off the first-floor windows.
- Behaviourally, they have responded by not using the yards for women’s activities.

In relation to the use of open spaces for recreational purposes, the Saudi population in the 1930s, had no time to participate in, organize, or afford any kind of recreational activities, except the occasional celebration and religious holiday (Bahammam, 1995, Al-Abdullah, 1998). Thus, ordinary working people, that is, the majority of the Saudi population at that time, used their traditional houses for recreational purposes, taking advantage of the open space housing system that included an interior courtyard to avoid the indoor heat and it provided them with the means to fully satisfy their need for privacy, before the imposition of new housing types, as was mentioned in Chapter Three. This interior courtyard system was a response not only to the hot, arid environment but also to Islamic cultural and social traditions, and the narrow shaded alleys were used by children and youths to play in during the daytime. In addition, the areas around the mosques also worked as open
spaces for the men to gather after prayer time. However, in general, outdoor recreation at that time was limited to wealthy Saudi residents who used their farms for recreation, or who could afford to take themselves on camping and hunting trips outside the city in the desert.

However, increasingly, other projects were also developed, like open spaces for recreational purposes, for example, public gardens and waterfronts, which were new to Saudi society and, which, like the housing, emerged without consideration of local people’s cultural practices.

As mentioned earlier, initially, such projects were acceptable due to the low number of users, which allowed people to keep enough distance between themselves and others. However, the problem has arisen with the increase in population and expansion of the city. Thus, the increase in numbers of both Saudi citizens and foreigners has caused a decrease in the acceptable distance that local people like to maintain between groups, as explained in Chapter Three. Saudi citizens have responded to the increased social carrying capacity in this context (open spaces) in two ways:

- Physically, many Saudi families have taken to erecting a boundary around their sitting areas in recreational open spaces to define their territory in order to achieve their desired level of privacy, especially for women.
- Behaviourally, women’s response has been to wear their veil and loose, black Abaya robes while in these outdoor environments. This will not allow them to undertake any recreational activities easily and limits the benefit they can gain from being out in open spaces.

The increased social carrying capacity has led to shrinkage of the available space to below the distance picnickers prefer to keep between each group. This behaviour can be interpreted as a clear indication of a rejection of this adaptation to Western design principles.

This conflict has led Saudi people, and especially families, to look for alternative places to enjoy their recreational pursuits. Figure 30 illustrates the physical limits of recreational opportunities in Dammam metropolitan area and its surroundings, due to the built environment having been adapted to Western design principles.
Since Dammam city has already expanded and reached other neighbouring cities in both the north and south and cannot expand to the east due to the sea, the area west of the city provides the only chance for people to escape to breathe and seek refuge. Thus, areas like the desert, or any other undeveloped areas (such as those under construction and as yet uninhabited) located on the outskirts of Dammam have proved to be popular choices that seem to satisfy people’s need for privacy, while still allowing them full enjoyment and use of these open spaces for activities, without the restrictions of the built environment (Figure 30). These recreational developments can be seen as a reaction to the sense of a loss of identity, evident not only with regard to buildings, where some local Saudis erect fences and seal off first-floor windows to achieve their privacy, as mentioned above, but also in urban open spaces, where some families erect a boundary around their sitting area to try to achieve privacy.
Figure 30. The change in the urban fabric before and after the intervention of Western design (Baldwin, 2008, Source: author, Bunyan and Bunyan, 1945, Source: author, Source: author, Real Estate Development Fund, n.d., Wynbrandt, 2010, p. 205)
4.6 The Conceptual Research Framework

This study highlights how the quality of socio-cultural aspects are regarded as more important than the quality of place, as demonstrated by the recreational activities in which Saudi citizens engage. The initial stage of this study then focuses on exploring public perceptions and use of the desert environment in the eastern coast region of Saudi Arabia. A particular focus is given to identifying and analysing the influences driving local Saudi people to go to the desert areas on the outskirts of Dammam city rather than the outdoor open spaces created within the city for recreational purposes.

In those situations, Saudi local users have started to show new patterns of recreation, such as using paved roadsides, vacant land in cities, and desert areas, even though there are neither facilities nor services, rather than making use of recreational projects within the city.

This issue is investigated through Canter’s (1977) idea of “place” as the result of the relationship between three elements: the activities that occur there, the physical components, and individual thoughts, meaning and understanding of the environment, which refers to the perceptions, values, and norms that people hold. However, Yi-Fu Tuan has a related theory, according to which, the shift of space to place cannot happen unless groups or individuals link a space with their culture, social meanings, values, and personal experiences, and then become familiar with a particular space (Tuan, 1977).

Furthermore, it is the users’ perception that is the fundamental linking mechanism between people and environments; this perception is affected not only by cultures and previous experiences, as Rapoport (1977) argues, but also by their expectations. It is necessary, then, to understand fully perception and to do so will involve giving consideration to such issues as people’s needs, values, lifestyles and culture (Rapoport, 1994).

Consequently, it is essential in this study to examine the psychological and socio-cultural aspects that reflect the society's needs and values in relation to the local environment, in order to trace the causes and effects of this new pattern of outdoor
recreation. Gibson’s (1977) theory of affordances will be of use here: understanding what a place can do for or offer to the user, both in the built and desert environments, will provide a valuable insight into user behaviours. As Gibson states, “The behavior of observers depends on their perception of the environment” (Gibson, 1979, p.129). Both outdoor developments in the built and desert environments are investigated from the perspective of the following four different approaches: Canter’s theory of the psychology of place (Canter, 1977), Altman’s privacy theory (Altman, 1975), Gibson’s perception theory (Gibson, 1979), and theory of affordance (Gibson, 1977).

This conceptual framework is based on tenets from environmental psychology and design-related disciplines, in order to reveal how the relevant socio-cultural aspects (such as, for example, gender) influence people’s perception, preferences and activities in desert recreational environments (Figure 31).
Figure 31. The conceptual framework

The framework thus investigates the extent to which psychological and socio-cultural aspects have forced local users to seek refuge in the desert for recreational purposes, rather than in open spaces in the city.
5 Chapter Five: Research Methodology

5.1 Case Study Research

The focus of the study is to examine the phenomenon of outdoor recreation that is taking place in the desert on the outskirts of Dammam city in Saudi Arabia. This case study investigates people and their relationship with their outdoor, natural environment and it is a significant part of the research strategy. Swaffield and Deming (2011) define a research strategy as “the overall conceptual logic and motivation for an inquiry” (2011, p. 35). In their book Landscape Architecture Research: Inquiry, Strategy, Design they identify nine basic investigative strategies that can be applied in landscape architectural research. These “strategies” are methodologies (combinations of methods) that are organized by, and instrumental to, an intellectual purpose and epistemological position (Deming and Swaffield, 2011).

This research adopted a case study research strategy as the most appropriate for this investigation. Yin (2003) defined a case study as an “empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2003, p. 13). Similarly, Collis and Husse (2014) defined a case study as “a methodology that is used to explore a single phenomenon (the case) in a natural setting using a variety of methods to obtain in-depth knowledge” (2014, p. 68). Wedawatta et al (2011) stressed that “adopting a case study strategy allowed the use of multiple sources of data collection and analysis, allowing the researcher to address the research objectives and answer the research questions satisfactorily” (Wedawatta et al., 2011, p. 6).

Yin (2003) and Gerring (2007) demonstrated that the significance of case study research is that it can accommodate both qualitative and quantitative data, which allows the researcher to gain a rich mix of data for the study (Wedawatta et al, 2011). Moreover, this approach can be used to study not only one case but a number of cases (comparative case studies), as I applied in this study. Similarly, Dul and Hak (2008) defined a case study in their book Case Study Methodology in Business Research as “A case study is a study in which (a) one case (single case study) or a
small number of cases (comparative case study) in their real life context are selected, and (b) scores obtained from these cases are analysed in a qualitative manner” (Dul and Hak, 2008, p. 4).

These aspects, in general, make case study research unique and its application has brought many advantages to, and seemed appropriate for, this research investigation. However, it has disadvantages, such as: lack of rigor, the potential for bias to occur, it is difficult to make generalisations, can take too long, and involves using multiple sources of evidence to overcome these disadvantages (Wedawatta et al, 2011).

In this study, I am using the simple definition of Benbasat et al (1987): “A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups, or organizations)” (Benbasat et al., 1987, p. 370). Accordingly, a questionnaire survey, go-along interviews, and participant observation were the research methods used to help to investigate, and analyse the phenomenon. These triangulated strategies offer the best of both quantitative and qualitative research possibilities (Schell, 1992).

**Reasons for choosing the desert surrounding Dammam metropolitan as a case study**

Dammam metropolitan is the capital and largest city in the Eastern Province, the largest administrative region in Saudi Arabia. It is the third largest city in Saudi Arabia, after Riyadh and Jeddah, is the most oil-rich region in the world and has the country’s main seaport. Dammam has been a big oil town since the discovery of oil in the 1930s, with much money, still, to spend on its development. As the biggest industrial city in Saudi Arabia, it occupies large areas of former desert. Dammam’s expansion has spread inland towards the west and requires many ancillary roads and airfields.

Its population has increased exponentially with the growth of the oil industry which has drawn sizable local and foreign investment to Eastern Province, leading to an increasing number of Saudi and non-Saudi workers and their families coming to
Dammam. This has led to a greater number of people using cars, thus, the pressure on the surrounding desert is greater than in other Saudi cities.

Dammam is also a good choice because it has a population mix that is different from other Saudi cities. People there are from different Saudi backgrounds and environments, such as coastal, mountainous, desert or oasis regions. This might have influenced their choice to spend time in the desert. Although they share the same religion, some of these areas are considered more conservative and religious than others, which might influence people’s recreational use of the desert when privacy is a particular issue.

In addition, I have personal knowledge of the city and region that will help me in the research.

From the pilot study I conducted in 2011, it was clear that most desert picnickers preferred to go to two locations on the outskirts of Dammam city for recreational purposes; the study therefore looked at these two specific places on the outskirts of Dammam (Figure 32).

![Figure 32. The two locations used in the study (Source: Google Earth)](image)

0. King Fahd Road, known as the ‘Airport Road’ or ‘Airport Area’ is located on the right side of the Airport Highway at 26°25'31.45" North and 49°50'18.94" East (40 km to the north-west of the city). This area is best known for all types of desert outdoor recreation, especially for families and it is used daily because of its proximity to Dammam city.
1. Al Riyadh-Airport road is located on the right side of Al Riyadh-Airport road at 26°22'4.43" North and 49°50'42.58" East (40 km west of the city). This area is well known for all types of desert outdoor recreation, especially for male groups and it is used daily because of its proximity to Dammam city.

In addition, and in order to explore the impacts of human activities on the desert environment, two other locations were included:

- An unused area in Salasil, 100 km to the west of Dammam City; and
- A protected area in Salasil, 100 km to the west of Dammam City.

5.1.1 Pilot study

There is no doubt that the pilot study was an important part of the study and influenced the choice of the methods and their mechanisms. In this study, I experimented with different types of methods, trying to find the most suitable method/s not only for studying the phenomena in their natural setting, as in my particular case, but also to experiment with what are the appropriate methods for the conservative Saudi culture. Thus, I piloted three different types of methodology (questionnaire, informal interviews, and informal observation) at the beginning of my study to find the right method that could help to obtain an in-depth knowledge and answer the research questions.

In the beginning, I distributed questionnaires to a number of desert picnickers living within the city (30 participants in total responded to that study); those who responded were known to me, to ease the task of distribution and collection. The aim was to test the questionnaires, to judge whether the questions were clear for respondents or not. However, to ensure random sampling and to focus on the phenomenon in its natural setting, since no similar surveys had been done in that area, there was a need to find another way to distribute and collect questionnaires to picnickers in the desert, especially in an open area, with no special entry-point where a researcher can stand waiting for picnickers. Thus, at that time, I thought I could approach picnickers in
their setting and give them my questionnaire: however, this attitude put me in danger.

Due to lack of official transport, I had to use my own car to carry out this survey. However, on the first weekend of the field study, I approached a couple in the desert, who were approximately 2000 metres away from the main road, and was subsequently threatened at gunpoint, asked what I wanted, and why I was coming so close to them. This is an obvious risk I had to take into account, especially when a family of picnickers are alone in a remote place like the desert.

This risk influenced me to try to find an ideal collection point, a place where picnickers often stop by before they go to the desert: this was a grocery store in a well-known gas station frequented by desert picnickers.

Studying a phenomenon in its natural setting requires employing multiple methods of data collection to gather information from one or more people or groups (Collis and Hussey, 2014, Wedawatta et al., 2011, Benbasat et al., 1987), and this was also necessary to enhance the validity of this study. Thus, there was a need to be very close to the event in its setting as a phenomenon within its real-life context (Yin, 2003).

Thus, it became clear at that time that it would be impossible to draw a complete picture of outdoor recreation in a desert environment without applying other methods to gain a better understanding of all the matters related to this phenomenon, especially as one of the main aspects of the focus of this study was to obtain an in-depth understanding of people’s perceptions, emotions and memories as individuals in their natural (desert) setting.

So I piloted an informal interview with a group of males in the desert; I approached them and I was welcomed at that time. However, after I introduced myself as a researcher who wanted to interview them, I was asked to leave immediately. Their

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3 This will be explained in detail in the chapter section, Difficulties and Obstacles – Questionnaire group A.
behaviour was normal in the wake of the so-called ‘Arab Spring’ in Saudi and the emergent problems, as in other nearby regions, people were more worried about talking to strangers for fear of political implications. This issue influenced me to adopt the go-along interview method only with people that I knew, i.e. friends/friends of friends and members of my family. This mechanism allowed me to include females in the interviews; a series of arranged visits to the desert were carried out to conduct go-along interviews with them.

Finally, informal observations, as a part of the pilot study, were carried out as well, in order to learn about the activities of the people under study in their natural setting, which is one of the main focal points of this study. However, I found that due to the desired distance that picnickers kept between themselves and others at that time, it was impossible to observe them or even come close to their territory, especially if they were families. This aspect gave me no choice at that time and influenced me to use the participant observation method as the third method in this study, and to apply it only to people that I knew. This method helped me to learn about the activities of people in natural settings and allowed me to get close to examine picnickers and capture the richness of their experiences on their own terms (Brewer, 2000). Applying participant observation to known participants also allowed me to observe female activities and behaviour in their natural setting. It is worth mentioning that this allowed women in Saudi to be included, for the first time, in this type of research.

A questionnaire survey, go-along interviews, and participant observation were the three research methods used to help to investigate and analyse the phenomenon; at the same time, they were the only ways to conduct this survey and for the researcher to avoid any personal danger.

9 This will be explained in detail in the chapter in the section, Difficulties and Obstacles- Go-along interviews.
10 This will be explained in detail in the chapter section, Difficulties and Obstacles - Participant observation.
5.2 Research Design ‘Mixed-Methods Approach’

The research topic posed in this study concerns users' behaviour and their socio-cultural needs. The researcher, therefore, needs to be aware of the behaviour that takes place in the environment (Creswell, 2007, Kawulich, 2005, Creswell, 2003, Emerson et al., 2001, Brewer, 2000) and people’s feelings and attitudes towards it. Secondly, one needs to be aware of the cultural norms that exist in that community (Kawulich, 2005, Brewer, 2000). Thus, the literature review is based on research needs in the field of human behaviour and the physical environment. The methodology employed in this research is based on several sources in order to respond to the research objectives of investigating the social-cultural aspects, values, public perceptions and uses of the desert.

The literature pertinent to the research hypothesis underpins the conceptual framework to aid the discussion arising from the research question, and it will guide the whole research process. It provides knowledge about the history and development of recreation and also about Dammam city and its citizens’ use of recreational open spaces and the desert environment. The extant literature by western travellers to the Middle East over the last two centuries has provided invaluable information about the desert and their perceptions of it. Additional information has come from government documents, academic research and trade publications. Relevant literature in Arabic has been collected from Saudi universities and ministries. Local magazines, newspapers and TV series have also provided information on Saudi issues.

Initially, I observed, informally, the behaviour of Saudi male groups and families in both recreational open spaces in Dammam city, as well as desert areas on its outskirts. I then conducted an informal pilot study and distributed questionnaires to desert users in summer 2011. The first findings showed that there was a need to

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11 Word methods in this research will follow the Johnson et al. definition, “a broad interpretation and use of the word methods (in mixed methods) allows inclusion of issues and strategies surrounding methods of data collection (e.g., questionnaires, interviews, observations), methods of research (e.g., experiments, ethnography) and related philosophical issues (e.g., ontology, epistemology, axiology)” (Johnson et al., 2007, P. 118).
establish a specific method capable of linking the trend for outdoor recreation in the desert to an understanding of the impact of design on users’ behaviour, and their attitudes to both the built and desert environments. This was because the major focus of this research, as explained above, is to understand why Saudi people go to the desert for these activities. The research also seeks to investigate what perceptions Saudi people have of the desert, whether it has a positive affordance and whether it is able to evoke positive emotions in its users.

Consequently, a specific methodology needed to be developed that could closely investigate the relationship between local people and their perception of the desert environment. It also needed to understand thoroughly and show how socio-cultural needs have forced users to engage in recreational activities in the desert area, rather than spending their leisure time in the modern, planned, open spaces of the city. This work has contributed to understanding better what desert environments offer to users which the modern, heavily-designed urban recreational places seemingly, do not. Since there are no previous studies related to public perceptions and use of the desert in the Saudi context, it was important to find appropriate methods to identify the various dimensions and measurable details. Therefore, to obtain a clear understanding of the research subject from different angles, a mixed-methods\textsuperscript{12} approach was chosen since the focus was on naturally-occurring events in natural settings. This has helped to give a solid indication of what “real life” is like (Miles and Huberman, 1994).

The research intention is to gain a deeper understanding of recreational use of deserts and provide more detail how people perceive their own situation and problems so that we understand better how users’ personal memories, values, and interests are involved in the process. In effect, this methodology will focus on social phenomena and behaviour through a variety of evidentiary sources (Yin, 2003). Furthermore, it is less structured and more organic in nature than other methodologies, which offers

\textsuperscript{12} Johnson et al. defined mixed methods research as “an intellectual and practical synthesis based on qualitative and quantitative research; it is the third methodological or research paradigm (along with qualitative and quantitative research). It recognizes the importance of traditional quantitative and
a more flexible relationship with respondents as they reflect on the data. This, therefore, provides greater depth and richness to the context (Aaker et al., 2001).

The study’s research methods were chosen to address the investigation’s questions from a more general methodological starting point. The results from the first questionnaire findings were subsequently refined to generate more specific questions in the subsequent ‘go-along’ interviews and participant observation. Here, the mixed-method research and its sequence of use were chosen to make the research methodology innovative. However, use of more than one method in a single study is not new in social and behavioural research, where both qualitative and quantitative research methods have been applied to investigations, for example, in the work of anthropologists and sociologists throughout the first 60+ years of the 20th century (Johnson et al., 2007). The study’s mixed-methods research is a synthesis that includes ideas from qualitative and quantitative research and involves application of three different methods in order to answer the research questions.

This combination of methodologies in any study of a phenomenon (Denzin, 2009, 1978) is to ensure validation of the data and improve the accuracy of the findings by collecting different kinds of data about the phenomenon (Jick, 1979). It will also minimise any bias that might occur with a single method. Campbell and Fiske (1959) were the first to use multiple research methods for validation purposes, followed by Webb et al. (1966, cited in Johnson et al., 2007, p. 114). They were the first to coin the term ‘triangulation’, which they referred to as “between- or across-method triangulation” (Johnson et al., 2007). The use of the mixed-methods approach can fill the gap between methodologies, compensating for the weaknesses of one method with the strengths of another (Jick, 1979) and it will help to provide strong evidence for a possible conclusion by corroborating the findings (Silveirinha de Oliveira, 2011).

Greene et al identified five common purposes for conducting a mixed-methods approach in social research studies (1989, cited in Johnson et al., 2007, p. 115).

qualitative research but also offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research results” (Johnson et al., 2007, P. 129).
These are: (a) **triangulation** (i.e., seeking convergence and corroboration of results from different methods studying the same phenomenon). In this study, three different methods were used in order to answer the research questions. (b) **complementarity** (i.e., seeking elaboration, enhancement, illustration and clarification of the results from one method with results from the other) In this study, results from one method were used to enhance and support results from another method. (c) **development** (i.e., using the results from one method to help inform the other) In this study, the go-along questions were based on topics from the questionnaires; both the participant observation and go-along questions were developed based on issues brought up in the questionnaires related to ‘for those who go to desert for recreation’; and finally, the questionnaires related to ‘for those who do not go to the desert for their recreation’ were developed based on issues brought up in earlier questionnaires, the go-along interviews and participant observation (d) **initiation** (i.e., discovering paradoxes and contradictions that lead to a reframing of the research question); and (e) **expansion** (i.e., seeking to expand the breadth and range of inquiry by using different methods for different inquiry components). In this study, when the different methods were analysed, new questions emerged.

Jick (1979) points out that triangulation is not only used to examine the same phenomenon under study from several perspectives but will enrich the researcher’s understanding by allowing new and/or deeper dimensions to emerge. Thus, it can be argued that despite the rich data gathered through each fieldwork method, in combination, the questionnaire, go-along methods, and participant observation can bridge the gap between methodologies and thus avoid any bias that might occur in each individual method. In other words, this could be attributed to the fact that triangulation will enhance validation. Jick (1979) points out that ‘triangulation, however, can be something other than scaling, reliability, and convergent validation. It can also capture a more complete, holistic, and contextual portrayal of the unit(s) under study’ (Jick, 1979).

Based on the above discussion on mixed-methods, the methodological framework of this research uses a combination of quantitative and qualitative methods. In order to
answer the research questions, four research techniques were chosen, in addition to reviewing the literature on recreation and the desert environment.

The first technique, (Figure 33), is a quantitative method: two questionnaires were used for two different groups. Questionnaire A, for those who go to the desert, was distributed close to users’ picnicking areas. The intention was to understand why this group goes to the desert. Questionnaire B was designed for those within the city and distributed there.

This technique aims to find out about another group of local people, whether they go to the desert or not; if yes, why do they go, and if not, what would make the desert their ideal place for recreation. This helps to build a picture about the types and numbers of people who engage in this kind of outdoor recreation.

The second technique is a qualitative research method, the ‘go-along’ interview. This method helps to gain a more in-depth understanding of some of the responses to the open questions (used in the questionnaires) and to capture users’ perceptions, emotions and memories about their favourite environment, which usually they keep private (Kusenbach, 2003). Also, since it is important to learn about people’s activities and behaviour in particular environments, the physical and natural setting had to be studied. It shapes users’ actions so a more in-depth understanding of some of the responses to the open questions (used in both the questionnaires and the go-along interviews) was required. Such information cannot be obtained without using a go-along research technique.

The third technique is participant observation. This method helps researchers to learn about the activities of people in natural settings (Kawulich, 2005). The researcher can closely examine people and capture the richness of their experiences on their own terms (Brewer, 2000). As this method was conducted with users while in the desert, the researcher also learned about the impact of human activities on that environment, a major objective. Another tool was applied – a site monitoring method (photographs) which helped to evaluate the sites’ current physical and ecological conditions which were then compared with both an unused, and a protected area in the same region. I took photographs of the different sites to record the actual impacts.
on the desert environment and it helped to identify the different conditions of the used, unused and protected areas. Such information cannot be calculated without using a site monitoring technique.

The final technique, a quantitative method, is use of a global positioning system (GPS)\(^\text{13}\). This method was used as a tool to measure the acceptable distance between picnickers in the Saudi desert environment to satisfy their needs for privacy and territory. This information adds a new dimension to studies of outdoor recreation in the desert outskirts of Saudi cities since users’ preferred territorial distance from other people has not been identified strongly in any existing research. Measurements were taken in Dammam’s outdoor waterfront areas (Al-Abdullah, 1998) and two other recreational waterfronts in two different cities within the Eastern Province (Al Sarhani, 2004, Umran, 2002). However, this is the first time that GPS has been used to identify the preferred distance between picnickers in different groups (i.e., the distances between male to male groups and/or male to family groups, and/or family to family groups) in the Saudi desert environment and could not have been calculated without using the GPS research technique.

These new measurements, indicating the comfortable distance between the different groups of picnickers, help to establish the on-site density of people within different groups and may also help to identify the social carrying capacity. They can be used as a standard in further developments, thus helping to ensure sites are better able to match people’s needs.

The go-along interviews and participant observation used in this study allowed women in Saudi to be included for the first time in this type of research. This situation is unique to Saudi Arabia since its conservative culture forbids women from sitting with, or talking to, anyone not related to them by blood. Being a male researcher, therefore, was problematic when interviewing the women and especially

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\(^\text{13}\) I obtained very different results via the three research methods with regard to users’ desirable distance between fellow picnicking groups in the desert. I used a GPS and electronic survey device to reinforce and clarify this difference, reduce the margin of error and to establish the actual distances between picnickers in the desert and to indicate the density of picnickers in one area within different kinds of groups. This will explained in much greater detail in Chapter Nine.
so when women are enjoying recreation in the desert as privacy is often one key issue that has led them to go there. Consequently, it was only possible to undertake interviews with women who were ‘Mahram’ (i.e., women related to me by blood or marriage).

These techniques helped the researcher to gain a more holistic understanding of what has driven people to look for alternative recreational pursuits in the desert, especially women in such a conservative culture. This study, then, is valuable because its findings might otherwise have been kept hidden. This research links people’s perceptions, activities and behaviour with the desert environment. Furthermore, it can be used as a basis to help structure research in this area.

Figure 33 shows the sequence and timing for each of the study methods (explained in detail in the next section).
5.3 Limitation of Including Women in the Go-along Interviews and Participant Observation Methods

The Quran commands that conservative Muslim women can only unveil their faces to their sons, fathers, brothers, husbands or nephews but not to strangers. Consequently, it was only possible to carry out interviews with women that were related to me ('Mahram'). Female participants in the go-along interviews and participant observation methods, therefore, were limited to my own family, namely,
my sister and her family members (husband and children), my nephew’s family (a
wife and a child) and my extended family. Then I could interview and observe
women and their families, including men and children, in a mix of families in the
desert without them altering their behaviour.

5.4 Questionnaire Survey

The first method used in this research was the questionnaire. The objective was “to
discover regularities among groups of people by comparing answers to the same set
of questions asked of a large number of people” (Zeisel, 2006, p. 257). The
questionnaire aimed to gather information about the picnickers’ characteristics,
preferences, opinions ‘perceptions’, needs, meaning of the desert, feelings while
there, their reasons for choosing the desert for their recreation, and their activities in
a natural setting. It was important to understand what had led them to go to the
desert, especially the women, as an alternative to other, urban-based recreational
pursuits. The questionnaire also helped to avoid any bias that might have occurred in
applying the go-along interviews and participant observation method with my
friends, family members and relatives.

It was also essential to employ a questionnaire technique to gather more data from
the women, since studying the effect of gender is one of the study’s major concerns.
It would have been impossible to draw a complete picture of outdoor recreation in a
desert environment without applying the questionnaire method to gain a better
understanding of all matters related to this phenomenon. The questionnaire method
accompanies the go-along interviews and participant observation, augmenting the
validity of the study. The amount of in-depth and specific data provided meant a
quite precise conclusion could be drawn.

The questionnaire questions were derived partly from the literature review of socio-
cultural aspects in relation to the built environment but with a larger scope to
encompass Saudi socio-cultural values and needs, especially regarding the family.
The focus of this method, therefore, is to examine the phenomenon of outdoor recreation in the desert and people’s relationship with that environment. It was necessary, therefore, to employ a quantitative method of survey questionnaire to: a) have a larger sample of respondents, including women, b) correlate results with those from people who do not go to the desert for recreational purposes and c) triangulate my data. This helped to understand what has driven users to engage in recreation in the desert rather than in urban spaces, the socio-cultural aspects that influence them, and how people from different regions and of different genders use the desert.

5.4.1 Survey Strategy

5.4.1.1 Questionnaire Types

Two different questionnaires were designed targeting two distinct groups of respondents, for reasons explained in more detail in the Difficulties and Obstacles section:

- Questionnaire A was designed for desert picnickers and distributed close to their picnicking area. Its main purpose was ‘to understand why they go to the desert for recreational purposes’, and

- Questionnaire B[^14] was designed for those within the city and distributed there. Its main purposes were ‘to find out whether they go to desert or not and if yes, why do they go, and if not, what would make the desert their ideal place to go for recreation’.

5.4.2 Questionnaire Analysis

The information obtained from the questionnaire went through a number of stages to turn it into data which could be subjected to statistical analyses and interpretation. After the first stage, the data was then coded by using a statistical program called

[^14]: Questionnaire B was designed for those within the city and distributed there after conferring with the researcher’s supervisors and Prof. Peter Aspinall during a meeting on 25/02/2013.
SPSS package. The coded data was stored for future use. After the coding stage, the data analysis proceeded.

In the analysis stage, the relationships that were found to exist in the data were explored. The interpretation is the final stage of translating the numerical results into a sensible reality (Bahammam, 1995). Data analysis of the questionnaire also serves as a viable means to explain and describe the observed behaviour or activity patterns or any other aspects that cannot be understood by applying only one method. In addition to explaining why users have/or have not gone to the desert, what would make it their ideal place for recreation?

5.4.3 Questionnaire A: Design

Questionnaire A is designed:

- To understand the relations and correlation between the socio-cultural aspects of users’ needs and the natural setting in the desert environment, and to investigate what exactly has driven people to be in the desert rather than in open, urban spaces for recreational purposes.

- To answer questions regarding the underlying motivations for this particular choice of the desert as a recreational space (e.g., to what extent does appreciation of the natural local landscape influence this choice, in comparison to the desire for privacy, freedom, or other socio-cultural values).

This information was used to understand how socio-cultural aspects lead users to enjoy recreation in a remote and difficult-to-access area on the outskirts of Dammam city. There was a need to divide the questionnaire into two sections, each of which was designed to assess the characteristics of the subjects of the survey.

Three types of questions were designed: restricted (or close-ended) types, open-ended questions, and rating-scale items, which were statements. Each of these has advantages and disadvantages. For example, the restricted format, where respondents are asked to answer the question by selecting one answer from a set of alternatives, involves control over the respondents, since they have to provide specific answers from the alternatives provided (Bordens and Abbott, 2011). Answers in this type of format are easier to summarise and analyse than open-ended questions. However,
answers in a restricted item (or close-ended question) format are less informative and not as rich as the information obtained with open-ended questions.

The open-ended format, however, which allows the respondent to answer in his/her own words, has disadvantages in that respondents might misunderstand what the researcher is looking for and provide answers that do not deliver the required information and might be difficult to analyse and summarize. However, its strength is in allowing the respondent to answer in his/her own words (Bordens and Abbott, 2011). The open-ended question is designed to *elicit* respondents’ problems, needs and feelings, providing an opportunity to detail matters that may have been missed by the researcher. This is important, since the main study aim is to understand what has impelled people to go to the desert for their recreation. Such answers may be more informative and accurate than the information obtained via the restricted (or close-ended) format.

A 5-point Likert scale was also used which requires a graded response to a statement and is widely used in survey research. Respondents then rate their degree of importance or unimportance by selecting an answer that reflects the level of agreement they feel about each statement. This ranges over five blank spaces labelled from ‘very important’ to ‘very unimportant’, or ‘no interest’ to ‘considerable interest’, which can be seen as a different form of a restricted item. This yields data that are easier to summarize and analyse (see Appendix II).

The first section was designed to collect demographic information. Participants were asked to provide factual information about their age, gender, marital status, number of children, type of accommodation and region of origin. This data was used to describe the population under study in very specific terms and to explain the variations among them.

The second section was divided into two parts, each of which covers a variety of related questions.

The first part of the second section consists of questions that deal with picnickers’ preferences, their social life and preferred environment for recreational purposes and
their needs, such as facilities and services, through the following statements: ‘very important’, ‘somewhat important’, ‘neither important nor unimportant’, ‘somewhat unimportant’, and ‘very unimportant’. Beyond rating current facilities and services, it also aimed to find out whether having such facilities and services might increase the number of desert picnickers.

The second part of the second section consists of questions about picnickers’ awareness of the desert as a fragile environment. They were asked if they were concerned about the increasing number of visitors, the camels that eat everything in the desert, litter and whether they teach their children to collect it before they leave as well as the adverse impact of overgrazing, and vehicular and recreational use. They were also asked about their perceptions of the desert: ‘What does it mean to you?’ ‘What do you feel when you are in the desert?’

The third section consists of questions that deal with picnickers’ social life, and they were also asked: ‘Did you go to the desert when you were a child?’ The intention was to reveal whether appreciation of the desert is something that is related to perceptions passed down to them in childhood, by their parents (Ward Thompson et al., 2008) and/or whether it is part of the socio-recreational tradition in their society. People’s answers clarified their reasons for selecting the desert in order to enjoy specific types of activities with a particular group, thus shedding light on the new phenomenon of outdoor recreation and people’s perceptions.

They were also asked how many times they had been to the desert, how long they stayed, in which season, with whom, and whether they usually go to the same place. Such questions were designed to reveal the relationship to relevant socio-cultural aspects and the desert environment, including its relationship to users from different regions, and also to understand what leads people to go to the desert for recreational purposes rather than to public gardens or other urban sites. The question asking desert picnickers whether they go in all seasons, or just in one, was to reveal the importance of the outdoor recreation that takes place there, who its users are and their interrelationships, whether in the same family or with a group of friends.
Finally, to test if the desert offers positive affordances for its users or not, they were asked to rate their interest in participating in activities there against the following statements: [They are of] ‘considerable interest’, ‘moderate interest’, ‘some interest’, ‘little interest’ and ‘not interested’. It aimed to discover, also, whether being in the desert helped picnickers to carry out their chosen activities easily, with their desired level of privacy and quite freely, and without any restrictions or obstacles that might minimise the benefit of being there. Moreover, they were asked questions such as: ‘What is the desirable distance that you keep away from other groups of picnickers?’ This assessed the range of actual, preferable and suitable distances from different groups that a picnicker usually maintains when he/she is alone or with friends or family, to reveal the importance of privacy and territory.

In general, the answers began to clarify the relationship between socio-cultural values and their link not only to people’s behaviour in the desert, but also to their perception of it and its affordance.

This relationship between local people and their perception of the desert was investigated to understand how socio-cultural needs have led users to engage in recreation in the desert, rather than in the planned open spaces of the city. Consequently, their answers have led to understanding what desert environments offer that modern, heavily-designed recreational places do not.

The questionnaire was designed for males and females alike, written in the main language of Saudi Arabia\textsuperscript{15}, Arabic, and issued as a A4 sized document. At the top of the front cover, there was the logo of the University of Edinburgh/Edinburgh College of Art and Dammam University and the name of the researcher. It also included an Information Statement for the respondent, indicating the researcher’s name and research focus, what the questionnaire involves and how the information will be used in the study. It explained, too, the scope and specific aims of the study, besides assuring of the confidentiality of the answers and thanking the respondent for his/her support and information about the researcher, with his supervisor’s name and email

\textsuperscript{15} See Appendix II for Arabic versions of the questionnaires.
for any further information. The questions ran from pages two to three and the 26 questions were divided into four sections that guided the respondent as he/she was filling in the form (English versions of the questionnaires in Appendix II).

5.4.4 Distribution and Collection Process for Questionnaire A

In a conservative society like Saudi Arabia, people are, generally, not aware of research or familiar with its data-gathering techniques. Thus, before starting the distribution process, it was vital to obtain an authorisation letter from the researcher’s representatives. (This is explained in the Difficulties and Obstacles section, below.) Since the sponsor of this doctoral study is Dammam University, a letter was required from the Dean of the College of Architecture and Planning along with the researcher’s identification card from that university. These documents had to be carried while distributing and collecting the questionnaire forms.

This was necessary for two reasons: a) to protect the researcher from any questioning or harassment by authorities, such as the police, while distributing the questionnaire; b) to ensure people’s willingness to participate in this survey, since Saudis have a special respect for official departments in the government, and Dammam University belongs to the Higher Education Ministry.

On distribution and collection days, it was necessary to wear official Saudi uniform dress, with the university identification card attached to the top front pocket, to help provide a successful procedure for the distribution, without facing any harassment or problems that frequently occur in such cases. I (the researcher) stood in front of the door of the selected site, a grocery store in a well-known gas station, ‘Petro Sahab’, on the outskirts of Dammam city (Figure 34), where desert picnickers often stop before reaching their destination.

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16 See Appendix V for the administrative documents necessary when conducting the study.
17 This was especially important (and necessary) after what had been happening in the region during the fieldwork, in the wake of the so-called ‘Arab Spring’. As in other regions, authorities had started to be aware of activity and were strict in such cases.
I carried the questionnaire forms and also an authorisation letter, in case anyone wanted to look at it. I asked each man entering the grocery store if he was going to the desert to have a picnic. If the answer was ‘yes’, I introduced myself, explained briefly what I needed the respondents to do and gave him an appropriate number of questionnaire forms. I then asked him to return the forms when they were next on their way to the desert, which made it easy for respondent(s) to participate and gave them enough time to answer the questions.

Finding the suitable day and time to achieve the maximum number of respondent(s) was another important step to be considered in distributing and collecting the questionnaires. Since people tend to enjoy recreation at the weekend, the chosen days for both collecting and distributing the questionnaires were the first and second days of six consecutive weekends. In effect, 12 days in total were spent distributing and collecting questionnaire forms. Since research showed that picnickers often go to the desert after 4pm in summer and 3pm in winter, based on an informal pilot study conducted earlier in 2011, the chosen time to distribute and collect was early evening, between 3pm to 5pm.

However, to collect the questionnaires from respondents who like to go to the desert on weekdays, the researcher left a special box with the Dammam University logo inside the grocery store. This was in agreement with the gas station owner. Otherwise, at the weekend, I was able to collect questionnaires from participants and
at the same time, distribute others. This process helped me to obtain a high number of responses.

5.4.5 Difficulties and Obstacles: Group A

When conducting research, direct contact and interaction with the public often involves obstacles that might delay or sometimes stop progress. In this survey, many obstacles occurred, such as transport. I tried to obtain a car from Dammam University with the university official logo on its side. This would have helped me to distribute my questionnaires to picnickers in the desert, since people in Saudi Arabia have a respect for official government cars bearing an official logo. However, this was not possible, so I had to use my own car to carry out this survey. However, on the first weekend of the field study, I approached a couple in the desert, who were approximately 2000 metres away from the main road, and was subsequently threatened at gunpoint, asked what I wanted, and why I was coming so close to them. This is an obvious risk, especially when a family of picnickers are alone in a remote place like the desert.

As it is an open area, with no special entry-point where a researcher can stand waiting for picnickers, and since no similar surveys had been done, the grocery store in the well-known gas station frequented by desert picnickers was an ideal collection point. So this technique eased and smoothed the process.

In March 2012, about 300 questionnaire forms were distributed in the selected site over six weekends. However, only 140 were returned, of which 80 were incomplete, and of those, only 60 forms were selected for analysis. This number of returns represents 20% of the distributed questionnaires. I then carried out further fieldwork, not only to get more respondents, but also to obtain another sampling set for city residents who may or may not go to the desert and to find out what would make it their ideal place for recreation. As only 60 out of 300 forms were being analysed from those who go to the desert, the target was to have 60 respondents who do not go. However, to avoid the problem of any incomplete, duplicate or non-returned forms, 120 questionnaires were distributed to students at Dammam University but
only 60 of these forms were analysed. This is explained in detail in the Questionnaire B, Design section.

These two distinct questionnaires were distributed at two different sites, at different times and to different types of respondents to ensure random sampling, such that people who go to the desert and those who do not would have the same chance to participate. This also helped to minimise any bias by the preference of respondents selecting the sample. This survey technique required a considerable amount of time, effort and preparation. However, it was the only way to conduct this survey and for the researcher to avoid any personal danger.

The questionnaires were piloted in summer 2011 after they were developed and translated into Arabic. A pilot study was conducted to test Questionnaire A. A preliminary version of it was distributed to a number of desert picnickers (30 participants in total responded to that study). Most of the feedback referred to problems with interpretation from English to Arabic such that it changed some of the meaning of the questions, and the use of ‘Bedouins’ or ‘non-Bedouins’ was thought to be discriminatory or disrespectful. Some replies indicated that the questions were understood and appropriate, All these comments were addressed in the final version of Questionnaire A which avoided asking respondents whether they were Bedouin or not. Since the preliminary version of Questionnaire A was only to test its viability, the answers were not analysed.

In December 2011, I asked for approval from the Saudi Arabian cultural bureau office in London to allow me to carry out a five-month-long field trip, hopefully between March-August 2012. Unfortunately, I was only given authorisation for three instead of five months, therefore had limited time. The major concerns then were budget constraints, since I had to pay for three trips myself and it involved study time to undertake further fieldwork and questionnaire surveys.

5.4.6 Questionnaire B: Design

This questionnaire was designed and directed to respondents within the city and distributed there. Its main purposes were: To find out whether respondents go to the
desert or not; if yes, why do they go, and if not, what would make the desert their ideal place to go for recreation’.

Questionnaire B is designed:

- To understand if there are any relationships and correlations between socio-cultural aspects and the desert environment for people within the city, and to test whether they are attached to and like to go there, or whether they just go to open spaces, like parks and waterfronts within the city, for recreational purposes;

- To answer questions regarding the choice of the desert as a recreational space (e.g. how much does appreciation of the desert mean for this choice, in comparison to the desire for privacy, freedom, or other socio-cultural values). This information will help in interpreting the extent to which socio-cultural aspects drive users to take their recreation in a remote and difficult-to-access area on the outskirts of Dammam city; and

- To answer questions regarding respondents’ choice not to go to the desert for recreational purposes (e.g. what is the main reason for not going there and what would make the desert your ideal place to visit?) This information will help to explain whether this phenomenon of outdoor recreation in the desert influences all Saudi citizens, or whether socio-cultural aspects influence just a particular group, and also to find out what would make the desert the ideal place for people who currently do not go.

The questions were of two types, close-ended; and open-ended questions. The questionnaire was divided into three sections. The first section was designed to assess the demographics of the respondents as per Questionnaire A, and it aimed to find out about respondents' social lives, and which region they came from originally. This factual data was used to describe the population under study in very specific terms and to explain the variations from the answers in group A (designed for those who already go to the desert).

The first part of the second section consisted of questions that aimed to find out if this new phenomenon of outdoor recreation was widespread in Saudi society, and respondents were asked whether or not they go to desert for recreational purposes.

The second part asked questions as to what might change the minds of respondents who currently do not go to the desert, and to identify and investigate their reasons for not doing so, and what would make it an ideal place to visit?
Section three consisted of questions designed to establish the relationship between the relevant socio-cultural aspects that influence people’s choices.

Respondents were asked if they went to the desert as children. This question also tests whether today their choice to go (or not) bears directly on their region of origin and/or is related to their associated perceptions, passed down to them by their parents as children, of going (or not) to the desert. It aimed to discover if this was affecting their decisions today. Had they been influenced deeply by their previous experiences, personal attachments, images and collective memories that had been passed on to each new generation (Aspinall, 2010, Hunziker et al., 2007, Davenport and Anderson, 2005, Parsons and Daniel, 2002, Rapoport, 1977)?

Another question was designed to elicit the reasons for choosing the desert for recreation and users’ perceptions of it. These questions revealed the relationship between relevant socio-cultural aspects and the desert, depending on the different regions people came from and their motives for going there for recreation rather than to public gardens or other sites. This also revealed why some people do not go to the desert, for example, if it had not been part of the socio-recreational traditions of their society and in that case, they were asked what would change their minds. Questions about how often respondents go, how long they stay there, in which season, and with whom, aimed to clarify and explain behaviours and the reasons for going with a particular group in order to undertake certain types of activities, or to find reasons for not doing this. This information reveals the importance to Saudi society of outdoor recreation in the desert as well as who its users are and their interrelationships, for example, if they are from the same family or group of friends.

Respondents were also asked what they do there. These questions also revealed whether the desert environment helped picnickers to undertake their activities easily, freely and in private. As in Questionnaire A, questions were asked about the desirable distance that picnickers should observe relative to other people.

The questionnaire format was similar to that of Questionnaire A, as described above. The seventeen questions were divided into three sections that guided the respondent
as he/she was completing the form (see the English version of Questionnaire B in Appendix II).

5.4.7 Distribution and Collection Process for Questionnaire B

The distribution and collection process, especially in targeting university students, was considerably easier than for the previous survey, for two reasons: firstly, university students, both male and females, are aware of research and familiar with its data-gathering techniques. Secondly, since this research is sponsored by Dammam University, there was no need to have an authorisation letter to distribute and collect the questionnaire forms. On the distribution and collection days, I wore official Saudi uniform dress, with my identification card attached to my front top pocket, firstly, because it is a university rule and secondly, to identify myself and give me a respectable, professional look that assisted in achieving a successful distribution. For the male respondents, I distributed 60 questionnaires to students in the design studio in the college of architecture at Dammam University at 9am and collected them at 3pm, as illustrated in Figure 35.

![Figure 35. Distributing the questionnaire to male students in Dammam University (Source: author)](image)

However, for the questionnaire survey for the women students, the process differed. Initially, it was sent from the Dean’s office in the male department to the female department. Then it was distributed by the secretary there to the female students, collected on the same day and returned to the Dean’s office the next day. I was able
to collect them the day after. This process helped me to obtain a high number of responses.

5.4.8 Difficulties and Obstacles: Group B

I encountered no difficulties while I was conducting this survey. In March 2013, a small pilot study was conducted to test Questionnaire B. A preliminary version of it was sent by email to numerous Saudi Arabian participants who study in the United Kingdom (13 participants in total responded). Most of the comments about it included problems with interpretation from English to Arabic, which had changed some meanings of the questions. Since the purpose of the preliminary version of Questionnaire B was only to test if there were any possible faults in it, the answers were not analysed and the comments were all addressed in the final version of the questionnaire.

As mentioned earlier in this chapter, in 2012, after distributing 300 Questionnaire Group A forms (for those who go to the desert) only 140 were returned, of which 80 were incomplete, and thus only 60 forms were available/suitable for analysis. After conferring about this problem during a meeting on 25/02/2013 with the research supervisors and Prof. Peter Aspinall, who was my examiner in my Major Progress Report, I was asked to come up with Questionnaire Group B (for those who do not go to desert) that was designed for those within the city and distributed there.

Because I had only obtained 60 out of 300 forms to be analysed from those who go to the desert, the target confirmed with my supervisors at that time was to come up with a similar number, 60 respondents who do not go, and that this would be limited to university students, for two reasons: one was to include both genders in this survey and the other was because of the limited time available.

Thus, to avoid the problem of any incomplete, duplicate or non-returned forms, in April 2013, I distributed 120 questionnaire forms to students at Dammam University (60 males and 60 females). From that, 115 forms were collected from respondents, of which 35 were incomplete. Thus, after eliminating those, there were 80 available forms (36 males and 44 females), and of those, and to avoid any bias, I randomly
selected 30 males and 30 females, since it was my intention to come up with only 60, to parallel the number obtained from Questionnaire A; thus only 60 forms were selected for analysis.

This sampling technique, using the two different questionnaires, upholds the idea of random sampling, where every member of the target population has a chance to appear in the sample: both those who go to the desert, and those who do not can have the same chance to participate. It also helps to reduce the chance of bias by the preference of respondents self-selecting the sample. However, the samples are not comparable because of the age, level of education and other socio-demographic factors, as well as their purpose, as I explained earlier. This technique required a considerable amount of time, effort and preparation.

5.5 Go-along interviews

In academic research, some subjects are particularly hard to study due to the sensitivity of the topic or difficulty in obtaining data (for reasons such as the inaccessibility of subjects, etc). The issue of how people behave and act differently in different behavioural settings has been considered as one of these topics.

In the last few years, Evans and Jones (2011) point out that there has been a growing number of social scientists, particularly, geographers, who have been employing such techniques (e.g. Carpiano, 2009, Anderson, 2004, Kusenbach, 2003, Reed, 2002), in order to explore the interaction between users and their environment. In recent years, this type of method has attracted academic attention (Jones et al., 2008, Evans and Jones, 2011). The most common and practical mode of the go-along interview method is the ‘walk along’, which is conducted while walking with the participant (Carpiano, 2009), but it can also be conducted while driving (‘ride-along’) or more than one mode of transportation can be used (Kusenbach, 2003).

In this research, a further variation of the method, namely, the go-along interview (Carpiano, 2009), was used to gain a more in-depth understanding of participants’ perceptions, and to uncover aspects of individual lived experience that frequently
remain hidden (Kusenbach, 2003). This version of the method is known for its ability to access participants’ attitudes and knowledge about the surrounding environment (Evans and Jones, 2011, Jones et al., 2008, Kusenbach, 2003), something that is sometimes considered a hidden dimension (Hall, 1966, 1959). As the method allows the researcher to ask interviewees to talk about the places that they are interested in while they are experiencing them, it can generate particularly rich data (Evans and Jones, 2011, Thwaites, 2001).

The go-along semi-structured interview is defined by Carpiano (2009) as:

“a form of in-depth qualitative interview method that, as the name implies, is conducted by researchers accompanying individual informants on outings in their familiar environments.” (Carpiano, 2009, p. 246)

By following participants into their familiar environments, asking them questions and observing them, the researcher is able to examine their experiences, interpretations and practices within this environment (Carpiano, 2009, Kusenbach, 2003). To Kusenbach (2003), the go-along deliberately aims at “capturing the stream of perceptions, emotions and interpretations that informants usually keep to themselves. The presence and curiosity of someone else undoubtedly intrudes upon and alters this delicate, private dimension of lived experience” (Kusenbach, 2003, p. 464).

Kusenbach identifies five themes that the go-along is well suited to exploring and illuminating:

- Perception (participants’ knowledge and values that guide their experiences of a place)
- Spatial practices (ways in which way people engage with their environment)
- Biography (linking it to a specific place)
- Social architecture (relationships between people)
- Social realms (i.e. interaction patterns and how place shapes the nature of interaction) (Kusenbach, 2003, cited in Carpiano, 2009, p. 264).

For the scope of this research, it was deemed appropriate to employ the go-along interview method as a second research technique to explore how the participants,
‘desert picnickers’, perceived and experienced the desert. In addition, it aimed to explore the attachment memories that they hold for this place. Go-along interviews helped to explore the different dimensions of place and gain a more in-depth understanding of some of the answers to the open questions in both questionnaires. They provided an opportunity for participants to discuss issues that the questionnaire results had not given clear answers to. This second, additional technique was used to support triangulation of the data collected, thus enabling a deeper understanding of participants’ perceptions to be gained. The use of the go-along technique is particularly suitable in the context here, given the nomadic culture of the area. Questioning respondents in the environment under study – the desert – created exceptional opportunities to conduct ‘unobserved’ observations of the social setting and situations that are deemed to be too sensitive to reveal to unaccompanied outsiders (Kusenbach, 2003).

The interviews allowed participants to say what led them to adopt the desert (often without any basic services) as the setting for their recreation. Furthermore, it gave them the opportunity to voice their experiences of it as it became an open space for their recreation, and to elaborate on their childhood memories of these places. The techniques applied in collecting the empirical data for this research were also used to ensure the richness and validity of the results. Silverman (1993) argues that it is an increasingly accepted view that a work becomes scientific by adopting methods of study appropriate to its subject matter. The go-along technique was chosen for this research in order to complement the other techniques that were selected. In other words, the interview method was used to help in providing an understanding of the attitudes, perceptions and motivations of local males and their families that could not be obtained from a questionnaire alone18.

The survey-interview is the best known and most commonly used data collection method in the social sciences (Kvale, 1996). Using the go-along interview as a second data collection method in this study aimed to demonstrate how a variety of local single people or family groups perceive or practise their picnicking activities in
the desert. It was also to capture data relating to people’s understanding of place, to explore their personal connection to the study area (Evans and Jones, 2011, Kusenbach, 2003, Thwaites, 2001). Thus, it was essential to employ the go-along interview method as one of the three research techniques used in this study. Kusenbach (2003) argues that the go-along offers a unique framework for study, as “ethnographers are able to observe their informants’ spatial practices in situ while accessing their experiences and interpretations at the same time” (Kusenbach, 2003, p. 463). This method enables the researcher to gain a better understanding of the context and phenomenon of the people under study in a natural setting. Here, the go-along method sits alongside questionnaires and participant observation, which together, add richness and profundity to the study, as well as increasing and enhancing its validity. With the amount of in-depth and specific data provided, a quite precise conclusion could be drawn.

Since the focus of this study is to obtain an in-depth understanding of people’s perceptions as individuals in their natural (desert) setting, the emotions, values, and attachment memories that they hold toward these places was the main issue in this study. The mixed-methods approach is used here in order to undertake the best qualitative investigation and analyse the unique relationship between people and the desert environment. This investigation contributed to a greater understanding of what it offers to users which modern, heavily designed recreational places seemingly, do not. Themes in the go-along method were based on some of the research questions that had not been covered fully in the questionnaire answers. This technique enabled me to better explore the research area, capturing the richness of people’s experiences in their own terms, and subsequently, to understand more about the social meanings of their desert activities.

18 More detailed explanation and further clarification of each technique will be provided in the following sections.
5.5.1 Difficulties and Obstacles

As mentioned earlier, studying a conservative Islamic area was challenging. It was impossible to undertake interviews by approaching strangers in the desert and simply asking them to be part of the study. It was clear that since families came to the desert to relax in an open area, they were hoping to enjoy some privacy, hence might not wish to participate. However, if they accepted and let the researcher carry out the interview, they might display uncharacteristic attitudes and behaviour. Thus, due to the sensitivity of the study, its location, and the reasons that people go to deserts in the first place, it was difficult and, at times, impossible to apply any kind of research methodology in such remote areas without knowing the participants previously.

During one preliminary field study, I approached a group of males in the desert, and I was made welcome to sit and have a coffee (it is a part of Arabic culture to welcome guests in this way); however, after I introduced myself as a researcher who wanted to interview them, I was asked to leave immediately. In the wake of the so-called ‘Arab Spring’ in Saudi, as in other nearby regions, people were more worried about talking to strangers for fear of political implications.

As it was impossible to carry out go-along interviews with people who did not know me personally, I contacted friends and relatives. Consequently, I carried out a series of arranged visits to the desert to conduct go-along interviews with them.

This enabled me to conduct interviews not only with groups of males, but also with families and groups of women, in order to carry out a series of observations with them in a natural setting19.

Being a male researcher posed challenges when undertaking some of the fieldwork given Muslim culture in general and Saudi norms in particular. It was not only difficult, but, in practice, impossible to observe a family that I did not know

19 As I have pointed out before, this is the first time that this has been done in Saudi Arabia, i.e., go-along interviews with people in their natural setting where women are included since normally, they are not allowed to sit or talk to a stranger who is not a blood relation. Thus applying this method where women are included was a first in this conservative culture.
personally, as conservative Muslim women are not allowed to unveil their faces to any male except their very close male relatives.

I went to the desert with different groups of people of different ages and social status, both males and female, single, married, and families, to observe and capture the richness of their perceptions, memories and experiences in their own terms. Each group had more than three respondents, for three reasons. Firstly, based on an informal pilot study that I conducted in 2011, I had found that desert picnickers often go as a group of at least three or more. Secondly, being with more than one participant in an interview can help to minimise any discomfort that can arise between participants and the researcher (Kusenbach, 2003). Thirdly, being in a group can encourage individuals to engage in a discussion (Burgess et al., 1988).

Arranging groups of participants to interview in the desert outskirts of Dammam was difficult. Therefore, the number of members in each group was not always predetermined. I divided each group containing five or more participants into two subgroups to make it easier to manage while we were walking and talking (the rest of the group would be sitting in their picnic area). Many of the groups consisted of young participants (children) who were not included in the discussion, however, their activities were observed.

To address the above concerns, and in the light of time and budget constraints, the go-along interview was limited to residents known to the researcher and his friends and interviews were undertaken only with females that were ‘Mahram’ for me. Thus, I was only able to interview five female participants (my female family members and relatives, limiting the number of females in the full study).

This was the only way to interview a mixed male and female group in the desert without them altering their behaviour. Brewer (2000) mentions that “some forms of unstructured interviews can be so informal that they almost take the form of natural conversations” (Brewer, 2000, p. 65). This is especially true with the go-along method, which helped me to open a kind of informal discussion with all participants.
One meeting was set up for each group. Burgess et al. (1988) suggest that meeting more than once can help to build up the intimacy of the group, and thus encourage participants to share their feelings with one another as group members, but in this case, participants already knew each other as friends or relatives. I had between four and seven participants in each of the six go-along interview groups. Although having more than four adults and a child in each group was not easy to manage, having them together was helpful in encouraging intimate discussion.

The go-along interview questions were piloted in April 2012, before the format was finalised. Pilot studies are considered a good way to validate and see how reliable a research tool can be, as well as to anticipate future problems that might occur while conducting the method (Silveirinha de Oliveira, 2011). A preliminary version of the interview questions was tested among seven random samples consisting of two different groups of local males who were picnicking in the desert outside Dammam city at different times. The two groups were known to a friend of mine, who then introduced me to them. I checked whether they had difficulty answering or understanding any of the questions. Most of the comments about this pilot study involved problems with interpretation from English to Arabic such that it changed the meaning of the questions. After receiving feedback, the interview questions were then developed and carefully worded since the question profoundly affects the answer (Schuman and Presser, 1996, Fowler, 1995, Foddy, 1993, Bradburn and Sudman, 1979):

- simple language,
- no technical or scientific terms,
- no ambiguous questions,
- no leading questions,
- no embarrassing or potentially embarrassing questions.

The go-along interviews were conducted from early May 2012 until the end of June 2012.

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20 As mentioned earlier, I asked for approval from the London Saudi Arabian Cultural Bureau office, to carry out a five-month-long field trip. Unfortunately, I was only given authorisation for three months, limiting the data collection time. This and the budget were major constraints, therefore, the
5.5.2 Go-along interview technique

To use the go-along interview method, the researcher first had to devise the following:

1. The content of the go-along interviews (what to ask);
2. Mechanisms for selecting the environmental setting and go-along interview groups;
3. A strategy to select a sample for the go-along interview;
4. A go-along interview strategy.

In the following section, each of these will be described.

5.5.3 Step 1: Go-along Interviews - What to Ask and What to Observe

The go-along qualitative interview method involved asking the participants questions and observing them in the desert. As mentioned earlier, Kusenbach (2003) emphasises the exceptional opportunities of this method to conduct unobserved observations of social settings and situations that happen to be sensitive to unaccompanied outsiders.

There is no doubt that step one – deciding what to ask and to observe – is the most difficult and important step as it requires being aware of the entire picture and having knowledge of the subject to be studied. Knowing what to ask increases the reliability and validity of the data obtained.

Carpiano (2009) points out that go-along interviews, like standard interviews, can be conducted using an open-ended or semi-structured format, each of which requires preparing questions in advance to spark conversation and to bring up the issues or topics that the research aims to explore. Thus, the go-along interviews with desert picnickers were based on some of the research questions that had not been covered entirely in the questionnaire. These questions helped to explore further the different dimensions of place and allowed participants to discuss issues that the questionnaire

questionnaires and go-along interviews were begun at the end of March and continued until the end of June 2012.
results had not given clear answers to. Ad hoc questions regarding the desert environment itself, and its features, were also included.

In order to gather “many kinds of evidence” to underpin the validity of the conclusions (Becker, 1958, p. 657), a list of relevant, prepared questions/topics was required to discuss with the participants while walking. Participants knowing each other (and the researcher) meant they could talk to me comfortably and I could observe them very closely, capturing what was important to them and their reactions to the things around them.

To fulfil the research aims, there was a need to prepare questions to discuss with participants on different issues related to the study: their perception of the desert, their spatial practices (the way in which they engage with the desert) and their biography (the personal history that they associated with this place). According to this requirement, it was decided to structure the questions into four parts, as follows:

The first part consisted of questions to discover people’s perceptions and preferences of place. The second part consisted of a question dealing with participants’ memories (e.g., ‘Do you have any acquired memories about this place in particular or in the desert in general?’ and ‘Does it have a symbolic meaning for you?’). The third part consisted of a number of questions concerning the way users engage with the space (e.g. ‘what would you normally do here?’). This section was designed to reveal the type of activities that picnickers participate in and how the desert helps them to carry them out. Questions also dealt with the distance groups kept from one another, such as: ‘What is the desirable distance that you keep from other groups of picnickers?’

The answers would begin to clarify the relationship between socio-cultural values and people’s behaviour in the desert, but also their perception of it in terms of its impact on wellbeing. People’s relationship with the desert was investigated to obtain a thorough understanding of how socio-cultural needs have led users to engage in recreational activities there, rather than in the planned open spaces of the city. These answers will contribute to a greater understanding of what the desert environments offer to users which modern, heavily designed recreational places do not.
5.5.4 Step 2: Selecting the Go-along Interview Groups

The go-along interview method was used alongside the other three methods applied in this study, namely, questionnaires, participant observation, and global positioning systems.

As mentioned earlier, Jick (1979) emphasises the ability of triangulation to capture “a more complete, holistic, and contextual portrayal of the unit(s) under study” (Jick, 1979, p. 603). He also points out that triangulation can enrich the researcher’s understanding by allowing new and/or deeper dimensions to emerge. It is generally accepted in academic research that sampling significantly affects the validity of the observational findings. It helps to increase validity and reduce any anomalous result that might occur. As Bahammam (1995) explains, it reduces the effect of any change of behaviour in participants that might occur when being observed for a study. Thus, selecting different settings and situations for different groups and types of desert users (e.g. males, and families that include males, females and children) increases the external validity. Moreover, interviewing participants in different groups increases the opportunity to capture the richness of their perceptions, memories and lived experience. In this study, I carried out a series of go-along interviews as a data collection method in different settings on the outskirts of Dammam city. I went there with groups of people of different ages, social status and gender, single, married, and with or without families. I also had exceptional opportunities to conduct ‘unobserved’ observations of social settings and situations that happen to be sensitive to unaccompanied outsiders.

5.5.5 Step 3: Strategy for Selecting the Go-along Interview Sample

As mentioned previously, due to the sensitivity of the study, its remote location and the reasons that people go to desert environments in the first place, it was difficult and, at times, impossible to conduct interviews without knowing the participants previously. The go-along interviews were conducted in desert environments familiar to participants between May and June 2012, directly after distributing and collecting Questionnaire A.
Over six weekend afternoons, with six groups of participants (two groups of four, one group of five, two groups of six and one group of seven), different events were organised in order to allow me to accompany picnickers and conduct interviews with them. The schedule is shown in Table 1, below:

<table>
<thead>
<tr>
<th>Date of Events</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Thursday 03/05/2012</td>
<td>Six participants: two male, two females and two children</td>
</tr>
<tr>
<td>2 Thursday 10/05/2012</td>
<td>Four participants: one adult male, two females and one child</td>
</tr>
<tr>
<td>3 Thursday 24/05/2012</td>
<td>Four participants: one male, one female and two children</td>
</tr>
<tr>
<td>4 Thursday 07/06/2012</td>
<td>Five participants: five males</td>
</tr>
<tr>
<td>5 Wednesday 20/06/2012</td>
<td>Seven participants: seven males</td>
</tr>
<tr>
<td>6 Thursday 28/06/2012</td>
<td>Six participants: six males</td>
</tr>
</tbody>
</table>

Table 1. The schedule for the six groups of participants

The majority of the interviewees (22) were male, with only five females and five children, all of whom were friends/friends of friends and part of my family. All participants had been informed previously that I would spend the afternoon with them and conduct an interview while we were strolling around the desert area of their choice. I met the participants at specific locations well known for desert picnicking, each of which is on the outskirts, about 40km west of Dammam city (Figure 36):

1. King Fahd Road, known as the ‘Airport Road’ (‘Airport Area’),
2. Al Riyadh-Airport road.
I always parked my car off the main road close to their selected site. Each time I met participants or any of the group members, I called them by cell phone to inform them that I had arrived close to their selected area, for two practical reasons. Firstly, I did not know their exact sitting area and did not wish to approach other picnickers not involved in this study by mistake, and secondly, the terrain demanded a four-wheel drive car.

### 5.5.6 Step 4: The Go-along Interview Strategy

I had informed participants previously that I would spend a short time accompanying them. Since one of the study aims was to gain a better understanding of ‘participants’ memories’, which had not been discussed in depth in the questionnaire, it was decided that the participants would choose the interview site. Since I knew some of them in each group from previous occasions, that contributed to the integrity of the research, as it meant participants would be comfortable and act naturally, allowing me to gauge their attitudes to, and knowledge about, the surrounding environment (Evans and Jones, 2011). This avoided any potential ‘reactivity’; the influence that an observer has on the behaviour under observation that is considered a form of bias (Bahammam, 1995). From the pilot study I conducted in 2011, it was clear that most desert picnickers preferred to go to two locations on the outskirts of Dammam city. Thus, the study took place in the following locations (Figure 37):
Figure 37. The two locations used in the study (Source: Google Earth)

1. King Fahd Road, known as the ‘Airport Road’ or ‘Airport Area’ is located on the Airport Highway and is also an area in daily use because of its proximity to Dammam city (40km to the north-west of the city). This area is among the best known for all types of desert recreation, especially for families, mainly because it is safe, as they can see who is close by, particularly important when children are playing. The site also has a specific entrance and well-defined fences on both sides of the road. Since this area is airport land, the sand is protected from overuse by cars and is considered to be of a good consistency.

2. Al Riyadh-Airport road is in daily use because of its proximity to Dammam city (40km west of the city). This area is well known for all types of desert recreation, especially for male groups. Access requires four-wheel drive cars. It has no specific entrance, which increases the effect of picnickers on the landscape, as each car drives its own path through the desert disturbing the topsoil and making its sand ‘inconsistent’.

I accompanied the thirty-two participants (men, women and children). There were between three to five participants in each walking-through group, with all walks beginning and ending at the participants’ sitting area (Figure 38). They chose the routes that we were going to walk through. What determined their choice of route was other picnickers, since, according to the participants, we needed to keep a minimum of 300m between us and any other picnickers while we were walking. Participants were free to interrupt at any time to show me something specific (like a plant, any negative impact on the fragile desert environment such as litter, or something that had a special meaning to them, etc). Discussing their surrounding
environment helped the conversation not only to flow naturally during the walks but also allowed participants to explore different issues related to it.

I split each participant group that had more than four adults into two sub-groups. While I accompanied the first sub-group, the rest sat in their picnicking area and participated in their usual activities. This approach allowed me to manage the participants and ask my questions. After interviewing the first sub-group, we would return to the sitting area and I would start interviewing the second sub-group while walking together.

Figure 38. This group, consisting of five participants, was split into two groups (Source: author)

Since the previous method had shown that the majority of picnickers spend between three to six hours or more in the desert, I was conscious not to take up too much of their time by spending more than 1.5-2 hours per group. Before the start of each interview, I gave participants a form in Arabic. This A4-sized document included on its first page an ‘Information Statement’ addressed to the respondent, indicating the researcher’s name, his research and how the information would be used. The purposes and aims of the study were made clear, and the confidentiality of the answers was assured. The second page was the consent form, which included information about the researcher, including my supervisor’s name and email. On the

21 See Appendix II for Arabic versions of the form.
front cover were the logos of the University of Edinburgh, Edinburgh College of Art and Dammam University, and the name of the researcher. This form was collected at the end of each interview (Appendix II).

5.6 Participant Observation

To understand human behaviour, one needs to be aware of two issues: firstly, the behaviour that takes place in the environment (Creswell, 2007, Kawulich, 2005, Creswell, 2003, Emerson et al., 2001, Brewer, 2000) and the feelings and attitudes towards that environment that have led to the behaviour. Secondly, one needs to be aware of the cultural norms that exist in that community (Kawulich, 2005, Brewer, 2000). Employing the participant observation technique as one of the three research methods used in this study was therefore essential to capture participants’ social meanings, experience and ordinary activities. That required not only observation but also involved me in participating directly in the setting, and the activities. This enabled me to gain a better understanding of the context and phenomenon of the people under study in a natural setting. Interviews usually keep informants from engaging in ‘natural’ activities, typically taking them out of the environments where those activities take place. This makes it difficult to grasp what exactly the subjects are talking about – if they are able and willing to discuss at all what researchers are interested in. In both cases, important aspects of lived experience may either remain invisible, or, if they are noticed, unintelligible. This is especially true for the spatial basis of the experience and practices in everyday life (Kusenbach, 2003). Here, participant observation goes alongside the two other research methods applied in this study: questionnaires, and go-along interviews which, together, enrich and add depth to it. In addition, they increase and enhance the validity of a precise conclusion in this study given the amount of data that was collected.

This research involved active observation, informal interviews, writing detailed field notes, and recording and detecting behavioural patterns in a natural setting, all of which was obtained through my participation in those activities (Kawulich, 2005). Participant observation, like the go-along interviews, offers a unique framework for
the study. As Kusenbach states above, it allows observation of informants’ spatial practices in situ while accessing their experiences and interpretations at the same time (Kusenbach, 2003).

On the one hand, the mixed-methods approach is used here to investigate and analyse the unique relationship between people and the desert environment. It allows the researcher to understand their needs, desires, emotions, and behaviours, and measure the actual use and needs of the space. This investigation has contributed to a greater understanding of what desert environments offer their users, which the modern, heavily designed recreational places, seemingly, are not doing. Participant observation, therefore, adds an additional, necessary dimension to this study.

Kawulich (2005) defines participant observation as “the process enabling researchers to learn about the activities of people under study in the natural setting through observing and participating in those activities” (Kawulich, 2005, p. 2). DeWalt et al. (2001) take this a step further, stating:

“The goal for the design of research using participant observation as a method is to develop a holistic understanding of the phenomena under study that is as objective and accurate as possible given the limitations of the method.”(DeWalt and DeWalt, 2011, p. 110)

Furthermore, Marshall et al. (1989) define participant observation as “the systematic description of events, behaviours, and artefacts in the social setting chosen for study” (Marshall and Rossman, 1989, p. 79). Participant observation is a qualitative data collection method that is included under the umbrella term "ethnographic methods" (Kawulich, 2005) as it provides insight into social meanings and allows us to observe behaviour and work closely with informants participating in the field (Brewer, 2000). In this study, however, I am not employing "ethnographic methods" but rather, I am applying the participant observation technique as one data-gathering tool in an ethnographic context (Creswell, 2007, Kawulich, 2005, Emerson et al., 2001, Brewer, 2000).

Thus, participant observation is used here as a research technique to collect the information needed to (a) understand clearly what has forced people to go to the
It was also thought appropriate to employ the participant observation method as a third research technique. Its use supports triangulation of the collected data. It also enables me, as revealed above: a) to obtain a deeper understanding of people’s activities in a natural setting; b) to examine closely a unique human dimension of the study; and c) to capture the richness of people's experiences on their own terms. Furthermore, the use of participant observation, like the go-along method, is particularly suitable in the context of Muslim culture.

The methods applied in collecting the empirical data for this research were used to ensure the validity of the results and to gain a better understanding of the context and phenomenon of people who go to desert environments for their recreation. Silverman (1993) argues that it is increasingly accepted that work becomes scientific by adopting methods of study appropriate to its subject matter. In other words, participant observation was used to help in providing an understanding and observation of the attitudes, perceptions, activities and motivations of local males and families that could not be obtained from the questionnaire and go-along interview methods.

5.6.1.1 Site Monitoring Method

The site monitoring method was used in this study to measure the impact of human activities on the desert environment. Photographs were taken to evaluate and compare the physical and ecological condition of the sites with an unused area and a protected area in the same region. In addition, site monitoring enabled me to explore how management and monitoring are crucial and may explain why there are no negative effects in the protected area. It highlights, too, the significant carrying capacity (Wagar, 1964), the limited acceptable change methods (Stankey and Manning, 1986) and zoning areas. It can ensure that both the quality of visitor
experience and the ecological integrity of the place will not be affected negatively by an increasing number of visitors to the area (Ipcc, 2008, Mares, 1999, Stankey and Manning, 1986).

In this research study, this method has helped me to understand better the context and phenomenon of the outdoor recreational pattern that occurs in the desert. In addition, it has helped in capturing the essence of the user experience of the desert, particularly the emotional elements experienced in that setting, which cannot take place without applying the participant observation technique. It has also helped to assess and then understand participants’ social meanings and ordinary activities by means of the researcher observing and participating directly in the setting. This should allow conclusions to be drawn and solid judgements made about how and why the desert succeeds in satisfying users’ needs, desires and expectations and to understand and evaluate its current condition. It will be helpful also to gain information about the possible influence this recreation phenomenon might have on other aspects of users’ lives, or on non-desert recreational activities. Thus, the participant observation technique was chosen for this research in order to complement the other techniques that had been selected.

More detailed explanations of each of these techniques will be given in the relevant sections, below.

5.6.2 Difficulties and Obstacles

Undertaking research topics, especially in a conservative Muslim country such as Saudi Arabia, can be problematic. It was necessary to conduct this research with full respect for participants’ religious and cultural values, in order to avoid offending anyone or putting the researcher in danger. It is not appropriate, therefore, to apply methods in Saudi Arabia that are geared, more specifically, to Western culture, without giving due consideration to Arabic social and cultural values. This was particularly true in this investigation, where I would claim that the ill-adapted spaces created for Western forms of recreation in Dammam city, for example, have not
given sufficient consideration to the traditional Saudi lifestyle and its cultural values (see Chapters One and Two for more detail).

There is no doubt that using Western-related research methods in a study of a different culture, especially an Arabic-Islamic conservative country, was a challenge for this study. There were certain limitations based on the cultural traditions and religious values which are very different from their Western counterparts. Thus, the research methods I used in this study were adapted to accommodate, specifically, Saudi culture. They took into account the social and religious issues of privacy and gender, which are major components of the development methodological framework for this study.

In addition, carrying out observation techniques that involved approaching strangers in a remote area and requesting them to become part of the study, posed two challenges. Firstly, these families came to the desert in order to enjoy recreation freely in an open area and in privacy. Participating in research might be exactly what they were trying to avoid. Secondly, if they accepted and let me undertake the observations, they might change their attitude and thus, their behaviour. As Brewer (2000) states, “difficulties arise when research participants change their behaviour because they know they are being studied” (Brewer, 2000, p. 93). In relation to this, Kawulich (2005) mentions that people might reduce the occurrence of "reactivity" or they will act in a certain way when they are aware of being observed.

Due to the sensitivity of the study and its location, and people’s intention in going to these places to seek privacy, it was difficult and, at times, impossible to apply any kind of research methodology in such remote areas because people were suspicious, territorial and in one case, while initially friendly, then threatened the researcher. In that case, there was nothing to do but apologize and leave.

To address these concerns, and in the light of time and budget constraints, the fieldwork was limited to arranging trips and/or participating with people known to me. This enabled me to interact not only with groups of males, but also with families and groups of women in order to carry out a series of observations with them in a natural setting. As mentioned previously, this is first time that participant observation
has been undertaken where women were included. The issue of the researcher being of a different gender, as I mentioned earlier in this chapter, poses challenges even when observing women and young people known to the researcher (Mahram).

Thus, it was impossible to carry out participant observation of family groups that I did not know personally. However, my family members and relatives have the same psychological and socio-cultural values as other people who feel compelled to seek refuge in the desert for recreational purposes so I applied this method on my own family three times, in different settings and with different extended families. This enabled me to observe a mix of families enjoying desert traditions in a natural setting without them altering their behaviour as result of my observation (Brewer, 2000). For the male groups, I contacted friends or friends of friends who go to the desert, to participate in the research. Since I am not a stranger, this might reduce ‘reactivity’ or that the participants will act in a certain way when they are aware of being observed (Kawulich, 2005). Further explanation will be given in the Strategy of Selecting Participants’ Observation Sampling Section.

As mentioned earlier in this chapter, I asked for approval from the Saudi Arabian Cultural Bureau office in London, to carry out another five-month-long field trip. Unfortunately, I was refused. The major challenges for the study, then, were budget constraints and limiting the data collection time, since the research required two trips, at personal expense, and involved study time to carry out further field trips for participant observation and the Questionnaire B surveys. This occurred between March 2012 to August 2013.

### 5.6.3 Participant Observation Method

The use of participant observation to assess people’s recreation and understand their association between the socio-cultural aspects and the desert environment involved a four-step sequence:

1. Participant observation measure (what to observe),
2. Selecting the environmental setting and participant observed groups,
3. Strategy of selecting participant observation sampling, and
4. Participant observation strategy.

In the following section, each of these steps is described.

**5.6.4 Step 1: Participant Observation Measure (What to Observe)**

There is no doubt that step one, i.e. deciding what to observe, is considered the most difficult and important step as it requires awareness of the entire picture and knowledge of the subject to be studied. Knowing what to observe will increase the reliability and validity of measurement. In fact, observing everybody and everything in the setting is difficult, especially if the researcher is participating in the event in order to blend in and interact with people to identify individuals who may be good sources of information (Kawulich, 2005, Creswell, 2003, Emerson et al., 2001, Brewer, 2000). Thus, having clear guidelines and knowing what to observe while participating is a crucial issue in this method.

The amount of data that one can gather through observation of people in their natural social environment increases understanding them and how they are different in their uses, activities, behaviours and impacts in the desert environment. Such data will also capture the richness of people's experiences in their own terms (Brewer, 2000, p. 36). However, this method is not intended to observe everything in the setting. Rather, it aims to generate a better understanding of the context and the phenomenon under study to establish a sound basis for the entire situation.

In following a non-structured participant observation method, events were recorded as they occurred in their natural setting. Five specific points were emphasised. These were: (1) place, (2) actors/users, (3) activities, (4) goals, and (5) feelings. Each is further subdivided into the distinct categories described by Burgess (1984) and listed below.

**5.6.4.1 Type of Place (Physical Setting)**

In order to understand behaviour(s), we need to study the physical setting. It plays a key role in controlling and shaping users’ actions. For example, a set of
characteristics and the surrounding environment can control picnickers’ seating area and their preferred distances between different groups.

As the physical setting controls and shapes outcome behaviours in a place, the following characteristics are considered in this study:

- the accessibility of the site affects the number of users, the gender of ‘actors’ (family or single people), and kind of cars,
- the type of car affects the location of the seating area’s distance from the main road,
- the topography of the area affects the desired distances between picnickers, especially with regard to privacy,
- the type of picnickers, ‘families or males’, affects the desired distance between picnickers, especially with regard to privacy and its effect on how close picnickers sit to one other,
- the type and groups of picnickers affects the seating arrangement between males and females of both groups,
- the size of a space in the desert for each group of picnickers largely affects the type of activities, and
- the location of a space in the desert for each group of picnickers largely affects the behaviour and type of activities.

5.6.4.2 Actors/Users (Who They Are)

Actors/users are the subject of this study whose behaviour in their natural setting is observed and recorded. This observation is based on the purpose of the study and therefore follows Brewer’s (2000) advice that such observation should attempt to draw a clear picture of users’ natural setting, the activities taking place, and the interaction between users and their surrounding environment. It is intended here that understanding users’ needs, desires, emotions, and behaviours, and measuring the actual use and need of the space, should help to clarify and highlight the issue under investigation.

The following questions are taken from the literature review for this research which need to be investigated:

- Who are the users (males, females or families, relationships, and number per party)?
- Are they Saudi or non-Saudi citizens?
- What age are they?
- What is the most common physical appearance, the ‘dress code’?
5.6.4.3 Activities
The various related activities of users in their natural setting are the kind of interactions that take place within the environment as a response to their needs. Since the concept of fit between the environment and users' actions is the key to this study, the following questions need to be highlighted:

- What kinds of activities are taking place?
- How are those activities carried out?
- What is the relation between space and users’ activities?

5.6.4.4 Users' Feelings
Users are the subject of this study whose behaviour in their natural setting is observed and sensed and recorded. Depending on the purpose of the study, such observation draws a clear picture of users’ feelings in their natural setting. The following questions need to be highlighted in this study:

- What does the desert afford its users?
- What is the influence of the desert environment on participants?
- What are the most common feelings in that space? Do they have positive feelings, happy attitudes and behaviours? What about emotions?
- What is the effect of the social carrying capacity (the number of picnickers)?

5.6.4.5 Users' Goals
The participants were asked questions which were recorded using a high-quality digital recording device. I asked their permission to use this device. I wanted to open informal discussions in a natural setting about different aspects that have impelled or encouraged them to be in the desert and to understand the social needs which have forced them to engage in recreational activities there, rather than in urban open spaces. The questions asked were:

- Why were they there?
- How well does the space suit the accomplishment of those goals?

Other general questions were:

- What aspects have forced or encouraged them to be there in the middle of the desert?
- What do they think about having structured activities in the desert?
- How do they feel about tourism development?
- What do they think about the Al Maha resort project in Dubai?
• What do they think about the increasing number of people and camels in the desert?
• Have they noticed any changes in the desert environment?
• Are they aware of the impact they cause on the desert environment due to their behaviours and activities?

The type of place or setting, users, activities, and their feelings were all observed and written up in detailed field notes. The observations were conducted in the sequence in which they occurred; how they were linked or separated; who was involved or not; what the relationship between different settings was, and what were people’s behavioural patterns for the activities in their natural setting.

In addition to observation, there were opportunities to ask participants questions and record these using a digital device to explore users’ goals, which helped to open up a kind of informal discussion, rather like having a focus group. Brewer (2000) mentions that “some forms of unstructured interviews can be so informal that they almost take the form of natural conversations” (Brewer, 2000, p. 65). Finally, as a recording technique, photographs of different settings, activities, events and users were taken to document matters. These were obtained through my observation of and participation in those activities with users.

5.6.5 Step 2: Selecting the Environmental Setting and Participant Observed Groups

As pointed out above, sampling significantly affects the external validity of the observational findings. Therefore selecting different settings and situations for different groups and types of desert users (e.g. single adult males, single young adult males and families that included males, females and children) increased the external validity.

I carried out a series of participant observation fieldwork visits in two locations well-known for all types of desert recreation (Figure 39) as a data collection method in different settings on the outskirts of Dammam city. I looked at how people
experience and perceive the desert environment. I went there with different groups of people of various ages, social status, males and female, single, married, and families, to observe and capture the richness of different users’ experiences in their own terms when they are in the desert.

1. King Fahad road which is known as ‘Airport Road’ or ‘Airport Area’ for families’ picnickers.

2. Al Riyadh-Airport road which is known as ‘Al Riyadh-Airport’ for singles picnickers.

![Figure 39. The two locations used in the study (Source: Google Earth)](image)

5.6.6 Step 3 Strategy for Selecting the Participant Observation Sample

As mentioned earlier, due to the sensitivity of the study and its location, and the reasons why people go to these places in the first place, it was difficult and, at times, impossible to apply participant observation to unknown groups in such remote areas. To overcome such barriers, the project fieldwork was limited to arranging trips or participating with residents known to me in their natural setting. This enabled me to interact not only with a group of males, but also with families including males, females and children. As I explained earlier, this was the first time participant observation that includes women had been undertaken in Saudi Arabia. In addition, it is also unusual to conduct participant observation in uninhabited and remote areas.

The observation of this mixed group enabled me to obtain a picture of the families’ use of the desert environment, adding to the whole picture of its use for both sexes. Thus, after conferring with my supervisors during a meeting on 19/02/2013, it was

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22 This study took place in the same area where I carried out my go-along interviews.
decided to apply another technique on this field trip that would help to get another report from a family of picnickers but without the researcher being there. This was for two reasons: there were no other family members I could participate with, and it avoided any form of personal bias that might have occurred while conducting the participant observation with my family. Another family study, therefore, was carried out and undertaken by one male member of the previous participant male group. He was given a camera, a digital recording device, field notes and the fieldwork technique was explained to him, i.e. observation of activities, informal interviewing of his family members, and recording behavioural patterns concerning the activities of his family in their natural setting.

As a result, from December 2012 to August 2013 (which covered winter and summer), I carried out a series of participant observation fieldwork trips as a data collection method in different settings on the outskirts of Dammam city. Eight different events were organized to conduct participation and observation techniques on the selected participant parties in order to allow me to join those picnickers in their recreational activities at different times and locations, and with different users and genders. These eight events are shown in Table 2, below; and the location is as in Figure 40, below:
Table 2. The schedule for the eight groups of participants

<table>
<thead>
<tr>
<th>Date of Events</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Thursday 13/12/2012</td>
<td>Six adult male participants, excluding the researcher.</td>
</tr>
<tr>
<td>2 Wednesday 19/12/2012</td>
<td>Four adult male participants, excluding the researcher.</td>
</tr>
<tr>
<td>3 Saturday 22/12/2012</td>
<td>Two participants, excluding the researcher: one adult male and one adult female.</td>
</tr>
<tr>
<td>4 Friday 04/01/2013</td>
<td>Six participants, excluding the researcher: one adult male, two adult females and three children.</td>
</tr>
<tr>
<td>5 Saturday 06/04/2013</td>
<td>Eight participants, excluding the researcher: a mixed group of two families (two males, two females, one young adult female and three children).</td>
</tr>
<tr>
<td>6 Saturday 20/04/2013</td>
<td>Three young adult male participants, excluding the researcher.</td>
</tr>
<tr>
<td>7 Saturday 18/05/2013</td>
<td>Nine participants: the family consisted of two adult males, three adult females, one young adult female and three children, excluding the researcher.</td>
</tr>
<tr>
<td>8 Saturday 10/08/2013</td>
<td>Three young adult male participants, excluding the researcher.</td>
</tr>
</tbody>
</table>

The majority of the participants (16) were male, (6) young adult males, and (8) females, (2) young adult females, and (9) children took part in these observations, all of whom were friends/friends of friends and part of my family. All participants had been informed previously that I would spend the afternoon with them in their familiar desert environment and that I would conduct an interview. I met the participants at specific locations well known for desert picnicking, each of which is located on the outskirts, about 40 km west of Dammam city (Figure 40):
5.6.6.1 Photography

Photography as a research technique is usually used in participant observation methods for recording events. It can provide an insight into types of behaviours, activities, events, settings and places visited, serve to illustrate aspects of activities that are not easily described, or as a method of documentation for aspects not easily remembered (Kawulich, 2005). In this study, it helped me to take photographs of different activities, events and users. The technique of numbering pictures with notes helped to keep the photos organized in the correct sequence. Moreover, it helped me to show the impact of human activities on the desert environment.

5.6.7 Step 4 Participant Observation Strategy

Participants had been informed previously that I would spend half a day accompanying them in their natural setting to observe and discuss things with them. Knowing most participants from previous occasions contributed to the research integrity as I had no concerns they would change their behaviour because they already knew what I was going to do before I joined them. This ‘reactivity’, which refers to the influence that an observer has on the behaviour under observation, is considered a form of bias (Bahammam, 1995). However, the benefit of the researcher
knowing the participants would minimise this. The second form of observer bias is the interoperation of what s/he sees while conducting observation rather than recording behaviours as they occur (ibid.). This form of bias was eliminated in this study too. Since the observer plays a main role in the observation study, he might be a source of bias that influences the external validity of the data (Al-Abdullah, 1998, Bahammam, 1995).

5.7 Global Positioning Systems (GPS)

Given the notably different results gathered via the three methods\(^\text{23}\) employed in this research study, there was a need to use a GPS and electronic survey device to clarify the difference in distances observed by picnicking groups. It was important to reduce the margin of error and to establish the actual distances kept between picnickers. This information indicated the acceptable social carrying capacity, ‘the density of picnickers, the number of units that could be accommodated in a defined area’ for any further desert recreation and tourism development that had a focus on religious, cultural, and social aspects.

There was a need, then, to identify another method to clarify this difference and minimise possible error. This method was not planned initially but developed when I went home. However, it was not possible to investigate the acceptable distance between picnickers with accuracy without recording their exact locations in the picnicking areas and measuring the distance between them – family to family, family to singles, and singles to singles. This study, therefore, explores a further method which aims to solve this problem, namely, Global Positioning Systems (GPS) and the electronic survey module, SOKKIA\(^\text{24}\).

5.7.1 Global Positioning Systems (GPS) What to Measure

When picnickers establish a mutually acceptable distance between other people in the Saudi desert environment, it satisfies their privacy and territorial needs. So far, [23] Questionnaires, go-along interviews, and participant observation.
this preferable distance has not been identified by any existing research. The only studies that have investigated such matters were undertaken within the city’s outdoor recreational areas, on the Dammam waterfronts (Al-Abdullah, 1998) and on two other recreational waterfronts in two different cities within the Eastern Province (Al Sarhani, 2004, Umran, 2002), as was mentioned in Chapter Three.

In this research, there are several techniques relevant to measuring the acceptable distance between picnickers. However, using GPS devices to locate the exact sitting areas, and a survey measurement device to obtain the exact distance between picnickers, due to its level of precision, ensures another level of certainty in the method used to calculate the desirable distance.

Some recent studies have begun to explore the use of satellite-based global positioning system (GPS) devices, not only to locate positions or to locate a travel destination, but also as objective tools to measure physical activity, walking routes, and activity spaces (Yen et al., 2015). These devices can also be used, however, as tools for tracking nature-based tourists (Hallo et al., 2012) or to route park visitors to less crowded areas (Brown et al., 2013), and for tracking the travel patterns of older adults in two California cities, as has been applied by Yen et al. (2015).

A longitudinal study of GPS by Golicnik and Ward Thompson (2010) reports that using GPS offers a more accurate way of recording locations individually for current activities. However, in this study, I used GPS to locate the particular spot of a desert picnicers current location on the day of their activities and recorded the location, followed by a visit the day after using an electronic surveying instrument to measure the exact distance between the picnickers.

5.7.2 Global Positioning Systems (GPS) Technique:

These techniques were chosen and applied due to the sensitivity of the study and its location. It was difficult and, at times, impossible to approach picnickers in the desert. Furthermore, because the desert is an unfenced, open area, the only way to

\[24\] Sokkia Co., Ltd provides measuring instruments for surveying.
achieve this measurement was by recording a point close to where each different type of group was located, without disturbing their privacy.

As mentioned earlier in this chapter, adapting methods designed for Western countries to non-Western ones like Saudi Arabia, without considering the latter’s social and cultural values, is problematic. Hence, it is a particular consideration in this investigation, since it is the researcher’s view that the increasing number of desert picnickers is a clear reaction to the adoption of ill-adapted Western forms to non-Western cities, and that it has been done without sufficient consideration being given to the traditional Saudi lifestyle and cultural values.

In this study, the GPS method was adapted for Saudi culture, taking into account the social and religious issues of privacy and gender. Accordingly, there was a need for a comprehensive and unique methodological framework tailored to the intricacies of this particular phenomenon, which is the value of this research.

As an example of adaptation, in this study it was not possible to use GPS to get the measurement between two locations since it was not appropriate (and acceptable) to approach other picnickers while in situ. Thus, there was a need to find another technique to measure the distance between them. By using an electronic surveying instrument, it became possible to measure the exact distance between picnickers from afar. The combined use of GPS and survey measurement, therefore, records the exact measurement required for the study’s findings.

5.7.3 Global Positioning Systems (GPS) and Electronic Surveying Instrument Methods

To apply GPS devices and survey measurement devices to ascertain the desirable distance between picnickers, a pilot study was conducted 40 km west of Dammam city in the desert. It was divided into two phases: a) a point close to the current location of picnickers’ sitting areas was recorded using the GPS device and b) the distance between picnickers was measured, using the electronic surveying instrument module, SOKKIA, while no picnickers were at the site, often at the end of the weekend. These methods appear to offer a more accurate way of finding the
acceptable and preferred distance that picnicking groups like to keep from each other.

The GPS devices were piloted while picnickers were in the desert over three weekend periods. A surveying instrument was used while there were very few or no picnickers in the desert at the beginning of three specific week, to measure the exact preferable distance between them. This provided the necessary degree of accuracy and avoided any degrees of error (Goličnik and Ward Thompson, 2010) that might have occurred when the questionnaires were completed or in the go-along interviews and participant observation methods, when participants were asked about the distance they preferred to keep from other people in the desert. This was because during the qualitative methods, participants found it difficult to sense and choose the appropriate distance between them and other picnickers. Some stated that an appropriate distance is more a feeling than a measurement\(^{25}\), so by the survey method, we can obtain an empirical measurement for the acceptable and preferable distances.

The GPS data tracked a number of locations for both types of picnickers, families, and single males travelling in a group, and the data was then used to identify the types of picnickers and measure the typical distance between them. The data was collected in a pilot study within three successive weeks, in two different desert areas and thus offers a varied data set. It captures picnickers’ preferred distances, taking into account comfort, temperature, and time of day, to record the largest number of desert picnickers.

\(^{25}\) For more detail, see Participant Observation, Chapter Eight
5.7.4 Global Positioning Systems (GPS) and Electronic Surveying Instrument Strategy:

5.7.4.1 First Phase on Day One of the Study: Recording the Current Location of Picnic Areas by Use of the GPS Device

In this phase of the study, a four-wheel drive car with a built-in GPS device was used, as Figure 41 shows. It was easy to allocate spots exactly opposite the participants’ current locations.

![Four-wheel drive car with a built-in GPS device](source: author, 2013)

Each of the allocated spots was located north of the participants’ current locations within approximately 150 metres, which was the closest point to approach. This arrangement was meant to make it easy to locate the picnickers’ exact sitting area, with five-minute stopovers in each position to save each location. Steps were taken to avoid disturbing the picnickers and respect their privacy and territory as well as prevent the researcher experiencing any danger. There were no practical difficulties while implementing this method.

Twelve spots close to different groups of picnickers in their current position were recorded on either Friday or Saturday over the span of three different weekends (Figure 42). Four spots were recorded during each weekend, taking into account weather conditions and time of day, in order to capture the largest number of
picnickers. Fridays and Saturdays were chosen because in Arabic Middle-Eastern countries, the weekend starts on Friday and ends on Saturday. In addition, based on the pilot study that I conducted while carrying out the go-along interviews and participant observation, I found that the number of desert picnickers reaches its weekly peak on a Friday, whilst fewer people go on a Saturday.

![Twelve spots close to different groups of picnickers](Source: Google Earth)

This study took place in the same area where the go-along interviews and participant observation methods were carried out (Figure 43). The locations were chosen based on mixed types of picnickers, both families and single males travelling in a group. It was easy to recognize the different types, whether families or single people, by their clothes (e.g. men’s white robes) and the presence of children.

26 According to the findings from the go-along interviews and participant observation, 150 metres away from picnickers was considered the minimum appropriate distance between groups.
The types of groups of picnickers are different and, accordingly, the distances between them are often different too. Thus, there was a need to measure their mutually preferred distances, that is:

1. The preferred distance most frequently left between one family and another;

2. The preferred distance often left between one group of single people and another group of single people; and

3. The preferred distance often left between families and single people.

To avoid any errors that might have occurred when the locations of current picnickers’ positions were saved, and also to ensure the reliability of the measurement, 12 locations were selected, each of which was based on the type of group and its surrounding types. Thus, four locations were saved for a group of singles to singles, four locations were saved for group of singles to families, and four locations were saved for groups of family to family.
5.7.4.2 Second Phase on Day Two of the Study: Using an Electronic Surveying Instrument to Measure the Distance between Picnickers

The surveying instrument module SOKKIA was borrowed from Dammam University following a three-hour lesson in how to operate this device from survey instructors in the College of Architecture and Planning. On the day after the locations were saved for the different groups of picnickers, the GPS device was used to locate the recorded coordinates for those different groups. Since the allocation of these spots was north of the participants’ locations, it was easy to locate the picnickers’ exact sitting area by driving south from each saved location with a range of 150 metres. In addition, it was easy to identify picnickers’ exact locations by the traces they left behind, such as litter, cigarette butts, car tracks, or footprints (Figure 44).

![Figure 44. Identifying picnickers’ exact locations by examining the traces they leave behind: litter, cigarette butts, and footprints (Source: author)](image)

The electronic surveying instrument was placed (Figure 45) in the picnickers’ exact location, number one, the tripod head was fixed on, and the legs spaced at equal intervals, with the head approximately level, to get an accurate reading from the targets. Then a target was placed, equipped with a reflecting prism in the exact location, number two, to measure the distance between locations one and two by aiming the electronic surveying instrument at the centre of the prism.

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27 See Appendix V to the administrative documents necessary when conducting the study.
This measurement worked by directing the reflective prism correctly and setting the centre of the prism target accurately to reflect sufficient light being returned by the reflective prism, sighted by the telescope and then recording the measured distance as it appears on the display. This process was repeated for the rest of the picnickers’ saved locations and their exact distances between each other were recorded.

The results of the four different methods are reported in the next four chapters.
6 Chapter Six: Quantitative Findings and Analysis

6.1 Introduction

The aim of this chapter is to gather information about the picnickers’ characteristics, preferences, opinions ‘perceptions’, needs, the meaning the desert has for them, their feelings while they are there and the social aspects, in terms of their reasons for choosing the desert for their recreation and activities.

As the questionnaires in this thesis are an important data source, analysis enabled me to learn about the picnickers’ use, needs, social meanings, experience, ordinary activities, opinions and preferences in desert environments, based on my awareness of the environment, their feelings about and attitudes to it and the cultural norms that exist in their community, as was explored in previous chapters. Particularly, it was important to understand what had led people to be there, especially the women, and to look to alternative recreational pursuits.

The questionnaire questions were derived partly from the literature review about socio-cultural aspects in relation to the built environment. The intention was to understand what has driven users to undertake recreational activities in desert environments rather than in urban open spaces. There was a need to examine the relationship between the relevant socio-cultural aspects and that environment, and its relation to users from different regions, and to assess how different genders use the desert. Thus, two different types of questionnaire were designed for two different groups:

- Questionnaire A was designed for desert picnickers and distributed close to their picnicking area. Its main purpose was ‘to understand why they go to desert for recreational purposes’, and

- Questionnaire B was designed for those within the city and distributed there. Its main purposes were 'to find out whether they go to desert or not and if yes, why do they go, and if not, what would make the desert their ideal place to go for recreation’.
In this chapter, an interoperativeal process (or approach) is used to search for the broader meaning of the answers to the questionnaires by linking them to justify, clarify and reinforce the findings to answer the thesis questions. Descriptive statistical analysis is also undertaken to provide a basis for understanding clearly the quantitative aspects of the research.

6.2 Survey Analysis (A)

6.2.1 Data Analysis

Analysis and interpretation were carried out after the data was collected and coded. Descriptive statistical analysis was used to help understand the quantitative aspect of the research in a simple way, describing what is the case or what the data show.

Analysis of Questionnaire A is divided into three different sections:

- Section one deals with the respondents’ characteristics and examines information about their age, gender, marital status, number of children, accommodation type, their level of education and which region they originally came from.
- Section two examines the respondents’ preferences and opinions of their outdoor desert recreation and its environment and the meaning or symbolic value of the desert for them and their feelings about it.
- Section three examines the social aspects, in terms of respondents’ reasons and motivations for choosing this type of recreation and its environment.

This analysis is divided into three to simplify and categorise it to avoid any interrelated information from being merged during the analysis. In addition, I attempt to present answers to every single question in the questionnaire. This is because although some questions were asked to help respondents to understand the general topic of the study, the answers to these questions can still contribute to the analysis process.
6.2.1.1 Section One: The Demographic Characteristics of the Mixed-Gender Respondents in Group A

Demographic questions targeted both genders. Questions 1-7 elicit seven important variables including gender, age, marital status, family members, accommodation type, education level and region of origin. Each variable was selected mainly because of their possible in/direct relation with and/or influence on recreation itself and its location.

Question 1: The gender variable is significant since, especially for women (n=25) within conservative Muslim countries like KSA, the desire for privacy is high (see Chapters Two and Five). Such a high percentage of female respondents is explicable here as women should be veiled for strangers and deserts combine privacy and freedom. Services and facilities being unavailable there has barely stopped them. Such a finding emphasises that the perception of socio-cultural qualities overshadows place quality. Question 2: The age variable question led to six age groups: 15-19, 20-29, 30-39, 40-49, 50-59, and over 60. This categorization was based on research into Saudi society, and considered behaviour (typical of young adults), marital status and number of children. The 15-19 age group represents young adults, generally unmarried. The 20-29 group represents adult young married couples with 1-2 children. The 30-39 group represents married adults with 3+ children. The 40-49 group represents mature married couples with young children and teenagers. The 50-59 group represents middle-aged people with fewer young children and teenagers. Finally, 60+ represents parents of teenagers and the over-20s (semi-independent) living together in the same home.
According to Figure 46, the 20-29 group was dominant because Dammam, a city with job opportunities, is mostly occupied by adult young married couples with 1-2 children below school age. Question 3: Respondents’ marital status is considered central to this study. A married male is considered different from a single person in terms of desires and needs. For instance, due to family concerns, the desire and need for privacy and territory are more important for married than single people. Hence, marital status is an indicator here. Results reveal that 70% of picnickers are married and only 30% single. This is probably tied to family concerns about their privacy and territory, which made remote desert areas appealing.

Question 4: The number of children in each household is another variable related to outdoor recreation in the desert. Consideration of safe places for children to play influenced families, i.e. there were fewer restrictions and hazards in the desert. This is convenient for both children and parents especially for families with 4-6 children over (38%) and families had 9+ (6.7%) (Figure 47).
This suggests that large Saudi families prefer to go on picnics in outdoor environments with less/no restrictions spoiling their enjoyment. Question 5 is about accommodation type and it revealed that a large majority, over 78% of respondents, live in houses (21.7% live in apartments) as children would live at home until they get married and a male might live in their parents’ house after marriage. This reflects an increase in the average number of family members in both houses and apartments. It might explain, too, the need to escape to the desert for some privacy. Unlike houses in the past which offered an interior courtyard (hwash) for social and cultural activities, modern houses fail to do so. Question 6 examined respondents’ education level. Results show that over 53% hold a university degree out of which 6.7% of them hold a diploma\textsuperscript{28} (Figure 48).

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{figure47.png}
\caption{Respondents’ Family Size}
\end{figure}

\textsuperscript{28} Diploma tends to refer to a professional qualification which is lower than a university degree.
This finding, in general, shows clearly that desert picnickers are not just Bedouins, who used to be illiterate. It indicates that desert picnickers tend to be well-educated. Question 7 investigated respondents’ region of origin. As mentioned before, Dammam is an oil industry city with many job opportunities. Hence, it attracts a very mixed Saudi population, from different backgrounds. KSA consists of five regions: western region, the coastal region, the mountainous south, flat north and Najd. Question 7 examined origins in relation to choosing the desert for recreation. Analysis (Figure 49) suggests that 58% of respondents were originally from Najd, 25% from eastern region, and 1.7% from the west.

This high population from Najd, which is known for its conservative attitude, might have influenced people’s need to seek privacy in the desert. Also, this finding
confirms that desert picnickers are not Bedouins. To clarify, as pointed out earlier, in the History of Recreation chapter, in general, traditional Saudi society is of three types: a) the urban population, b) village settlers, those who depend upon the sea for their living (the Gulf or the Red Sea) and agriculture, and c) the nomads (Bedouins) in the desert, who are driven by want of water and travel to search all year for grassland for their livestock and consider any other job as an inferior occupation (Al-Hijji, 1989). As stated above, the discovery of oil and concomitant changes in Saudi citizens’ standard of living and the flourishing economy has changed these traditional social formations (Al-Hijji, 1989). Particularly at the beginning of the 1960s, Bedouins began to drift away from the desert to the villages which were named in Arabic, *Hajar*. In general, Bedouins no longer live in the desert, despite the fact they still go there and own camels, which have recently increased significantly in numbers in the Gulf area (Ryan & Stewart, 2008). The new generation is educated and engaged in wider society.

The terms ‘Bedouin’ or ‘non-Bedouin’ are seen by some people as discriminatory or disrespectful. This was the case while I was conducting my informal pilot questionnaire in summer 2011. Thus, in the next survey, I avoided asking respondents whether they were Bedouin or not. It should be emphasised that the groups studied in this research are not Bedouins but an urban population now resident in Dammam city who originally came from different regions in Saudi Arabia. These respondents go to the desert for their recreation, unlike the Bedouin, who go there to look after their livestock.

### 6.2.1.2 Section Two: Preferences and Opinions

#### 6.2.1.2.1 Preferences

This section will discuss the results and data analysis for the questions that elicit respondents’ preferences with regard to a) the environment they prefer for recreation

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29 *Hajar* the settlements created by Ibn Saud to house formerly nomadic Bedouin communities (Wynbrandt, Gerges, 2010, p. 318).
purposes and b) their opinions and thoughts related to such choices. Questions 8 and 9 were designed to understand preferences and basic facilities and services requirements. Male and female participants were given a list to prioritize their favourite locations for recreation. Although this kind of arrangement proved rather complicated and confusing to the respondents, it was important to obtain specific information on the ranking of the environment. The results (Table 3) show the desert environment as the favourite (83%) even though Dammam is bordered by the sea on the east.

<table>
<thead>
<tr>
<th>Environment</th>
<th>Favourite</th>
<th>Second favourite</th>
<th>Third favourite</th>
<th>Least favourite</th>
<th>Mean rank</th>
<th>Rank</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desert environment</td>
<td>50</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>3.77</td>
<td>First</td>
<td>83.3</td>
</tr>
<tr>
<td>Coastal environment</td>
<td>4</td>
<td>29</td>
<td>17</td>
<td>10</td>
<td>2.40</td>
<td>Second</td>
<td>48.3</td>
</tr>
<tr>
<td>Agricultural environment</td>
<td>1</td>
<td>19</td>
<td>22</td>
<td>18</td>
<td>2.05</td>
<td>Third</td>
<td>36.7</td>
</tr>
<tr>
<td>Mountain environment</td>
<td>6</td>
<td>5</td>
<td>21</td>
<td>28</td>
<td>1.83</td>
<td>Last</td>
<td>46.7</td>
</tr>
</tbody>
</table>

Table 3. Respondents' recreational environment preferences

This may also suggest that participants’ original local landscape may have influenced their adult preferences as well as their region of origin (Table 4).

<table>
<thead>
<tr>
<th>From which region are you originally from</th>
<th>How do you rank the desert environment for recreational purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Favourite</td>
</tr>
<tr>
<td>North</td>
<td>3</td>
</tr>
<tr>
<td>South</td>
<td>3</td>
</tr>
<tr>
<td>East</td>
<td>12</td>
</tr>
<tr>
<td>West</td>
<td>0</td>
</tr>
<tr>
<td>Najd</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 4. Regions of origin and ranking of the desert environment

Results will be subject to further investigation through the go-along method and participant observation in the next chapters. Question 9: Respondents were asked to
rank in importance 9 suggested facilities and services thought to be basic requirements for desert picnickers on a 5-point Likert³⁰ Scale followed by a space for comments on the qualitative data.

**Figure 50. The relative importance of basic facilities and services, based on responses to a five-point Likert Scale**

As shown in Figure 50, the need for an unpaved (compacted) road was very important (mean=4.13). Less important was a ‘first aid centre’ (mean=4.00), and least was an ‘education centre’ (mean=2.47). However, to study the importance of each statement, I classified the responses in the following tables and calculated the weighted mean by value and the overall response for each statement.

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³⁰ A Likert Scale is a one-dimensional scale where respondents are asked to choose one option that best describes their basic requirements of facilities and services.
<table>
<thead>
<tr>
<th>Facilities and services</th>
<th>Very unimportant</th>
<th>Somewhat unimportant</th>
<th>Neither important nor unimportant</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>Weight Mean</th>
<th>Std. Deviation</th>
<th>Overall Response (in Mean)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Unpaved road</td>
<td>1</td>
<td>1.7</td>
<td>3</td>
<td>5.0</td>
<td>10</td>
<td>16.7</td>
<td>19</td>
<td>31.7</td>
<td>27</td>
</tr>
<tr>
<td>First aid center</td>
<td>7</td>
<td>11.7</td>
<td>3</td>
<td>5.0</td>
<td>5</td>
<td>8.3</td>
<td>13</td>
<td>21.7</td>
<td>32</td>
</tr>
<tr>
<td>Fireplace</td>
<td>3</td>
<td>5.0</td>
<td>11</td>
<td>18.3</td>
<td>5</td>
<td>8.3</td>
<td>12</td>
<td>20.0</td>
<td>29</td>
</tr>
<tr>
<td>Family sitting area</td>
<td>4</td>
<td>6.7</td>
<td>7</td>
<td>11.7</td>
<td>8</td>
<td>13.3</td>
<td>20</td>
<td>33.3</td>
<td>21</td>
</tr>
<tr>
<td>WC</td>
<td>5</td>
<td>8.3</td>
<td>15</td>
<td>25.0</td>
<td>14</td>
<td>23.3</td>
<td>11</td>
<td>18.3</td>
<td>15</td>
</tr>
<tr>
<td>Playground area</td>
<td>10</td>
<td>16.7</td>
<td>10</td>
<td>16.7</td>
<td>10</td>
<td>16.7</td>
<td>14</td>
<td>23.3</td>
<td>16</td>
</tr>
<tr>
<td>Wildlife exhibitions</td>
<td>12</td>
<td>20.0</td>
<td>6</td>
<td>10.0</td>
<td>19</td>
<td>31.7</td>
<td>11</td>
<td>18.3</td>
<td>12</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>11</td>
<td>18.3</td>
<td>8</td>
<td>13.3</td>
<td>15</td>
<td>25.0</td>
<td>19</td>
<td>31.7</td>
<td>7</td>
</tr>
<tr>
<td>Education center</td>
<td>24</td>
<td>40.0</td>
<td>7</td>
<td>11.7</td>
<td>13</td>
<td>21.7</td>
<td>9</td>
<td>15.0</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>14.26</td>
<td>70</td>
<td>12.96</td>
<td>99</td>
<td>18.3</td>
<td>128</td>
<td>23.7</td>
<td>166</td>
</tr>
</tbody>
</table>

**Table 5. Weighted Mean by Value and Overall Response to each Statement**
Findings suggest that the overall response to the statements was between ‘somewhat unimportant’ to ‘somewhat important’ (Table 5) and that facilities and services were ‘somewhat important’, which means respondents felt the need for most facilities and services. However, the priority for each was identifiable, i.e. having an unpaved road in the desert has the highest weighted mean, then a first aid centre and last, a fireplace. This reflects dissatisfaction with crucial developments, especially that the absence of unpaved (compacted) roads in the desert environment will force picnickers to drive off-road and damage the fragile desert environment, indicating their concern for it. However, at the same time, the absence of services has not stopped respondents from going, despite the fact there is nothing there except what it has to offer for its users. This finding appears to emphasise how the influence of socio-cultural aspects seems to be more important than the quality of place (see Chapter Two for more detail). This may indicate that privacy and territory are vital aspects in relation to this new phenomenon of outdoor recreation.

6.2.1.2.2 Opinions

Part of the questionnaire was designed to elicit qualitative descriptive data about opinions and beliefs with the intention to gauge the importance of the role of privacy in selecting such a remote site. To do so, respondents were asked what the desert meant to them and their perceptions of it. This was through two kinds of questions:

- questions 10-14 were ‘yes or no’ and
- questions 15-16 were open-ended about the symbolic value of the desert.

Question 10: This examined concerns about the increasing number of visitors in 4x4 cars. Analysis demonstrates that 78% were concerned about the increase in picnickers while only 21.7% showed less concern. Interestingly, 61% of those who had less concerns were between ages 15 and 19. Question 11 looked at participants’ concern over the increasing number of camels in the desert. Analysis revealed that over 81% were concerned about this issue and 18.3% were less concerned (Table 6). Interestingly, 63.6% of those who had less concerns were between ages 15 and 19. This suggests that young adults have less concern about increasing camel number in the desert.
Question 12 focused on the increasing amount of litter in the desert. Data revealed that over 85% were concerned about this issue as opposed to 15.0% of all respondents who have no concern. Among those who were unconcerned, the vast majority, over 88%, were aged 15 to 19.

Question 13 asked whether participants collect their litter. 85% indicated that they do as opposed to 15.0% who leave it (Table 7). Interestingly, over 77% of those who leave it were between ages 15 and 19. This indicates that young adults have little or no concern about the increasing amount of litter in their desert environment.
Question 14 focused on whether participants teach their children, or younger brothers and sisters, to collect their litter before they leave a place. The majority (86.7%) indicated that they do while 13.3% do not. The data in Table 8 shows that respondents between 15 and 19 years old do not teach others to collect their litter. This result supports findings indicating that adult participants are more concerned about the desert environment than young people between the ages of 15-19.

<table>
<thead>
<tr>
<th>Your Age</th>
<th>Yes</th>
<th>Percent</th>
<th>No</th>
<th>Percent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>2</td>
<td>3.8</td>
<td>7</td>
<td>87.5</td>
<td>9</td>
</tr>
<tr>
<td>20-29</td>
<td>17</td>
<td>32.7</td>
<td>1</td>
<td>12.5</td>
<td>18</td>
</tr>
<tr>
<td>30-39</td>
<td>10</td>
<td>19.2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>40-49</td>
<td>10</td>
<td>19.2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>50-59</td>
<td>10</td>
<td>19.2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>60-above</td>
<td>3</td>
<td>5.8</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>100</td>
<td>8</td>
<td>100</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 8. Teach Children to Collect Litter

The most striking result to emerge from the answers to questions 10 to 14 is that young adults, aged from 15 to 19, have almost no concern about the fragile desert environment, or adverse impacts on it. Results will be subject to further investigation through the go-along method and participant observation in the next chapters.

Question 15 asked respondents to mark the symbolic value of the desert. Figure 51 shows that freedom came first (83%) and then privacy (78%), openness (66%) and then relaxation (60%). This result may show how freedom and privacy play a vital role in respondents’ choice to go to the desert, and may indicate that the desert offers positive affordances for its users.
This is linked to Question 16 which asked respondents to list their feelings when they are in the desert. Analysis (Figure 52) shows positive feelings (88% happy, 81% free, 75% relaxed, 66% enjoying openness, 51% enjoying meditation on the universe and God’s creation, and 36% having feelings of purity and clarity of mind). In contrast, only 1.7% indicated feeling frightened.

Such joyful feelings indicate that this environment offers a positive affordance to its users to meet their different needs and desires.
6.2.1.3 Section Three: Social Aspects

This was designed to investigate the role of recreation in picnickers’ lives to help understand the social facets of the phenomenon. In order to discover the history of such practice and potential family impact, respondents were asked about their desert visits as children. 65% confirmed they had made visits as children as opposed to 35% who did not (Table 9).

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>39</td>
<td>65.0</td>
<td>65.0</td>
<td>65.0</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>35.0</td>
<td>35.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 9. Visiting the desert as children

Although this indicates that the phenomenon of outdoor desert recreation is not new, the variation was interesting. Respondents aged 50 and above rarely went to the desert for recreational purposes as children, which suggests it is a fairly recent to certain age groups as opposed to younger participants aged between 15 and 39 who were frequent visitors (Table 10). Non-users (60+) did not have the concept of desert recreation as children, maybe for socio-economic reasons. The data also seems to suggest that children who grew up with the concept are more likely to pass it on to their children, and also confirms that those who go as children are more likely to go as adults (Ward Thompson et al., 2008).

<table>
<thead>
<tr>
<th>Your Age</th>
<th>Did you used to go to the desert when you were a child?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Percent</td>
</tr>
<tr>
<td>15-19</td>
<td>8</td>
<td>88.88</td>
</tr>
<tr>
<td>20-29</td>
<td>15</td>
<td>83.33</td>
</tr>
<tr>
<td>30-39</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>40-49</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>50-59</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>60-above</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>21</td>
</tr>
</tbody>
</table>

Table 10. Age Groups’ Visits to the Desert
Statistically speaking, it was observed that the p-value is less than 0.05 only for going to the desert as a child, which means that there is a significant relation between “going as a child” and the “region of origin”, where the Najd region has the highest weight (Table 11). This may also indicate that going to the desert has a direct bearing on people’s region of origin related to their personal attachments, images, and collective memories.

### Table 11. Chi-squared ($\chi^2$) and Contingency Coefficient

<table>
<thead>
<tr>
<th>Going as a child</th>
<th>Region of origin</th>
<th>$\chi^2$</th>
<th>Contingency Coefficient</th>
<th>Sig. (p-value)</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>North</td>
<td>South</td>
<td>East</td>
<td>West</td>
<td>Najd</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

People may prefer something because they like certain aspects about it. In terms of going to the desert, people’s needs and desires for freedom, privacy and openness were the main reasons they cited. Moreover, 76% of respondents reported feeling relaxed there. This remarkable difference in the answers supports the notion that the feeling of relaxation was generated after respondents had obtained their privacy and freedom there (Figure 53). Furthermore, examining the relation between gender and the reasons for choosing the desert (Table 12) revealed that there are significant correlations between these reasons and gender.

In addition, there is a significant relation between privacy and the “Region of origin”, where the response of those from the Najd region has the highest weight (Table 13). This may illustrate that the desire for privacy is one of the fundamental socio-cultural aspects of human life that has forced this group of people to go there.

31 To measure the associations between two variables (Bordens and Abbott, 2011, Blaikie, 2003), I use a statistic called chi-square ($\chi^2$). It is normally limited to the two-variable case, and is used to establish statistical significance (Bordens and Abbott, 2011). In this study it is chosen to tell if some variables are significantly related or not. In addition, since the sample size is small (60 cases), the use of $\chi^2$, will not satisfy certain statistical conditions, in some cases. Thus, I used the Contingency Coefficient test, which is independent of sample size changes (Kraska-Miller, 2013) to measure the associations which are appropriate for relationships between nominal-level variables, based on the sum of the chi-square values (Blaikie, 2003, p. 308). To obtain an indication of the strength of this relationship, the contingency coefficient in the equation ranges from 0 (no association, the weaker) to 1 (perfect association, the stronger) (Kraska-Miller, 2013, Blaikie, 2003).
Figure 53. Reasons for Choosing the Desert for Recreation

| Table 12. Relations between gender and the reasons for choosing the desert |
Table 13. Relations between the original region and reasons for choosing the desert for recreation (p<0.05)
In term of social perspectives, respondents were asked with whom they often go to the desert for recreation. Data revealed that over 81% of desert picnickers (male and female) go with families and, unlike males who go with friends, almost (83%) or alone (31%), obviously none of the female respondent goes alone or with friends. This is because women in Saudi Arabia are not allowed to drive and they cannot go alone to the desert with any non-Mahram\textsuperscript{32} companion. This finding adds to a picture of family members and single males gathering in the desert for recreation for specific reasons. It offers a clear indication of the social perspective that is fulfilled by being in the desert, because it offers things that cannot be obtained anywhere else and with the same full sense of freedom and privacy.

In terms of personal attachments and revisiting the same place, 63.3% of respondents indicated a potential revisit to the same place while 36.7% prefer a change. This may indicate picnickers have personal attachments, images, and collective memories that link them to the same place as they visited before. Reflecting on the informal pilot study conducted in 2011, the research measured the temperature in the city and in the desert at five different times and found the desert was often 4-8°C lower. Rain (only in winter) also meant it is easier to drive on the sand without necessarily having a four-wheeler. However, results from the questionnaire in the main study suggest that although all respondents would go in spring time (moderate temperature), 65% reported summer and 88% would go in winter. This may indicate the importance of socio-cultural values for this group which play a major role in their life since despite the heat in summer it did not stop them going there. In terms of the average number of visits, 1.67% go daily and 63% pay a weekly visit (Figure 54). This may indicate that outdoor recreation in the desert has become a regular weekly event in their lives.

\textsuperscript{32} Mahram, as I explained in detail in Chapters Two and Five, is a person related by blood or marriage to a woman. Muslim women are not allowed to unveil their faces for any male except their son, father, brother, husband, or nephew and they must not be seen by strangers.
Of these, 68% prefer to go in the afternoon as opposed to 28% who go around midday and probably stay till early morning. As for the average length of stay, almost half often spend more than six hours there and the other half would spend between 3-6 hours, which confirms their feeling of relaxation and privacy.

In relation to participants’ interests in desert activities and their priorities, almost all were more interested in ‘setting up a fire’, ‘watching stars’, ‘sitting and chatting’ and ‘watching nature’ as opposed to ‘watching flora and fauna’ and ‘playing football’. In addition, some other activities were mentioned such as walking, tobogganing and sledging on the sand, watching the sunset, stargazing and cooking (Figure 55).
This adds to a picture of these family members and single males gathering in the desert for recreation, which is a clear indication of the social aspect of being in the desert, as it is impossible to have such a gathering in the public open spaces in the city. Having men, women and their children participate in the same activities, and to sit together around a fire, with a full sense of privacy and freedom, without any visual barriers, is a rare occurrence outside the home.

Respondents’ opinions about the desirable distance from other picnickers were explored. On a 5-scale spectrum (Figure 56), results showed close male-to-male picnicker distances (200-400m), but families prefer to keep a much greater distance because women are involved in each family. This may indicate that the desert offers positive affordances for its users by meeting their respective territorial needs.

![Figure 56. Preferred distance between picnickers](image)

**6.2.1.4 Respondents’ Comments**

The design of the questionnaire, as explained at the beginning, aimed to provide a qualitative perception alongside the quantitative perspective.

In the questionnaires, respondents were able to explain more precisely their reasons...
for choosing the desert for recreation, its meaning for them, their needs, activities and feelings. This was achieved in two ways.

- Firstly, some of the questions were designed as open-ended questions, like Questions 15, 16 and 18.
- Secondly, two questions were provided with open-ended sections at the end of the question, to capture respondents’ comments as to whether there were any other facilities or services needed, as in Question 9, or any other activities they were participating in, as in Question 25.

Most of the responses to the open-ended parts of most questions have already been referred to in the analysis in the above section. The open-ended questions and comment boxes were now examined for their ‘completed forms’ about respondents’ needs, feeling, opinions and activities in regard to their outdoor recreation and its environment. In general, most of the respondents’ comments emphasised their needs and desire for privacy and freedom, which they cannot have in the city’s open spaces anymore, due to the increasing number of people and also the shortage of parks, which has driven them to select these uninhabited sites.

Others suggested having this area as a desert conservation area, with a controlling authority, so that people cannot overuse it, and some suggested some children’s play facilities. Others demanded horses or camels to ride in the area instead of sand buggies, which damage the fragile desert. One of the respondents’ basic demands was to provide a heritage centre to introduce the life of the Bedouin to the next generation. Another demand was to install a telescope station to view planets and stars.

A main comment by many respondents was the absence of an authority in the area. It was noticeable while I was conducting my informal pilot study in 2011 that the absence of rangers and authorities could contribute to the kind of environmental disaster that appears to be occurring in the fragile desert environment, specifically, the destruction of the geological pavements that have been laid down there over thousands of years.

Some respondents expressed their desire to have a campground for rent, with tents they can hire, while other respondents demanded a source of water in the area. A
large number of respondents commented that they would like to have an area to dispose of their litter, like a dump. Many made comments about losing cell phone signals in their sitting area and wondered if that could be improved. Finally, a large number of comments wondered about not only the absence of authority, but also whether Dammam municipality might consider the desert as one of its recreation areas and provide some infrastructure, even if it is basic, for recreation in the area.

The following section will discuss the responses of the second survey questionnaire, Group B, in detail.

6.3 Survey Analysis for Group B

6.3.1 Data Analysis

The analysis of Questionnaire B is divided into three different sections:

- Section one deals with the respondents’ characteristics, using similar categories to those described for the first questionnaire.

- Section two examines information about the respondents’ preferences and opinions toward outdoor desert recreation and its environment. In this section, questions included whether people prefer to go to the desert for their recreation or not, and if not, to find out what might change their minds and what would make it their ideal place to go.

- Section three examines the social aspects in terms of respondents’ reasons and motivations for ‘choosing or not choosing’ this type of recreation and its environment and why.

I have divided the analysis into three sections to simplify and categorise the analysis, and to avoid any interrelationships. In addition, in the analysis process, I attempt to present answers to each question in the questionnaire. Some questions were asked to help respondents to understand the general topic of the study. However, the responses to these questions can contribute to the analysis process, one way or another.
6.3.1.1 Section One: The demographic Characteristics of the Mixed-Gender Respondents in Group B

Demographics involved gender, marital status, number of family members, accommodation type, and region of origin. Each of these variables was selected mainly because of their direct or indirect relation and/or influence on recreation and its place. No age and education level questions were included in this questionnaire since it was distributed to a cohort of university students. This was a perfectly distributed sample in terms of gender (50% males and 50% females) with a total of 60 respondents. Data revealed that about 21.7% were married. This low percentage of married people was due to the type and age of respondents, since they are young. The family members ranged between 7 and 8 for almost 53% of the participants (8.33% had a family of three or less, 23% had a family of 4-6 and 15% had a family of 9+). This may indicate that respondents’ parents were, on average, within the 60 years plus age group, and have teenage or older sons and daughters in the respondents’ age group who often all live together until they get married.

As for type of accommodation, 81% live in houses and 18.7% live in apartments. In terms of region, 40% were local people from the region under study, 30% from Najd, 16% from the south and 5% from the northern and western regions. Again, this reflects the move to the city at the beginning of the 1930s from Najd for job-seeking reasons, and these respondents might be their second or third generation. This result agrees with the previous finding in Group A that a large proportion of the desert picnickers are from Najd.

6.3.1.2 Section Two: Preferences and Opinions

6.3.1.2.1 Preferences

This section presents the results and analysis of respondents’ preferences. Interestingly, data shows that slightly over half go to the desert for recreational purposes (20 males and 12 females) as opposed to 46.7% who do not go. This result reinforces the belief that desert picnickers constitute a large proportion of society, and this phenomenon is not limited to the Group A respondents, where I specifically
directed the survey to desert picnickers and distributed questionnaires close to their desert picnic area.

6.3.1.2.2 Opinions

Part of the questionnaire was designed to elicit respondents’ opinions as to why they do not go to the desert and what would make it their ideal place to go. Non-users of were asked to list factors that might change their minds about going to the desert. About 85% referred to the availability of services as the main factor that might change their minds while 14.3% stated that nothing would change their minds. This remarkably high percentage citing the need for services in the desert may clarify their perceptions and what has stopped them from going there for their recreation.

When asked what might make the desert an ideal place to go for non-users, services came first, followed by the need for a ranger with authority, and the need for cottages (or tents)(Figure 57).

![Figure 57. Answers from respondents who do not go to the desert as to what would make it an ideal place to go]

This finding appears also to emphasise what has stopped these respondents from going to the desert for their recreation.
6.3.1.3 Section Three: Social Aspects

In relation to the importance and role of recreation in the respondents’ lives, they were initially asked if they went to the desert as children. In this respect, 60% used to go and 40.0% did not. It is worth noting that those who went as children tend to keep the habit and vice versa (Table 14).

Table 14. Visits to the Desert as Children

The data also seems to suggest that children who grew up with the concept are more likely to pass it on to their children, and also confirms that those who go as children are likely to go as adults. For the purposes of this study, using the Contingency Coefficient test, I examined the significant relation between those who used to go as a child and their region of origin. It was observed that the p-value is less than 0.05 only for going to the desert as a child, meaning there is a significant relation between “going as a child” and the “region of origin”. Here, Najd region has the highest weight. This finding confirms the notion that the Najd population used to go as children (Table 15). Among the 60% who used to go to the desert as children, 44% were originally from the Najd and over 36% were from the local region under study (Figure 58).

Table 15. Chi-squared ($\chi^2$) - test and Contingency Coefficient
In contrast, of the 32 respondents who go to the desert now, over 43% are originally from the Najd region and over 40% are originally from the east while only 15.62% are from the south. This may also indicate that going to the desert has a direct bearing on people’s region of origin, and it may indicate that their behaviour is influenced by their associated perceptions, passed on to them by their parents while they were children (Ward Thompson et al, 2008).

People may prefer something or not because they like or dislike certain aspects about it. As for their reasons for going to the desert, the most important motives were ‘freedom’, privacy, silence, relaxation and nature and only some said they liked to live like Bedouins (Figure 59). This may indicate that enjoying freedom and privacy influences their choices.
In contrast, the reasons for not going (n=28) were: no services (60%), temperatures (14%), dislike of the desert (35%) and over 3% stated that its location is far from the city. This may indicate that the need for services was the key reason people were reluctant to go to the desert and it is a problem for others too, as has been stated before. I examined the relation between gender and people’s reasons for choosing the desert for recreation. A Contingency Coefficient test shows that the p-value is less than 0.05 for the reasons that people cited, namely, privacy, freedom and silence. This means that there are significant correlations between these reasons and the gender of the respondent (Table 16).
Table 16. Relation between gender and reasons for choosing the desert for recreation

For those who do not go to the desert for their recreation, data shows that there are significant correlations between gender and the ‘absence of services’. This has particularly stopped females from going (Table 17).

Table 17. Differences between men and women and reasons for not choosing the desert for recreation

In term of social perspectives, the data revealed that 80% of desert picnickers in Group B (male and female) go with families and, unlike males who go with friends (95%) or alone (10%). Obviously, none of the female respondents goes alone or with
friends because women in Saudi Arabia are not allowed to drive and they cannot go alone to the desert with any non-Mahram companion. This finding adds to a picture of family members and single males gathering in the desert for recreation as a clear indication of the social aspect of being there because it offers freedom and privacy which cannot happen elsewhere, at least to the same degree.

In relation to the time of year, 50% indicated that they go in summer, whereas over 78% prefer to go only in winter and all of them like to go in spring because the temperature is moderate. The data reveals that summer users are also going in winter and spring, but not vice versa. This may indicate the importance socio-cultural values play in this group’s lives such that the hot temperatures in summer do not stop them going to the desert. With regard to the average number of visits, analysis revealed that only 3.1% of respondents go on a daily basis, whereas over 46% go on a weekly basis, 28% on a monthly basis while 21% just go seasonally. This may indicate that outdoor recreation in the desert has become a regular weekly event in their lives.

In relation to the preferred time of day, over half of the respondents prefer to go in the afternoon, and only 3.1% of them like to go at midday. This could be related to the fact that the respondents are all students which makes it difficult to go as and when they like.

In terms of the average length of stay, 25% often spend 1-3 hours, 53.1% often spend 3-6 hours and 21.9% spend more than 6 hours. This was a slightly different finding than for the Group A survey, wherein almost half, 48%, indicated that they often spend more than six hours picnicking and 35% prefer to spend three to six hours. This may also confirm their feelings of relaxation and privacy.

Among the most common activities for this group were: playing football (53%), driving cars on the sand dunes (46%), setting up a fire (43%) driving buggies and motorcycles (37%) and sitting and chatting and cooking (31%) (Figure 60). This variety indicates a very wide range of activities for this age group. It can also be inferred that these age groups were less concerned with the desert environment and its fragility. For example, they enjoyed driving cars on sand dunes, driving buggies and motorcycles, and hunting there.
In addition, analysis reveals that female respondents participate in more of these ‘active’ activities than male respondents (Figure 61). This also suggests that the desert provides females with their desired levels of privacy and allows them to feel free to the extent that they can partake easily in these activities. For example, women are not allowed to drive and cannot play football in open places in the city but the desert has afforded females a way to meet their needs. This may indicate that it offers positive affordances for its users.
With regard to the distance that people often keep from other picnickers (Figure 62), 35% of male respondents prefer to keep closer to others when they are alone and at a greater distance from other picnickers when with their friends. Yet, the biggest distance is maintained when families are involved. This may indicate that the desert offers positive affordances for its users by meeting their territorial needs.

![Preferable distance between respondents and other picnickers](image)

**Figure 62. Preferred distance between picnickers**

In general, the results above are notably different from those gathered for Group A.

### 6.3.1.4 Respondents’ Comments

As mentioned above, the questionnaires were designed to provide a qualitative as well as quantitative perspective.

In the questionnaires, respondents could specify their main reasons for choosing (or not) the desert for their recreation, what might change their mind about going if they do not go, and what would make it their ideal place to go. Finally, those who go were asked to list the type of activities they often undertake there. This was achieved in two ways.
Some questions were designed as open-ended questions, like Questions 7, 8, 10 and 16. Most of the responses to the open-ended parts of most questions have already been referred to in the analysis above.

The open-ended questions and comment boxes were then examined in relation to ‘completed forms’ about respondents’ reasons for going (or not) to the desert, their opinions as to what would make it the ideal place to go, and the activities they undertake there.

In general, in their comments section, respondents who do go to the desert emphasised their need for privacy and freedom, which they cannot obtain elsewhere. These findings echoed the previous survey results from Group A.

In contrast, other comments from those who do not go to the desert for their recreation, indicated that the absence of services, facilities and utilities was behind their reason for staying away and that having such services would make it their ideal place to go. Among their comments was the need for an infrastructure for recreational projects. Other suggestions were to have some children’s play facilities, a football playground, water sources, a place to collect litter, and that they wanted to see a ranger or someone with the authority to punish abusers of the desert environment. Other demands were to have horses or camels in the area, for rides. Some respondents would like to have a campsite, with tents they can hire. Finally, a common complaint by all respondents was the absence of authorities in the area.

In general, all the respondents’ comments in Groups A and B indicated a common thread of needs, worries and concerns. This is a clear message from users and non-users to those in authority responsible for this new pattern of outdoor recreation, to take recreation that is organized and controlled by authorities to another level.

In general, all these findings from the responses to the questions are very important and will be discussed in the general discussion in Chapter Ten, together with all the results of the go-along interview findings and analysis in Chapter Seven, and the participant observation findings and analysis in Chapter Eight.
7 Chapter Seven: Go-along Interviews Findings and Analysis

7.1 Introduction
The go-along interview is the second method that was applied in this study. This qualitative method aimed to capture users’ perceptions of their emotions and memories of their favourite environment, which participants usually keep to themselves (Kusenbach, 2003) and to gain a more in-depth understanding of some of the responses to the open questions used in the questionnaires. In addition, this method aimed to explore issues related to some of the research questions that had not been fully addressed in the questionnaires.

7.2 Go-along Interviews: Thematic Analysis
A go-along interview is mainly a form of social interaction for which a number of social skills need to be considered (Payne, 1951). Having a good attitude is a key skill in addition to being a good conversationalist, so that the researcher can build up a comfortable relationship with participants. In this study, a high-quality digital recorder was used for all discussions, after asking participants’ permission to do so. A digital recording helps to retain the actual phrases used by informants, which can then be analysed and interpreted later (Schuman and Presser, 1996, Foddy, 1993). In this research, the quietness of the desert helped in recording all conversations without any irritating noise that might often occur in other outdoor environments. Some open-ended questions were put to participants from the guided interview sheet, which helped to open a kind of informal discussion with natural conversations. This kind of guided interview sheet does not usually obtain information that can be statistically analysed (Al-Abdullah, 1998), although the interview might contain a few questions that can be quantified (Foddy, 1993, Bradburn and Sudman, 1979).

At the beginning of each walk with participants in the desert, photographs were used as a prop to stimulate thoughts and encourage conversation (Carpiano, 2009, Kusenbach, 2003, Harper, 2002). This was an especially helpful tool with elderly
participants to trigger memories of their earlier days and recall their parents’ and grandparents’ harsh life of hunger and poverty before the discovery of oil, as will be explained in this chapter. Two pictures were shown to participants: a Bedu living with his camel in the desert and people cutting wood there (Figure 63).

![Figure 63. A man with his camel in the desert; and two men cutting wood in the desert (Thesiger, 2007, p. 174, Abouakl, 2009)](image)

These pictures triggered personal memories, of their previous harsh life and of childhood, and it let participants tell more of the story of their past. During the go-along interviews, photographs were taken of the different aspects mentioned by participants (such as plants, signs of negative impacts on the desert or other things that had a special meaning), to serve as documentation (Kawulich, 2005).

To ease the process of analysis, each discussion was recorded and then transcribed. Next, the interviews were coded and the results grouped into their main themes using a matrix form, then recorded in charts. A relatively small amount of data was collected from participants compared to the data in the previous method. This was due to the smaller number of participants/questions and the similarity of the answers (Appendix III).

### 7.2.1 Analysis of the Go-along Interviews

The questionnaire findings revealed Saudi desert picnickers’ views, experiences and perceptions, and also how the desert met their needs for regular recreation. This study had not yet focused on how the desert influenced users’ perceptions, experiences and activities. In the questionnaire, respondents mentioned several
influences in choosing the desert as a place for their recreation. In particular, the absence of services had not stopped respondents in Group A from going, as it was fulfilling their desire for privacy, freedom to wander, and so on, which suggests that the socio-cultural aspects and particular qualities of the place are deemed more important than having access to services.

It was still unclear, however, why they had built bonds with this favourite place and what desert environments offered to their users, which modern designed recreational places within the city did not

- What were people’s perceptions of the place? (E.g. what did they like or dislike about the desert? What were their feelings when they were there? And what were their reasons for choosing it?)
- What memories did they hold toward these places and what were the associated emotions? (E.g., ‘Did the desert evoke and trigger memories and images of the past, home town, childhood?’ and ‘Does it have a symbolic meaning for you?’)
- In what way did they engage with the space?
- What is the desirable distance that you keep from other groups of picnickers?

Given the above concerns and to clarify the relationship between socio-cultural values and people’s behaviour in the desert, but also their perceptions of it in terms of its impact on their wellbeing, the chapter was structured into the following thee aspects. The first part considers people’s perceptions and their place preferences. The second part deals with participants’ memories. The third part concerns the way they engage with the space. This section was designed to reveal the type of activities that picnickers participate in and how the desert helps them to carry out their activities.
7.2.1.1 **Preferences – Physical Attributes**

Before I started walking with the participant groups, I asked them to share their comments on any aspects along the walk with the rest of the walking group; what they liked or disliked, and in what way it stimulates certain feelings and emotions for them. It has been stated above that since participants were in places of their choice, most of their comments were positive, however, the majority of them stopped and pointed at things (e.g. sand, sunset, shrubs, camels, topography, vehicle tracks, litter), expressing their likes or dislikes. Some others also engaged, physically, with the elements that they pointed at (e.g. touching them as a way of describing things to me).

7.2.1.2 **Participants’ Perceptions of the Desert’s Natural Elements**

The main focus of the discussion for the participants centred on the physical attributes of the place and in what way (if at all) these aroused certain feelings and emotions. The elements that the participants preferred were sunsets, stars, sand (i.e. sand dunes, hills and the openness of desert) and the indigenous animal and plant species.

In the Al Riyadh-Airport area, when one male participant was walking away from his sitting area, just before sunset, he pointed at the sun and described how peaceful he found it. He mentioned that such moments stimulate certain feelings and emotions inside him. Everyone in the group, at that moment, stopped and looked at the sunset. A second participant then said that he also felt relaxed and at peace in the desert, especially at sunset. This remarkable answer supports the notion that the feeling of relaxation was generated after respondents experienced privacy, as noted in the previous survey for both Groups A and B.

Also, the presence of this unique feeling can support the idea that the desert is able to afford its users the opportunity of contemplation for meditation and encounters with

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33 Due to the personal involvement and physical presence I had in this qualitative method, I will use the first person singular and active voice to describe the findings.
God. For example, as mentioned in Chapter Four, the desert has played a vital role for those who seek silence in the three different monotheistic religions, Judaism, Christianity and Islam (Heritage, 2001). There is a large volume of published studies describing the role of wilderness and its effect on people’s wellbeing. As mentioned in the literature review, people come to love its healing power, with its silence for meditation and encounters with God. Thus, people seeking holiness tend to go to the desert to isolate themselves and connect with God (Barbour, 2014). However, in Islam, this idea of contemplation is not limited to holy people but is required from all. This makes it a place where people ‘seek refuge’ to benefit from the remarkable solitude and stillness of desert that enhance spirituality, and contemplation of God’s natural creation, for many users.

Another participant said that sunset, and its remarkable quietness, always helped him to feel relaxed. We stopped to watch the beauty of the sunset between the sand dunes for a few minutes, and then one of participants suggested that we pray there and then walk back, since it was prayer time. We all prayed together with our faces touching the sand, which left granules on our faces. I noticed that while I was praying with the participants, there was a remarkable quietness that helped me to feel humble while we were praying, and I sensed, too, that I was at peace at that moment (Figure 64).

![Figure 64. Participants praying on the sand (Source: author)](image)

After we finished our prayer and just before resuming the walk toward their sitting area, I saw one participant touching the sand and letting it fall between his fingers. He spoke with a wistful tone and had a look of contemplation on his face. He said that in the holy book, the Quran, Allah said that he created us from this sand and we
will be buried in it again. All participants at that moment nodded their heads in silence, raised their hands to pray for mercy from God. After that, we resumed walking towards their sitting area and their kindled fire.

G1. The desert for me...the good thing, I think, is that the desert gives me a sense of peace. I feel it when the sun starts setting between the sand dunes...I just felt much more at peace. It makes me feel calm on the inside.

G2. If you watch the sunset every day in the desert you feel relaxed. All the surrounding elements and the desert silence...it gives you a sense of peace. And while you are watching it move along... you just feel relaxed.

G3. Yes, Allah told us that he creates us from this sand. Can you feel it...? Allah (God) says in the holy book, the Quran: He created you from dust; then, suddenly you were human beings dispersing [throughout the earth]. Yes, let’s ask Allah’s forgiveness.

Likewise, a female participant in a family group walking at the airport area with me, at almost the same time of day, described how peaceful she found this natural environment, especially at this amazing moment of sunset:

G1. Oh look...I feel that the desert helps me to be away from sound and out of sight, so I can feel my soul and be close to my spirit, connected to Allah.

G2. Yes, that is right...I feel the same. The silence of the desert helps me to contemplate God’s creation.

When I was strolling around the airport area at dusk with a group of female participants including children, one woman began to show her concern. As the earlier research findings show (see questionnaire findings chapter six), watching the sunset is a common activity for the participants in Group A, however, I also observed that the children who were playing around us while we were walking were a little scared as darkness began to fall.

Participants, in general, felt that silence in open space – a key feature of the desert – can bring a feeling of being part of nature and for religious individuals, allows a contemplative state in which to focus on their God.
In general, this finding supports the questionnaire results for Groups A and B in the preceding chapter, where the majority of respondents indicated that silence is one of their main motives for being in the desert. It can be argued that the religious beliefs and inspiration in the Holy Quran play a major role in Saudis’ experience of landscapes (including the desert).

Around the Al Riyadh-Airport area, while strolling with another group of males, one participant pointed at a nearby group of camels, commenting on how they walk in this desert easily, enduring thirst and heat, and reflected on that in terms of his religious beliefs:

D1. Do you know...every time I see camels walking in this desert I contemplate God’s creation. I see his feet spread wide as an adaptation to walking on sand, which allows them to walk without sinking into the sand like us now [oh Glory of God].

D2. Oh Glory of God...yes... [Allah Akbar] ...look at his ear hairs and his eyelashes...they protect him against sandstorms in the desert. I just feel good when I see camels around (Figure 65).

Figure 65. One participant touching a camel (source: author)

In the Quran, there is a clear command of God to his people to contemplate creation by looking at camels, the sky, mountains and the land. The verses from the Quran that speak of the desert are another reason that it is traditional for conservative Muslims to go to the desert. The solitary stillness of that environment makes contemplation of God possible. These findings appear to complement studies by
Hermann (2005) and Soares Moura (2009), which highlight the role of the natural landscape in encouraging a state of meditation and contemplation, where one feels part of nature. This might clarify why the majority of participants were from the Najd region (as noted in the questionnaire results for Groups A & B34). The population of Najd, in general, is considered very religious and conservative. Since the desert, in Islam, is considered a place of silence and thus, worship, it is not surprising that this population, who want to be more closely connected with God, choose to frequent the desert. (For further information on Islamic worship, see Chapter Four, section 4.4., ‘Perceiving the Desert from Different Points of View: Western versus Arabic’).

With regard to Muslim people engaging with this creation of God, it is written in the Quran where Allah (God) says (the closest meaning in English is): “Then do they not look at the camels – how they are created? (18) And at the sky – how it is raised? (19) And at the mountains – how they are erected? (20) And at the earth – how it is spread out?” (Holy Quran, n.d.) There is a clear command of God to his people to contemplate his Creation by looking at camels, the sky, mountains, and the earth to see how powerful he is. These verses from the Quran speak of the desert, which is another reason it is traditional for conservative Muslims to go there.

In general, all participants appreciated seeing camels in the desert, saying they inspired thoughts of Creation. This result agrees with the finding of the previous survey for Group A where, when asked about their feeling when they are in the desert, over 51% of respondents mentioned meditation on the universe and God’s creation. This indicates that the silence in the desert affords this healing power of wilderness, such that people can isolate themselves and feel a connection with God.

However, participants also expressed worry and a dislike for the increasing number of camels in the area, as without land management to protect such a unique and sensitive environment, overgrazing is a significant threat to the desert ecosystems. After her comment above, one female participant, G2, then focused the conversation

34 The majority of participants in the go-along interviews were from the Najd region: 13 males, five females and five children were from Najd, followed by five local people from the eastern region and only four from the south.
on the absence of rangers and authorities in the desert environment and how both camels (which eat all the vegetation) and picnickers (who leave waste behind) threaten the area. Almost all participants expressed similar dislikes of these aspects (Figure 66).

![Figure 66. Increasing numbers of camels are now in the desert; and waste threatens the area (Source: author)](image)

**G1.** I feel the absence of the authorities in the area has increased the amount of negative environmental impacts.

**G2.** I feel the desert is now empty and only has sand, picnickers and camels. You would not believe me if I tell you that this area was full of wood and plants 20 years ago but with much fewer picnickers and camels.

**G3.** Of course I like to see camels around in the desert... it is a part of nature and it’s their homeland, however, I dislike this big number with no control.

These observations, regarding the absence of authorities, the increasing number of camels and picnickers who leave waste behind, also support the questionnaire findings for Groups A and B. This demonstrates that desert users are not happy about these issues in general.

When one participant from the male group was walking along near Al Riyadh-Airport area, he pointed at a few shrubs, saying that he liked that they were together. He walked toward the plants and took a deep breath, saying, with a sad tone to his voice, how this area and others used to be full of different plants, but unfortunately, there were very few left now (Figure 67). A second participant then said that he also
felt disappointment and sadness at this, as seeing greenness in the desert always gave him a sense of wellbeing. Both participants described the impact of human activities, wood collection and overgrazing on this sensitive natural environment.

![Figure 67. A few shrubs in the area (Source: author)](image)

G1. For me, I think the desert is not desert anymore. The number of picnickers has now increased and their bad impacts on it have increased too...so much. It makes me feel unhappy.

G2. I feel disappointment sometimes when I look at the space and see it empty of shrubs and plants, from overgrazing.

G3. I feel good in this place when I see camels around. I love nature, that is why I feel good but at the same time, I feel sad, the number of camels has increased in the area. Camels eat everything, and there is no management.

G4. ‘Oh poor camels, they are eating anything now... look, there they are eating picnickers’ waste; unfortunately, some picnickers do not collect their waste before they leave – do you know that kills camels?

It was noticed that food and plastic bags are often left behind by people (Figure 68), posing a danger not only to the environment, but also to camels because they eat them, which leads to their death. I observed some camels lying dead close to the main roads.
The respondents acknowledged that the desert environment has been affected by the increasing number of picnickers and camels over the past 20 years or so and all participants agreed that the absence of rangers in the area has exacerbated the problem. These findings are in agreement with findings from the survey, as reported in the preceding chapter.

While we were walking along, I observed that participants were collecting any dry sticks en route to setting up a fire.

G1. I feel good in this place. As you can see, I can walk without any obstacles that might stop me – that is why I feel good.

G2. I feel happy when I walk and collect sticks [laughs]. You cannot feel happy unless you try it. You need to come back with us and sit.

G3. The desert is a very good place to feel relaxed and forget all your problems and your pains, especially when you are alone.

G1. Yes, he is right...you will forget all your problems, especially when you light up these sticks and sniff the smoke [laughs]. That is why I feel good.

For these respondents, walking in the desert and collecting sticks was connected with a sense of wellbeing. One participant from another group revealed the importance of walking in the desert and collecting sticks in helping him to relax whenever he had a problem or was feeling depressed. This could be seen as another indicator showing the ability of the desert environment to offer a positive affordances to its users to
meet their different needs and desires. A strong relationship between the natural environment and stress reduction has been reported in the literature. The desert environment here provides a fitting alternative for its users that can suit their needs, with a lack of the negative factors that might be found in urban settings, such as noise, crowds, and lack of privacy, so the desert can be a suitable place for stress reduction. As mentioned earlier, Bell (2010) comments that a “natural area contributes to stress reduction … and it could therefore be that it lacks many of the negative factors presented by stressors found in other settings, such as noise, traffic, concern over personal safety, as well as the affordances for meditation or contemplation provided by quietness, soothing sounds or attractive plants” (Bell, 2010, p. 264).

In the same previous location, one participant reported that the silence of the desert helped him to clear his mind:

*G1. The quietness and the openness of the desert always help me to open my vision to think or look to the future.*

*G2. That is true... I always come here to clear my mind. The 'Serenity' desert gives me the ability to think clearly.*

These comments in general illustrate how the desert environment can offer a positive affordance to its users to meet their different needs and desires and evoke positive emotions in them.

In the airport area, in a site that has low hills, no sand dunes and an open to semi-open aspect, one female participant pointed out this natural topography gave her a greater sense of both privacy and freedom. Female participants revealed the importance that the desert played in their life, how it helped them to feel free, without any obstacles that might impact or limit their activities and their feeling of wellbeing.
C1. Families (women especially) cannot enjoy and benefit from being out unless they feel comfortable and they can’t feel comfortable if other picnickers are passing or sitting close to them or seeing them...I feel the expanse and naturalness of this space helps me to feel comfortable.

C2. I feel both the openness of the space here and my privacy at the same time...you know, we are a conservative society and so privacy is very important, not only in our house but also in our recreation. We find it here.

C3. I think the good thing is that the topography of this space gives me a sense of openness, so much openness and at the same time, it means no one is disturbing me or bothering me. I feel my privacy and unveil my face and take off my Abaya.

In Al Riyadh-Airport area, one male participant talked about the natural topography of the space. He revealed the importance of this topography and how it achieved his needs of privacy. Another participant pointed out that sitting at the top of a hill allowed him to see everything around him. He revelled in the great sense of privacy and freedom which both contributed to his feeling of relaxation and wellbeing.

D1. I feel privacy and territory is not only for women, we men also need privacy. I don’t like other men seeing me while I am doing my activities or engaging with my family.

D2. If you sit on the top of a hill, you feel relaxed. You can see everyone around you while no one can see you; it gives you a sense of privacy and territory and while you are sitting with your family or with your friends... you just enjoy it.

D3. For me, it is not just the need for privacy and territory, it is our ancient civilisation, we used to live in the desert or be surrounded by desert, it is part of us, we cannot segregate or abandon it from our life. I feel I am attached to it more than many things.

These results support the questionnaire findings where respondents were asked to list their feelings when they were in the desert and the reasons for choosing the desert for their recreation. There were common answers: freedom, privacy, openness and relaxation. The only difference here is that most of the participants emphasise that the desert’s silence and its natural elements motivate them to humility and encourage their contemplation of “God’s creation”.

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In general, it seems that the solitary stillness of the desert environment, therefore, makes contemplation of God possible.

These findings would not have been revealed without applying this go-along method. It showed that the needs of participants to feel freedom, privacy, openness and relaxation were not the only reasons that drove them to the desert rather than being in designed open spaces in the city.

The remarkably varied feelings that the respondents expressed enhance the questionnaire findings for Groups A and B, namely, that this environment has the ability to provide pleasurable feelings, and indicate that this environment offers a positive affordances to its users to meet their different needs and desires.

The site has high hills and sand dunes, with a semi-open area that allows picnickers to see others around them without being seen. This area is preferred for male-only groups, however, I noticed that the site also has areas of low hills and no sand dunes, and family groups preferred these areas. The main reason for this is that they can see who is close to them and so it is safer for their children as they play. Generally speaking, all participants in the male and family groups indicated that they liked to sit on top of a hill to see without being seen. They also liked sitting on the summit or between sand dunes as a vantage point so they could see the surrounding panorama. It is clear, then, that the desert offers Saudi people something that the built environment does not. These characteristics are linked to the human need for protection, in addition to that of privacy, which is of particular importance to Muslim society.

7.2.1.3 Recalling Memories of their Past

During the go-along walks, most participants mentioned that the word *Sahara*, in Arabic, means ‘charming’. The physical elements of the desert (sand, shrubs and small trees) triggered participants’ memories and helped them to start telling stories and share memories of traditional Saudi society, their grandparents, childhood and previous recreational activities. I observed that for most of the participants, walking
barefoot was something that started to trigger their memories and feelings about the place. In Al Riyadh-Airport area, while I was strolling with a group of males, one participant in his late 60s described, in an emotional way, the Bedouins’ harsh and unstable life (always driven throughout the year to search for water and grassland for their livestock\(^{35}\)). None of the participants was Bedu (i.e. Bedouin), but another male in his 60s said that the desert always reminded him of his earlier days and his parents’ and grandparents’ harsh life of hunger and poverty before the discovery of oil. In the airport area, one older participant pointed towards a camel passing close to us, and said that they reminded him of his father and his home town when he was a child. I asked him if he was originally a Bedu. He responded, in a nostalgic and emotional way, that he was not Bedu but his father used to be a camel trader.

*M1. Yes, that’s true, it really does remind of that. Our city Al-Qassim\(^{36}\), our childhood, it’s like that... we were waiting to see our fathers coming with their camels. Just like this [pointing to the camels]. How I miss it, my father, our city... [sighs].

*M2. I remember when I was a teenager with my friends. At that time, we used to wait for our fathers and relatives just outside our city in Al-Qassim in Najd, when they approached their date of return from their trade travel...cities, at that time, were small compared to cities now so it was easy to walk from home to the city wall which was surrounded by desert sand dunes. I remember seeing them coming through the desert riding their camels... I’ll never forget that.

In the same area, a middle-aged male, after seeing camels passing close by, also talked about some memories of the old harsh life, and how his grandparents crossed the sands by camel for long periods, enduring the hardship and risks of the desert to feed their family. It seems that the surrounding environment and its elements triggered participants’ emotions and reminded them of their childhoods:

\(^{35}\) The Bedouins have drifted away from the desert to villages recently. For more information, see Chapter Four about the Bedouins’ settlement project.

\(^{36}\) Al-Qassim is one of the main provinces in Najd region.
My granddad told me that we used to take trading camels from the Najd region, especially the Al-Qassim central Arabia area, and trade them in Iraq, Syria, Palestine and Egypt...we often spent between six months to one year on this trip.

Yes, this called ‘uqayl’. I remember that my granddad told me about it too. This group represents a tribe and families who come from the Najd region, especially in the Al-Qassim area.

The terms uqaly (singular) and uqalylat (plural) denote a group of people from the Najd region in Al-Qassim area identified with camel exports. These traders became synonymous with the inhabitants of the region and emerged as a significant factor of the economy in the region (Al-Rasheed and Vitalis, 2004). When the participants saw camels it triggered memories of their lives before the discovery of oil.

I remember as a kid, I used to wait for my father on the edge of my city, Al-Qassim in Najd region, with other kids to see them coming. We were craving seeing them after their trade trips which often took more than six months...yes, they were coming toward us behind the sand dunes.

Yes, that is true, I remember too. Oh! I feel I am connecting, I was only 5 years old...I was going with my older brother since I was afraid to go alone to the edge of the city. I remember there were lot of camels and men coming toward us ...but I was after my father. It is something we are always thinking about.

At the beginning of the 1930s, many people moved to work in the Eastern Region, mainly in Dammam city, as the questionnaire findings in the preceding chapter show. They came from very different surrounding environments. As explained earlier, the eastern and the western regions of Saudi Arabia are coastal, the south is more mountainous, the north is a flatland and Najd consists of desert and oases. This suggests that the desert particularly reminds the Najd immigrant population of their hometown, since it is also surrounded by desert, and this may have influenced why they go there, besides other reasons.

This suggests that the participants’ current visits to the desert could be attributed not only to their desire for privacy, and as a place for worship of Allah and contemplation of creation but also because the Dammam desert reminds Najd
participants of their homeland, triggering memories of Al-Qassim, one of the main provinces of that region, which is also surrounded by desert.

7.2.1.4 Childhood Memories

On the walks, the desert not only triggered the elderly participants’ feelings and reminded them of their childhood but also triggered those of middle-aged and younger participants. In the Al Riyadh-Airport area, one participant who was less than thirty years old pointed to the edge of the dune (Figure 69) when we walked close to it. He told us how he used to slide down the dune when he was a young boy with family:

G1. Do you believe that I used to slide down here with my mother and sisters and sometimes my father. I’ll never forgot that time…it was fun… do you want to try? Let’s slide all together…

G2. Ssh... Do you hear this voice?

G3. Yes, I did but what is it? Do you think it’s a motorcycle or plane engine?
G2. I think it is a motorcycle, I used to ride one when I was a teenager here in the desert with my sister.

G4. I still have mine too ...and can you believe that it is still working. It’s more than 15 years old now...my son is riding it in the desert now.

After we all slid down the dune, the conversation then focused on how the desert can help families gather without any restrictions. A participant remembered that he used
to play with all his family members with a sense of freedom. The openness of the area allowed his parents to see their children while they were playing.

In the airport area, while I strolled around with a family group, in a site that has low hills and no sand dunes, we came close to other family picnicking groups. The way they sat in this kind of landscape triggered a young mother’s memories. She remembered her family sitting all together without any restriction. Her father was playing with his children while her mother had her face unveiled and had taken off her black cloak:

R1. Oh yes. I used to come here with my father and mother, brothers and sisters, do you believe that we all played together without any restriction here...

R2. Yes, you are right, it is the only place that I can remember that I played with my mother and sister at football.

R1. And see, now we are here playing with our children, I love this place. I feel that you own it and it also belongs to me.

R3. Yes, you are right, I feel freedom here with a full sense of privacy too.

It seems as if the spatial aspects and openness of the desert triggered their memories and took them back to their childhood. At the Al Riyadh-Airport area, in one of the male groups, one participant reported that the low number of desert picnickers and the distance that they often keep from one another reminded him of the freedom he had enjoyed as a child while playing on open spaces in the city.

G1. No, I do not think open spaces in the city are open any more...there are too many people there...

G2. Yes, that is right...they are so crowded.

G1. Yes, so crowded with users that the sense of space has gone. The number of picnickers is much beyond the carrying capacity for these open spaces. Can you believe that they only keep 10 metres or less between each sitting area?
G2. Yes...that is right and in this case, you need to surround your family sitting areas with boundaries or define territory in other ways. Women’s response is to wear their veil and Abaya, which will not allow them to undertake their activities easily.

G3. Unfortunately, this limits the benefit they can gain from being out in open spaces, however, here, as you can see, women can have their freedom and privacy at the same time... almost as if she is in her home.

G5. The natural topography of the desert helped me and my family to not be seen by others while we are doing our activities.

This topic of openness and natural topography always arose in all the different groups. In the airport area, while strolling, one participant said that the openness and natural topography reminded her of the freedom she had at home, with no need to cover her face or body. Another elderly female participant in the same area reported that the topography, openness and scale of the space, contributed to her feelings of freedom, reminding her of the freedom she had enjoyed as a child in Al-Qassim in the Najd region while playing on her father’s farm. This finding echoes the questionnaire results for Groups A and B, where respondents were asked to list why they chose the desert for their recreation, and ‘openness’ was among their answers.

After this comment, the conversation then focused on Najd and its weather. It seems that not only the surrounding space and its elements triggered participants’ childhood memories, but so did the desert weather. This happened when a fine breeze blew while I was strolling around with a family group in the airport area. Two elderly participants talked about the desert breeze, temperature and humidity in a nostalgic way, expressing their belief that such weather only occurs in the Najd region and their hometown.

M1. Oh, see this breeze? The desert weather reminds me of my hometown, Najd, where desert surrounds us, I feel I am there now [Allah]. To be honest with you, I have been living in Dammam for more than 50 years and I do not like its humidity, so I prefer to enjoy my recreation in the desert, since the humidity is lower than in the city.
M2. Oh, that is right...the Najd weather and its low temperature, especially at night, always helps me to engage in my activities without sweating. I believe this kind of dry weather reminds me of Najd. I feel I am there now.

Again, these memories may have triggered their choice to be in the desert for recreational purposes and also evoked childhood memories. Likewise, the dry desert weather triggered participants’ general memories and reminded them of their hometown, Najd. Desert weather may play a crucial part in their choice because people can participate in activities without sweating due to the ambient desert temperature, described as ‘comfortable’ in the evening. This finding is supportive of the questionnaire results where respondents in Groups A and B were asked to list why they chose the desert for their recreation, and ‘low temperature’ was among the answers.

G1. It sounds crazy but I feel that the temperature here in the desert is lower than Dammam city. Sand does not stick in your feet and the dry weather does not make you sweat.

G2. That is true but do not come in the daytime before noon when there is no shade, it is too hot [laughs]. The weather in the desert is much better than in the city.

Younger participants’ memories of childhood and going to the desert support the questionnaire group A findings for Question 17, where respondents were asked whether they went to the desert as children for recreation, to test the idea that appreciating the desert is related to their associated perception, passed down to them by their parents while they were children (Ward Thompson et al., 2008).

This finding could indicate that the phenomenon of outdoor desert recreation is not sufficiently well established, meaning that older participants went when they were children (this was limited to an under-40 age group). This may indicate that this form of outdoor recreation is relatively new and has increased in recent times. Secondly and more importantly, it suggests that when they were children, there was no spare time for recreation, as their parents were busy working. For example, as mentioned earlier, one elderly participant, I assumed he was over 60, said the desert reminded
him of their previous harsh life before the oil discovery; another, older participant, said that it reminded him of when he was waiting for his father on the edge of their city that faced onto the desert. None of them said that that desert reminded them of where they played with their parents, while other, younger, participants mentioned that. This may be an indicator that this form of outdoor recreation has increased in recent times. As I pointed out earlier (in Chapter Three, Brief overview of recreation), recreation in the period before the discovery of oil was limited to wealthy Saudi residents who used their farms for recreation, or who could afford to take themselves on camping and hunting trips outside the city in the desert.

7.2.1.5 The Special Meaning of the Desert and its Acquired Memories

As I strolled around with the different groups, I asked participants if the desert had a special meaning for them. They said that, in general, it did, and during our walks with a male group of participants who used to go to the same place every time, one of them showed me the exact places where special things had happened to him when he was a child, before he was 12. Most of the events mentioned had occurred during the participants’ early years, when they used to come with their parents and involved their first experiences of these places in the desert. Other participants mentioned the sensations the particular place triggered in them. For example, while we were walking around, a participant described how he had celebrated his marriage with his friend in the desert\textsuperscript{37}; that was a special day for him that he remembers to this day:

\textit{G1. To me, it has a special meaning because a special thing happened here. When I was a groom, they made a big dinner and they brought a traditional folk dance group who were singing and dancing all night, I remember...oh my God...there were a lot of guests, my father and my wife’s father too and my brothers, brother-in-law and all my friends... they built up a tent and covered the sand with a red carpet. Do you believe every time I come here I remember that year? Even I feel I am hearing that singing? [Laughs] I will email you a picture of that big tent (Figure 70).}

\textsuperscript{37} It is traditional in Saudi Arabia that after a man returns from his honeymoon, his best friend invites the groom, his relatives and all their friends for dinner.
Figure 70. A tent in the desert with a red carpet to celebrate one participant’s marriage (Source: participant, 2012)

G2. I came with my wife and my kids here in that place, can you see it? We were so happy – we just bought a four-wheel drive car and I thought the desert can’t beat me, since I have this and nothing can stop me. However, after we approached the place and after we came between two hills, the car stuck in the sand and we could not get it out… I remembered the kids were crying and they were hungry and we had no food left. It was a very cold night and we stayed in the car. Unfortunately, there was no cell phone so I could not get rescued, so, we spent nine hours there until fortunately, some men came toward us after we flashed a car light toward them and they helped us.

G1. Look over there… That’s where my friends made the big dinner for me…Shh…I feel I can hear the sound of drums and songs, I could not forget that night.

G4. For me, it has special meaning because I remember we came here on a cloudy day in winter and lit up our fire and started making our lunch, suddenly, it really started to rain like I have never seen in my life. We left everything behind and we got in our cars until it stopped. Everything was drowned with water, our lunch mat and fire, I could not forget that day.

Participants said that when they visited the desert they went to the same place often, which turned out to be a place linked with their memories of an event that had happened there in the past:

G1. I always come here with my friends and my family every week, and we always go to the same place, so I know this area better than my neighbourhood despite the fact there is no routes that take me inside. I know each shrub and the hills that surround it.
G2. I often visit the same place, not only because I am used to it and it holds memories for me but also to reduce the amount of impact on the fragile desert.

When I asked participants whether the desert has a special meaning for them, most reported that they had particularly strong feelings that led them to describe the desert as a special place. Most explained that they appreciate their natural local landscape - the desert - in a nostalgic and emotional way. Participants said that they love its beauty and in general, they felt that the desert is Saudi’s natural landscape, and so it is the desert that they need to connect themselves to in order to reconnect with their roots.

G1. As you know, Tareq, the Sahara is part of my culture and me. I appreciate the Sahara, it is our natural landscape.

G2. Yes, the Sahara… this is our natural environment that we grow up surrounded by... it’s part of our culture and tradition.

G3. The Sahara and its natural landscape reminds me of our old life...it is like connecting me with my origin and roots... our previous generation.

In general, female participants in family groups in the airport area stressed that the desert was the only place, besides their home, where they had their privacy and freedom at the same time. That made desert environments places of symbolic refuge.

G1. I feel that the Sahara, for me, means privacy and freedom together, I chose here rather than parks because I want to feel my freedom...can't you see how happy I am?

G2. Yes, the freedom, you are right, you can do and also wear whatever you want. [Laughs] as you can see, I am not wearing our uniform clothing.

G3. You know, Tareq, as a woman, I cannot unveil my face or take off my Abaya in public areas in the city, like parks. I feel more...how can I say...unhappy or inactive or maybe restricted and tied. However, here I feel happier and active. I have no restriction stopping me doing what I want to do ...I am only wearing my robe.

G2. And as you know, lack of privacy and territory between picnickers in open spaces did not help me to engage in any kinds of activity. As a female, I feel
uncomfortable being seen by any male while I am doing activities, which often stops me getting the benefits of being in an open space.

G4. Shhh...just listen to the silence of the desert... that's what I missed in the city, can you hear anything? There’s no noise and look, no crowd. Look, since we started our walk, no car has passed close to us.

In general, family participants reported that having males, females and their children participating in the same activities and sitting together enjoying a full sense of privacy and freedom, without any visual barriers, is a rare occurrence outside the home, so they felt there as if they were in their home, with a full sense of privacy.

G1. Tareq, you know that the desert is the only place that my kids and husband can see my face besides in our home, so I think now you can you see how much I feel more, how can I say, free! Yes, I feel I am in the home – I have got all the privacy I need.

G2. Yes, she is right and the only place that I can drive a car and ride a motorcycle... [Laughs]

G3. Look, our house before having hwash\textsuperscript{38} open space inside the house... we were all meeting together, all the family was gathered, with full privacy like we are here in the desert...we are all together with full privacy.

Such similar responses indicate clearly people’s needs and a desire for privacy and freedom. This, it appears can only be found and satisfied (outside of the home) in the desert. In other words, the study revealed that desert environments have become a symbolic refuge in the sense that they offer a place where different users can meet their needs and desires for privacy, freedom and silence. The variety of needs both echo and supplement the questionnaire findings for Groups A and B. As was mentioned in the literature review, privacy and freedom in the desert, relative to privacy needs, generally, and Muslim society in particular, are fundamental socio-

\textsuperscript{38} Hwash is an interior courtyard open space housing system common to all Arabian Islamic countries. It designed and shaped in a way that responds not only to the hot arid environment but also to Islamic cultural and social traditions. This space holds most of the social and cultural activities, such as neighbourhood meetings (including women being together), and is a centre for recreational activities. For further information, see Chapter Three.
cultural aspects (Gifford, 2007, Hall, 1966), as was discussed in detail in Chapter Two.

I observed that the most common reaction of the participants was one of being very relaxed and happy after they had experienced the privacy and sense of freedom they desire. All were acting and behaving naturally, especially the women who looked as if they were in their home, with no need to cover their faces or bodies. This finding is supportive of the questionnaire findings in that the vast majority of respondents felt happy, free, relaxed, open, meditative and clear-minded in this environment. The similarity in the findings obtained from the different methods in this study, indicate clearly that the desert gives its users a significant feeling that cannot happen in the same way elsewhere.

These feelings are also indicative that the desert has the ability to offers positive affordances for its users by meeting their respective territorial needs.

7.2.1.6 Activities

So far, we have seen that the desert is a place where participants go for their recreational activities. During the go-along walks with all of the groups, I also asked them what they would normally do in the desert and found that they engaged in a variety of different activities, for example: walking, sliding on the sand, playing football, building fires, drinking tea and coffee, collecting sticks, sitting and chatting, eating, talking, praying, watching nature or the sunset and stargazing. This finding is supportive of the questionnaire findings where respondents listed a similar set of activities. (Due to the limited time allowed with each group, I was not able to discuss these activities in detail with the participants but more information can be found in Appendix III).

In the Airport Road area, a female participant and her children accompanied us on our walk. She started to play football with her children and she looked at me, saying this is how the desert helps us to carry out our activities. Another participant said she could only play without any restriction with her family here, the topography of the
desert allowed them to enjoy their freedom. Another woman in a different group said that they all sat together here without any restriction and also, she pointed out that she can drive a car and motorcycle here in the desert, which is not allowed in the city under Saudi law.

**G1.** Oh, can you see how can I play football with my children? It is the freedom. You can do and wear whatever you want here.

**G2.** Yes, that is true. The topography helps me to not be seen by others while I am running after my husband.

**G3.** It is the openness of space in the desert and low number of picnickers that helps us to enjoy our activities with all family members without any kind of restriction.

**G1.** I feel really free without wearing my Abayah or my veil. I can do what I want. I am going to drive my dad’s car [laughs].

Another male participant in the family group said that in the desert, they all sit together as a family without any restrictions, something that could not happen elsewhere apart from in the home (Figure 71).

![Figure 71. Family members gathered together is a clear indicator of the freedom of being in the desert (Source: author)](image)

In the Al Riyadh-Airport area, one male participant reported that the low number of desert picnickers, the distance that they often kept between groups, and the environment’s openness, contributed to him feeling free to participate in any kind of activity he liked, without feeling self-conscious.
After these comments, since they were talking about their need for privacy and territory, and how the desert afforded their needs, the conversation then focused on the distance that participants liked to keep between their seating area and other picnickers. In the airport area, family groups stated that the preferable distance they keep from other families is about 150m-250m. While I was strolling around with the male participant groups in the Al Riyadh-Airport area, some participants mentioned that they often kept 200m-450m between family and all-male groups.

G1. Let me tell you, I need to keep enough distance between me and other picnicker groups to achieve needs of privacy otherwise the desert will not be any different from other public open spaces. The desert is the place where I feel more comfortable...

G2. Yes, that is true and especially if you are with your family, having your privacy and territory, it is a big issue.

G3. Do you know how to measure this distance? Let me tell you my technique... when any group members recognise whether the other group is a male group or family, or cannot recognise the colour of the clothes they are wearing.

There was a noticeable range of preferred distances between types of groups, a clear indicator of different needs and required levels of privacy. Participants indicated privacy as a vital basic human need. Consequently, if there were other picnickers, they would allow a suitable distance apart from them, so that both parties could enjoy privacy in their own territory. In general, picnickers in all groups preferred to keep a distance of about 150-450m, but there were notably different results gathered in the questionnaires. Thus, another method needed to be applied to clarify this difference.

7.3 Conclusion

The go-along method allowed direct experience of the desert environments in Dammam along with its users, the Saudi local people. Using go-along interviews strengthened the research findings, and allowed me to highlight the connections between users and place, the particular characteristics of that space and the sensory experiences that users enjoyed having in the desert.
The study has shown that one of the main characteristics of the desert, for all participants, is that it allows them to take part in all the kinds of activities that they prefer. The ability of the desert to afford its users something that the modern, heavily designed recreational places cannot appears to be important. The privacy it offers means that men and women can participate in any kind of activity with a full sense of freedom. Thus, the desert, with its simultaneous openness and privacy, has given participants, especially families, the opportunity to escape from the restrictions of public open spaces in the city. The freedom this environment affords overrides the fact that it offers no basic facilities.

The next chapter presents the findings from the third research method applied in this study: participant observation. This is a qualitative method of data collection included under the umbrella of ethnographic methods (Kawulich, 2005). Participant observation provides an insight into social meanings allowing researchers to observe behaviour and work closely with the people being studied (Brewer, 2000)
8 Chapter Eight: Participant Observation, Findings and Analysis

8.1 Introduction

In this chapter, I applied the third method in this study, the participant observation technique to help in describing and understanding the connection between the socio-cultural aspects important to users and the natural setting of the desert. This information helped to explain what makes users take their recreation in a remote and difficult-to-access desert area on the outskirts of Dammam city.

This method targeted picnickers in the desert:

1. To record, document, and interpret users’ behavioural patterns there;
2. To identify users' needs in general and social-cultural aspects in particular; and
3. To build up a bigger picture and understand what has forced them to resort to the desert for recreational purposes rather than going to public gardens or other recreational sites in the city.

In addition, I used an electronic laser pointer measurement to gauge the preferred distance between the two seating areas of males and females (for two or more families accompanying each other, a mixed family group). This helped me to identify the needed visual-privacy distance between seating areas of males and females from the same group. This will help to add a standard for any further development for desert picnickers. Since sound is considered fundamental to privacy, I used a sound level noise meter measurement device to assess it, to determine whether the distance kept between the male and female seating areas achieved their desired level of sound privacy, or if only visual privacy was obtained. I wanted to find out whether or not the male groups could hear the women within the set distance between them.

I also took photographs, as a site monitoring tool, to show the impact of human activities on the desert environment, to evaluate and compare both the physical and

39 The noise measurement device was borrowed from Dammam University (See Appendix V).
ecological condition of the sites with an unused and a protected area in the same region.

This method, together with the use of these tools, enabled me to arrive at conclusions about how and why the desert environment succeeded in satisfying users’ needs, desires and their expectation of the experience of being in the desert, and to understand and evaluate the current condition of those environments. Additionally, information about the possible influence this phenomenon of recreation might have on other aspects of users' lives or on non-desert recreational activities will be useful. The participant observation technique was chosen for this research in order to complement the other techniques that had been applied.

8.2 Participant Observation: Thematic Analysis

The thematic analysis carried out in this study relates to how people use their environment and their behaviour in their natural social environment. This increases understanding of individuals, pairs, male groups, and family groups, how people are different in their uses, activities, behaviours, feeling and goals.

The best way to analyse the observation was by content analysis, as the data in this stage of the research, that is, the recorded observation of all eight groups, contains a sequence of events that took place in a certain environment, by certain groups of actors. Content analysis is a technique used to analyse records of behaviour. Holsti (1969) argues that possible applications of content analysis are limited only by the imagination of the researcher. This technique has been conducted on a broad range of research materials such as observation records, written material and spoken records (Bordens and Abbott, 1991). Bahammam (1995) also reports that it is a useful technique to understand human behaviour in the outdoor environment. This appears appropriate, especially as the observational technique conducted for this study was purely a descriptive one.

It is important to have clearly defined response categories which are appropriate for the occurrence of specific behavioural events (Miles and Huberman, 1994,
Silverman, 1993) and the categories should remain focused on the research questions.

### 8.2.1 Field Analysis

The thematic categorisation is only to simplify matters, so that this researcher could focus on particular aspects of the observed picnicking behaviour and try to understand fully what has forced people to go to the desert for their recreation rather than open spaces. While all themes in this study are closely interrelated, emphasis is given to each one separately in order to recognise its role in the resultant observed behaviour. Since each theme involves discussing related issues and factors at the observed sites, thematic analysis of the participant observation records has been classified into six categories:

1. Accessibility of the site and the characteristics of the preferred area (e.g. where picnickers sit).
2. Seating in the selected area (e.g. how people organise themselves or their cars).
3. Users (who they are).
4. Activities taking place (what people do in the desert).
5. Feelings (the influence of the desert environment on participants); and
6. Goals (what encouraged them to go to the desert)

However, each theme includes several categories within it. Analysing the site and setting was the first step in the field analysis. This was conducted for the eight different participant groups (males/families) on the different sites. The observation of the study sites was recorded and presented in three main categories:

- date and time of the participant observation and other relevant information (climatic condition, temperature),
- general description of the site (total area, location, and brief description of site, accessibility and entrance), and
8.2.2 Thematic Analysis

8.2.2.1 Means of Transportation

Cars are the only means of transportation for desert picnickers, for two reasons: the locations of these sites are far from the residential areas, at least 40km from the outskirts of Dammam city, with no public transportation to get there, so cars in Saudi Arabia are the major means of transport for all aspects of life. In addition, there are some economic and social reasons contributing to the use of cars for outdoor recreation (Bahammam, 1995). For example, the price of petrol in Saudi Arabia is significantly cheap and therefore, a Saudi family would have at least one car. Similarly, unlike families in other countries, Saudi families are very large, due to various social factors. It is therefore practical for both families and single people to depend on cars for their outings. Picnickers often need four-wheel drive cars to access the desert conveniently.

8.2.2.1.1 Accessibility of/within the Site

Accessibility of the site involves many aspects that influence the use and choice of place. These sites for outdoor recreation purposes are considered easy to reach from almost anywhere in the city because they are on highways which connect to the city and act as arteries through it. The site’s accessibility, therefore, was not my main concern. Some sites, though, are surrounded by a metal fence on both sides of the road, to control and block camels from crossing the highway, which also keeps picnickers away. However, accessibility within the site was the main focus for this analysis, which relates to the intensity of use and the popularity of the site for different types of picnicker groups.

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40 A complete description of the site vegetation and habitat of the two studied areas: the airport area and Al Riyadh-Airport Area, can be found in Appendix IV.
As mentioned before, accessibility within the site is an important aspect in this field study. It was observed that picnickers drive their cars up to their selected seating area and then unload their belongings next to their cars. The fieldwork found that picnickers tend to sit close to their cars, due to the type of activities involved in being outdoors. The site location means that numerous personal effects need to be taken to it, such as rugs to sit on, water container(s), food, cups and plates, wood to make a fire, windbreakers, lights, toys for children (sand play sets, footballs, etc), and a sand-sled.

I noticed that participants’ cars were parked in a U- and sometimes L-shape, faced the nicest view, and remained in this position for the duration of the trip. This kind of configuration is used for five different reasons:

1. To protect them from other drivers who might come at night where they are sitting, without noticing if anybody is sitting between the sand dunes. The cars thus act as semi-fixed visual barriers in order to offer more protection and privacy to the sitting area;

2. Picnickers used their cars to create a barrier around the protected, private female sitting area (this will be explained further in detail below);

3. Cars were used as a source of light when it was dark;

4. Cars were arranged into an L- or U-shape as windbreakers (‘Rawag’) to protect the fire from wind; and

5. Car use tended to be slightly different for the youngest group, since they used it to play loud music at the site.

### 8.2.2.1.2 Characteristics of the Preferred Area

Selecting a suitable area in the desert for a picnic is a crucial issue for any group of users, whether family, or male-only picnickers. In this study, certain characteristics were seen as preferred by users from different groups. Based on the data collected in the fieldwork, a family usually prefers to sit close to the main road for reasons of safety. They often keep to a distance of 600-1000m, just enough to avoid the noise from the main road. This distance might increase if there are two or more families
accompanying each other. Often families are afraid to sit too far from the main road. In fact, the study found that they dislike going far into the desert, as it looked too remote to be appreciated by them, due to its topography. Despite the fact that the area offers more privacy, it is insecure because it is impossible to tell if anyone is behind the hill where a group is sitting. The study has found that areas that surround the main roadsides within a range of 600-1000m were often occupied by family picnickers, while male picnickers preferred to go further into the desert (a minimum of 1500m away from the main roadsides).

The fieldwork took place at two sites:\footnote{This study took place in the same area where I carried out my go-along interviews.}: the first, Airport Road’ or the ‘Airport Area’. It is located on the Airport Highway King Fahad Road and is also an area in daily use because of its proximity to Dammam city (40km to the north west of the city – see Figure 71). It is among the most well-known for all types of desert recreation, especially for families. It has low hills, no sand dunes, and an open area. The main reason families choose this terrain is security, as they can see who is close to them and it is safer for their children as they can see them as they play. The site has a specific entrance and well-defined fences on both sides of the road, to control entrance to the site. Since this area is considered as airport land, the sand is protected from overuse by cars and is considered ‘consistent sand’. In the time I spent with the families, I asked them what they thought about having one entrance to the site. They all responded that it gives a feeling of security and safety, because they can see who is coming in and going out.

The second site is called ‘Al Riyadh-Airport Road and is an area in daily use because of its proximity to Dammam city (40km west of the city – Figure 72). It is well-known for all types of desert recreation, especially for male groups. I noticed that this site has high hills and sand dunes, with a semi-open area that allowed picnickers to see others around them without being seen. The study noted that this kind of topography is preferred by male-only groups. They choose this location so that they can see everything around them. This site has a semi-difficult access, which required four-wheel drive cars. In addition, it has no specific entrance, which increases the
effect of picnickers on the landscape, as each car will drive its own path through the desert, disturbing the topsoil and making it unstable.

1. King Fahad road which is known as ‘Airport Road’ or ‘Airport Area’ for families’ picnickers.
2. Al Riyadh-Airport road which is known as ‘Al Riyadh-Airport’ for singles picnickers.

Figure 72. Airport Road or Airport Area (family groups) & Al Riyadh-Airport road (single male groups) (Source: Google Earth, 2012-2013)

Generally speaking, all participants in both the family and male groups indicated that they like to sit on top of the hill, to see without being seen and to relax in private areas. This strong relationship has been described by Appleton (1996). Of relevance here is his discussion of affordances of privacy:

“Where he has an unimpeded opportunity to see, we can call it a prospect. Where he has an opportunity to hide, a refuge. And just as we can identify the desire to see without being seen as something conducive to, but more limited than, the desire to satisfy all our biological needs, so we can recognize its aesthetic.”

Appleton names this prospect-refuge theory (Appleton, 1996, p. 66)

That concept is significant with respect to users, in that it tells us why desert pioneers prefer to sit on the summit of a hill or between sand dunes as a vantage point, so they can see the panorama which surrounds them (ibid.).

In this context, it is clear that the desert offers Saudi people a soothing experience that the built-up environment cannot. These characteristics are linked to the need for protection and privacy in general, as the literature has indicated, and in Muslim society in particular.
Selecting a seating area in the desert for a picnic also involves other issues. I noticed that when I was with the picnickers in winter and summer, a common seating pattern is for them to choose to sit on the summit of a hill in summer, to feel cooler, and between the sand dunes and lower down in winter, to feel warmer. For example, male participants stated that “we like to be on the top of the hill due to the temperature in summer: we wanted the benefits of being on top for the wind’s breeze” (Field observation 8, Saturday 10/08/2013). I also noticed that both sites offer either vantage points or shelter, leading to what was described as a very relaxed feeling, since people have attained their desired level of privacy and freedom from being observed or bothered.

I noticed that some picnickers, especially young ones, who do not collect their litter when they leave, do not go back to the same place, since it is as they left it, so they prefer to sit in another clean place, while other groups said they like to revisit the same place which will still be clean, since they collect their litter before they leave. This will be explained further in this chapter.

### 8.2.3 Seating in the Selected Area

#### 8.2.3.1 Users’ Seating Arrangements

Observation showed that as soon as picnickers chose their preferred place to sit, they started to arrange their seating. Due to the nature of the site and culturally, people prefer to sit on the ground, whether in- or outdoors. Bahammam (1995) mentioned that Saudis do not use outdoor furniture (such as tables, chairs and benches), even when these are available in a park or on a waterfront.

The picnickers sometimes sat on a rug placed on the ground or on the bare ground on the sand, which relates to the previous characteristics of the preferred areas. Picnickers positioned themselves on the mat or on sand in circles or U-shapes. The size of that shape depends on the number and type of people involved (males/single family/mixed families). The study showed that picnickers often sit close together in order to be able to talk and communicate with each other easily. Three forms of seating arrangement were observed for the participants:
1. Sitting together in male-only groups (with males sitting in the same or a U-shaped circle) (Figure 73).

![Figure 73. Sitting in a circle or U-shape (Source: author)](image)

2. Family sitting together (with a family’s male and female members sitting in the same circle or in a U-shape).

3. Sitting separately (when more than one family is involved, males sit separately in a circle or U-shape on one side and females will sit separately in a circle or U-shape on the other side).

### 8.2.3.1.1 Arrangement of Belongings

Due to the remoteness of the location and absence of any services and facilities, picnickers had to bring everything they needed with them. A sizeable quantity of belongings were observed for all participant groups and varied, depending on the kind of activities and amount of time that users would spend there and the size of the groups. Common belongings and goods included: rugs, water containers, cushions, food, tea and coffee, teapots, tea and coffee cups, plates, wood to start a fire, windbreakers, lights, lighters, toys, sand play sets, sleds, sand buggies, telescopes and stoves. They were arranged close by the seating area, within easy reach. I noticed that young picnickers often left their litter and waste behind, unlike adult picnickers who often collected their waste before they left.

### 8.2.3.1.2 Visually Protected Areas and Gender Privacy

Participant observation has proved that even though picnickers are in the desert, they pay a lot of attention to privacy. Picnickers often want to sit, talk, eat and carry on
their activities in a relaxed atmosphere, without feeling that their privacy has been disturbed. The study has revealed that, for example (Figure 74), people parked their cars in an L- or U-shape for the duration of the trip and rarely changed this, to maintain privacy, a point that will be explained in detail later in this chapter.

![Figure 74. Parking cars in an L-shape (Source: author)](image)

Based on my observations while with three families in their picnicking area, their cars were organised to surround our seating area with a visual barrier in order to offer privacy as cars act as semi-fixed elements. The data showed that this type of arrangement helps participants to meet their privacy needs since Saudi women want to enjoy being outdoors with their family with some sense of freedom so that they can unveil their faces and take off their black Abaya robes in private. Even Saudi males are very sensitive to being watched by others, especially when they are with their families. Also, it will provide participants with shade during the daytime, when the temperature is high (Figure 75).

![Figure 75. Using a car as a source of shade (Source: author)](image)
In addition to the position of the cars, I noticed that family picnickers have their own pattern of measuring the preferable distance that they need to keep before sitting near another family group. In effect, they sit far enough away from the other family such that any family member cannot tell or recognize whether the other family members are male or female or cannot recognize the colour of the clothes they are wearing. However, in general, all participants indicated that the preferable distances that they often keep are roughly: between 150-200m between families; between 250-350m from female groups to other male groups; and between 350-500m from male picnickers to other male groups. This preferred distance (family to family) is probably because the desired level of privacy will be less since both groups are of the same type and have males and females present. However, between families and single picnickers, the preferred distance was observed to increase, which is what is to be expected given Saudi socio-cultural norms that dictate that families require having their ‘boundaries’ respected when they are surrounded by groups of single male picnickers. In general, the above result is very different from those gathered via the questionnaires, the go-alongs. Thus, due to the notably different results obtained via the three methods employed in this research, I applied another method to clarify this difference and minimise potential error. This will be explained in detail in Chapter Nine on applying a Global Positioning System (GPS) as a tool to measure the actual distances maintained between picnickers.

In general, there was a noticeably increased range of different preferred distances between picnicker groups in their respective sitting areas, a clear indicator of the different needs and levels of privacy that each group required. This research finding corroborates what is described in the literature by Bell (2008), namely, that the distance people like to keep varies, from some who want to be alone, others who want to be near other people, and a range in between. I noticed that this type of seating arrangement generated happiness that was sensed in people’s relaxed behaviour because they achieved their desired level of privacy, which allowed both men and women to move freely, as well as providing a safe and secure space for recreation.
The observations showed too that picnickers gave great attention to being segregated even from family members, if there is a mix of families in the same group. I was able to study the natural setting for a mix of families that included two different sitting areas – one for a group of men and another for women.

In terms of behaviour, the women’s response was to untie their veils and Abaya robes after getting out of the car. The exception was the wife in the second family, who chose to keep her veil and Abaya on until the male picnickers used their cars in an L-shape to surround the female sitting area. They did this to create a visual barrier and keep a distance between the two seating areas.

This behaviour occurred because there was one non-Mahram male present for each family. However, this kind of seating arrangement was necessary because the observer is not Mahram for the wife of his nephew\textsuperscript{42}.

The men and women of both groups, therefore, were seated separately (Figure 76), reminiscent of the type of seating arrangements in a Saudi house when a non-Mahram enters the house. Obviously, this arrangement gives both sexes their desired level of privacy and freedom. For example, a male participant reported “we were a mix of families, cars will used to surround females sitting area in an L-shape or U-shape as visual barriers in order to have their privacy” (Field observation 5, Saturday 06/04/2013).

\textsuperscript{42} As was explained in detail in Chapter Five, section 5.3 Limitation of including women in the go-along interviews and participant observation methods.
Observation also showed that female picnickers pay great attention to the issue of privacy from the moment they leave their homes, where they have full privacy. This attention is maintained until they arrive at the chosen site where all women untie their veil and Abaya. This attitude was clearly evident in all the women’s behaviour. It was a strong indication that the desert environment satisfied their need for privacy, as they looked and acted as if they were sitting at home and they participated in numerous activities with the full confidence that no stranger could intrude.

Another matter of note was that two or more families accompanying each other preferred to keep a distance between the men’s and women’s seating areas. Thus, I introduced an electronic measurement device while participating with the mixed families’ group: a laser pointer was used to measure the distance kept between the respective seating areas. This device could only measure distances of up to 30m, but the purpose was to gauge the approximate distance between the two sitting areas, it was about 24m (Figure 77).

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43 Ultrasonic Tape Measure Distance Meter/Measurer & Laser.
8.2.3.1.3 Sound Privacy

Suitable distances were maintained to provide not only the required visual privacy, as I initially thought, but also sound privacy. Thus, the sound level checks I undertook determined whether the distance kept between the respective seating areas achieved that goal. Since sound is a key aspect of privacy (especially in a conservative society like Saudi Arabia) certain strategies were applied to measure whether men in their seating areas could hear the women in their area. The instrument I introduced to the male picnickers was a sound level meter, which is designed to measure sound levels in a standardised way.

The noise measurement was undertaken with a five-minute logging period, and I recorded the sounds of the participants speaking normally. I asked the male participants to remain silent for five minutes to initiate this measurement. The indicators showed that during that period, the average sound measurement was between 30dB-42dB (Figure 78). This fluctuation was due to site conditions as the measurement was taken in a desert area without any barriers. As a comparison, this range is lower than the 55dB, as cited in World Health Organization guidelines (Berglund et al., 1999). Moreover, my study considered weather conditions as important since wind direction and speed may increase the measurement in the space between the men and women’s seating areas.
In conclusion, participant observation revealed that in the case of a group of mixed, non-related family picnickers, the women sit between 20-25m away from the men’s sitting area and use visual barriers (e.g. windbreakers – *Rawag*) to avoid facing the men. However, participants also indicated the need for silence in the desert for, among other reasons, religious worship. Desert life in Islam is considered a place of silence for worship. This section will be discussed in detail in the User Goals section.

In general, this finding supports the results of the go-along interviews and questionnaires as reported in Chapters Six and Seven, where the majority of respondents indicated that silence is one of their main motives for being in the desert. This can enhance the impression that the religious beliefs and injunctions in the Holy Quran play a major role in Saudis’ experience of landscape (including the desert). Participants, in general, felt that silence – a key feature of the desert – can result in feeling part of nature and, for religious individuals, allows them a contemplative state to focus on their God.

### 8.2.3.1.4 Children and the Desert

The study found out that one of the important intentions for families, besides seeking privacy, was to allow their children to play and enjoy themselves without the restrictions that they might experience when they are in the city, at home, school or even when they are in parks or at the waterfront. Another key reason to be there is that children will be able to directly experience nature.
In recent years, there has been an increasing body of literature on nature and its relation to human wellbeing. In particular, some studies have been conducted in relation to children and their need for contact with nature. For example, Richard Louv (2008), in his book, *Last Child in the Woods*, argues the necessity of direct experience in nature for the healthy development of children and to enhance body image and positive behaviour changes through direct interaction with nature. He emphasises that the effect of the separation of children from nature will drive families deeper into their cocoons, excluding those families not only from natural experiences, but also, ultimately, from social contact with others (Louv, 2008). It is helpful, in this context, to note Rousseau, who urged: “Send your children out to renew themselves, so to speak, send them to regain in the open fields the strength lost in the foul air of our crowded cities” (Rousseau, 2008, cited in Brymer et al., 2010, p. 21).

The study revealed that the desert is able to give children of all ages, not only a suitable but also a safe environment. For example, unlike in the city, children do not need to worry that cars might come close to them, or worry about talking to strangers. In addition, the sand itself as a surface to play on will not cause any injuries, like those that children often experience from a solid surface, and finally, it will keep them from being indoors, as slaves in front of television, computers, and electronic devices. Children enjoy many different forms of play, especially activities that involve sand, which was the main joy for the very young children that I observed. The younger children usually preferred to play in the sand using the sand-play sets and other toys. They also liked to collect flowers in their spare time, when the area had had enough rain. However, older children (between the ages of 6 and 15) preferred to engage in activities with more action and movement, such as football, running, sliding on sand, kite flying and riding on sand buggies. These types of activities usually took place around the seated family. Due to the openness of the topography, parents wanted to see their children playing in front of them without any worries that might affect their enjoyment.

The characteristics of the area preferred by family groups and the distance that families often keep away from the main road allowed children to play with a greater
freedom of movement, while the openness of the area enabled parents, while sitting, to watch their children engaging in their activities. In the study it was also noticed that there were no restrictions on parents, in terms of watching for other cars or telling children to be careful when they are a crossing a street or to be careful not to talk to strangers. This permissive behaviour of parents is only legally allowed in the desert—another correlation between the desert and having freedom for children.

Older children were given more freedom to move away from the circle of the group. This allowed them to play in a totally safe environment without disturbing any family member or other picnicker groups. The benefit of free movement and a safe and secure territory that allowed children to play freely (Figure 79) could be sensed from the parents' behaviour. They seemed relaxed, happy that their children could not get lost or be injured or would bother other picnickers. I sensed signs of comfort, happiness, freedom and relaxation in the behaviours of the parents and children, which probably enhances their love of the desert environment.

![Figure 79. Children playing together and a child playing with a football (Source: author)](image)

The study also found that families’ second most important goal was to have males, females, and their children participate in the same activities and sit together with a full sense of privacy and freedom, without any visual barriers (Figure 80).

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44 Adult female participants asked the researcher not to include photographs of them in the study.
I noticed that the desert offers a private space for outdoor recreation, especially for families who wanted the benefits of being outdoors and for women to enjoy seeing and sitting with the rest of their family, not just sitting behind visual barriers, such as a windbreaker, or having to tie their veil and Abaya robes on all the time, as they must do in the parks and open spaces of Dammam city.

The study observed that all the family members played football together, and ran and slid along the sand as well, and sat together without any visual barriers. This is a clear indication of the social dimensions of being in the desert as such a gathering is impossible in the city’s public open spaces. Having both males, females, and their children participate in the same activities and sitting together freely but without any visual barriers is a rare occurrence outside the home.

This sense of happiness, freedom and relaxation that children experience in the desert while with their parents is likely to strengthen the relationship they have with the desert when they are growing up, which might encourage them to visit the desert as adults.

However, when it began to get dark, the behaviour of both parents and children changed. I observed that the children were a little scared, especially as there was no source of light. The parents’ behaviour, too, changed after sunset, becoming a bit more concerned for their children's safety due to the darkness. It was noticed that families with children do not stay in the desert at night time.
8.2.4 Users

Desert regions are open to everybody. There are no limitations or boundaries since they are uninhabited areas. For the purpose of this study, two well-known sites were selected, one popular with families and the other with single males. As was explained above, in the Characteristics of Preferred Area section, single males often try to avoid areas that are occupied with families, and vice versa. As was said previously, women in Saudi Arabia are not allowed to drive, therefore, they can only come to the desert with male relatives, or the family chauffeur who drives them there and back. However, the family chauffeur is not appropriate for such a remote area unless an adult male relative accompanies him, since this area is far from the city and semi-isolated.

Saudi desert users consist of the following:

- a small group of single people (usually, approximately, three)
- small families with an average of four members (two adults and two children)
- couples
- several families together with a large number of members, including children (an average number of 10)

I have noticed from the participant observation that most of the desert’s recreational users are from the conservative and religious Najd region. This fact can be linked – as has been demonstrated before – to the lack of privacy, in general, and to Muslim society in particular where privacy is a fundamental and honoured socio-cultural aspect, such that it has forced some people to find an environment like the desert that can better suit their personal and cultural needs for recreation purposes. This involves being alone with their family, as all the participants mentioned, with openness of place and no one watching, to feel a kind of privacy and territory that is only possible when they are there. This remarkable preponderance of picnickers from the Najd population supports the previous findings in both methods.
8.2.4.1 Time of Intensive Use of the Desert Sites

According to the findings reported in the previous chapters, some people go to the desert daily and some only at the weekend. Single males and couples go at any time during the week. However, families with children often go at the weekends, since children go to school during the week. The observation found that the number of picnickers doubled after it had been raining. Rain means a lot to Muslims and Saudi people in particular since it implies the mercy of God. This is mentioned in the holy book (the Quran). Rain also means it is easier to drive on sand because the soil solidifies.

The study showed that in summer, single males often go in the daytime from 4pm until early evening (around 9pm on weekdays and from 4pm until midnight at the weekend). Families only go at the weekends, from 4 until 7 pm. However, in winter, single males and families tend to go early, about 2pm due to the cold weather. Single males stay until 9pm while families stay until about 6pm. In general, this finding supports the results of the questionnaires, reported in Chapter Six, where the majority of respondents indicated that desert picnickers often spend between three to six hours or more in the desert, suggesting that they feel relaxed.

The study showed that picnickers cannot stay late during the winter due to the cold weather in the desert. On weekdays, there are few desert picnickers compared to at the weekend.

8.2.5 Desert Activities

The activities that I observed taking place in the desert are of two types: a) active and b) passive. Active activities include: walking, running, sliding on sand, sand-boarding, building fires, making tea and coffee, cooking, collecting sticks, digging in the ground and measuring the amount of rain. Passive activities include: sitting, eating, talking, watching people, watching nature, and stargazing. The following section will investigate the difference between these activities and how the characteristics of this environment support them.
8.2.5.1 Active Activities

Children often participate in more active activities and adults participate more in passive activities, however, in this case study, both adults, especially females, and children were observed participating in active activities. The study found that children and adults in this desert environment engaged in different types of active activities and sometimes they engaged at the same time and in the same type of activities together. Playing in the sand, running, football, sliding on sand, kite flying and riding on sand buggies were the most observable active activities for children, while male adults participated in walking without shoes. It appeared as if they were sensing and feeling sand between their feet and toes. I asked about this behaviour and they mentioned that walking barefoot in the desert triggers memories of their old days and the desert life of their ancestors.

There were other activities that were observed (Figure 81), among them, collecting sticks, digging in the ground to measure the amount of rain the area had had on the previous night. This kind of activity is well-known in Bedouin culture, despite the fact that all the participants were not Bedouins. However, rain means a lot to Muslims in general and for Saudi people in particular as it relates to God's mercy, mentioned in the holy book, the Quran as a gift to make plants grow.

![Figure 81. Different types of active activities (Source: author)](image)

The observation showed that in all the groups in which I participated, that as soon as a group of picnickers choose their preferred place, they divided the jobs, which is an active activity. This involved often the oldest giving orders and leading the group. The eldest functions as the leader – in Arabic, Emir, and the rule in the Muslim
religion is that when a group of three or more go out, they should have a leader. For example, some will prepare the sitting area, others will collect firewood, and others unload the belongings from the car, and so on.

I became aware that picnickers bring their firewood with them, since the area has no wood left, due to woodcutting and overgrazing. Each kind of wood has its own smell, price and strength, and way of burning. For example, some wood has a more fragrant smell and burns for longer than other kinds.

The observation has shown that in all the groups in which I participated, setting up a fire and gathering around it is the most important activity for desert users, especially in winter and on chilly summer nights, and then sitting in a U-shape or a circular position. The study also observed that gathering in this position occurs even in summer, when no fires are set up. Making coffee and tea on the fire in winter, and on chilly summer nights on a picnic stove, is considered an important active activity.

Coffee has a significant meaning in Arabic culture, in terms of generosity and hospitality, so it is a traditional practice, and coffee and tea have their own ceremonies and ways of being prepared and served, especially with participants gathering around the fire and sitting on the ground. Coffee and tea (Figure 82) are often prepared and served at more than one time during the period of sitting, depending on the length of time the picnickers spend there. Cooking in the desert was another active activity that picnickers often do when they are there for more than five hours.

Figure 82. Making tea and coffee (Source: author)
On the other hand, the study noticed a variety and diversity of active activities that take place in the desert for different participants, of different ages and gender, and that are not limited only to children. Since women are able to take off their veil and robes while in the desert, which allows them to perform their activities easily, it was observed that they did so with a full sense of freedom, and without being concerned they would be seen or bothered by others. Women enjoyed walking around their seating area due to the great distance between them and other picnickers and due to the very low number of picnickers in the area, that is, the ‘low social carrying capacity’.

I noticed that women in general were running, playing football, sliding on the sand, and others were driving which, for a female, is only legally allowed in the desert and some were using quad bikes, another correlation between the desert and women having freedom (Figure 83).

![A woman and child ride quad bikes and slide on the sand](image)

**Figure 83. A woman and child ride quad bikes and slide on the sand (Noureddine, 2013; Source: author, 2013)**

However, besides the previous active activities, the young adult participants engaged in different kinds of activity, e.g. they drove around off-road without any concern for the fragility of the desert, up and down the hills and sand dunes for fun. This type of activity was found to be popular with picnickers between the ages of 18 to 22.

It should be noted that this trend people undertaking motorized activities, like the use SUVs or four-wheel drive cars for outdoor recreation activities, is not only limited to desert users in Saudi Arabia. Cordell (2008) also found a high growth rate for this
activity in the USA and his results indicated that motorized activities, like the use of four-wheel-drive or all-terrain vehicles, or motorcycles grew by 56% between 2000 and 2007 (Cordell, 2008). A further study by Cordell (2012) indicated that these types of activities were popular with both genders in the USA, however, boys participated in these activities more than girls (Cordell, 2012). The demand for this activity has become one of the fastest growing outdoor activities in the USA and it is likely to increase as the population grows (Cordell et al., 2008).

The behaviour of young adult participants was remarkably different from the older participants. In particular, they were much more active than participants in their mid-twenties. The absence of authority may contribute to the types of behaviour which otherwise might be considered dangerous. For example, I observed the new phenomenon of sand-boarding, which involves participants engaging in this activity without a helmet or any speed restrictions. Also, those young participants played loud music at the site from their car speakers and were dancing. I asked them what it was that they liked about the desert. They responded, “We like to be free here...do what we want, no ‘police’ that might stop us doing our activities” (Field observation 6, Saturday 20/4/2013).

Like all other picnickers, the meaning of freedom and privacy for young adult picnickers is in some key respects different to that of adults. In other words, the desert environment has become a symbolic refuge in the sense that it offers a place where young adult males can meet their desire for privacy and freedom, i.e., they can do what they want without control. For example, they can take part in ‘dune bashing’, with their four-wheel drive cars and quad bikes, without any concern for the desert environment or for their own safety in not wearing helmets (Figures 84 & 85).
Figure 84. Young adult males’ desert activities and a car accident in the desert as a result of uncontrolled activities (*Hail, 2012, Hamad, 2012*)

Figure 85. Other young adult males’ desert activities ("Ski on the sand in Gulf way," n.d.; *Onaizah, 2010*)

In relation to this, Cunningham (2009), for example, observed in a field report conducted in the desert, 50km north of Al Riyadh, the capital city of Saudi Arabia, that overuse of the desert by Saudi local youths had an impact not only on its fragile environment but also on its creatures. He gives the example of a fox chased by vehicles and quad bikes in the desert as the type of youthful activity he has in mind (Figure 86).

Figure 86. The results of ‘dune bashing’ with four wheel drive cars; and Ruppell's fox hanging from a signpost north of Al Riyadh, are examples of youth activities (Cunningham, 2009, p. 3)
In relation to this behaviour in terms of the meaning of freedom, the activities in forests in Europe, for example, are also linked to freedom from social control (Pröbstl et al., 2009) where picnickers are able to do whatever they want without control. This is due to the fact that forests are often associated with a lack of surveillance, where illegal activities can be carried out and also freedom can be experienced (Tyrväinen et al., 2009). This absence of control has placed the planners of forest recreation areas under increasing pressure to provide some form of protection for the forests (Elands et al., 2010). In this respect, this makes deserts and forests alike in suffering the adverse effects arising from freedom from social control.

8.2.5.2 Passive Activities

In general, the passive activities observed all occur when sitting. The field study found that it is the most common and shared activity among all groups. I found that desert picnickers often relax by sitting around the fire in a circle or a U-shape, eating, talking, and watching their children, people, nature, the stars and their fire. This might be different from culture to culture. For example, Bahammam (1995) mentions that while Saudis like sitting outdoors enjoying the desert night, looking at the stars and talking with family members, relatives and friends, people in the United States enjoy camping and in the United Kingdom, they enjoy walking.

In the previous section, I analysed how people behave in their natural setting in the desert environment including what they used to sit on, the formation of their seating arrangements and when the males and families need to separate in to two different sitting areas. For example, the study has found that one of the main and common activities for all the groups is building a fire, gathering around it, and sitting on the ground with or without mat(s), in a U-shape or circle, drinking coffee and tea made on the fire and eating dates, talking freely, without any distractions or restrictions discussing things, watching the sunset or the stars in a clear sky, telling stories, singing, and reciting poetry. These are considered the main passive activities that take place. In summer, when the temperature rises, family groups or male groups still sit in the same position but without the fire.
The fieldwork revealed that the shape or form of sitting changes to a circle when a family or gathering group wants to eat. As already mentioned, in Saudi culture, people often sit together on the ground to eat as a group and from the same big dish, around which, people gather in a circle. The size of the circle and the dish varies, depending on the number of people gathered around it (Figure 87).

![Figure 87. Eating together as a group from the same big dish (Source: author)](image)

There is no doubt such an activity requires privacy, especially for females, as they need to unveil their face to eat with freedom, or especially males of the older generation who are very sensitive to being watched by others, especially when they are with their family (Bahammam, 1995). This desire for privacy, as mentioned in the literature in Chapter Two – avoidance of unwanted interaction with other people (Rapoport, 2005) – is a fundamental socio-cultural aspect of human life. Indeed, Altman (1975) argues that it is a basic human need and as such, exerts a major influence on the human environment (Rapoport, 1976, Altman, 1975), for all societies.

However, the literature has shown that in Muslim and Arab societies, the need for privacy is notably higher than it is in other societies (Gifford, 2007). This evidence of a desire for privacy supports the previous findings of both the go-along interviews and questionnaires. I observed that women in the family were sitting without covering their faces and body with their family members with a full sense of privacy.
However, this behaviour contrasts with the findings of the informal pilot study reported in earlier chapters, where many Saudi families were observed erecting a visual barrier around their seating areas in recreational open spaces in Dammam city to define their territory in order to achieve their privacy (Figure 88).

![Figure 88. Boundaries around seating areas in recreational open spaces in Dammam city (Source: author)](image)

### 8.2.6 Users’ Feelings

The study revealed an obvious influence of the desert environment on participants and this was noticeable in terms of participants’ wellbeing, they had a happy attitude and exhibited behaviours indicating satisfaction. Almost all the participants were very relaxed, having attained their desired levels of privacy and freedom. The presence of these feelings could be an indication that the desert offered a positive affordance and was able to evoke positive emotions in its users.

There are similarities between the attitudes expressed by participants in this study and from those in the go-along study, in terms of their descriptions of the desert’s influence on them.

I asked the participants what they thought about using open spaces in the city for recreation purposes. They responded negatively, with one male participant saying:
“The amount of people in one place just gets to the highest point, especially at the weekend when there are lots of users and overcrowding with just too many people.” (Field observation 1, Thursday 13/12/2012)

Another female said:

“I am a Saudi woman and I cannot unveil my face or take off my Abaya in public areas such as parks or waterfronts due to the increasing number of picnickers, especially non-Saudi picnickers who, whether singles or families, do not have the same desire of privacy as we do nor the same measures of territory, so they are sitting close to us and they have no idea that they are bothering and disturbing us.” (Field observation 4, Friday 04/01/2013)

Another participant in the observations said:

“Open spaces in the city are not open any more, and they are so crowded with users that the sense of space has gone. The number of picnickers is much beyond the carrying capacity for these open spaces.” (Field observation 2, Wednesday 19/12/2012)

Another male participant responded:

“I think the need for privacy, and territory, has been affected which has forced some conservative Saudi families to find another suitable place like the desert area” (Field observation 5, Saturday 06/04/2013).

These responses can be linked to the ‘go-along’ interviews in the preceding chapter, where participants stressed the same issues, and it could be attributed to the fact that most desert recreational users, especially families, are from the conservative Najd region. As mentioned in the literature review, people tend to seek refuge from the city, Hammitt (2002), for example, points out that “urban forests and parks are forested areas that can serve as refuges for privacy” (Hammitt, 2002, p. 19). Thus, it can be argued here that desert environments, in this context, like forested areas, can serve as refuges for privacy. This concept of refuges for privacy also take us back to Appleton’s prospect-refuge theory (1996), where you can see without being seen, as I mentioned earlier in this chapter.

Such similarity of needs is a clear indication of distinctly articulated needs and a desire for privacy to achieve a sense of freedom which, it appears, can only be found and satisfied nowadays in the desert. As mentioned above, I observed that the participants felt fully satisfied. They could behave with complete freedom yet with a
sense of privacy. Thus, they acted in any way they wanted and without any restrictions. This relief of their emotions is revealed in their feelings as the primary indicator of their enjoyment in that setting. When asked to compare their experiences in the desert with those in the open recreation spaces in the city, all of them agreed that they only feel freedom and privacy in the desert, demonstrating a clear relation between their physical space and sense of freedom. One participant mentioned:

“In the desert, they all feel released, like we are sitting inside our house because we can move around without any obstacles or restrictions or without bothering other family members, for example, the females who want their own enjoyment and freedom with a sense of privacy, therefore, being here gives us two feelings: one, that we are not bothering anyone or taking his sense of privacy and feeling of freedom, and second, we are having our freedom too. You should know that privacy is not only limited to the Saudi female: the Saudi male also needs privacy.”
(Field observation 4: Wednesday 19/12/2012)

I would argue that the desert is considered as a ‘home’ environment by its users, especially females. They behave in the same manner as inside their home, by taking off their black cloak and unveiling their faces, thus, a public outdoor space is becoming a domestic space too. There is a clear correlation that we can find here in the desert, between having both the desired privacy and feeling free, especially in relation to religious observance and tradition. I observed women enjoying their recreation in the desert and acting and behaving naturally, as if they were sitting at home. They were able to participate in all kinds of activities, full confident that no one who was not Mahram could intrude on them. This supports the findings in the go-along interviews, where women stressed that the desert was the only place, besides their home, where they had their privacy and freedom at the same time. This would seem to indicate a strong relationship between these two elements.

While participants in the survey and go-along interviews expressed similar desires, in this observation, young adult picnickers behaved differently from older ones, due to their feeling the absence of authority. As one young participant said: “We feel free, no restrictions, no police. We do here whatever we want” (Field observation 8, Saturday 10/8/2013).
Similarly, this attitude was clear in all the young adult male behaviours. For example, while sitting around the fire, having tea and talking, they enjoyed listening to such loud music they could barely hear their own voices. In contrast, participants on trips one, two, three, four, five and seven particularly valued silence. It seemed that although young adult picnickers resorted to the desert for their freedom and privacy, the meaning of that is, in some key respects, different to that of adult picnickers of both sexes.

In general, this behaviour of the participants in the desert shows their reaction after they have felt a sense of freedom. There is thus a clear correlation evident between having privacy and freedom, especially in relation to religious observance and tradition. All were acting and behaving naturally, especially the females.

While other participants asked me about the meaning of the desert in Arabic (Sahara), one participant stated, ‘Sahra is related to “Sahara” in English, fascinating and I am in love with Sahra’ (Field observation 1, Thursday 13/12/2012).

Participants’ feelings could be attributed to the fact that the desert environment can enhance feelings of fascination through the positive affordance of desert, and stimulate positive emotions. There is a large body of knowledge describing the role of nature showing that it helps people to recover from mental fatigue. Kaplan et al. (1998), for example, in their study, showed a list of things that are easy to do when someone is mentally fatigued. This list includes both active and passive activities. For example:

- passive activities in natural settings that include: listening to the wind, watching the clouds go by, a fire on a camping trip, and calm and quiet settings; and
- active activities in natural settings that include: collecting firewood, walking in the woods, and so on.

Kaplan et al. mentioned that:

“One of the important benefits of fascinating situations is that they provide time to recover from mental fatigue. In other words, mental fatigue can be reduced by being in settings that offer fascination. Collecting firewood, walking in the woods…are all sources of fascination.” (Kaplan et al., 1998, p. 18)
In relation to this, Lynn (2014), in his study, ‘Hearth and campfire influences on arterial blood pressure: defraying the costs of the social brain through fireside relaxation’, has found a relation between fire, its flickering light, crackling sounds, warmth, and a distinctive smell and relaxation, such that he found that watching campfires influences relaxation by reducing blood pressure. Similarly, in the desert, I noticed that most participants were walking and collecting sticks. This can be connected with a sense of wellbeing which was evident on the participants’ faces while I was conducting both the participant observation and go-along interviews. This observation can also be linked to a previous finding, when one participant revealed that walking in the desert and collecting sticks helped him to relax whenever he had a problem or was feeling depressed. The observation showed participants’ involvement across such a range of different kinds of activities. These similarities in attitudes expressed provide another indicator of how the desert environment has the ability to offer a positive affordances on its users that can be sources of fascination for them.

8.2.7 Users’ Goals

While participants gathered around the fire talking (Figure 89), taking part in discussions, watching the stars in a clear sky, telling stories, singing, and reciting poetry, I could sense from their behaviour that they were enjoying their privacy, freedom and comfort and also from the way they were sitting or lying down without any restriction. Sometimes in the silences, and as they relaxed, it seemed as if they were behaving as if they were not being observed. Then I had the opportunity to ask questions which helped to open up a kind of informal discussion, similar to having an informal focus group. I asked them about their goals in that natural setting and about the different aspects that have forced or encouraged them to be there, and how well the space suits the accomplishment of those goals.
The responses revealed that socio-cultural imperatives, as well as the design of existing spaces in cities for recreation, were among the main reasons and goals that have impelled people to go to the desert, with the need for privacy and freedom the chief desires. One participant said:

“Our desire for privacy and need of freedom, even if we are men, has forced us to be here rather than in parks or at waterfronts because we want to feel, sense, and have our freedom. We don’t like to bother other families in parks because we can understand their needs of privacy, just like us, that is why we came here.”

(Field observation 1, Thursday 13/12/2012)

Additionally, participants, in general, indicated the need for silence and to be alone, with no one watching them in the desert for religious worship. This finding supports the ‘go-along’ findings where, for example, in the discussions during the participants’ observation, they insisted that being alone in a remote place like the desert helps them to be close to their spirit, such that they can achieve a contemplative state, and focus on God’s natural creation. One of the participants, for example, stated:

“I just want to be out of sight, out of sound, if we sat closer to the women, closer than the current location, we might be disturbing each other’s silence when it’s needed. The silence of the desert helps me to contemplate God’s creation.”

(Field observation 5, Saturday 06/04/2013)
This was clear to me, since desert life in Islam is considered a place of silence that is conducive to worship. For example, as was mentioned in the first revelation from Allah to the Prophet Mohammad when he was on the outskirts of Mecca in the desert, God said, “Recite in the name of your Lord who created man from a clinging substance” (Sura: Al-alaq, Verses No: 1 and 2, p. 597). I noticed that while I was praying with the participants there was a remarkable quietness and silence that helped us to feel humble while we were praying (Figure 90). The men preferred to pray on the sand with their faces touching the ground, which left granules of sand on them. In the Muslim religion, leaving granules of sand on the face until they fall off by themselves brings more rewards from God. There were similarities, then, between the feelings expressed in this study and the findings from the other methods, namely, that the desert is considered a place for contemplation of God and creation, as was discussed in Chapter Three.

For example, a participant pointed out that, “if we were in a park or any open space, we would not dare to walk without shoes, even we cannot have this moment of silence while we are praying due to the over crowdedness of the area unless we were in a Mosque.” (Field observation 3, Saturday 22/12/2012)

![Figure 90. The solitary stillness of the desert environment (Source: author)](image)

Appreciation of the natural landscape of their culture is another significant reason for going to the desert. One participant said:
“We love our desert environment because it is part of us and our culture. We appreciate the desert as it is the natural landscape we used to go to with our family.” (Field observation 2, Wednesday, 19/12/2012)

Another participant said:

“Our deserts have something that the built environment fails to offer, our privacy and our natural landscape” (Field observation 1, Thursday 13/12/2012).

Participants’ behaviour and responses indicated strongly that the desert is deeply tied to their culture. They considered the physical attributes of the desert as important. This supports the previous findings in the go-along field trip, when participants indicated the reason for being there is their appreciation of the desert’s natural landscape.

Finally, I asked them for their opinion on the new desert resorts in the Arabian Gulf, such as in Dubai. What did they think about having structured activities in the desert? Interestingly, none of the participants was enthusiastic or appreciative of this concept unless it was a luxury resort, like the one in the Al Maha resort (Figure 91).

![Al Maha resort in the desert of Dubai, UEA (Al Maha, n.d.-a, Al Maha, n.d.-b)](image)

Figure 91. Al Maha resort in the desert of Dubai, UEA (Al Maha, n.d.-a, Al Maha, n.d.-b)

However, participants responded negatively to having any structure in the desert. They wanted just basic services, such as water sources, a place to collect litter, and a ranger to be in charge of the desert to deter people from abusing the environment. Participants were appreciative of built desert recreation projects as long as they consisted of very basic facilities such as places to make fires, ground access, WCs, a playground, a source of water and electricity. They preferred to have no formal
structure or a designed environment in the desert so that everyone can enjoy simply being ‘in the desert’. However, they appreciated that not everyone can afford the 4x4 cars needed to access the area. Additionally, the participants speculated that having designed, formal projects might reduce the impressions they have now about the desert. This also echoes the participants’ responses in the go-along method. In general, the study has revealed that all the participants were hostile to the built desert projects like those in Dubai.

The reasons for choosing the Al Maha Desert Resort in Dubai are that it is located close to Dubai city in the United Arab Emirates, which shares a border with Saudi Arabia; it is also the only project in the Arabian Peninsula desert which has the same desert environment and climate as that within Saudi Arabia. Another related reason is that Dubai has almost the same culture and religion as Saudi Arabia. Dubai promotes the Al Maha Desert Resort globally as a conservation-based tourist development where a night’s stay in this expensive resort might cost from US$1000 to US$2500 (Ryan and Stewart, 2009). These two aspects have increased its popularity, not only in Saudi society but also in other societies, and made participants in the present survey aware of it. There they have combined conservation management of the intact desert habitat with tourism and have provided visitors with the opportunity to experience the desert, its traditional activities and the wildlife of the region (for more detail, see the Dubai Desert Conservation Reserve research reports (DDCR, 200345) and their experience with Al Maha desert resort). This luxury desert resort, which is set within the Dubai Desert Conservation Reserve that covers 225 km² (Ryan and Stewart, 2009), allows its guests to experience not only the nature of desert areas and the culture and heritage of the old Arabian lifestyle but also offers a wide range of activities such as camel riding, horse riding, four-wheel driving and falconry shows (Ryan and Stewart, 2009).

45 http://www.ddcr.org/en/conservation/reports/
8.3 On-site Monitoring and Assessment of Impacts

To measure the impacts on the desert environment at these sites, a photograph, shown below, was taken of three different sites: the first was a used area (one of the sites under study), the second an unused area, and the third a protected area in the same region. The physical and ecological condition of each site was compared with the other (Figure 92).

![Figure 92. Location of the three different sites for on-site monitoring and assessment of impacts (Source: Google Earth)](image)

8.3.1 Used Area, Located 40km to the West of Dammam City

While conducting my participant observation method, I asked participants for their opinion of the impact on fragile desert environments and if they were aware of their impact on it. I showed them the surrounding areas, which are affected by these activities and had signs of degradation, specifically, the pavements that have been laid down over thousands of years. I also asked them their opinion of the increasing number of camels and the practice of off-road driving in sand buggies and four-wheel drive vehicles (Figure 93). Surprisingly, all of the participants expressed...
unhappiness with those developments, especially given the absence of rangers and authorities in the desert. They mentioned that camels threaten the environment by eating all the vegetation and the evidence of recreational users can be seen in the amount of waste left behind in some areas. I have noticed that camels also eat waste left behind by picnickers, which is hazardous to their health as this waste, especially plastic, can lead to their death.

![Image of a desert area negatively affected by increasing use of sand buggy and 4x4 cars; and camels](source: author)

In general, participants said they were unhappy with what has been happening in the desert; they claim that it is no longer what it was. One adult participant (aged over 40) said:

“We used to come here more than 20 years ago, but at that time this area was full of wood and plants and we rarely saw anyone in this area. We were alone here but, as you can see, now there are a lot of picnickers surrounding us which causes lot of impacts on the fragility of the area, in addition to the increasing number of camels present.” (Field observation 1, Thursday 13/12/2012)

This paints a clear picture of how the desert has been affected by the increasing number of both picnickers and camels within the past 20 years. The respondents all agreed that greater numbers of humans and camels has had a negative impact on fragile desert environments. This study echoes the findings of other studies regarding the absence of authority there, which is a clear indication that users of the desert, in general, but especially adults, are not happy about these trends.
Thus, in this section, I asked participants about their ideas regarding protecting the desert, conservation, and a zoning concept, and all of them responded positively. One of the participants said:

“This is not a new subject, we used to have such practices for a long time but unfortunately, not any more. It was known as ‘Hima and Harim46’ but it sounds like the concept you are presenting, a land management system.” (Field observation 3, Saturday 22/12/2012)

Another participant stated that he hopes that the government can apply land management rules to desert conservation under Islamic law and Shariah. All participants voiced concerns about the increasing number of camels in Saudi Arabia, while all other species, plants, vegetation and birds, have declined. This supports the findings in the literature that overgrazing is considered the greatest threat to the desert in Arabian Peninsula ecosystems (El-Keblawy et al., 2009, Gallacher and Hill, 2006, Barth, 2001, Barth, 1999) and the users of the desert in this study are entirely aware of such matters.

All the participants agreed that there is a definite need for control and management of the area, both to provide basic facilities (especially litter bins) and so that enjoyment of the area is not diminished through overuse. Thus, they all agreed that it is time that Saudi authorities ‘draw a line in the sand’ with regard to desert abusers, whether controlling the number of camels or recreational users in a space at one time, and that they should act as managers with a remit to protect such a unique and fragile environment.

In general, I noticed that all the participants collected their litter, they left nothing behind and the site was left clean. However, as noted earlier, this was not so among young adult participants, who left their litter behind. While conducting the field observation, pictures were taken to document such adverse effects on the desert’s fragile ecology (Figures 94).

I took these pictures at different sites close to the seating area of the participants and they provide clear evidence that the desert is being degraded. The study indicated that open, unfenced areas, which comprise most of the Saudi Arabian desert environment, are negatively affected by the increasing number of camels and picnickers. Likewise, the absence of rangers and authorities is allowing the environment to be destroyed, specifically, the pavements that have been laid down over thousands of years. As Edgell (2006) noted: “The advent of man to the fragile desert environments of Arabia has had many adverse consequences. Among these are overgrazing, woodcutting, cultivation, construction, vehicular use, and recreation” (Edgell, 2006, p. 83).

8.3.2 Unused Area in Salasil, 100km to the West of Dammam City

While we were driving to the protected area in Salasil, 100km to the west of Dammam city, I found that areas around the protected area had no sign of man-made damage: there was no off-road driving, no sign of vehicle tracks or waste, no burnt wood or signs of dug up plants. In general, the area was very clean. This might be due to its distant location, which made it a less desirable picnicking area than others (Figure 95).
I took photographs of the unused area to record its appearance, as well as that of the protected area and to show the difference between them.

However, I was surprised by the number of camels in the area which leave behind not a single plant. They were eating every green leaf, leaving only the stalks of plants and barks of trees, a problem which, as forementioned, the whole Saudi Arabian desert has been experiencing recently. This suggests that overgrazing is the main issue causing desert degradation—it is evident everywhere and is not limited to the areas surrounding Dammam.

The photographs in Figure 96 indicate that the unused area has no negative signs of the impact of human activity on its fragile ecology. However, on the right side of the barrier, outside the protected area, there are no signs of plants since camels have eaten most of the vegetation.

Figure 95. Unused area (Source: Google Earth)
Thus, although there was no evidence of recreational users threatening the desert environment, the little vegetation and signs of degradation are due to the remarkably large number of camels that threaten the environment by eating all the greenery.

8.3.3 Protected Area in Salasil, 100km to the West of Dammam City

I conducted an informal interview with the owner of a protected fenced area, located in the desert 100km to the west of Dammam city on the Al Riyadh-Dammam Highway (Figure 97).
The owner is a male participant from one of the all-male groups in this study. He was interested in it and talked about his own land protection project while I asked him his opinions about the increasing number of camels, picnickers and off-road driving with sand buggies and four-wheel drive vehicles. He talked about his idea of protecting the desert, conservation, and the zoning concept and invited me to visit his protected land. The purpose of the visit was to measure the condition of the protected area and to compare it with the non-protected, open desert area which I was studying. After I arrived at the protected site, I asked the owner for his views about this land. He said:

“*We are a big family that consists of over 70 members with our grandchildren and we need to have our freedom and privacy. Therefore, we bought*47 this land in the desert and we fenced it up, as you can see. It is an area of around 42km square. We divided the land into four different zones that we control for purposes of grazing, since we have here 30 camels and 50 sheep, and we open these zones separately for grazing purposes at different times and seasons of the year, and we closed them to recover and grow it again. This has helped us, as you can see, to have plants and groundcover all over the year in the different zones, in addition to the variety of species—plants and vegetation and birds. This is called, as you know, in Islam ‘Hima’. We are managing our land, we have no abuse from picnickers who often leave litter behind or unleash camels that eat everything. We are controlling the land. Besides, no off-road driving sand buggies and four-wheel drive vehicles occur. We made our unpaved roads that connect all the different zones together.*” (Al Otaishan, 2013)

I was able to take photographs inside this protected land in the middle of desert, to document it and its surrounding open, unprotected area, and to show the differences between them. The images in Figure 98 indicate that the fenced area shows no sign of negative impacts as a result of land management and control.

47 Buying land and fencing it in the middle of the desert is becoming more popular, however, not everyone can afford this; it is limited to the wealthy in society.
In a further interview with Mr Al Otaishan, in 2014 in his house in Dammam city, he stated:

“I am not a Bedouin and neither are my family but we love the desert in winter and in the summer... in all seasons, and we love to spend more time there. I will tell you something: I graduated from the USA in 1982; while I was there studying in Seattle, I was going to the Nevada desert sometimes for weekends or so - I do not know why, but I felt at that time it reminded me of my home town - it might be the colour of the sand or its dry hot weather, umm, I do know, actually...Let me tell you something, I love to spend my free time in the desert, just as others love to travel for their holidays to the Alps or Maldives to spend time, but to me, it looks the same.” (Al Otaishan, 2014)

This may indicate that Saudis consider the desert a local holiday destination. Surprisingly, although the visit to this site was at the beginning of summer, there was a lot of groundcover all over it, which was a clear sign of land management and monitoring of this area. It indicates that it might be possible to ensure that both the quality of the experience for users and the ecological integrity of the desert need not be affected negatively by the increasing number of camels and visitors in the area.
8.3.4 In General, the Monitoring of Impact Assessments in the Three Areas Showed the Following Main Points:

A. The used area was affected by recreational activities and camels. The photographs showed that this area is suffering from heavy use by both picnickers and camels, each of which has threatened the area. People left behind car tracks, litter, and burnt wood. Camels ate up all the plants or grasses in the area; also, they eat waste left behind by picnickers which is hazardous to them. The photographs showed that this area has experienced the greatest impact compared with the others. However, human activities are limited only to the area surrounding Dammam city, within 40 km or less, whereas the impacts of camels can be seen everywhere in the region since they roam freely without restriction.

B. The unused area was subject to overgrazing by camels. The photographs show that this area is experiencing heavy use by camels only. They have eaten up all the plants or grasses in the area. There was no sign of any man-made damage.

C. The protected area under management and control. The photographs show no sign of any degradation or damage in this area and no negative effect on its fragile ecology. It shows a richness of plants even in summer when there is no rain in the area. This can be seen as a result of land management and control (Figure 99).
In the next chapter, I present the findings from the final research method applied in this study, a global positioning system (GPS), which is a quantitative data collection method. Using GPS and an electronic survey, it was possible to establish the mutually acceptable distance between groups of picnickers in the desert.
9 Chapter Nine: Global Positioning Systems (GPS) and Electronic Surveying Instruments – Findings and Analysis

9.1 Introduction

In this chapter, I describe the fourth and final method in this study, global positioning system (GPS) devices and electronic surveying instruments, which were used to further identify the distances between different types of picnicking groups, in terms of the space they required to achieve visual privacy and territory in the desert. This study of users’ perceptions, activities, and impacts on the desert has revealed that their socio-cultural need for privacy and territory was a key impetus that forced them to go there. Given that respondents quoted notably different acceptable distances when the three previous research methods were applied, the use of GPS and electronic survey techniques was intended to clarify this difference and minimise possible error.

This fourth method helped to:

- identify the required distance to suit territorial and visual-privacy needs between different picnicker groups, adding greater precision to the study of outdoor recreation in desert contexts; and

- indicate the acceptable social carrying capacity, i.e., the ‘density of picnickers, and number of units that could be accommodated in a defined area’ for any further desert recreation and tourism development.

9.1.1 Results

The results obtained from the preliminary measurement of the distances between different types of picnicker groups were very revealing. The distances between them were close to, but distinctly higher than, the answers given when the go-along interviews and participant observation methods were carried out. When those methods were applied, participants, in general, answered that a suitable distance was between 150-250m between families; for family picnickers to male groups, it was
250-350m, and from male picnickers to other male groups, it was between 350-450m. This contrasts with the questionnaire findings which seemed to suggest that respondents generally prefer to keep a greater distance between each group. A possible explanation for this difference is because in this last survey method, they were not on site when they completed the form and therefore, could not experience the distances involved.

The consistency in the answers, however, concerning the suitable distance between picnickers in the recorded data is an indication of the comfortable, suitable, and desired distance they like to keep between other desert users. However, according to the preliminary survey measurements, the range of actual distances between different types of picnicker groups was found to increase noticeably between each type of group. The measurements indicated that the preferred distances are between 200-250m between families, between 300-350m from family groups to male groups, and between 350-400m from male picnickers to other male groups.

This range of different preferred distances between picnicking groups is a clear indicator of each group’s respective privacy needs and it corroborates the finding that privacy is a basic, vital human need, as described in the literature (Gifford, 2007, Kaplan et al., 1998, Rapoport, 1977). Users’ spacing patterns clearly help them to feel comfortable and relaxed in their sitting areas. These research findings also corroborate what Bell (2008) reported, namely, that the distances kept vary, depending on needs, ranging from some people who want to be alone, others who want to be near other people, and a range in between. As this research anticipated from the beginning, the findings from all three methods revealed that people are concerned to maintain particular distances between others to achieve their needs.

This preliminary outcome from the survey measurement reveals that the natural preferred distances that the various picnicker groups maintained between each other are:

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48 The questionnaires, go-along interviews, and participant observation.
Family to family: at location one, this was 210m, and at location two, 236m. This close span of measurements enables the range of preferable distances between groups of family picnickers to be narrowed to between 200-250m (Figure 100).

**Figure 100. From one family to another: the actual distance at location two was 236m (Source: author)**

Families to males: the distance at location 3 was 301m, and at location 4, 348m. This enables the range of preferable distances between different groups to be narrowed to between 300-350m.

Males to males: the distance at location 5 was 357m, and at location 6, 394m. This enables the range of preferable distances between groups of males to be narrowed to between 350-400m (Figure 101).

**Figure 101. The outcome from the survey measurement**
These new measurements not only indicate the comfortable distance between the different groups but can also help to estimate the density of people in one area, within different types of group. The new measurements identified can be integrated into management recommendations for any further development in this area for local people, while taking into account their privacy and territorial needs, and religious, socio-cultural aspects. For example, the study has indicated that the comfortable distance between families is about 200-250m. Assuming an area of 2,560,000 square metres (1600m wide and 1600m long), the density of people in this area would be 25 family groups if they kept a distance of 250m between them. However, this would be reduced to nine groups if groups of males are present and they keep 400m between them, since the study has shown the preferable distance between male to male groups is between 350-400m. If groups of both males and families are present, at distances of 320m, 16 groups would be possible since the study has shown the preferable desired and actual distance between families and males is 300-350m. These distributions are shown in Figures 102-104, below.

Figure 102. The maximum density of people in this area will be 25 family groups; the distance kept between them is 250m (the picnicker carrying capacity in this area)
Figure 103. The maximum density of people in this area will be nine all-male groups: the distance kept between them is 400m (the picnicker carrying capacity in this area)

Figure 104. The maximum density of people in this area will be 16 groups of males and families: the distance kept between them is 320m (the picnicker carrying capacity in this area)

The findings from the GPS survey are very similar to those from the two qualitative research methods and as such, complement them, in terms of strengthening their reliability and accuracy. The narrowing of the desired ranges obtained by the GPS and electronic survey instrument method, however, adds new information to the discussion. Its findings can offer evidence-based guidance on the spatial distribution
that picnickers tend to adopt in their different groups, and will enhance existing research on privacy and territory in Saudi Arabia by taking into account more keenly the religious, socio-cultural aspects of users’ recreational activities in the desert.

9.1.2 Conclusions

It is becoming increasingly difficult to ignore the need for research on privacy and territory in Saudi Arabia, in particular, with regard to its religious and socio-cultural aspects. Unfortunately, most studies have been carried out only in a small number of areas, all of which were within the urban environment. There is also a particular gap within the desert literature with reference to picnickers. Yet, there is no doubt that this study raises many questions that need further investigation. One is how to measure the desirable and acceptable distance between picnickers in the Saudi desert. This research aimed to carry out a quantitative survey to measure the exact acceptable distance picnickers needed to observe to achieve a sense of privacy and territory in the desert, whilst minimising miscalculations that might occur due to participants’ naivety of the real distance. These quantitative results have also reduced the gap between figures obtained in other investigative methods. For example, in the questionnaires, participants were asked: ‘What is the suitable distance that you like to have between others when you are with your friends and family?’ The majority of the respondents indicated that the acceptable distance between males to males is between 400-600m, while from family to family, it is between 200-400m, and from family to males, 700m or more. However, the majority of the respondents in both the go-along interviews and participant observation gave a much lower measurement. This variation between the questionnaire responses and those given in other methods prompted me to undertake further investigation of this measurement. The relevance of using a GPS device to locate exact sitting areas adds support to the current findings from the other methods applied in this study, thus ensuring the robustness of this finding.

This range of preferred distances between families and single people when picnicking in the desert not only shows the range of distances kept between different user groups without erecting visual barriers, but it helps to find the density of people
in one area within different groups. Thus, it is a unique finding, since all existing studies have been conducted within the urban city in open spaces, where the scale of space and the spaces themselves are very different to that of the desert environment.

In the next chapter, there will be a brief discussion about the study’s conclusions, with an overview of the results for the four different research methods. In addition, there will be a discussion as to what this doctoral study contributes to the field of landscape architecture, with recommendations for future research into the potential of outdoor desert recreation. Finally, the topic of desert tourism will be introduced, which is becoming a significant new sector of the Saudi Arabian economy, with requisite guidelines outlined, based on this research study’s findings, which can be used when establishing new developments in the desert.
10 Chapter Ten: Discussion, Conclusion, Suggestions and Guideline

10.1 Introduction

Chapters Six to Nine described the findings obtained from the four different research methods (the questionnaires, ‘go-along’ interviews, participant observation, and the GPS). This chapter summarises the key aspects of this study, presents the main findings in relation to the research aim and objectives, and the hypothesis and primary and secondary research questions as defined in the thesis introduction. This chapter also shows how the research makes both a contribution to the study of landscape architecture, the limitations of the study and recommendations for future research into the potential of outdoor desert recreation, as well as guidelines for establishing new developments.

In Chapter One, it was explained that this study aimed to discover the factors that influence people’s choice of destination, such as cultural factors, and the relevant demographic variables for this new pattern of outdoor recreation in the desert, understanding people’s perceptions, use, needs, and activities in desert environments. In addition, the research also aimed to show the impact of human activities on the desert environment.

The research case study investigated an area of desert located 40km west of Dammam city, to define the outdoor recreational behaviour patterns and activities of local Saudi male groups and families while picnicking there. This chapter also provides brief information regarding the techniques used to collect the required data.

10.1.1 Limitation of the thesis

In order to determine the influence of the socio-cultural aspects on destination selection, and also the use and modification of selected sites in relation to these users’ new patterns of outdoor recreational motivations, and their perception of the desert, I have limited this study to only desert users who use the desert for their regular outdoor recreational purposes, in two specified areas in the desert, at
locations 40km to the west and 40km to the north-west of the outskirts of Dammam city and I have not investigated other groups of people within the city. This study did not investigate Bedouin who used to live in the desert and still go there to look after their camels.

The scope of this investigation was limited to local residents who are Saudi nationals (both male groups and families including their children) in their natural setting to record, document and interpret their behaviour in their outdoor recreation in the desert environment.

The study also investigated people’s recreational activities, their perceptions, use, needs desires, emotions, and feelings in their natural setting (the desert environments). Their territorial needs, reflected in the preferred distances that participants kept from the seating areas of picnickers' in different groups, were also investigated. Finally, the study also investigated the impact of recreational activities on the desert and evaluated and compared the physical and ecological condition of the sites with that of an unused area and a protected area in the same region.

10.2 Discussion

The analysis of the findings confirmed some of the initial assumptions and revealed some new findings, while corroborating others. This discussion takes the findings from the different methods applied and links them with the findings from the literature review. Thus, this chapter focuses on five main aspects of the study covered in the literature review to answer the hypothesis, the main research question and research sub-questions.

As presented in Chapter One, the research hypothesis claimed that due to misunderstanding as well as ignorance of users’ socio-cultural needs in public gardens and other recreational sites in Dammam city, a new phenomenon of outdoor recreation has developed on the desert outskirts of Dammam based on a new understanding of that environment.
10.2.1 Research Question 1, in Relation to the Socio-Culture & Built Environment:

What role do privacy and territory play in the development of this new phenomenon of outdoor recreation in the cultural context of the conservative, Islamic country of Saudi Arabia?

Generally, the findings from all the methods have revealed that, for the different respondents and participant groups, the quality of socio-cultural aspects is more important than that of place. Chiefly, the desire for privacy and territory were among the main reasons and goals that have forced people to go to the desert for recreational purposes. This research finding corroborates what is described in the literature (Reisinger, 2009, Rapoport, 2005, 1976, Kaya and Weber, 2003, Reisinger and Turner, 2003, Altman and Chemers, 1984, Altman, 1975), that the desire for privacy is a fundamental socio-cultural aspect of human life, different cultures have different rules for defining, establishing, and maintaining social relations and have different notions of privacy (Reisinger, 2009) and it remains a vital basic need and can be found in most environments (Kaplan et al., 1998). It also corroborates Gifford’s (2007) assertion that in Arabic societies, people’s need for privacy is higher than in others. This need is remarkable, especially in Saudi society, where for individuals, different genders and family, it is highly respected. This is emphasised too, in Islamic law, which commands privacy, particularly for the woman (Addas, 2015, Al-Abdullah, 1998, Bahammam, 1995) (see Chapter Two). As this research anticipated, the findings from all three methods⁴⁹ revealed that privacy needs were among the socio-cultural aspects that have forced users to engage in outdoor recreational activities in the desert rather than in urban open spaces. This was clear especially for women, when they responded by taking off their veil and loose black Abaya robes in the desert. This appears to be an indicator of them having achieved their privacy, and evident also by them participating in different kinds of activities (see Chapter Eight).

In addition, the findings from all the methods reveal that a common need for territory against unwanted intrusion by others was another aspect that forced people to go to

⁴⁹ Questionnaires, go-along interviews, and participant observation.
the desert. This research finding echoes that of the literature on the topic, namely, that people are territorial by nature and when from different socio-cultural backgrounds, they use space in various ways and create different boundaries (Reisinger, 2009, Bell, 2008, Reisinger and Turner, 2003, Tuan, 2001, Altman, 1975, Hall, 1959). Similarly, Hall (1966) in his book, *Hidden Dimension*, suggests that in Arab culture, a person feels depressed unless he/she has enough space around him/her. Thus, along with privacy, territoriality appears to be a key aspect of environmental behaviour (Rapoport, 1976). Arguably, the openness of the desert and its unlimited area, compared to the number of picnickers, has made the social capacity of the desert low and has given picnickers what they want, namely, the ‘distance’ that they prefer to keep from each other, as another reason to be there.

In relation to territorial needs, the findings from all the methods revealed a noticeable range of differences in the preferred distances that participants kept from other picnickers' seating areas in different groups. For example, during the go-along interviews, family groups stated that the preferable distance was roughly 150-250m between families, while male groups stated that between family and all-male groups, it was roughly 200-450m. However, according to the questionnaires and participant observation, this distance was different.

On the other hand, the outcome from the GPS survey measurements reveals that the natural preferred distances that picnickers left between each different type of groups, are:

- Family to family: the range narrowed to between 200-250m.
- Families to males: between 300-350m.
- Males to males: between 350-400m.

The findings from the GPS survey are very similar to those from the two qualitative research methods and as such, add to their reliability and accuracy.
The narrowing of the desired ranges obtained by the GPS and electronic survey instrument method, however, adds new material to the discussion. This research, therefore, can offer evidence-based guidance on the spatial distribution that picnickers tend to adopt in their different groups. In so doing, it will reduce the gap in the existing research on privacy and territory in Saudi Arabia and take into account the religious, cultural, and social aspects of Saudi life that are driving people to the desert for their recreation.

In general, all the methods indicated that the preferred distance necessary between families is shorter than the preferred distance between family to male groups or male to male groups. A possible explanation for this difference is that the level of desired privacy between family groups will be lower, since both groups are of the same type and both have men and women present. However, between families and single male picnickers, the preferred distance increases, which is in line with what is expected in accordance with Saudi socio-cultural norms.

These findings are another clear indicator of different people’s various territorial and privacy needs depending on socio-physical contexts (Gharaei and Rafieian, 2013, Bell, 2008, Gifford, 2007, Kaya and Weber, 2003, Walden et al., 1981, Altman, 1975). This research finding corroborates those described by Bell (2008), namely, that the distance kept varies, from some people who want to be alone, others who want to be near other people, and a range in between. As this research anticipated, the findings from all three methods reveal that people are concerned to maintain a distance from others to achieve their needs. This concept infuses every aspect of our daily lives. As it also anticipated, having enough visual privacy between users was crucial to them. This accords with the observation of April et al. (2010) that territorial behaviours can establish a desired level of privacy through the regulation of information or social input that can be exchanged with others, and also, that territory plays a fundamental role in personal or group wellbeing (Altman and Chemers, 1984), which is generated after establishing and maintaining one’s

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50 Questionnaires, go-along interviews, and participant observation.
personal space and privacy. However, this study found that requisite distances were maintained not only to meet visual privacy needs, but also that of sound privacy.

In this study, users’ territoriality was made apparent by the space occupied by individuals, groups of males or families in which to undertake their activities (see Chapter Two). Thus, we could argue that the distance kept between picnickers has allowed male groups and families to not only sit without visual barriers but also to be active without restriction and so they can achieve a sense of freedom once they have their privacy and territory established.

This behaviour is unlike that seen in the recreational open spaces in Dammam city, where families were observed erecting a visual barrier around their seating areas to define their territory, especially when it became more crowded, and in order to achieve their desired time alone\(^{31}\). In this setting, where women are required to keep the veil over their face at all times, it does not leave them free to undertake their activities or interact properly with the rest of the family and thus, it limits the benefit they can gain from being outdoors. Such crowding of personal territory often feels disturbing, and causes discomfort and this difference in behaviour appears to corroborate what April et al. (2010) suggest, namely, that crowding has been shown to be positively correlated with physiological arousal and discomfort, and it occurs when people are asking for more physical space or when their territory has been entered. As was mentioned by Gharaei and Rafieian (2013), this can be related to a feeling of a lack of control over the physical environment (Kaya and Weber, 2003), as this research had anticipated.

The findings from the go-along interviews and participant observation confirmed that all the participants in different groups were acting and behaving naturally, especially the females who looked as if they were in their own home, enjoying a full sense of privacy and with no need to cover their faces or bodies. In general, participants of both sexes pointed out that they feel free in the desert, as if they are sitting in their own house and moving around without any obstacles, restrictions or concerns about

\(^{31}\) For more detail see Chapters One, Two and Three.
being seen or bothered by others. This correlation between the desert and home is dependent on them establishing a sense of privacy, without visual barriers that might limit the benefits of being outside. For all the family members, males, females and children, to sit together and participate in the same activity (passive or active), with a full sense of privacy and freedom, without any visual barriers, rarely happens outside the home. This finding, in general, answers Question 1 and supports the hypothesis that lack of awareness of socio-cultural aspects, especially privacy and territory, which strongly affect the use of, and interaction between, man and his built environment, has encouraged the rise in the number of desert picnickers. Thus, the desert has become, in recent years, a refuge for people who seek recreation that they can enjoy with a full sense of privacy and territory.

In general, this suggests that the desert is important, mainly because it allows families and friends to be together and socialise. For example, the go-along interviews and participant observation illustrated that women, in general, were participating in a variety of both passive and active activities.

This is another correlation between being in the desert and women feeling free there. Given the low number of desert picnickers, the distance kept between groups, and the environment’s openness, it has contributed to women feeling free to participate in the kind of activities they like, without feeling self-conscious. Children, likewise, were playing and enjoying themselves without any of the restrictions that they might have experienced in recreational open spaces in the city. Thus, arguably, the desert is considered as ‘home’ by its users. Since they behave there in the same way as at home, where they have full control of privacy, such behaviour is a clear indication that the desert environment is satisfying their privacy and territorial needs. The gathering of family members, as if they were in their own home, is a clear indication of the social aspect they gain from being in the desert. In general, this has confirmed the important role the desert plays in users’ lives and how it supports feelings of wellbeing.

It seems to afford its users something that modern, heavily designed recreational places do not. Thus, the desert, with its simultaneous openness and privacy, has
given participants, especially families, the opportunity to escape from the restrictions of public open spaces in the city. The freedom this environment affords overrides the fact that it offers no basic facilities. Thus, arguably, the lack of affordances in the Saudi built environment, especially in outdoor open spaces, is responsible for the new pattern of outdoor recreation in the Saudi desert, and this leads to the second question.

10.2.2 Research Question 2, in Relation to Affordance:

How can the desert offer positive affordances for its users?

The above section described how the desert is considered as ‘home’ by its users, such that it offers positive affordances, thus, it has emerged as the location for new and alternative patterns of outdoor recreation. These findings echo Gibson’s theory of affordance (1979), where the affordance of the environment is described as what it offers to its users.

Generally, the findings from all the methods reveal that, for all the participants, the desert offers affordances for their age and gender-related needs and desires which the modern, heavily designed recreational places could not. This finding corroborates what Bell (2010) found in the literature and was anticipated in this research, that each environment can be both positive and negative for different users, depending on age, needs, or gender. Thus, arguably, the desert succeeds in offering positive affordances for local Saudi users given that the findings from all the methods show that the desert meets their need for privacy, freedom, and openness, all of which are positive affordances. On the other hand, during the go-along interviews and observations, the participants reported that the recreational open spaces in the city do not meet their needs, for example, they are too crowded and open at the same time. This echoes a key research premise, namely, that a wide and crowded open city space will not suit a conservative, Muslim culture, is inappropriate for local people and thus, it becomes a negative affordance for Saudi users.

During the go-along interviews and participant observation, participants indicated that in the desert, the low number of picnickers and unlimited space allowed them to
keep enough distance from others, while the desert’s natural topography gave a greater sense of privacy, openness and freedom. This suggests that the absence of negative features in the desert is as important as the presence of positive ones, as (Bell, 2010) also pointed out. The research finding about the feeling of freedom indicates that the desert satisfies users and positively affects their feelings, behaviour and wellbeing, corroborating what Rapoport (1977) maintains, that when an environment gives satisfaction to people, it produces positive effects on their feeling, behaviour or performance. As this research anticipated, this is also confirmed by the findings from the questionnaires, where most respondents listed freedom, privacy and openness as a meaning or symbolic value of the desert for them.

One further explanation for this finding is that these groups of desert picnickers are more likely to be more conservative and want to enjoy being there without restrictions that might limit their freedom, compared to other Saudi locals, who find it acceptable to sit in Dammam city surrounded by visual barriers that might limit the benefits of being there.

In the participant observations, males and family groups indicated that they like to sit on the summit of a hill or between sand dunes, allowing them to see others without being seen and to relax in private areas. This concept of seeing others without being seen takes us to Appleton’s (1996) discussion of the affordances of privacy, where people have the ability to see without being seen. This was an unanticipated finding that added a new dimension to this study. One possible explanation is that choosing particular sitting areas is linked to the need for protection, such that people can see the views surrounding them, openly but remain unseen by others.

Generally, the findings from all the methods have revealed that all the respondents reported feeling happy, relaxed and free when they are in the desert. This research finding corroborates many reports in the literature (Pröbstl et al., 2009, Bell and Petursson, 2009, Bell et al., 2007, Pigram and Jenkins, 2007, Kaplan, 2001, Parsons et al., 1998, Hartig et al., 1999) that observing or visiting the natural environment enables people to experience more easily positive feelings such as pleasure and happiness. The study also revealed that a happy attitude was noticeable among all
participants, in both the go-along and participant observation methods. The obvious influence of the desert environment was noticeable among all different types of participants: they exhibited a happy appearance and behaviours indicating satisfaction and wellbeing. One possible explanation is that they were attaining their needs and desires to be free from being observed or bothered by others. This interpretation corroborates Rapoport’s views (1977), as described in the literature. As anticipated, this research found there was a relationship of satisfaction via the positive psychological and socio-cultural affordances of the desert environment to its users. In this context, the desert environment serves as a refuge for its users, where they can feel happy, relaxed, and experience freedom, which can be indicators of the ability of the desert to offer a positive affordance to its users to meet their different needs and desires, according to their different genders and age. The findings show that the desert, as a natural environment, had few negative factors attributed to it by users but many positive factors, supporting Bell’s (2010) finding that the lack of many negative factors can lead to a positive feeling. Thus, arguably, the absence of any factors in the desert that might disturb picnickers has generated their positive feeling.

Additionally, participants indicated the need for silence in the desert, for religious worship and contemplation. Indeed, the desert in Islam is generally considered as a place for worship. The natural character and silence of its environment can be shown to evoke this kind of feeling, when one becomes oneself a part of nature, a feeling which occurs especially in quiet places where there is ‘silence’ but also no visual interaction or interruption. Being alone in a remote place like the desert helps users to be close to their own spirit, where they can achieve a contemplative state, focusing on God’s natural creation. Participants in both the go-along and participant observations emphasised the need for silence in the desert for religious worship. It was noticeable while I was praying with the participants that there was a remarkable quietness and silence that evoked a feeling of humility while we were praying.

Despite the fact that respondents in each method did not all include ‘religious worship’ as a reason to go to desert, they did, however, indicate that they feel ‘God’s creation’. Generally, the findings from all the methods revealed that people do go to
the desert for a religious experience. This research finding reflects accounts in the literature by Gaballa (2001) and Barbour (2014) of the role played by the desert in the origins of the three monotheistic religions, Judaism, Christianity and Islam. In relation to the healing power of wilderness, with its silence for meditation and encounters with God (Barbour, 2014), all the respondents indicated that silence and being alone with no one watching or disturbing them, where there is no visual interaction or interruption, helped them to connect with God. This research finding also corroborates the interpretations of the ‘Quran’, where in Islam, the desert is considered a place of silence for worship and there are clear commands from God to his people to contemplate his creation. This solitary stillness of the desert environment makes contemplation of God possible.

These findings corroborate what Hermann (2005) and Soares Moura (2009) report in the literature, highlighting the role of the natural landscape in effecting a state of meditation and contemplation where one feels part of nature. This was an unanticipated finding that added a new dimension to this study, and might explain why the majority of participants were from the Najd region, since they are considered a particularly religious and conservative group. Thus, it is not surprising that this population who want to be more closely connected with God chose to frequent the desert.

In addition to contemplation, respondents in all methods indicated that they like to walk in the desert and collect sticks as one of their main activities. During the go-along method, one participant explained that such activities always helped him to relax whenever he had a problem or was feeling depressed. This research finding corroborates the findings of Hartig et al. (2003) that walking in natural landscapes has an effect on the ability to concentrate and at the same time, corroborates the finding of Kaplan et al. (1998) that collecting firewood and walking in the woods can be a sources of fascination and help people to relax.

Despite the desert being difficult to access, remote, and dangerous, as well as the socio-cultural aspects, and psychological and religious motives that have led local users to seek refuge there for outdoor recreation purposes, they seem satisfied with
being in the desert and the research has demonstrated that the desert offers users positive affordances. The obvious influence of the desert environment was noticeable among all different types of participants: they exhibited a happy attitude and behaviours indicating satisfaction and wellbeing showing that the desert offered a positive affordance for them and was able to evoke positive emotions in its users.

In general, these findings lead on to the next question.

10.2.3 Research Question 3, the Concerns of the Research:

What perceptions do Saudi people have of the desert, and what kind of influence does it exert on them?

The results show that freedom, privacy and openness are vital to respondents’ perceptions of the desert. The findings from the questionnaires were corroborated by those from the go-along and participant observation, where participants, generally, indicated the same meanings the desert has for them.

However, the findings from the participant observation revealed that despite the fact that all the picnickers sought the desert for freedom and privacy, what that meant for young adult picnickers was different to what it meant for adults. For most of these young people, the desert environment has become a symbolic refuge, in the sense that it offers a place where young adult males can meet their desire for privacy and freedom. It lets them do what they want without control, like ‘dune bashing’ in their four-wheel drive cars and quad bikes, without any concern for their own safety, for example, in not wearing helmets or for the desert environment. One possible explanation for this is the absence of rangers and authorities in the Saudi desert, beside the fact that these young men are less concerned about the environment. This research finding corroborates Cunningham’s (2009) observation, mentioned in the participant observation chapter and also findings from the on-site monitoring and assessment of impacts in the present study, that the behaviour of Saudi youths has an impact not only on its fragile environment, but also on its wildlife. This sense of freedom from social control corroborates the observations of Pröbstl et al. (2009),
Tyrväinen et al. (2009) and Elands et al. (2010) that picnickers are able to do whatever they want without control. This is due to the fact that forests, like deserts, are environments often associated with activities undertaken by people without any control, and where illegal activities can take place as well as freedom being experienced. This was an unanticipated finding that added new information to this study. The increasing number of motorized activities in the desert environment also corroborates the findings of previous studies (Cordell, 2008, Cordell et al., 2008, Cordell, 2012) that this trend of motorized activities using vehicles like SUVs or four-wheel drives has a high growth rate around the world, including in the USA as well as in Saudi Arabia.

According to the questionnaire findings, young adult respondents indicated that they do not collect their litter after they leave or teach their younger siblings to do so. They also indicated that they did not care about the increasing number of camels or the number of visitors and 4x4 cars in the desert. Moreover, during the participant observation with two young adult groups, I noticed they left without collecting their litter. These findings suggest that this age group has almost no concern for the environment generally or about the increasingly adverse impact on the fragile desert environment.

However, significant differences were found between that age group and all the other picnickers. The findings for all the methods reveal that, generally, mature male and family adult picnickers are more concerned about the environment. For example, the questionnaire findings showed that adult respondents do collect their litter and encourage children to do the same. They are also concerned about the number of camels, people and 4x4 cars in the desert. During the participant observation with adult groups, they were observed collecting litter before leaving the desert and asking their children to do so. This finding suggests that adults have a higher level of environmental concern for and awareness of the fragile desert environment than young, male adults.

Generally, the findings for all the methods revealed that, apart from young adults, all other respondents were not happy about the absence of rangers and authorities in the
desert. In finding that informal activities were especially undertaken by young adults, this research corroborates the findings described in the literature (Cunningham, 2009, Barth, 1999, Edgell, 2006). As had been anticipated, the findings from all three methods\(^{52}\) revealed that increasing human activities have had an impact on the fragile desert.

However, the study revealed that the increasing number of camels, which causes overgrazing of the area, is considered the greatest threat to the Saudi desert. The findings from the on-site monitoring and assessment of impacts, by taking photographs of the three areas, showed that: the **used area** under study is experiencing heavy use by picnickers and camels, each of which has threatened the area. The photographs also reveal that the used area shows the greatest impact compared with others. However, human activities are limited only to the area surrounding Dammam city, within 40km or less, whereas the impact of camels can be seen everywhere in the region and they have no boundaries. Photographs of the **unused area**, for example, show it is suffering from heavy use by camels, which have threatened the area and have left behind no plants or grasses, and finally, the **protected area under management and control** revealed no sign of negative effects on its fragile ecology. These findings corroborate the observations and findings described in the literature (El-Keblawy et al., 2009, Gallacher and Hill, 2006, Barth, 1999). This was an unanticipated finding that added new information to this study, that camels and overgrazing are the greatest threat to the desert in the area and the main issue in desert degradation.

It is likely that the management and monitoring of the **protected area** is the reason there is no sign of any negative effects, as the findings from the on-site monitoring and assessment of impacts showed. This research also points to what is suggested in the literature about: a) taking heed of the carrying capacity (Wagar, 1964); b) awareness of the limited acceptable change methods (Stankey & Manning, 1986); and c) the zoning concept that defines the areas of graded protection and recreation intensities, according to the respective suitability and sensitivity of the natural

\(^{52}\) Questionnaires, go-along interviews, and participant observation.
environment (Burger-Arndt and Bell, 2009). The photographic evidence from the on-site monitoring and assessment of the impacts on the protected site showed a lot of groundcover all over it, despite the visit being at the beginning of summer when there are often no plants left in the desert.

10.2.4 Research Question 4, in Relation to Perception:

Does their choice of going or not going to the desert have a direct bearing on their region of origin?

As explained earlier, Dammam city’s population is very mixed due to the job opportunities created after the discovery of oil, which led many Saudi people to seek work there. Thus, there was a need to test if people’s desert recreation patterns are related to their different backgrounds and the types of environments they experienced when growing up. As mentioned earlier, Saudi Arabia consists of five main regions; the western, coastal region, the more mountainous south, the north, which is a flat land, and the central region, the Najd, which consists of desert and oases. Although each region has the same religion, some are considered more conservative and religious than others, for instance, Najd region is the most conservative of the five.

The majority of respondents, as Questionnaire A’s findings show, are from the Najd region, followed by local people from the eastern region. In general, the findings confirmed that desert picnickers are not Bedouins, although it was initially thought that they might be from that background.

A possible explanation for the significant number of desert picnickers coming from Najd is that the desert is their natural landscape, so it is an obvious place to go. Another possible explanation is that they are conservative and they want privacy and freedom when enjoying their recreation away from others. However, there is a caveat because the findings show that young adult males’ needs and desires may be
different from others and at variance with, for example, older age groups’ more uniformly conservative attitude and behaviours, as I explained previously.

The picnickers from the Najd is a more conservative and religious group than others and the religious scholars of Najd (Al-Rasheed and Vitalis, 2004) may have influenced their need for privacy and territory. If this is so, it emphasises the importance of socio-cultural values to people, as described in the literature. Another possibility is that for the Najd immigrant population, the desert is a reminder of their hometown, since it too is surrounded by desert and this may have influenced their choice of going there. If so, this may corroborate what Bell (2008) reported in the literature, that is, that people tend to go to the countryside or seek nature to reconnect with their roots; this finding suggests that this may be the case.

Generally, the findings show that that this trend of outdoor recreation in the desert environment is also observed in other societies and this research corroborates the findings described in the literature (e.g. Rupf et al., 2014, Pröbstl et al., 2010, Bell and Petursson, 2009, Pröbstl et al., 2009, Cordell, 2008) that there is a growing trend to seek natural environments in other societies. As had been anticipated, the findings from all three methods revealed that respondents indicated their concern for the increasing number of people recently who go to desert for their outdoor recreational purposes.

The data from the go-along interviews’ also revealed an unexpected finding: the desert, its elements, creatures, and weather triggered participants’ childhood memories and reminded them not only of the Najd region and their hometown, but also of their earlier days and their parents and grandparents’ harsh life of hunger and poverty before the discovery of oil. These findings would not have been revealed without applying this novel method and using photographs that helped to stimulate discussion among the informants and encourage non-verbalised descriptions (Carpiano, 2009, Kusenbach, 2003, Harper, 2002). It appears that these memories

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53 The study indicated that the desert environments have become a symbolic refuge, in the sense that it offers a place where young adult males can meet their desire for privacy and freedom: they can do what they want without control.
have triggered their choice of being in the desert for recreational purposes and also evoke childhood memories. Likewise, the desert’s dry climate or camels triggered participants’ general memories and reminded them of their hometown, Najd. At the same time, the go-along interviews’ data revealed that some picnickers pointed out a specific place in the desert that reminded them of a special event in their life, and for this reason they go there for recreational purposes. The finding that participants like to revisit the same place corroborates the questionnaire findings, where more than half of the respondents gave the same answer. This finding added a new reason as to why people go to the desert to those initially anticipated.

Participants’ appreciation of their own natural landscape was another significant reason for going to the desert, as the findings from all the methods revealed. This appreciation of the natural landscape is very similar to that which the researcher observed in the United States, where people talk about the beautiful natural landscape of the Rocky Mountains in Colorado, for example. During the go-along interviews, participants expressed their perception of the desert environment. They indicated that it is Saudi’s natural landscape and they love its beauty. This was sensed from most of the participants when they expressed their love of the desert in a nostalgic and emotional way. This research finding corroborates descriptions in the literature (Horne, 1999, McKinnon, 1990, Anderson, 1984) of how Saudis love their desert landscape and they are proud of it despite all the modernity they have. One possible explanation for these feelings is that the relationship between local communities and the local native desert environment has strengthened due to the westernization of the built environment, in an inverse relationship, after cities were isolated from both the desert environment and the culture, as explained by Alturki (2001). This regard for the desert can be seen as an indication of the Saudi yearning for their cultural and heritage landscape, adding an unanticipated significant reason for going to the desert.

The above findings answered the sub-question, ‘Is this influence related to their personal attachments, images, and collective memories that are passed on to each generation, which they hold toward these places, or is it part of the socio-recreational tradition in the society?’ The answers were not exactly as expected and
suggest that this outdoor recreation pattern could be attributed not only to users’
desire for privacy and a yearning for their hometown but also to memories and
personal attachment.

These findings corroborate descriptions in the literature (Aspinall, 2010, Hunziker et
al., 2007, Davenport and Anderson, 2005, Parsons and Daniel, 2002, Rapoport,
1977) of how people are infused with their previous experiences, personal
attachments, images, and collective memory that are passed on to each new
generation. These findings can also guide the discussion of the next sub-question.

Is this influence related to their associated perceptions, passed on to them by their
parents while they were children? (Ward Thompson et al. 2008) Participants were
asked if they used to go to the desert as children, to test if this pattern of outdoor
recreation was related to their associated perceptions that had been passed on to them
by their parents. Generally, the findings from all the methods revealed that the
majority of respondents between ages 15 to 39, used to go to the desert as children.
This research finding corroborates what Ward Thompson et al. (2008) report in the
literature, as this research had anticipated, and suggests that there is a significant
relationship between those who used to go to the desert while they were children and
who go now, as adults. However, the majority of respondents age 50 and above
answered no. This may indicate that this type of outdoor recreation will increase
dramatically in the future as those children who are now companying their parents
will be likely to visit the desert when they are adults, as Ward Thompson et al.
(2008) found. Thus, their previous experience, personal attachments, images, and
collective memory will influence their choice to visit the desert.

The findings also indicated that the phenomenon of outdoor desert recreation is a
recent trend. For example, the results of the questionnaires revealed that respondents
aged 50 and above did not go to the desert in their childhood, or to any other
recreational places, between the ages of 2 and 10. A possible explanation for this
finding is that recreation at that time was only limited to wealthy people, as was
shown in Chapter Three, The History of Recreation in Saudi Arabia. This finding
revealed a significant link between age and this pattern of recreation, as described in
the questionnaires’ analysis in Chapter Six. It also suggests that when they were children, there was no spare time for recreation, as their parents were busy working, and the concept of recreation had not developed in the country, apart from the occasional celebration and religious holidays. This research finding corroborates descriptions in the literature (Al-Abdullah, 1998, Bahammam, 1995) when, in earlier times, activities like hunting or camping in the desert or going to farms for recreation were limited only to wealthy residents and ordinary Saudi people used the courtyards of their houses for their relaxation and recuperation. In general, the findings indicated that this form of outdoor recreation has increased in recent times.

So what would make the desert an ideal place for recreation purposes for those who did not go? In Questionnaire B, regarding that matter, respondents were asked: ‘What is the main reason for not going there and what would make the desert your ideal place to visit?’ Most respondents cited the absence of services as the main reason for not going, and that having them would make the desert an ideal place to visit, followed by the need for a ranger with authority. All the other methods revealed the same requirements for services and rangers from the participants and respondents. However, at the same time, the absence of services and rangers has not stopped those from going in the respondent groups in Questionnaire A, the go-alongs and the participant observations, despite the fact the desert has nothing but its intrinsic qualities to offer its users. This finding appears to emphasise again how the quality of the socio-cultural aspects are more important than the quality of the place.

10.3 General Findings

This study aimed to learn about people’s perceptions, behaviour, use, needs, activities, desires, emotions, and feelings in their natural setting (the desert environments), thus, I did not set out to represent the whole population of Saudi citizens but only those who go to the desert and, consequently, samples in each of the three different methods (questionnaires for Group A, go-along interviews, and participant observation) were deliberately limited and aimed to be representative only of the local desert picnickers (individual males and females in the
questionnaires and single males and families in the go-along interviews, and participant observation).

This limitation of the samples is due only to the focus of the study and to the adoption of the case study as a research strategy, which aimed to examine and investigate a contemporary phenomenon in its natural setting (the desert on the outskirts of Dammam city in Saudi Arabia) and which can be achieved by employing multiple methods of data collection to gather information from people or groups (Collis and Hussey, 2014, Wedawatta et al., 2011, Benbasat et al., 1987).

Despite the fact that the number of valid questionnaires in Group A was relatively very small and thus, the sampling method did not offer a true representation of the population of desert picnickers, the sample population for the quantitative survey, Questionnaire Group A, was much wider than for the qualitative surveys, go-along interviews, and participant observation, in order to come up with statistically significant findings. This is due to the fact that both the go-along and participant observation were necessarily limited to the people that I knew, as explained in Chapter 5.

Furthermore, the lack of information on the exact number of Dammam desert picnickers, and the recent growth in these numbers, has been a major difficulty of the study in terms of selecting a representative sample of Saudi society in general. However, these samples do represent characteristics of the population of interest among different regions of the country.

The participants who completed the questionnaires and were interviewed, and those who took part in the participant observation, were found to represent regional diversity in terms of the participants’ origins from all the different Saudi regions (north, south, east and west and the central region of the Najd). This mixed Saudi population from many different areas is a result of the job opportunities that Dammam city has offered since the oil discoveries of the 1930s; many people have moved to work in the eastern region, mainly in Dammam city. The analysis among all the methods showed that the majority of desert users in Dammam city, which is in the eastern region, were from the Najd (central) region, followed by local people.
from the eastern region and a minority were from the south, followed by those from the north and the west respectively.

Participants from the Najd region are the offspring of those who started to migrate, like others, from their region to the eastern region at the beginning of the 1930s to work and whose families have been living in Dammam ever since then. This group represented the majority of desert users in this research sample and they might be second or third generation. They belonged to both genders and were aged between 15 and 39; their social group was between middle to higher social class, and they had a university degree or were studying to achieve their university degree and had higher paid/status jobs. This is due to the fact that education at all levels in Saudi Arabia is free, and each Saudi and non-Saudi male and female has the opportunity to study for free. For example, after the oil discovery and the increase in Bedouin settlements in towns at the beginning of the 1930s, the Saudi government started to encourage its citizens to study and aimed to reduce the amount of illiteracy in society, especially among the Bedouins, who used to live in the desert. The preponderance of those with higher status jobs was also due to the availability of job opportunities in different companies in the region with high salaries.

In general, the number of respondents in the sample from each of the five different regions of origin was not balanced. However, this gives a true representation of the overall situation with regard to the people from the Najd region, who can be seen as representative of Saudi society in general in seeking the desert for their recreation. In fact, it may also reflect the fact that the proportion of Najd region immigrants to Dammam city is higher among the total immigrant population from other regions. However, the lack of detailed information of the numbers who have migrated from different regions and their effect on the population size of Dammam city and their growth in numbers has been a major difficulty of the study, in terms of selecting a representative sample of households.
10.3.1 Activities

The findings from the three methods\textsuperscript{54} undertaken with the four different respondent groups suggest the importance of desert areas as places for people to undertake their chosen activities easily, with their desired level of privacy, full freedom, and without any restrictions that might limit social interaction. This is mostly because they allow people to meet with their family members, relatives and friends and to socialise with their required privacy.

The participant observation and go-along technique revealed that desert picnickers, mostly, would meet and sit and chat, make tea and coffee, set up a fire and cook or maybe celebrate a wedding, or similar occasion in the desert. Respondents in the participant observations said that such a gathering, where males, females, and their children participate in the same activities and sit together freely and in private without any visual barriers, is impossible in the public open spaces in the city and rarely happens outside the home.

In the go-along and participant observation methods, both adults, especially females, and children were observed participating in both active and passive activities. Generally, the study has confirmed, from all the methods, that there were no significant differences between types of picnickers who were participating in similar kinds of activities. These included: walking barefoot in the sand, sliding, collecting sticks, setting up a fire, digging in the sand, watching the sunset and stars, sitting and chatting and particularly, making tea and coffee on the fire, which has a significant meaning in Arabic culture. However, the exception was the group of young adult male picnickers. Participant observation findings showed that they indulge in other activities: playing football, driving off-road, up and down hills and sand dunes, sand-boarding, listening to loud music and dancing. In contrast, the go-along interviews and participant observation methods’ findings showed that female picnickers, in general, were running, playing football, sliding on sand, riding quad bikes and other females were driving cars, which is only legally allowed in the desert. This shows

\textsuperscript{54} Questionnaires group A and B, go-along interviews, and participant observation.
another correlation between the desert and having freedom, for women. Overall, the study noticed a variety and diversity of active activities that take place in the desert for different participants of different ages and gender, and that these were not limited only to children.

10.3.2 Types of Places

The findings from the go-along and participant observations revealed that there are two main sites used in the desert areas. One site is on Al Riyadh-Airport road, 40km west of Dammam city, regarded as an area in daily use because of its proximity to the city. The study revealed that this area is well-known for all types of desert recreation, especially for male groups. I noticed that this site has high hills and sand dunes, and that this kind of topography is preferred by male-only groups, one possible explanation of the gathering of young adults to practise their activities, especially going up and down hills with their four-wheel drives. The go-along and participant observations revealed that this site has a semi-difficult access, which required four-wheel drive cars, and has no specific entrance, so each car will drive its own path through the desert, disturbing the topsoil and destroying its cohesion.

The second site is known as ‘Airport road’ or the ‘Airport Area’. It is located on the King Fahad Road Airport Highway, 40km to the north-west of the city and is also considered an area in daily use. The study revealed that this area is among the most well-known for all types of desert recreation, especially for families. It was noticed that this site has low hills and no sand dunes, with an open area. One possible explanation for its use as a family area is that it addresses security issues for them, as they can see who is close by and it is safer for their children, whom they see around them as they play. The go-along and participant observations revealed that this site has a specific entrance and well-defined fences on both of the roadsides, to control entrance to the site, possibly because it is considered as airport territory. Having a specific entrance has helped to protect the sand from overuse by cars and it is thus considered to be of a consistent quality. During the participant observation, I asked family groups their feeling about having one entrance to the site. They all responded that it gives a feeling of security and safety, because they can see who is coming in
and going out. This is one possible explanation as to why families prefer this area, besides the fact that it does not require four-wheel drive vehicles to get there.

In addition, the go-along and participant observations revealed that the different seasons of the year (winter and summer) often influence picnickers’ selection of a site. For example, the study found that participants prefer to sit on the summit of a hill in summer, to feel cooler, and between sand dunes and lower down in winter, to feel warmer.

The researcher also noticed that both sites offer either vantage-points or shelter, leading to what was described as a very relaxed feeling, since users have attained their desired level of privacy and freedom from observation or bother. This finding corroborated what Appleton (1996) noted where people have the ability to see without being seen, as explained in this research, Chapter Eight, Participant Observation – Findings and Analysis.

10.3.3 Average Number of Visits and Times

The findings from the three methods\(^{55}\) undertaken with the four different respondent groups showed that the majority of respondents prefer to go to the desert on a weekly basis, indicating that this phenomenon of outdoor recreation is becoming a regular event in their lives.

A large majority of respondents prefer to go in the afternoon, probably due to the temperature, since the desert offers pleasant weather from the afternoon until early morning, due to the remarkable drop in air temperature in the desert at night, especially in summer. This preference seems to change to midday in winter and spring, since the temperature in those seasons is lower. However, according to the participant observation findings, families, especially when accompanied by children, preferred not to stay after dark. The study revealed that the behaviour of parents and children changed then: the children were a little scared of the darkness, especially as

\(^{55}\) Questionnaires for Groups A and B, go-along interviews, and participant observation.
there was no source of light. The parents’ behaviour changed too after sunset, becoming a bit more concerned about their children's safety. These findings support the demand for basic services in the desert, as the absence of lighting forced families to leave and altered their feeling of being happy.

According to the questionnaires and participant observation, the majority of respondents prefer to spend between three to six hours or more in the desert. A possible explanation for this relatively long period is the variety and types of activities they like to participate in, for example, walking often took place before sunset, while watching stars took place after nightfall.

### 10.3.4 Who Goes to the Desert with Users

The findings from the three methods undertaken with the four different respondents’ groups suggest that participants are more likely to visit the desert with friends and/or family members. The questionnaire results provided a similar finding, confirming that there were no significant differences between the picnickers’ groups in relation to the company they kept when they visited the desert; however, a few indicated that they prefer to go alone. The findings for all the methods revealed that only a male can go with family, friends or alone, while women go only with their family, mostly because in Saudi Arabia they are not allowed to drive, as explained above, so women cannot go alone to the desert and cannot go with any non-Mahram companion. This is a clear indication that women do not commonly go out into the desert with the family of their female friends.

### 10.3.5 Level of education

The findings from the three methods undertaken revealed that the majority of respondents in the four different groups hold a university degree or are still studying to achieve a degree, depending on their age groups. Thus, it appears that desert users

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56 Questionnaires, go-along interviews, and participant observation.

57 Questionnaires, go-along interviews, and participant observation.
are not only limited to Bedouins, who used to live there and were illiterate, or had only a primary education, as the respondents in this survey tended to have a high level of education and this education has allowed them to have higher paid/status jobs.

On the other hand, it might be argued that the relatively proportion of respondents with a high level of educational, which is based on the age groups among respondents from both genders in the samples in all the applied methods, may not to be representative of the Saudi Arabian population. This is because I did not set out to represent the whole population of Saudi citizens but only those who go to the desert, since my methods were applied in the desert and oriented to desert users and only one method, Questionnaire Group B (for those who do not go to desert), was applied in the city and distributed to university students with one level of education, for different purposes, as explained in Chapter 5. However, we can argue here that this might in fact give a relatively typical representation of Saudi Arabian society because education at all levels in Saudi Arabia is free: each Saudi or non-Saudi male or female has the opportunity to study without any charge. For example, as mentioned earlier, after the oil discovery and the increase in Bedouin settlements in towns at the beginning of the 1930s, the Saudi government started to encourage its citizens to study and aimed to reduce the amount of illiteracy in society, especially among Bedouins. In general, universities are government institutions, thus, students do not pay tuition fees. In addition, universities pay their students an award or salary while they are studying: each student receives around 200 GBP monthly as a form of encouragement. Moreover, the government often offers outstanding students of both genders a scholarship to study abroad after finishing high school as another means of encouragement. It has also introduced a literacy programme specially designed for its older citizens, who did not have a chance to learn in their youth.

10.3.6 Accommodation

The majority of participants in this research live in houses. This may be because in Saudi families, the average number of family members who live in a house is high, and it is families who are more concerned with being in big open spaces, besides
having their privacy and territory. This has led them to go to remote desert areas, particularly after newly designed houses have been influenced by western forms that no longer offer the desired privacy in their front or back yards. This is unlike the earlier, traditional courtyard houses, where the interior courtyards were used for social and cultural activities such as neighbourhood meetings (women together), and for recreational purposes. This research finding reflects the observations of Al-Naim (2008a), Al-Hemaidi (2001) and Bahammam (1992), who described how Saudi people made modifications to their houses to meet their social and cultural needs.

10.3.7 Age Groups

Although there was a remarkable range of age groups among participants in the different methods, the majority were between 15 and 39. The questionnaire findings showed that the dominant age group was between 15 and 39 years old, which could be explained by two factors: firstly, these are people who used to visit the desert as a child who are now visiting it as adults. Other possible explanations may be, firstly, that most Dammam city householders are in the age range of young adults or adult married couples with one or two children. In addition, Dammam city has more job opportunities, due to the number of companies in the region which attract this age group. Secondly, even if this age group have one or two children, they are still too young to enter nursery, which means they can accompany their parents at any time to the desert.

10.3.8 Marital Status

The marital status of the respondents is considered very important in this study; the married male is considered to be different from a single man in terms of his desires and needs. According to the findings from the three methods, the majority of respondents are married. This high percentage of married picnickerers could be because families have more concerns about their privacy and territory, and at the same time, they want to enjoy their freedom, and it this that has led them to go to
remote desert areas. Also the desire and need for privacy and territory may reflect marital status, given that a married man will have to consider not only his privacy but also his wife and daughters’ privacy, while a single man will only have to think of himself.

10.3.9 Gender Differences

The gender variable is also very important in this study. The Questionnaire Group A results show an almost equal percentage of both male and female respondents, drawing attention to the fact that this trend of outdoor recreation in the desert is not limited to males only. The absence of services and facilities has not stopped women from going to the desert and this may emphasise that, for them too, having their socio-cultural needs met compensates for the lack of such facilities.

We can argue here that they go there despite the fact that there is nothing there, except what it has to offer its users in terms of its intrinsic qualities. This highlights how socio-cultural aspects influence people’s behaviour and, in terms of how their needs are met, these are more important than the quality of a place.

This high percentage of female respondents could be explained by the fact that in this conservative Muslim society, where a woman should not be seen by strangers, the desert affords its users, especially women, their desired privacy, besides a feeling of freedom and numerous activities with the full confidence that no stranger could intrude. Thus, arguably, the desert is considered as ‘home’ by its users. Since they behave in the same manner as inside their home, by taking off their black cloak and unveiling their faces in a place where they have full control of privacy, such behaviour is a clear indication that the desert environment is satisfying their privacy and territorial needs.

The almost balanced number of the sample for both genders indicates how the desert has helped females, males, and their children to be able to sit together, participating

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58 Questionnaires, go-along interviews, and participant observation.
in the same activities and enjoying a full sense of privacy and freedom, without any visual barriers or obstacles that might cause a negative affordance. The gathering of family members, as if they were in their own home, is a clear indication of the social benefit they gain from being in the desert.

10.4 Conclusion

The initial hypothesis was that a new phenomenon was occurring in the desert outside Dammam city, namely, a pattern of regular outdoor recreation was taking place there by various mixed groups. The initial view was that this was because the existing recreational sites in Dammam city, such as public gardens and waterfronts, were not meeting users’ socio-cultural needs or their need for privacy and territoriality.

The discussion above, however, has shown that the socio-cultural aspect was not the only reason behind this new pattern of outdoor recreation. The initial expectation in this study was that the desert environment offered a positive affordance to its users to meet their different needs and desires, according to their different genders and age. However, this study revealed other reasons for this pattern, not limited only to socio-cultural aspects. However, they might still be related to the fact that the desert offers a positive affordance to its users, which plays a vital role in respondents’ perceptions of the desert and was found to have influenced their choice to go there. Additionally, the study has shown the opportunity for religious experience as another reason for going to the desert. The findings showed that silence and its natural elements encourage respondents’ humility and their contemplation of “God’s creation”. This is particularly true if picnickers can be out of sight and if there is no sound, ‘away from noise’, since being alone in a remote place like the desert helps people to become in tune with their spirit, such that they can become immersed in a contemplative state and focus on God’s natural creation.

The discussion above also revealed new findings that had not been anticipated. Firstly, that the personal attachments, images, and collective memories that respondents have of their hometown were another reason for going to the desert.
Their yearning for their hometown can explain the direct relationship found between their regions of origin and their choice to go to the desert. It appeared that the desert’s golden sand, natural elements, wildlife, and weather were likely to evoke memories of familiar landscapes in participants’ childhood memories and reminded them not only of the Najd region, their native landscape, but also of their parents’ and grandparents’ harsh lives of hunger and poverty. In addition, the study showed another reason for going to the desert now, as an adult, was if the respondent had gone as a child. This confirmed that those who go as children are more likely to go as adults.

In addition, this research has confirmed the trends of outdoor recreation in desert environments by observing the behaviours and habits of local Saudi people in those environments, some of which are determined by the socio-cultural aspects of a conservative society that are based on Sharia (Islamic law). This requires Saudi people, when enjoying their recreation, in particular women, to observe matters of privacy and territory in certain ways that are different from Western people’s concerns; however, these behaviours also reflect universal human needs and can be observed in other societies.

From the above findings, some of which were anticipated and others not, it can be concluded that socio-cultural aspects, together with psychological and religious motives, have impelled local users to seek refuge in the desert not only for outdoor recreation purposes but for other purposes as well.

In general, this research has confirmed the importance of the desert to its users and how it plays an important role in their life and has helped them to experience privacy and freedom at the same time, without any obstacles that might impact or limit their activities and their feeling of wellbeing. Additionally, the study has found that camels and overgrazing are the greatest threat to the desert and the main issue in desert degradation, as compared to recreation activities. This was an unanticipated finding that added a new dimension to this study.

One of the main characteristics of the desert, for all participants, is that it allows them to engage in all kinds of activities of their choice. The fact is it affords its users
something that the modern, heavily designed recreational places do not appear to regard as important. Thus, the desert, with its simultaneous openness and privacy, has given participants, especially families, the opportunity to escape from the restrictions of public open spaces in the city. The freedom this environment affords overrides the fact that it offers no basic facilities. The picture that emerges from the research findings helps in understanding the importance of the desert to human wellbeing and provides suggestions for ways in which it can be used as a natural recreational destination. Thus, the aspects highlighted in this research have to be taken into consideration by municipal and landscape architect officials in any future developments. In so doing, they can provide facilities and services that ensure desert picnickers have satisfactory experiences there that will allow the impact of uncontrolled human activities on the desert to be reduced, yet enable its users to benefit from its impact on human wellbeing.

10.5 Summary of Expected and New Findings

10.5.1 Expected Findings

- The role of the desert in terms of privacy and territory.
- The role of the desert for socialising.
- The role of the desert in providing freedom.

10.5.2 New Findings

- There are different meanings of privacy and freedom in the desert, for different ages and genders.
- A trend towards outdoor recreation in the natural environment is observed and is also observed to be a growing trend as in other societies.
- User preferences can vary, according to region of origin, for landscape elements, particularly, sand dunes and/or type of weather and/or wildlife.
- There is a positive perception of the desert and it has a role in providing a positive affordance for its users.
• The growth of motorized activities like using SUVs or four-wheel drives in the desert environment is not limited to Saudi Arabia but is universal and there is a high growth rate for this type of activity in other parts of the world, like the USA.

• The desert plays a key part in allowing women to feel free. They can participate in more active activities than they would do in less private, open spaces.

• The desert is considered as ‘home’ by some users, such that they behave in the same manner as they do at home.

• Childhood memories, personal attachments, images, and collective memories among picnickers in the desert influence why they have gone there.

• There is a significant relationship between the region of origin and the use of the desert.

• The importance of the desert to some picnickers is that this natural landscape lets them reconnect their inner self to their roots.

• If a user visited the desert as a child, they are more likely to go now as an adult.

• The desert has played a longstanding role in Islamic culture.

• The silence and remoteness of the desert enhances self-awareness, spirituality, meditation, and contemplation of God’s natural creation.

• There is a fundamental interrelationship between the desert and people’s religious backgrounds.

• The natural landscape of the desert has the ability to provide picnickers with the opportunity to think reflectively.

• There are aspects of both visual- and sound-privacy to be observed often between male and female seating areas (for two or more families accompanying each other - mixed family groups).

• There are territorial and visual-privacy matters between different picnicker groups.

• It is important to be able to see without being seen.

• The increasing number of camels is the greatest threat to the desert in the area and the main issue in desert degradation.
• The importance of basic services/facilities and having rangers there would make the desert an ideal place for recreational purposes for those who go and do not go.

• There is a need for strong management of a fenced, ‘protected’ area that would preserve the desert’s fragile ecology.

• The importance of the desert is not only limited to Bedouins, who used to live there, traditionally.

10.6 The Contribution of the Study to Landscape Architecture

In general, this doctoral study contributes to the field of landscape architecture by:

• Showing that using Western-related research methods, for the study of a different culture—not only a Middle-Eastern culture, but in a conservative, Islamic country—is a challenge. There were certain limitations, given the particularity of Saudi culture, with its cultural traditions and religious values that are very different from its Western counterparts.

• Showing that mixed-methods research—adapted to the Saudi context to accommodate its socio-culture, religion, women’s privacy and rules applicable to both genders, was a major component of this study’s methodological framework—is particularly suited to working with participants to explore their relationship with a space in a natural environment.

• Reinforcing the importance of the quality of socio-cultural and religious aspects, which are taken to be more important than the quality of place, chiefly, the desires for privacy and territory, which were found to be among the main reasons and goals that have forced people to go to the desert for recreational purposes.

• Extending the body of knowledge on the trends of outdoor recreation in the desert environment, which are not new trends but reflect universal human needs and are also observed in other societies.

• Revealing the importance of desert areas as places for people to carry out their chosen activities easily without any restrictions that might undermine the benefit of being there, but also their importance to social interaction, because they allow people to meet with their family members, relatives and friends while their need for privacy is met.

• The trend for motorized activities (with SUVs or four-wheel drive) is a worldwide trend of activity with a high growth rate in other parts of the world as well as in Saudi Arabia.
• Extending the body of knowledge on the differences between the meaning of privacy and freedom for young adult picnickers and for adult picnickers.

• Revealing the importance of being able to see without being seen.

• Extending the body of knowledge on the differences between desert users from different regions and their perceptions of the desert and their preferences and religious activities there; before this research was undertaken, little was known about desert picnickers’ use of open space.

• Demonstrating that the region of origin is an important indicator of the frequency of use of the desert environment.

• Demonstrating that the desert is considered as ‘home’ by its users. They behave in the same manner as inside their home. So a public outdoor space is becoming a domestic space too.

• Showing the importance of childhood memories for a particular place, even people from cross-regional backgrounds, who feel the desert reminded them of their hometown.

• Demonstrating that those who used to go to the desert while they were children are likely to go now as adults.

• Reinforcing the importance of the desert elements, like sand, plants and dry weather as key preferred elements in outdoor spaces, and acknowledging that this preference is cross-regional, where this preference is only showing their yearning for their hometown.

• Revealing the importance of the natural landscape for people and traditional spatial concepts and space organization in recreational activities; furthermore, its role in reconnecting them with their roots.

• Revealing the importance of the desert in contemplation, especially in Islam, where it is considered a place of silence for worship that helps people to meditate and encounter God.

• Revealing the strong relationship between the desert and religious and conservative people.

• Revealing the importance of the desert in providing picnickers with the ability to think.
• Extending the body of knowledge to perceive the desert in a positive way, where it becomes a refuge for different types of user, providing them with their different needs and desires.

• Revealing how the absence of authority in the desert environment has increased the impact on the fragile environment dramatically.

• Revealing the importance of management.

• Reinforcing the importance of basic services and rangers for desert picnickers; and

• Reinforcing the importance of basic services and rangers to make the desert an ideal place for recreational purposes for those who currently do not go.

• Identifying the distance for visual- and sound-privacy that is often kept between male and female seating areas (for two or more families accompanying each other - mixed family groups), adding a standard for any further development for desert picnickers.

• Identifying the territorial distance and visual-privacy required between different picnicker groups, adding a new dimension to studies of outdoor recreation relative to further developments of the desert for its users. This can be used to indicate the acceptable social carrying capacity, the ‘density of picnickers, the number of units that could be accommodated in a defined area’ for any further desert recreation development.

• Demonstrating that desert picnickers are not Bedouins.

Thus, to reduce the impact people have on the fragile desert while increasing its benefits, this research proposes a very basic design recommendation based on picnickers’ needs and desires, to ensure that neither the quality of visitor experience nor the ecological integrity of the place will be negatively affected by the increasing number of visitors and camels in the same area. This also involves establishing mutually acceptable distances between picnickers in the Saudi desert environment to satisfy their privacy and territorial needs. Quantifying this element of social activity adds a new scale to studies of outdoor recreation in the desert. This can be done by using a Global Positioning System (GPS) as a tool for this type of study. In this way, GPS measurements can be recommended as ways to improve management of these areas.
10.6.1 Limitation of the study

As stated in Chapter 5, the focus of the study is to examine the phenomenon of outdoor recreation that is taking place in the desert on the outskirts of Dammam city. This study investigates people and their relationship with their outdoor, natural environment. This research adopted a case study research strategy as the most appropriate for this investigation, using a variety of methods, each of which has entailed challenges which led to their limitations, especially in view of my previous hostile reception that put me in danger while engaging with some participants, as explained in Chapter 5. This type of reaction is understandable, due to the fact that using Western-related research methods for the study of a different culture—especially one that is not only a Middle Eastern culture, but also in such a conservative Islamic country—was a challenge for this study. That caused certain limitations due to the particular features of Saudi culture, based on the cultural traditions and religious values, which are very different from their Western counterparts. Budget constraints and limited time were also major concerns. In addition, the sensitivity of the study and its location in such uninhabited and remote areas, together with people’s intentions in going to these places to seek privacy, all limited the number of available participants, in both the go-along method and participant observation method, to only people known to the researcher, i.e. friends/friends of friends and members of his family.

Moreover, being a male researcher posed an additional issue, namely, with regard to interviewing and observing women unrelated to the researcher in the context of Muslim culture and Saudi norms, where engaging informally in dialogue with females is restricted. Thus, these issues gave me no option but to limit female participants, in both the go-along method and participant observation method, to only my own family and my various extended families (except for one participant observation family group (see Chapter 5 for more details). However, it was assumed that the selected participants who were available to the researcher have the same psychological and socio-cultural values as other people who feel compelled to seek refuge in the desert for recreational purposes.
Another related problem was the fact that the go-along method and participant observation were time-consuming during this study, because arranging interviews or participation with a group of males or families was not easy to do. Furthermore, participants, in general, go at weekends, so after they had accepted my company, I had to wait until the next weekend each time to carry out my fieldwork, and also take into account that these trips might be cancelled due to weather issues. All these aspects added limitations to this study that serve to highlight the exploratory nature of this research.

The number of returned and valid questionnaires in Group A was relatively small and it was felt that the sampling method did not offer a true representation of the wider population, since it was directed and distributed only to existing desert users. Therefore, to overcome this issue and to give other members of the population a chance of appearing in the sample, Group B questionnaires were distributed among university students, to test whether this new trend of outdoor recreation in the desert environment is widespread in Saudi society or limited, and also to give both genders an equal chance to appear in the sample\(^59\). However, arguably, distributing Group B questionnaires to university students, who all have an education at degree level, might not be representative of every member of the population of Saudi society. Ideally, the questionnaires for Group B should have been distributed within the city, for example, in open spaces, so that every member of the population would have had an equal chance of appearing in the sample. However, carrying out a random survey in such a culture, with limited time, as mentioned above, would have been difficult, if not impossible, especially as it was aimed to include women in the sample. Many barriers and restrictions would have prevented the randomisation of the survey, among them the privacy aspect, which would have prohibited the researcher from distributing the questionnaires to females.

The go-along interviews and participant observation were conducted with a very small group of female participants compared to the number of male participants. Ideally, more female participants should have been included in this field study, by

\(^{59}\) For more detail, see the distribution and collection process for questionnaire B, in Chapter 5.
applying the technique used in participant observation trip 7\textsuperscript{60} to get another report from a family of picnickers, but without the researcher being there. This would have avoided any form of personal bias that might have occurred while conducting the go-along interviews and participant observation on the female members of my family, and would have increased the validity of the female samples, giving other female members of the Saudi population, who seek refuge in the desert for recreational purposes, the chance to appear in this study.

### 10.6.2 Future research

This study provided answers to the research hypothesis and questions but, en route, other questions and further suggestions arose and further research had to be conducted to explore them. It has become clear that there is an increasing demand on desert recreational areas, and this study has indicated that this trend is already irreversible. Thus, further investigation is suggested to find out how we can invest in, and employ, this type of recreation to benefit not only users and the environment but also to stimulate the national economy (both government and private sector) in a way that supports desert livelihoods, investment, and stakeholder interest. At the heart of this triangle lies the way forward for the future of desert sustainability in Saudi Arabia—an urgent issue of interest not only to Saudi residents, but also to the variety of professional and governmental bodies involved. Future research could focus also on finding ways to produce guidelines and criteria that can help to raise local people's awareness of their native landscape, the desert. Such guidelines and criteria can even be integrated into the education sector, to raise the awareness of students and local authorities of the threats and degradation that the desert is facing. The study has shown that there is an absence of monitoring and protecting the Saudi Arabian desert, and also, a lack of data about the number of desert picnickers and the amount of pressure on the desert environment and its ecological and physical degradation. Thus, more research could be done to identify and measure this impact. Although

\textsuperscript{60} I gave a male member of one participant male group a camera, a digital recording device, field notes and I explained to him the fieldwork technique, i.e. observation of activities, informal interviewing of his family members, and recording behavioural patterns concerning the activities of his family in their natural setting.
this degradation is mainly attributed to the recent increasing number of camels in the Saudi Arabian desert, as the study has found, this matter needs further research.

Finally, as I mentioned in the literature review, there is a lack of research as to whether the desert environment enhances the effectiveness of humans in the same way as green and semi-green nature has been reported to do. Thus, there is a need for further investigation to test if the desert environment can provide health restoration, as natural, green environments have been shown to do (cf. attention restoration theory, ART, Kaplan, 2001; and aesthetic affective theory, AAT, Ulrich, 1999) by applying the same methods conducted in their studies.

This research has focused on local users, to discover why they use the desert for their recreation rather than well-designed, open spaces in the city, and has investigated their perceptions and activities, as well as user impact on the desert and its impact on users. The research findings show that the topic is more complex and needs further research. For that reason, it is hoped that this research can serve to establish a base for future research, including other areas of knowledge, such as government policy, management, economics and ecology.

10.7 Specifying the Findings to Provide Conceptual Ideas and Guidelines

The findings and analysis in the preceding chapter indicated that outdoor recreation and its negative impact on the desert’s fragile environment is growing dramatically. Saudi authorities will have to think of better ways to deal with people whose driving activities, for example, have led to poorer sand quality and the increasing amount of litter that is polluting the area. They need to manage and protect such a unique, sensitive environment and reduce the desertification affecting the region. This vital issue needs to be taken to the next management level. The desert should be considered an official place of recreation to benefit not only its present users but also those who do not yet go to the desert, by making it an ideal place for recreation. This is especially significant after the study verified the positive influence and potential that the desert environment had on respondents. At the same time, we need to avoid
the type of mistakes that happened in the built environment in terms of misunderstanding what people wanted, as well as ignoring their socio-cultural needs, especially in public gardens and other recreational sites in Dammam city, as I have claimed in this study.

Thus, we need to establish a set of guidelines to follow when considering construction projects (Bell, 2008, Bell and Apostol, 2008) and, for everyday use, a system of management that can minimise risk to the fragile desert environment, perhaps through the use of rangers to monitor users and to ensure recreational activities are undertaken in a safe and sustainable way. The impact of outdoor recreation on the fragile desert outside Dammam city has been documented in some detail in this research, as per the fieldwork findings and analysis undertaken between March 2012 and August 2013.

Consequently, I suggest that any future development strategies and design ought to consider the Pyramid triangle of play (Figure 105), which depends on the trade-offs between environmental issues (ecology, the impacts on the desert), social and cultural desires (privacy, territory, norms, and values), and activities (what exactly is done). At the heart of this triangle lies the way forward for the future of desert sustainability in Saudi Arabia.

![Figure 105. Pyramid Triangle (Source: author)](image-url)
Thus, in order to benefit from outdoor recreation, to reduce the impact on the desert environment and put the study findings to use, we need to consider the Pyramid Triangle where the concerns of outdoor recreational environments can be classified into three conditions so that the application of these findings may help in enhancing and modifying the existing development.

Moreover, we need to enhance the role of the Presidency Meteorology and Environment (PME) in Saudi Arabia, who have worked hard to provide a law and rules for any implementation to protect the Saudi environment. However, unfortunately, due to the absence of rangers and authority in the desert, none of these laws and rules was established or applied.

Landscape architects, among other planning and design professionals, should be aware that their work can contribute to protecting and preserving the fragile desert environment and improve its use as a place of recreation for more of the population. In other words, they must assure both the quality of users’ experiences and the ecological integrity of the place. Suggestions and guidelines will be pinpointed for the three conditions as follows:

1. The first condition is to create pleasant settings from the existing outdoor recreational areas which have become a part of Saudi local society’s recreational habits, to meet society's cultural demands, suitable for the different kinds of user groups, based on their perception of the desert environment and their social and cultural desires (privacy, territory, norms, and values).

2. To ensure this, developments will accommodate picnickers’ chosen activities based on the needs of each type of group (families and males).

3. These developments will also address environmental issues regarding the desert’s sensitive fragile ecology, based on managing, monitoring and protecting the area.
10.8 Guidelines for Establishing New Developments

10.8.1 Concerns and Suggestions about Land Ownership

The study has indicated the needs of local Saudi people relative to the desert and their different demands, thus, consideration should be given to them. However, in the light of the notable westward expansion of Dammam city, the municipality and the General Commission for Tourism & Antiquities must select and choose areas in the desert located along King Fahd Road or Al Riyadh-Airport road, which have the least possibility of being developed in the next 15-20 years and then negotiate with the owners, whether government or private, to use or buy the land, not only for recreation but to protect it against being overused by people and overgrazing by camels.

10.8.2 Zones

The previous findings suggest consideration should be given when designing an area for recreation purposes, based on users’ different perceptions of the desert, their different needs, desires and activities there. Thus, three zones for different user groups should be defined, in each of which definite picnicking sites have to be allocated and used only by its designated user groups. For example, Zone 1 is only for families to use, Zone 2 for adult males, and finally, Zone 3 for young adult males, since the observation of people in the desert showed that the young adult male group, especially, showed less concern for the fragility of the desert and the increasing number of camels, users and impacts. In addition, they view freedom and privacy differently, and enjoy activities which need to be supervised and controlled by a ranger in authority, to reduce the impact on the desert and to ensure their safety. This is an important issue to be considered in the landscape development of such sites, since the study showed the importance of socio-cultural aspects like privacy and territory, besides users’ needs for silence and quietness for contemplation, which cannot be found in an area that has young adult groups.

Thus, consideration must be given to control and protect each zone by fences, as the study observation and monitoring photographs showed the difference between the
open unfenced area and the fenced area, which showed no sign of any negative effects on its fragile ecology as a result of having been managed.

The recommendation is that each of the different zones should be fenced, to keep camels away, to avoid overgrazing, and to help the ranger to control, manage and monitor the area to avoid overuse and abuse.

### 10.8.3 Location

Consideration must be given to the landscape of the site when designing the recreation area, since the desert is characterized by its natural topography and observation of people in the desert has indicated that picnickers take advantage of the topography of the desert to meet their needs. So, using the natural topography of the desert, like the summits of hills and between sand dunes as vantage-points, allocating these as sitting areas, will enable picnickers to see others without being seen and also keep their children in view while they are sitting.

### 10.8.4 Orientation

It is recommended that consideration be given to the new measurements indicating the comfortable distance between all the different groups of picnickers. In this way, it will be possible not only to allocate their sitting places to satisfy their respective territorial needs, but it will also help to keep the density of picnickers to a limit in each zone, to ensure the quality of visitor experience and that the ecological integrity of the place will not be affected.

It is thus recommended to allocate each sitting area in the three different zones based on these new scales: for example, in the family zone area, from the above findings, families like to keep to a distance of between 200-250m, and in a mixed family group (two families or more in each other’s company), it is recommended from the measurement in the observation, that the female sitting area is allocated between 20-25m from the male sitting area (Figure 106) to provide some privacy. Additionally, their sitting areas should not be facing each other. This type of sitting arrangement is mainly recommended to achieve both visual-and sound-related privacy, while in the
male zone, a distance of 350-400m is recommended between the allocated sitting areas for a group of adult males and young adult males.

Figure 106. Using shrubs and smalls trees to achieve visual privacy between the male and female sitting areas

10.8.5 Facilities Needed

Fencing each zone will mean having one entrance for each site, which will help to provide the necessary facilities, such as an aid centre, ranger office, toilets, water for drinking, water tanks for general use, a cafeteria, a place to sell firewood, and litter containers. These should be directly after the entrance, with one node, in order to make it easy to reach by users, besides reducing maintenance and security, especially when they are not in use.

10.8.6 Accessibility

Consideration must be given to avoid each car driving its own path through the desert, since the observation in this study have indicated disturbance of the topsoil, making it unstable. So it is recommended an established unpaved ring road is created to link all the allocated sitting units, to avoid users driving on the virgin sand and to make the sites easily approachable and within reach for everyone, especially, those who do not have a four-wheel drive car. The ring road should be designed to fit into the topography of the area, with as little disturbance to the surrounding landscape as possible. However, for the entrance and facilities area, it is recommended to have an asphalt road with a parking area that accommodates 20% of the total number of units in each zone, since users do not come at once, so 20% is enough, and includes taking into account the need for two disabled parking spaces.
10.8.7 Lighting

Good lighting from a solar powered system in each of the sitting units, and along the ring road and for the facilities must be considered, especially, in the family zone, since observation of people in the desert indicated that families do not stay after it starts to get dark and their behaviour changed, especially their children’s. However, providing this simple form of lighting will not affect those who seek to watch the stars at night, since it is recommended it can be switched off and on, when required, and at the same time, it will benefit families who have children and are concerned about their safety. This will enable them to stay in the desert at night and provide comfort. So, simple lighting is recommended in all the different zones.

10.8.8 The Picnic Unit and the Surrounding Area

Since the observation of people in the desert indicated that users prefer to sit in flat areas, thus the picnic unit or sitting area should lie on a cleared, flat area and be slightly raised, to avoided any flooding problem that might occur, with an adjustable tent that can be opened or closed, to protect against rain, cold, wind, and hot sun (Figure 107).

This can allow picnickers to visit the desert even on a rainy or hot day. Tent material should be fire resistant. Allocation of the size of the sitting space should consider two things, the number of group members and their belongings, as the observation of people in the desert has indicated. The study found that the average size of the Saudi male or family group in general is between 4 to 8 members. Thus, consideration must be given to supporting this number when designing their sitting area. So it is
recommended to design and number the units in two different sizes: one which can accommodate a group of 4-8 persons, which is the majority of picnickers, as the study indicated, and 30% of the units for 9-12 persons (Figure 108).

![Figure 108. Numbering each unit](image)

The observations of desert picnickers indicated that they like to sit on the ground in a circle or U-shape surrounding the fireplace, using rectangular mats or to sit on the sand and arrange their belongings around them, so it is recommended to provide each unit with a ground-level grill unit and located to the middle edge of the sitting area. To avoid the smoke escaping from the wood, the material of the grill unit should be fire resistant, like cut stone or bricks (Figure 109).

![Figure 109. Stone or bricks surround the fireplace](image)

Due to sand encroachment in the desert and to reduce maintenance, it is recommended that the construction of wide vertical elements for the units is avoided since these will be buried by the sand, so there will be no difference between the ground level and the unit.

Units should be placed a minimum of 100m away from the ring road, with a compacted path for one car that takes each group to their selected unit. Consequently, units should be numbered with the number visible by the cars from the ring road (Figure 110).
Each unit is recommended to have fixed litter bins with a plastic bag that picnickers should pick up on their way in and out to the main litter container, which is recommended to be close to the entrance.

10.8.9 Parking

Since the observation of people in the desert has indicated they have a sizeable quantity of belongings and they use the car as a visual barrier and source of electricity for the TV, consideration must be given to parking cars very close to users, especially for disabled and/or elderly users, so it is recommended that parking spaces are located surrounding the sitting area. Each unit that accommodates a group from 4-8 persons is recommended to have two parking spaces and 3 to 4 parking spaces for the unit for a group of 9-12 persons.

10.8.10 Playground Area

The sand, from the observation, is the main plaything for children in the desert, so there is no need to recommend a playground area for each unit. However, it is recommended one shaded playground area is provided, with play devices made of durable material and that the design meets safety regulations. It is also recommended to have one fenced field in which to ride quad bikes, in an area in the family zone. To avoid any noise that might bother other picnickers and to limit the impact from these
activities to one area, all these activities should be located just beyond the entrance, and parking spaces should be provided on compacted sand, with an average of one car for 20% of the total number of units.

Another recommendation is to provide one field to ride quad bikes and a football field in the young adult zone. This will accommodate the most important activity for this age group, which, from the observation, consisted of them gathering in their four-wheel drive cars to drive up and down the sand dunes. So, when designing their zone, it is recommended to select one of the highest sand dunes in their zone area, so that they can drive up and down with full supervision of someone in authority, to ensure their safety. In addition, they should be required to wear a helmet and to observe a speed limit while they are participating in sand-boarding.

10.8.11 Time of Visit

The study has verified that most people stay in the desert very late at night, especially in summer at the weekends, while others prefer to go early in the morning and stay until noon in winter. Therefore, consideration must be given to the time at which people use the area in different seasons. It is recommended that in summer, times of use at the weekends should be from 2pm up to 2am and on weekdays, from 2pm until 12am, and in winter and spring, when user numbers increase dramatically, the hours should be from 6am until 12am at weekends and from 6am until 10pm during the week. Facilities like a cafeteria and a quad bike field will not operate late at night, however, the rangers will continue working.

10.8.12 Plants

The study has indicated that the desert used to have a diversity of groundcover, shrubs and small trees. However, due to the increasing number of camels, and human activities in the area, these different kinds of plants have disappeared.

The observation and monitoring, mentioned above, showed that protected areas were rich with a diversity of plants. Thus, in the light of the guidelines and recommendations, above, especially protecting an area by fencing it in to allow it to
be controlled and managed, consideration must be given to planting different types of native plants to revive the desert ecology, which helps in the rehabilitation of degraded lands. It is also recommended to irrigate them for the first two to three years to ensure that those plants will survive until they benefit from the rainy season in the area and grow high, as the observation and monitoring of the fenced area has indicated.

The observation in the desert\(^6\) has indicated that there are very few types of plants, like *Cyperus Conglomeratus* (a perennial herb 30cm high), *Suaeda Spp* (a low evergreen shrub, 30-50cm high) *Zygophyllum Coccineum* (a small evergreen bush 50cm high). However, neither *Lasiurus scindicus* (large thick grass clumps, 50cm high) nor *Calligonum Comosum* (evergreen shrubs 2m high) was found in the area. So it is recommended the aforesaid plants should go in the zoning areas to restore the nature of the desert.

Following the above guidelines and recommendations will enable us to limit the extent of user impacts in other areas and at the same time, to reduce the impacts on the zoning areas, since we can control the carrying capacity, the ‘density of people’ in the protected area. This will also allow us to limit acceptable change in the protected area, to ensure that both the quality of users’ experiences and the ecological integrity of the place will not be negatively affected by the increasing number of visitors in the area.

\(^6\) See appendix IV
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Appendix I

Desert Section

Desert: Definition

Deserts and semi-deserts (Figure I), occupy more than one-third of the earth’s land surface (Laity, 2008). The term ‘desert’ comes from the Latin word ‘desertus’, meaning ‘solitary or forsaken’ (Mares, 2002, p. ix). The European Environment Agency Glossary (EEA, 2005) defines it as “an ecosystem with < 100 mm of precipitation per year.” However, this low scale would limit deserts to very arid areas only. Grove (1971) proposes a wider, threefold subdivision, based on average annual rainfall: hyper-arid, where rainfall <25 mm; arid, where rainfall is 25-200 mm; and semi-arid, where rainfall is 200-500 mm (Grove, 1977, cited in Edgell, 2006, p. 2).

Figure I. Map of the global deserts (Laity, 2008, p. 3)

In contrast, Nash (2012) defines the term “physically, as a large contiguous area with extensive bare soil and low vegetation cover; biologically, as an ecoregion that contains plants and animals adapted for survival in dry conditions and climatologically, as a semi-arid, arid or hyper-arid (i.e. severely arid) region” (Nash, 2012, p. 8).

This study is adopting, the broader, simple definition used by Edgell (2006) in his book, Arabian Deserts, where desert is “a temperate region that receives an average annual rainfall of less than 250mm a year, generally infrequent, where evaporation
exceeds precipitation” (Edgell, 2006, p. 2). Specifically, in this research, the desert in question is that on the outskirts of Dammam city.

The Desert Environment of Saudi Arabia

Saudi Arabia is considered one of the driest countries in the world, with desert comprising 70% of its area. There are some oases in the middle and east while mountains in the south and south-west rise from the Red Sea to the west. Despite Saudi Arabia being surrounded on three sides by sea and occupying the largest part of the Arabian Peninsula, it lacks water (Al-Abdullah, 1998, Bahammam, 1995).

Its deserts, the Aldhna Desert, the Great Nefud Desert, and the Empty Quarter, comprise one of the three largest desert areas in the world, alongside the Antarctic and Sahara deserts. The Swiss geographer Burckhardt introduced the term ‘ar-Rab’ al-hali’ for the great southern desert sands of Arabia, now termed Rub’ al Khali, literally, Empty Quarter’ (Edgell, 2006, p. 2). There, some of the largest sand dunes in the world, up to several hundred metres high, can be found.

Generally, most of the Arabian Peninsula has an average annual rainfall of less than 250mm, while all of Saudi Arabia has a low average annual rainfall of less than 100mm (Edgell, 2006, Laity, 2008, Amin, 2004). Dhahran, for example, which is located within only 25km of the study area, registered 186.9mm in 1974 and only 5.3mm in 1946 (ARAMCO 1935-1974). Most Saudi cities have a low average annual rainfall of less than 100mm, indicative of the arid climate of Saudi Arabia.

Winter and summer temperatures differ considerably over Saudi Arabia. Summer temperatures, for example, in the ‘Ar Rub’ al Khali’ desert, while usually above 50°C might rise above 60°C, while in winter, the temperature can fall below zero at night (Edgell, 2006). In July, when the temperature is greatest, the average for central Saudi Arabia is 41-42°C. Some arid areas of Saudi Arabia have high humidity, given its proximity to the Arabian Gulf and Red Sea, where warm air can hold more water vapour (Edgell, 2006).
Large cities, like Dammam, for example, have a harsher climate because their urban life systems affect weather and air cycles. Wind also affects temperature and controls dune shapes. The ‘shamal’ is a northerly, year-round, dry wind that moves from the eastern Mediterranean towards eastern Arabia, and is stronger from late May to early July (Barth, 2001, Edgell, 2006).

It has average speeds of 48 km/h, can last for more than 40 nights, with gusts of up to 93 km/h carrying huge amounts of dust and sand (Edgell, 2006), and causes migration of sand dunes with its severity (Amin, 2004) (Figure II).

![Figure II. The direction of sand migration in the Eastern Province (Barth, 2001, p. 339)](image)

The desert consists mainly of numerous Barchanoid
dune ridges, which predominantly indicate the wind direction when they were formed (Figure III).

![Figure III. Barchanoid dune ridges (Saudi Caves, n.d.)](image)

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62 Barchans are crescentic dunes with elongated horns pointing downwind and are considered the classic desert dune type. The crescent shape is largely the result of sands moving faster at the edges (thus forming the horns of the dune) than they do along the main body of the barchans (Mares, 1999, p. 187).
Appendix II

Sample of Questionnaires for Groups A & B, in English

Questionnaire on Desert Recreation for Group A respondents

Information Statement

Who am I and what I am doing?

I am a doctoral student from Edinburgh College of Art, United Kingdom. I am working on my PhD research called ‘Impacts of informal recreation and Outdoor Development on Desert Environment: A Study of People’s Perceptions and Use of the Desert in the Eastern Coast Region of Saudi Arabia’. This study is sponsored by the College of Architecture and Planning, Dammam University, Saudi Arabia.

The aim of study:

The main aim of my research is to examine both the impacts of informal recreation and Outdoor Development on the desert environment and the impacts of desert environment on tourism in the eastern coast desert region of Saudi Arabia. Moreover, my research investigates how socio-cultural aspects are related to activities and use of the desert environment.

How will the information be used?

Information collected in the questionnaire will be used to understand people’s perceptions and use of the desert, their emotions, values, and attachment to this place.

The data gathered from the questionnaire will be used for my PhD study, focusing on the different aspects of the research enquiries. Personal information as well as the contents of the discussion will be kept confidential and used only for research in an anonymous way. The notes obtained in the questionnaire is accessible only to the researchers shown below.

Researcher

PhD student Tareq Alrawaf, Edinburgh College of Art, Edinburgh, UK. tel. +44 (0)7545 285266. Sponsored by Dammam University in Saudi Arabia, Sponsored by college of Architecture & planning Dammam university tel. +966 (0) 555820302, email: aborawaf@hotmail.com

For further information, please contact supervisor Penny Travlou, School of Architecture, Edinburgh College of Art; Lauriston Place, Edinburgh EH3 9DF, UK, tel. +44 (0)131 221 6175, email: p.travlou@ed.ac.uk
Section one: Personal information

1. Gender:  ( ) Male  ( ) Female
2. Your Age:  
   ( ) 15-19  ( ) 20-39  ( ) 40-59  ( ) 60-above
3. Marital status:  
   ( ) Married  ( ) Single
4. Number of family members:  
   ( ) 1-3  ( ) 4-6  ( ) 6-8  ( ) 9- and more
5. Type of Accommodation:  
   ( ) House  ( ) Apartment
6. You education level:  
   ( ) high school  ( ) Diploma  ( ) University degree  ( ) Post-Graduate Education
7. Your region of origin:  
   ( ) North region  ( ) South region  ( ) West region  ( ) East region  ( ) Najd region

Section two divided in two parts Preference and Opinion:

Preference

8. Choose and arrange your favourite location for recreational purposes from 1 most favourite to 4 least favourite:  
   ( ) Desert environment  ( ) Seaside environment  
   ( ) Agriculture environment  ( ) Mountain environment
9. Would you please arrange the suggested basic facilities and services, using a 5-point scale to identify your basic requirements from very important to very unimportant.

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<td>Somewhat important</td>
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If other would you please add

.............................................................

**Opinion**

10. Do you have any concerns about the increasing number of visitors and 4x4 cars in the desert environment?

   ( ) Yes    ( ) NO

11. Do you have any concerns about the increasing number of camels in the desert?

   ( ) Yes    ( ) NO

12. Do you have any concerns over the increasing amount of litter in the desert?

   ( ) Yes    ( ) NO
13. Do you collect your litter before you leave? ( ) Yes ( ) No

14. Do you teach your children or your younger brothers and sisters to collect their litter before you all leave a place? ( ) Yes ( ) No

15. Would you please list the meaning or symbolic value of the desert for you?

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16. Would you please list your feelings when you are in desert?

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Section three social aspects

17. When you were a child did you use to go to the desert for recreational purposes?

( ) Yes ( ) No

18. Could you list the reasons for choosing the desert for your recreational purpose?

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...........................................................................

19. With whom do you often go to the desert for recreation:

( ) Alone ( ) with my friends ( ) with my family

20. Do you go to the same place you visited before? ( ) Yes ( ) No

21. In which season do you usually go to the desert:

( ) winter ( ) spring ( ) summer

22. How often do you go to desert:

( ) Daily ( ) weekly ( ) monthly ( ) seasonally

23. At what time do you prefer to go to the desert:

( ) Morning time ( ) mid-day ( ) afternoon ( ) night time

24. How long you often stay there:

( ) 1-3 hours ( ) 3-6 hours ( ) More than 6 hours
25. Would you please arrange the common activities below, using a 5-point Scale to identify your degree interest of activities from No interest to Considerable interest:

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<tr>
<td>Sitting and chatting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching sunset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching nature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching flora fauna</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing football</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If other would you please add it
........................................................................

26. What is the acceptable “desirable” distance that you keep away from other picnickers to achieve your privacy and territory:

<table>
<thead>
<tr>
<th>Distance by metres</th>
<th>100-200</th>
<th>200-400</th>
<th>400-600</th>
<th>600-800</th>
<th>800-above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With your friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With your Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Questionnaire on Desert Recreation for Group B respondents

Information Statement

Who am I and what am I doing?

I am a doctoral student from Edinburgh College of Art, United Kingdom. I am working on my PhD research called "Impacts of informal recreation and Outdoor Development on Desert Environment: A Study of People’s Perceptions and Use of the Desert in the Eastern Coast Region of Saudi Arabia". This study is sponsored by our College of Architecture and Planning, Dammam University, Saudi Arabia.

The aim of study:

The main aim of my research is to examine both the impacts of informal recreation and Outdoor Development on the desert environment and the impacts of desert environment on tourism in the eastern coast desert region of Saudi Arabia. Moreover, my research investigates how socio-cultural aspects are related to activities and use of the desert environment.

How will the information be used?

Information collected in the questionnaire will be used to understand people’s perceptions and use of the desert, their emotions, values, and attachment to this place.

The data gathered from the questionnaire will be used for my PhD study, focusing on the different aspects of the research enquiries. Personal information as well as the contents of the discussion will be kept confidential and used only for research in an anonymous way. The notes obtained in the questionnaire is accessible only to the researchers shown below.

Researcher

PhD student Tareq Alrawaf, Edinburgh College of Art, Edinburgh, UK. tel. +44 (0)7545 285266. Sponsored by Dammam University in Saudi Arabia, Sponsored by college of Architecture & planning Dammam university tel. +966 (0) 555820302, email: aborawaf@hotmail.com

For further information, please contact supervisor Penny Travlou, School of Architecture, Edinburgh College of Art; Lauriston Place, Edinburgh EH3 9DF, UK, tel. +44 (0)131 221 6175, email: p.travlou@ed.ac.uk
Section one: Personal information

1. Gender:
   ( ) Male  ( ) Female
2. Marital status:
   ( ) Married  ( ) Single
3. Number of family members including yourself:
   ( ) 1-3  ( ) 4-6  ( ) 7-8  ( ) 9- and more
4. Type of Accommodation:
   ( ) House  ( ) Apartment
5. Your region of origin:
   ( ) North region  ( ) South region  ( ) West region  ( ) East region  ( ) Najd region

Section two divided in two parts Preference and Opinion

Preference
6. Do You Go To Desert For Recreational Purposes And Leisure Activities?
   ( ) Yes  ( ) No

Opinion: If your answer above was ‘NO’ please answer these questions:

7. Could you list what might change your mind to go to the desert?
   ............................................................................................................
   ..................................................
8. Could you list what it would make the desert an ideal place to go for recreational purposes?
   ............................................................................................................
Section three social aspects

9. When you were a child, did you go to the desert for recreational purposes?
   ( ) Yes ( ) No

10. Would you list the reasons for ‘going or not going’ or why you like ‘to go or not to go’ the desert?


If you go to the desert for recreation purposes, please answer the questions below:

11. With whom often you go to the desert for recreation:
   ( ) Alone    ( ) with my friends    ( ) with my family

12. in which season do you usually you go to desert:
   ( ) winter    ( ) spring    ( ) summer

13. How often do you go to the desert:
   ( ) Daily    ( ) weekly    ( ) monthly    ( ) seasonally

14. At what time do you prefer to go to the desert:
   ( ) Morning time    ( ) mid-day    ( ) after noon    ( ) night time

15. How long do you often stay there:
   ( ) 1-3 hours    ( ) 3-6 hours    ( ) More than 6 hours

16. Would you list your preferred activities that you often participate in when you are in the desert?


17. What is the acceptable "desirable" distance that you keep away from other picnickers to achieve your privacy and territory:

<table>
<thead>
<tr>
<th>Distance by metre</th>
<th>100-200</th>
<th>200-400</th>
<th>400-600</th>
<th>600-800</th>
<th>800-above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With your friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With your Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample of Questionnaires for Groups A & B, in Arabic

Questionnaire on Desert Recreation for Group A respondents

استبانة عن تأثير الترويج الغير منظم والأنشطة على البيئة الصحراوية

من أين وماذا فاعل؟

اخي الكريم/لختي الكرم، أنا طارق الروافطي طالب لدراسة درجة الدكتوراه من جامعة النّساء كلية العمارة والتخطيط التي تخدمية في المملكة المتحدة ببريطانيا لدراسة آثار الترويج الغير منظم على البيئة الصحراوية ومتزامناً: دراسة لنظره واستخدام الصحراء المحيطة بسد النّساء في المنطقة الشرقية بالسعودية.

هدف الدراسة

إن الهدف الرئيسي من البحث هو دراسة آثار متزامنة في البيئة الصحراوية وأثر الفنوق على هيئة البيئة الصحراوية ومتزامناً.

كيف سيستفيد المستخدمون من البحث؟

سيستفيد المستخدمون من البحث عن نتائجه النتائج والاستدامة واستخدام الصحراء. شمل ذلك التوصيات والتحديات المحيطة بالبيئة الصحراوية والتحديات المحيطة بالبيئة الصحراوية.

الباحث

طارق الروافطي، كلية إدارة الفنون، جامعة إدروبة، المملكة المتحدة: الهاتف 07526645470 البريد: aborawaf@hotmail.com

للمزيد من المعلومات، يرجى الاتصال بالمشتركة: Dr. Penny Travlou, كلية الهندسة المعمارية، جامعة إدروبة 0131 221 6175 p.travlou@ed.ac.uk
القسم الأول

1. الجنس: ذكر ( ) أنثى ( )
2. العمر: 80-85 ( ) 60-69 ( ) 40-39 ( ) 20-39 ( ) 19-15 ( )
3. الحالة الاجتماعية: متزوج ( ) لازم ( ) حائر ( ) مطلوب ( ) مطلقة ( ) مشتركة ( )
4. عدد أفراد الأسرة بدون الأب والأم: 1-3 ( ) 3-5 ( ) 5-8 ( ) أكثر ( )
5. السنك: شرقية ( ) غربية ( ) جنوبية ( ) شرقي ( ) جماعية ( ) نادي ( ) متغير ( )
6. المستوى التعليمي: أقل من ثانوي ( ) ثانوي ( ) جامعي ( ) دراسات عليا ( )
7. من أي المناطق اتصلت تلميذًا: الشمالية ( ) الجنوبية ( ) الشرقية ( ) الغربي ( ) الوسطي ( )

القسم الثاني منقسم إلى قسمين: الأخلاقي والرأي:

الأخلاقية

8. رتب البيات المفضلة لديك لغرض الترويج:
   البيئة البحرية ( ) البيئة الصحراوية ( ) البيئة الجبلية ( ) البيئة الزراعية ( )

9. يرجى ترتيب الخدمات المقترحة، لتحديد المتطلبات الأساسية الخاصة بك من المهم جداً غير مهم جداً:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>مسارات جيدة للوصول إلى داخل الصحراة</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>منطقة جبلية</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>مكان قارئ (الشاغرة)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>منطقة الغرب الأطلسي</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>منطقة خاصة للمياه</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>معرض للحافلات البرية</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>كافتريبا &quot;جولة&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>دورات بطاقات</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>مركز تعليمي</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>مركز اسعاف أولي</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

أخرى (يرجى التحديد) ..... 

والرأي

10. هل لديك تجربة أو فضول من منازل مرتادي المنطقة الصحراوية السيارات ذات الدفع الرباعي مرتادي

المنطقة الصحراوية السيارات ذات الدفع الرباعي: نعم ( ) لا ( )

11. هل لديك تجربة أو فضول من منازل المائية في الصحراة: نعم ( ) لا ( )

12. هل لديك تجربة أو فضول من منازل البدلاء في الصحراة: نعم ( ) لا ( )

13. هل تقوم بجمع ووضع مخلفاتك في مكان مناسب قبل مغادركك المكان: نعم ( ) لا ( )

14. هل تعلم طفلك، اختر الصغرى، أو اختر المحافظة على البيئة وجمع نفاياتهم من الممكن قبل مغادرة:
القسم الثالث الجوانب الاجتماعية

17. هل كنت تذهب إلى الصحراء عندما كنت طفلاً؟ (نعم ( ) لا ( )

18. ما سبب اختيارك للصحراء للترويح:

19. هل تذهب إلى الصحراء وحدها مع أصدقاءك؟ (نعم ( ) لا ( )

20. هل تذهب إلى نفس المكان من الصحراء الذي زرته من قبل؟ (نعم ( ) لا ( )

21. ما هو الموسم الذي تفضل فيه الذهاب إلى الصحراء: (الصيف ( ) الشتاء ( ) الربيع ( ) الخريف ( )

22. بمجرد كم تذهب إلى الصحراء بمعدل: (يومي ( ) أسبوعي ( ) شهري ( ) موسمي ( )

23. ما هو الوقت المفضل لديك للذهاب إلى الصحراء: (فمرا ( ) ظهرًا ( ) عصرًا ( ) مساءًا ( )

24. ما هو عدد الساعات التي تقضيها هناك: (1-3 ساعات ( ) 3-6 ساعات ( ) أكثر من ست ساعات ( )

25. يرجى ترقيم الأنشطة المสำรวจة أدناه:

<table>
<thead>
<tr>
<th>رقم</th>
<th>أنشطة المสำรวจة</th>
<th>عدد الساعات</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>القيادة في القيادة بالأنشطة المสำรวจة التالية في الصحراء</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>مشاهدة الجموم</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>مشاهدة الكهوف والأدغال</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>مشاهدة المواقع الجوية</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>مشاهدة الطبيعة الصحراء وتأملها</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>لعب كرة القدم</td>
<td>5</td>
</tr>
</tbody>
</table>

أخرى (يرجى التحديد)

26. ما هي المسافة بالمتر التي تفضل أن تكون بينك وبين الآخرين "المتهردين" عندما تكون:

<table>
<thead>
<tr>
<th>المسافة بالمتر</th>
<th>أكثر</th>
<th>600-800m</th>
<th>400-600m</th>
<th>200-400m</th>
<th>100-200m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(نعم ( ) لا ( )</td>
<td>(نعم ( ) لا ( )</td>
<td>(نعم ( ) لا ( )</td>
<td>(نعم ( ) لا ( )</td>
<td>(نعم ( ) لا ( )</td>
</tr>
</tbody>
</table>
Questionnaire on Desert Recreation for Group B respondents

From whom and why was this done?

The questionnaire was conducted by students of the College of Science at the University of the Western Sahara and the College of Science at the University of the Western Sahara. The study was conducted in collaboration with the College of Science at the University of the Western Sahara.

Objective of the study

The objective of this study was to investigate the effect of the desert environment on the respondents of Group B.

How was the study conducted?

The study was conducted in two phases. The first phase involved the collection of data from a sample of respondents from Group B. The second phase involved the analysis of the data collected in the first phase.

What are the results of the study?

The results of the study showed that the respondents of Group B were positively affected by the desert environment. The respondents reported enjoying the natural beauty of the desert and found it to be a relaxing and therapeutic environment.

For more information, please contact:

Dr. Penny Travlou,
Department of Applied Science,
Lauriston Place, Edinburgh EH3 9DF, UK, tel. +44 (0)131 221 6173 p.travlou@ed.ac.uk
القسم الأول

1. الجنس: ذكر ( ) أنثى ( )
2. الحالة الاجتماعية: متزوج ( ) أعزب ( )
3. عدد أفراد الأسرة بدون الآب والآم: 1- 3 ( ) 3- 5 ( ) 5- 8 ( ) أكثر ( )
4. المسكن: شقة ( ) فيلا ( )
5. من أي المناطق اصلا تنتسب:
   الشمالية ( ) الجنوبية ( ) الغربية ( ) الشرقية ( ) الوسطى "نجد" ( )

القسم الثاني متقسم إلى قسمين الأفضلية والرأي:
الأفضلية
6. هل تذهب إلى الصحراء لغرض الترفيه والترويح: نعم ( ) لا ( )
7. الرأي: إذا كانت إجابتك "لا"، يرجى الإجابة على هذه الأسئلة:
   ما الذي قد يخبر رأيك وتذهب إلى الصحراء لغرض الترفيه والترويح:
8. في رأيك ما من شأن أن يجعل الصحراء المكان المثالي للذهاب لأغراض الترفيه والترويح:
القسم الثالث: الجوانب الاجتماعية

9. عندما كنت صغير في السن هل كنت تذهب للصحراء لغرض الترفيه والترويج مع الأسرة:

نعم ( )
لا ( )

10. ما هي الأسباب الرئيسية لذهابك أو عدم ذهابك للصحراء:

إذا كنت اجابت قم تذهب/ذهب إلى الصحراء لأغراض ترفيهية، الرجاء الإجابة على الأسئلة التالية:

11. هل تذهب إلى الصحراء: وحدهك ( ) مع أصدقاء ( ) مع الأسرة ( )

12. ما هو الموسم الذي تفضل به الذهاب إلى الصحراء: كل القصص ( ) الشتاء ( ) الربيع ( ) الصيف ( )

13. بمعدل كم تذهب إلى الصحراء: يومي ( ) أسبوعي ( ) شهري ( ) موسمي ( )

14. ما هو الوقت المفضل لديك للذهاب إلى الصحراء: فجراً ( ) ظهراً ( ) عصرة ( ) مساء ( )

15. ما هو عدد الساعات التي تقضيها هناك: 1-3 ساعات ( ) 3-6 ساعات ( ) أكثر من ست ساعات ( )

16. أرجو أن تسرد الأنشطة التي تمارسها هناك:

17. ماهي المسافة بالكمي التي تفضل أن تكون بينك وبين الآخرين "المتزلجين" عندما تكون:

<table>
<thead>
<tr>
<th>المسافة بالكمي</th>
<th>أكثر</th>
<th>800-600</th>
<th>600-400</th>
<th>400-200</th>
<th>200-100</th>
<th>أقل من 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>لوحدهك</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>مع أصدقاءك</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>مع عائلتك</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix III

Go-along interviews section

Participant Information Statement

Who am I and what I am doing?

I am a doctoral student from Edinburgh College of Art, Edinburgh University, United Kingdom. I am working on my PhD research called ‘Impacts of informal recreation and Outdoor Development on Desert Environment: A Study of People’s Perceptions and Use of the Desert in the Eastern Coast Region of Saudi Arabia’. This study is sponsored by the College of Architecture and Planning, Dammam University, Saudi Arabia.

The aim of study:

The main aim of my research is to examine both the impacts of informal recreation and Outdoor Development on the desert environment and the impacts of desert environment on tourism in the eastern coast desert region of Saudi Arabia. Moreover, my research investigates how socio-cultural aspects are related to activities and use of the desert environment.

How will the information be used?

Information collected in the interviews will be used to understand people’s perceptions and use of the desert, their emotions, values, and attachment to this place.

The data gathered from the interviews will be used for my PhD study, focusing on the different aspects of the research enquiries. Although I ask your name to get your consent to participate, it will not be used for any other purposes. Personal information as well as the contents of the discussion will be kept confidential and used only for research in an anonymous way. The notes obtained in the questionnaire is accessible only to the researchers shown below.

Please remember!
✓ It is entirely your decision to take part in.
✓ You are free to withdraw at any time for any reason.
✓ You do not have to give us a reason if you do not want to participate.
✓ You are free to change your mind after agreeing to participate.

Researcher
PhD student Tareq Alrawaf, Edinburgh College of Art, Edinburgh, UK. tel. +44 (0)7545 285266. Sponsored by Dammam University in Saudi Arabia, Sponsored by college of Architecture& planning Dammam university tel. +966 (0) 555820302, email: ahorawaf@hotmail.com
Consent Form

I have been asked to take part in the following research project:
Impacts of informal recreation and Outdoor Development on Desert Environment: A Study of People’s Perceptions and Use of the Desert in the Eastern Coast Region of Saudi Arabia’

Researcher: PhD student Tareq Alrawaf (Edinburgh College of Art, United Kingdom) Sponsored by Dammam University in Saudi Arabia.

Please read the statements below and tick appropriate box.

YES NO

I understand the general aims of the project and am happy to

take part ................................................................. ☐ ☐

I understand that is my decision to take part in the project

and I can stop at any time ............................................ ☐ ☐

I understand that if I do not want to take part, I do not have to give

a reason and it will not affect any help I am getting now or in the future ................................................. ☐ ☐

I understand that my name and address will not be publicised or

used in any reports of the project .................................... ☐ ☐

I confirm that I have read the Information Statement ...................... ☐ ☐

I agree to take part in the project by signing below:

Full name of participant: ..................................................

Signature: .................................................. Date: .........................

Address: ..............................................................................

Telephone number: .............................................................

For further information, please contact supervisor Penny Travlou, School of Architecture, Edinburgh College of Art; Lauristone Place, Edinburgh EH3 9DF, UK, tel. +44 (0)131 221 6175, email: p.travlou@ed.ac.uk

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Findings in charts

Go-Along interviews questions

The first part consisted of questions to discover people’s perceptions and preferences of the place. (E.g. what did they like or dislike about the desert? What were their feelings when they were in there? And what were their reasons for choosing it?)

What Do You Like & Dislike About It

![Chart showing likes and dislikes about the desert.]

What do you feel when you are in the desert?

![Chart showing various emotional responses while in the desert.]

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freedom</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Privacy</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Relax</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Happy</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Silence and quietness</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Contemplation of God creation</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Openness of my ability to think</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Social gathering of family/friends</td>
<td>16</td>
<td>3</td>
</tr>
</tbody>
</table>

[Male & Female columns for each feeling are provided in the chart.]
The second part consisted of a question dealing with participants’ memories and their place attachments (e.g., “Do you have any acquired memories about this place in particular or in the desert in general?” and “Does it have a symbolic meaning for you?”).
The third part consisted of a number of questions concerning the way users engage with the space (e.g. ‘what would you normally do here? type of activities that picnickers participate’) and how the desert helps them to carry them out. Questions also dealt with the distance groups kept from one another, such as: (‘What is the desirable distance that you keep from other groups of picnickers?’)
What is the desirable distance that you keep from other groups of picnickers

<table>
<thead>
<tr>
<th></th>
<th>Male with his friends</th>
<th>Male with his family</th>
<th>Female with her family</th>
</tr>
</thead>
<tbody>
<tr>
<td>150-250</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>250-350</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>350-450</td>
<td>12</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Participant Information Statement, in Arabic, for the go-along interviews

بيان معلومات مشارك عن تأثير الترويج الغير منظم والأنشطة على البيئة الصحراوية

من أين ومقدار أفعل؟

اختر الكريم/اختي الكريم أبا طارق الرواف طالب مبحث لنشرة درجة الدكتوراه من جامعة الدمام كلية التجارة والاقتصاد إلى جامعة الأزهر في المملكة المتحدة بريطانيا لدراسة أثر الترويج الغير منظم على كل من البيئة الصحراوية ومرافقها.

دراسة لنظر وانتظار الصحراوات بالمحمية بمبني الدمام في المنطقة الشرقية بالسعودية العربية السعودية. وتزود هذه الدراسة من قبل كلية التجارة والاقتصاد جامعة الدمام، المملكة العربية السعودية.

هدف الدراسة

إن الهدف الرئيسي من البحث هو دراسة أثر متزحز الصحراء على البيئة الصحراوية وأثر الصحراء على مرتاديها لذي سوء أساليب الإصلاح الخاصة بها التي تمارسها وتشارك بمساهماتها الغير تواجد للصحراوات. وهلال كل من البيئة الصحراوية كأعمال المفتوحة المصممة لعرض الترقية كالأحداث والواجهات البحرية المخصصة بين غربي إليه ودفعت قمة من المستخدمين المحليين المحافظين للذهب إلى الصحراء خارج أسوار المدينة لعرض الترقية بالرغم من عدم توفير أي من عناصر الترقية أو الخدمات هناك وترك وهجرة الأساليب المخصصة لمثل تلك الغرض.

كيف سيتم استخدام هذه المعلومات؟

سيتم استخدام المعلومات التي سيتم جمعها من المقابلات لفهم نظرة الناس واستخدامهم للصحراوات، ومشاركهم تجاهها، والإنساب التي دفعت بهدف الذهب والتعمل إلى هذا السبب. تتقدم الإصدار هو فقط للحصول على مواقف على المشاريع، وإن يستخدم لأي أعراض أخرى. وسيتم استخدام البيانات التي سيتم جمعها من الاستبيان لدراسة درجة الدكتوراه، مع التركيز على جوانب مختلفة من استخدامات البحث و أن تستخدام لأي أعراض أخرى. المعلومات الشخصية فضلا عن معلومات سلبية سلبية ستستخدم فقط لأغراض البحث بطريقة مجهولة الملاحظات التي سيتم الحصول عليها من المقابلات.

تحث نظرة جمع

• لا ترجم في الحزام في الأسابيع في وقت ولاي بيب.
• لا ترجم في الحزام في الأسابيع في وقت ولاي بيب.
• لا ترجم في الحزام في الأسابيع في وقت ولاي بيب.

البحث

طرق الرواف، كلية إبراهيم للتنوير، جامعة إبراهيم، المملكة المتحدة المحيط 66، الدمام 285285.54.44، البريد الإلكتروني: aborawaf@hotmail.com

للمزيد من المعلومات، يرجى الاتصال بالمرافه Dr. Penny Treflou
Lauriston Place, Edinburgh EH3 9DF, UK, tel. +44 (0)131 221 6175 p.travlou@ed.ac.uk
نموذج موافقة

لقد طلبت مني أن اشرك في مشروع البحث التالي: دراسة أثر الترقب العغير منتظم على كل من البيئة الصحراوية ومركزيتها.

دراسة لنشره واستخدام الصحراء الصحراوية بمبادرة الدمام في المنطقة الشرقية بالمملكة العربية السعودية.

باحث: طالب دكتوراه طارق الرفوف (جامعة إبنبرة، المملكة المتحدة) برفعة جامعة الدمام في المملكة العربية السعودية.

يرجى قراءة البيانات أدناه ووضع علامة (√) في المربع المناسب.

- أنا أعلم الأهداف العامة للمشروع، وأنا سعيد للمشاركة: نعم ( ) √ لا ( )
- أنا أعلم أن هناك قرارًا للمشاركة في المشروع: نعم ( ) √ لا ( )
- أنا أعلم أنه يمكن أن أتوقف في أي وقت نعم ( ) √ لا ( )
- أنا أعلم أنه إذا كنت لا أريد أن أشارك في هذه الدراسة، ولا يتطلب على أعضاء سبب عدم المشاركة كذلك لن تؤثر على الحصول أو بحث أي مساعدة أو ملخص للحصول عليها الآن أو في المستقبل: نعم ( ) √ لا ( )
- أنا أعلم أن لن يتم نشر اسمي وعنواني أو استخدامها في أي تقارير عن المشروع: نعم ( ) √ لا ( )
- أؤكد أنه قد قررت بين معلومات نعم ( ) √ لا ( )

أوافق على المشاركة في المشروع من خلال التوقيع أدناه:

الاسم الكامل للمشارك: ______________________________
التوقيع: ______________________________
التاريخ: ______________________________
مكان الإقامة: ______________________________
Appendix IV

Participant observation section
Measure (what to observe)

Participant Observation Measure (what to observe)

Day: Time: Climatic condition: Clear sky ( ) Cloudy day ( )

Temperature: Total area: Limited ( ) Unlimited ( )
Location: Airport Area’ - Al Riyadh-Airport area

Brief description of site:

Accessibility of the site:
Semi-difficult required four-while drive car ( ) Easy access not required four-while drive cars ( )

Entrance: Yes ( ) No ( )
Facilities and services: Yes ( ) No ( )

Description of vegetation and habitat:
Topography of the area: Hills ( ) Dunes ( ) Flat ( ) Type of picnickers: Family( ) Males ( )

The distance from the main road to picnickers sitting area: 500-1000m ( ) 1000-1500m( ) 1500-more( )

Actors/Users (number per party, and age group)
Male: Young adult male: Female: Young adult female: Children:

What is the most common physical appearance: Formal ( ) Casual ( )

Participant Activities:

<table>
<thead>
<tr>
<th>Walking</th>
<th>Praying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect sticks &amp; Set up a fire</td>
<td>Watching stars</td>
</tr>
<tr>
<td>Sitting and talking</td>
<td>Making coffee and tea</td>
</tr>
<tr>
<td>Telling stories</td>
<td>Digging in sand</td>
</tr>
<tr>
<td>Playing football</td>
<td>Playing with kids</td>
</tr>
<tr>
<td>Driving up and down sand dunes</td>
<td>Playing with sand</td>
</tr>
<tr>
<td>Driving car in desert</td>
<td>Sliding on sand</td>
</tr>
<tr>
<td>Cooking</td>
<td>Running</td>
</tr>
<tr>
<td>Contemplation of God creation</td>
<td>Played loud music</td>
</tr>
</tbody>
</table>

Users' feelings: Happy ( ) Unhappy ( ) Relax ( ) Worry ( ) Scared ( )

Users' goals: Why were they there?

Besides these, other general questions were:

- What is the desirable distance that you keep from other groups of picnickers?
- What aspects have forced or encouraged them to be here in the middle of the desert?
- What do they think about having structured activities in the desert?
- How do they feel about tourism development?
- What do they think about the AI Maha resort project in Dubai?
- What do they think about the increasing number of people and camels in the desert?
- Have they noticed any changes in the desert environment?
- Are they aware of the impact they cause on the desert environment due to their behaviours and activities?
Site analysis

Site Analysis one (Al Riyadh-Airport)  Trip two: Site Description

Date: Wednesday 19/12/2012  Time: 3pm to 11pm, half day

Climatic condition: clear sky and very pleasant day Temperature: 15°C

Total area: Areas open, unlimited

Location: 42km west of Dammam city, located on Al Riyadh-Airport road.

Actors/Users (number per party 4 adult)

Brief description of site: Al Riyadh-Airport road is considered as a daily use area because of its proximity of location to Dammam city. This area is well-known for all types of desert recreation especially for singles. It has no wood left, just a few sticks around the site. Topography of the area is hills and small sand dunes in a semi-open area.

Accessibility of the site: It has been found that this site has a semi-difficult access, which required four-wheel drive cars.

The distance from the main road to picnickers sitting area: 1500-more

Entrance: it has no specific entrance, which increases the effect of picnickers on the landscape, as each car will drive its own path through the desert disturbing the topsoil and making it incoherent.

Facilities and services: no facilities or services. This area is well-known for all types of desert recreation, especially for male groups. I noticed that this site has high hills and sand dunes, with a semi-open area that allowed picnickers to see others around them without being seen. It was noticed in the study that this kind of topography is preferred for male-only groups. They choose this location so that they can see everything around them.
**Description of vegetation and habitat**: This site has different kinds of ground cover, shrubs and small trees. These plants grow high in the winter time due to the rain in that season in Saudi Arabia.

**All seasons:**

- **Scientific name**: *Cyperus conglomeratus*; **Family name**: Cyperaceae; **English name**: Perennial herb, 30 cm; and **Arabic name**: Qassis (Al-Zoghet, 1989). This kind of herb is grazed by animals, but due to overgrazing and shortage of rain on this area these grass have almost disappeared.

- **Scientific name**: *Suaeda spp.*; **Family name**: Chenopodiaceae; **Arabic name**: Suweid. Low evergreen shrub 30 to 50 cm (Al-Zoghet, 1989). This kind of herb is grazed by animals, but due to overgrazing and shortage of rain on this area these grass have almost disappeared.

- **Scientific name**: *Zygophyllum coccineum*; **Family name**: Zygophyllaceae; **Arabic name**: Rutrit, small desert bush 50 cm (Al-Zoghet, 1989). This kind of plant is not grazed by animals due to its high salt content.

- **Scientific name**: *Phoenix dactylifera*; **Family name**: Palmae; **English name**: Wild palm trees 2 to 5 m; **Arabic name**: Nakheel (Al-Zoghet, 1989). This kind of tree is grazed by animals.

*Description of vegetation (Source: author)*
Furthermore, it is considered as a habitat for different kinds of birds and migrant birds when they are travelling. It is also a homeland for beetles, snakes, Jerboas and rats. Camels have been seen in this area.

Jerboa or Rat hole  Desert Locust  Camel (all Sources: author)
Site Analysis two (King Fahd Road)  Trip three: Site Description

Date: Saturday 22.12.2012  Time: 2-7pm

Climatic condition: clear sky and very pleasant day after heavy rainfall in this area

Temperature: 18c  Total area: Areas open, unlimited

Location:  40 km North West of Dammam city located on King Fahd Road.

Actors/Users (number per party 2 adult one male and one female)

Brief description of the site: King Fahd Road, which known ‘Airport road’ for desert picnickers, is considered as a daily-use area because of its close proximity to Dammam city. It is known around the airport area since it is located in the territory of the airport, which is about 5 km away. This area is among the most well-known of all types of desert recreation, especially for families. It has no wood left, just a few sticks around the site. The topography of the area is low hills, no sand dunes: an open area.

Accessibility of the site: Access to the site is from west King Fahd Road, which is an unpaved road, but accessible as any car can drive through with no need for four-wheel drive.

Entrance: The site has a specific entrance and well-defined fences on both sides of the road, to control entrance to the site. Since this area is considered as airport land, the sand is protected from overuse by cars and is considered consistent sand.

Facilities and services: no facilities or services. This area is among the most well-known for all types of desert recreation, especially for families. This site has low hills and no sand dunes, with an open area. The main reasons for choosing this terrain are security issues for the families, as they can see who is close to them and it is safer for their children as they can see them as they play.
Description of vegetation and habitat: This site has more different kinds of ground cover, shrubs and small trees. These plants grow high in the winter time due to the rain in that season in Saudi Arabia.

All seasons:

- **Scientific name: Cyperus conglomeratus; Family name: Cyperaceae;** English name: Perennial herb, 30 cm; and Arabic name: Qassis (Al-Zoghet, 1989). This kind of herb is grazed by animals, but due to overgrazing and shortage of rain on this area these grass have almost disappeared.

- **Scientific name: Suaeda spp.; Family name: Chenopodiaceae;** Arabic name: Suweid. Low evergreen shrub 30 to 50 cm (Al-Zoghet, 1989). This kind of herb is grazed by animals, but due to overgrazing and shortage of rain on this area these grass have almost disappeared.

- **Scientific name: Zygophyllum coccineum; Family name: Zygophyllaceae;** Arabic name: Rutrit, small desert bush 50cm (Al-Zoghet, 1989). This kind of plant is not grazed by animals due to its high salt content.

- **Scientific name: Phoenix dactylifera; Family name: Palmae;** English name: Wild palm trees 2 to 5 m; Arabic name: Nakheel(Al-Zoghet, 1989). This kind of tree is grazed by animals.
These grow only in rainy season at spring:

- **Scientific name: Rumex Vesicarius; Family name: Polygonaceae;** Arabic name: Humeidh, Annual herb 50cm (Al-Zoghet, 1989). This kind of herb is eat by human and grazed by animals.

- **Scientific name: Limonium Axillare; Family name: Plumbaginaceae;** English name: Perennial herb (50cm); Arabic name: Sabsab (Al-Zoghet, 1989). This kind of herb is grazed by animals.

- **Family name: truffles;** Arabic name: Kama, This area is well-known for the growing of the Terfeziaceae, or desert truffles, a type of edible subterranean mushroom that only grows in the rainy season and which is very valuable for local people.

Furthermore, it is considered as a habitat for different kinds of birds and migrant birds when they are travelling. It is also a homeland for beetles, snakes, Jerboas and rats. Camels have been seen in this area.
Both sits used to be rich with:

- **Scientific name:** *Lasiurus scindicus*; **Family name:** Gramineae; **English name:** Large thick clumpy grass 50cm; **Arabic name:** Thoumam (Al-Zoghet, 1989, p. 111), but due to overgrazing and shortage of rain on this area these grass disappeared.

  ![Thoumam shape and location in the area (Al-Zoghet, 1989, p. 110)](image)

- **Scientific name:** *Stipagrostis plumosa*; **Family name:** Gramineae; **English name:** short fine clumpy grass 30cm; **Arabic name:** Nissi (Al-Zoghet, 1989, p. 114), but due to overgrazing and shortage of rain on this area these grass disappeared.

  ![Shape and location in the area (Al-Zoghet, 1989, p. 106)](image)
Scientific name: *Cenchrus ciliaris* [*Pennisetum ciliare*]; Family name: *Gramineae*; English name: perennial grass, erect and clumpy 1m; Arabic name: Sobt (Al-Zoghet, 1989, p. 115), but due to overgrazing and shortage of rain on this area these grass disappeared.

Shape and location in the area (Al-Zoghet, 1989, p. 114)

Scientific name: *Calligonum polygonoides* ssp. *comosum*; Family name: *Polygonaceae*; Arabic name: Arti, Evergreen shrubs 2m (Al-Zoghet, 1989, p. 61), but due to wood cutting, overgrazing and shortage of rain on this area these plants disappeared almost in the last two decades.

Shape and location in the area (Al-Zoghet, 1989, p. 60)
Scientific name: *Acacia ehrenbergiana*; Family name: *Leguminosae*; Arabic name: Salam, tall spiny tree 7m (Al-Zoghet, 1989, p. 103), but due to wood cutting, overgrazing and shortage of rain on this area these plants disappeared almost in the last two decade.

Shape and location in the area (Al-Zoghet, 1989, p. 102)
Findings in Charts

Type of Activities out Of 16 Males, 6 Young Adult Males, 8 Females, 2 Young Adult Females & 9 children

<table>
<thead>
<tr>
<th>Activity</th>
<th>Male</th>
<th>Young Adult Male from (18-22 years old)</th>
<th>Female</th>
<th>Young Adult Female (18-22 years old)</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Collect sticks &amp; Set up a fire</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Sitting and talking</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Telling stories</td>
<td>16</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Playing football</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Driving up and down sand dunes</td>
<td>14</td>
<td>10</td>
<td>4</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Driving car in desert</td>
<td>10</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Cooking</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
Type of Activities out Of 16 Males, 6 Young Adult Males, 8 Females, 2 Young Adult Females & 9 children

<table>
<thead>
<tr>
<th>Activity</th>
<th>Male</th>
<th>Young adult Male (18-22 years old)</th>
<th>Female</th>
<th>Young Adult Female (18-22 years old)</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemplation of God creation</td>
<td>14</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Praying</td>
<td>16</td>
<td>0</td>
<td>6</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Watching stars</td>
<td>10</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Making coffee and tea</td>
<td>16</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Digging in sand</td>
<td>10</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Playing with kids</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Playing with sand</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sliding on sand</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Running</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Played loud music</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
What is the desirable distance that you keep from other groups of picnickers

<table>
<thead>
<tr>
<th></th>
<th>Male with his friends</th>
<th>Male with his family</th>
<th>Female with her family</th>
</tr>
</thead>
<tbody>
<tr>
<td>150-200</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>250-350</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>350-500</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix V

Administrative documents necessary when conducting the study:

Letters from the Dean of Dammam University
 السلام عليكم ورحمة الله وبركاته

أما بعد

تحية طيبة وبعد أفيد بأن المهندس طارق بن الراجي الرواف أحد مسويي كلية العمارة والتيئة نظريات جامعة الدمام

والرواف طالب مبتعد برائسة درجه الدكتوراه من جامعة الدمام في جامعة إبراهيم في السمكة المتاحة لدراسة كل التنموية الفجر

أعد على كل من البيئة الصحراوية ومطاردتها وتركز على دراسة أنماط وتشكل مداري الصحراوة وسلوكهم ونظرتهم لمعالم هذه

البيئة الصحراوية المحيطة بمدينه الدمام في المنطقة الشرقية بالسمكة العربية السعودية وهو الآن في سبف أربع الاستمارات

لمتفرقة الصحراوة من 27/03/2012 وحتى 27/06/2012

نأمل مساعدته وتفهيمه الاستمارات عما بأن جميع المعلومات التي ستزوله بها عن طريق تعينه الاستمارات أن تستخدم في أعراض

البحث العلمي فقط

وتقبلوا خالص النجاح والتقدير...

عميد كلية العمارة التخطيط

أ.د. عيد السلام بن علي السداوي
The noise measurement device was borrowed from Dammam University.
The surveying instrument module SOKKIA was borrowed from Dammam University.
لا يوجد العربية العصرية، ولكن يمكن استخدام الترجمة إلى العربية.

استفادة عن
من أنا وماذا أفعل؟
أخي الكريم، كنت الكريمة أنا والخطف إلى جامعة إدنا ابتداءً من المعرفة والبحثية: دراسة السعودية، ونرى هذه الدراسة
هدف الدراسة
إن الهدف الرئيسي من البحث
لأني سوف أستكشف الأنظمة
كانت المعرفة السفينة كالآلة المعرفة، ونثبت هذا فئة من المستخدمين
عن تفوج أي من عناصر الترا
كيف ستستخدم هذه المعلومات
سيتم استخدام المعلومات التي
والسبب أنها تمثل إتاحة
دراسة كمومة الدكتوراه، مع
المعلومات الشخصية في النظرة
الملاحظات التي سبق الحضور
الباحث
طرق البحث، كلية إدنا للأعمال، جامعة الملكة العربية
الإلكتروني: com
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