



**A POLICY FRAMEWORK FOR DEVELOPING URBAN PUBLIC SQUARES TO  
ENHANCE SUSTAINABLE DEVELOPMENT OF UAE**

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## DEDICATION

*In The name of God, the Most Gracious, The Most Merciful*

*“Act! God will behold your actions and (so will) His messenger and the believers.”*

*(Al Tawbah 105)*

*To the ones who I get my strength from, my beloved parents, my wife Hala, my son Hasan and my two lovely daughters Dunia and Leen. Thanks for your great support and motivation.*

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## **ABSTRACT**

For more than 2000 years, the urban public square has been a distinguishing characteristic of Western cities. For the last 200 years, European and North American cities have been deliberately planned to include public squares with an intention to bring people closer. In the United Arab Emirates (UAE), the urban public square was a prominent feature in most traditional communities, but, since the late 1960s, this feature has gradually disappeared from urban planning. A consequence of this is that the social fabric of community life has been eroded. Despite support from the UAE leadership and regulatory authorities for developing sustainable communities in line with global compacts, the gap between social life and community urban planning is yet to be filled. This research examines the effectiveness of developing urban public squares in the UAE cities and formulates policies for including such spaces in cities and communities.

The research used quantitative and qualitative methods to collect data. The research evaluated the liveability of different communities in the UAE through detailed case studies of four squares and plazas. Perceptions of different community representative groups were gathered through semi-structured interviews, focus groups, a survey and a Charrette technique.

Findings indicate that all participants would like to see public urban squares being included in urban planning in order to enhance liveability. Results show that public squares are an essential urban element in creating a place for people to interact with their environment. It is concluded that providing more liveable urban squares in the UAE cities requires improvement in the master planning and urban design regulations and a consideration of traditional practice in the creation and management of modern urban squares and plazas in the Middle East.

Key words: public squares; urban design; liveability; sustainability

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

ADPM	Abu Dhabi Department of Urban Planning and Municipalities
AUPC	Abu Dhabi Urban Planning Council
BREEAM	Building Research Establishment Environmental Assessment Method
CABE	Commission for Architecture and the Built Environment
CDAS	Community Development Alliance-Scotland
CECC	Centre of Expertise on Culture and Communities
CSD	Commission on Sustainable Development
DCCA	Dubai Creative Clusters Authority
DCR	Development Control Regulations
DESA	Department of Economic and Social Affairs
DMW	Dubai Marina Walk (District in Dubai)
DSO	Dubai Silicon Oasis (District in Dubai)
EGIS	Energy, Geoscience, Infrastructure and Society
ESC	Emaar Square Complex (Business Complex in Dubai)
F&B	Food and Beverage
GCC	Gulf Cooperation Council
HWU	Heriot-Watt University
HWUD	Heriot-Watt University- Dubai campus
ICP3	International City Phase 3
JBR	Jumeirah Beach Residence (District in Dubai)
LEED	Leadership in Energy and Environmental Design
MENA	Middle East and North Africa
MHLG	Ministry of Housing and Local Government
MPC	Master Planning Committee
NOC	No Objection Certificate
OECD	Organisation for Economic Cooperation and Development
PPS	Project of Public Spaces
SD	Sustainable Development
SOE	Society of Engineers
UAE	United Arab Emirates
UDAL	Urban Design Alliance
UMD	Uptown Mirdiff Dubai



UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UPC	Urban Planning Council
UPD	Urban Planning Department
UPMD	Uptown Mirdiff Dubai
UPS	Urban Public Square
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WSSD	World Summit on Sustainable Development

## GLOSSARY

Arabic	Translation (English)
<i>Al Baraha</i>	Public open space connected to community or neighbourhood.
<i>Al Fereej</i>	Neighbourhood
<i>Al Shuhadaa'</i>	Martyrs
<i>Al Hoash</i>	Small open space connecting dwelling units or detached houses
<i>Al Jawamie'</i>	Mosques
<i>Al Khadraa'</i>	The green
<i>Al Masjid</i>	The Mosque
<i>Al Musalla</i>	Large outdoor prayer area.
<i>Areesh</i>	Dry palm tree leaves used for old house roof construction.
<i>Baniyas</i>	Name relates to tribal confederation in UAE.
<i>Barajeel</i>	Wind Tower built on the top of the house made of clay and fabric. The air hits the walls of the barajeel from the inside and flows down into the house to cool it
<i>Chandal</i>	The internal finish of the house roof made from tree trunks and straw
<i>Deira</i>	The old district of Dubai where all houses and communities built.
<i>Finaa'</i>	Public open space overlooked by houses and dwelling units.
<i>Harat (single of Hara)</i>	Outdoor place connecting houses, usually a place for children to play
<i>Jamie'</i>	A large mosque in a district/ community.
<i>Khima</i>	Tent
<i>Maghrib</i>	The sunset time
<i>Maydan</i>	Public Square/ or Plaza
<i>Maydan Al Shuhadaa'</i>	The Martyrs Square
<i>Nazl</i>	Lodging house/ inn
<i>Ostaad</i>	Teacher/ or specialist
<i>Plateia</i>	The Greek word for public square
<i>Parvis</i>	An enclosed area in front of a cathedral or church, typically surrounded with colonnades or porticoes.
<i>Rahba</i>	Public outdoor space used for gathering/ meetings.
<i>Rewak/ Rewaq</i>	Arcades connecting buildings/ or rooms.
<i>Saha (single of Sahat)</i>	Open public space/ Public square
<i>Sahat Al Saa'</i>	The clock square
<i>Shariaa'</i>	Islamic law and provisions
<i>Sheikh</i>	Elder tribe leader/ an honorific title
<i>Sikka</i>	Narrow passageway/ outdoor corridor
<i>Souk/ Souq</i>	Market
<i>Taghyeer</i>	Change
<i>Tahrir</i>	Liberation
<i>Wekala</i>	Commercial building within the market, which includes accommodation units, business area, shops and workshops.

# **Volume 1**

**Chapter 1 to Chapter 5**

## **VOLUME 1**

### **CHAPTER 1: INTRODUCTION**

#### **1.1 BACKGROUND**

Over the past two centuries, more public open spaces have been provided in European and North American cities in an attempt to build the interaction between people and their communities (Gruen & Smith, 1960:24). Consequently, several countries around the world have followed this pattern, and similarly, cities in the Middle East have endeavoured to do so. However, to accomplish this, a great deal of planning and various factors need to be taken into consideration.

A public square is an open public space that is commonly found in the heart of a traditional town, used mainly for community gatherings. A public square is also called a civic centre, city square, urban square, piazza, plaza and town green. Public squares were also used for races, bullfights, executions, or even just to collect rainwater in large underground cisterns.

Lennard and Lennard (2008:7) state that “The key to a liveable city is its public realm, the quality of social life that takes place in its streets and squares”. City planners have focused primarily on solving urban problems, such as the proper use of land, the improvement of traffic flow, accessibility (Peter, 1968), and balancing economic requirements (Rabbat, 2012). However, these considerations overshadow the civic value of open spaces to communities and cities (Zucker, 1959). The concept of an “urban public space” is a social hub (Habermas, 1974:49); a location where individuals can gather to share thoughts. Arendt (1958:73) argues that a public space is an area where “everything that appears in public can be seen and heard by everybody and has the widest possible publicity”. Others suggest a critical distinction between a public and private urban space (Madanipour, 1996a). There are several alternative ways of classifying public and private open spaces, chiefly, whether publicly- or privately-owned; government restrictions on usage; and how accessible the space is to the public (Tibbalds, 1992). Gehl (1987) studied European cities with emphasis on the relation between outdoor activities and physical environments, such as the architecture, pathways, and landscaping. Communal open spaces, regardless of size, function and type, are generally considered essential facilitators of healthy social interaction (Carmona & Tiesdell, 2007; Gehl, 1987; Van Melik, 2008; Tibbalds, 1992).

## **1.2 SCOPE OF THE RESEARCH**

During the last three or four decades, the term “sustainable development” has become increasingly important in development strategies (Jiboye & Ogunshakin, 2010:118). Authorities, especially in the developing countries of the Arab world, have the responsibility of raising living standards. Part of the challenge is accommodating the social and cultural norms of the population by physical, technical and environmental strategies (Chiu, 2004:66; Basiago, 1999: 149). The research thus focuses on social and cultural traditions of communities in the UAE, particularly the value of one type of built environment, the “Al Saha” community square. Therefore, this research uses analytical investigation of old environments and their role in the sustainability of traditional societies. The house courtyard is an environment where the family gathers, and it is culturally an extension of the mosque in most Arab societies. It is more than just a basic social need (Rapoport, 1977:272). One of the fundamental objectives of sustainability is the need to ensure a better lifestyle for present and future generations (Basiago, 1999: 146; Jiboye & Ogunshakin, 2010:117). Most of the literature on sustainability focuses on environmental factors. This study draws attention to the social and cultural aspects of traditional neighbourhood environments as a core element of sustainability.

This research considers the social and cultural dimensions of the target community. Cultural values, factors, and variables play a significant role in defining social norms (Rapoport, 1986:158). Culture affects the Emirati society significantly, and thus, to a large degree, determines their daily activities. This research envisages improvement to specific culture-specific variables, including social relationships and quality of life (Chiu, 2004:68). This study also discusses outdoor behaviour over time, looking at the interaction between man and the built environment. Therefore, this study focuses on the relationship between two main sets of variables in its primary objectives. The first set involves daily practices and lifestyle as functions of socio-cultural status. The other set incorporates the spatial and physical settings that embody old values.

Amongst the central problems facing developing societies in the Arab world is the complete neglect of cultural and social factors in local architecture and urban design (Elsheshtawy, 2008:77). This thesis discusses varied approaches to tradition. In most cases, new developments are often inhospitable and devoid of local character, resulting in a significant loss of identity (Taleb & Sharplas 2011:1). In this respect, tradition, according to several scholars, is considered the foundation of culture (Nussbaum & Sen, 1993).

The research proposed here is directed towards the notion that the role of tradition in current and future developments is vital and unavoidable (Ezzeddine & Al Hajj, 2014).

This thesis investigates whether maintaining the cultural and social aspects of the traditional liveable community space is an important issue in sustainable development, and whether, in this regard, the historical background of the community and its development is inseparable from the social and cultural aspects of individuals (Jiboye & Ogunshakin, 2010:118). To point out the social, cultural and contextual analysis of a set of examples in different time intervals is useful when exploring the nature of society in each period, and the effect they have on the built environment (Rapoport, 1986:158-159).

It appears that the issue of sustainable development and most contemporary changes started with the discovery of oil in 1970. The current research, therefore, considers this date as the beginning of the historical analysis of this study. It considers the evolution of the UAE community before this date to be primarily based on general historical accounts and narratives.

### **1.3 RESEARCH PROBLEM**

The research problem is: The process of urbanisation in the UAE since the discovery of oil has led to the loss of open public spaces, with consequent weakening of social coherence and stability, accompanied by inattention to sustainability in the longer term.

Cities and communities in the Arab world inevitably face urban transformation, driven by the global context in which cities are being reshaped, and the modernisation of urban planning themes (Wheeler & Beatley, 2014; Hague & Jenkins, 2005; Wolfram & Frantzeskaki, 2016). The characteristic architecture of the region is thereby threatened and reflects a loss of fundamental principles, evolved over centuries according to social, cultural, spiritual, environmental and political factors. These problems can be summarised as follows:

- The historic diffusion of civic spaces in city plans is elaborated by Zucker (1970) and other writers, such as Cleary (1999), who focused either on specific squares or on the benefits open spaces have for the quality of citizens' lives.
- In the main cities of the UAE, such as Abu Dhabi, Dubai, Sharjah, and others that have grown over the past six decades, it is noticeable that cities have lost the heritage theme of the old public urban square, which is called *Al Fareej* or *Al baraha* area which will be addressed in chapter 3.

- The evident marginalisation of the rich heritage of this region is evident through the significant deterioration in the physical and structural conditions of traditional home environments and the level of services provided to the individuals who live there.
- The complete neglect and disregard for the vital role of social and cultural concepts and values of the community.
- The lack of focus on the concept of sustainability, and guidelines that can implement what is important, socially and culturally, for future developments in the UAE.

The next chapter takes the various components of the research problem into consideration. An analysis of these factors is important to reveal and clarify the primary aim of the study and its objectives.

## **1.4 RESEARCH AIM AND OBJECTIVES**

This research evaluates the effectiveness of urban planning policy and urban design practices in creating liveable, sustainable public squares in the cities and communities of the UAE.

### **1.4.1 The Aim of the Study**

The aim of this research is to formulate a conceptual framework and urban design policy for managing and developing liveable communities in the context of contemporary urban growth in the UAE.

### **1.4.2 The Objectives**

The research aim has been broken down into the following objectives:

- To review historical, social, and spatial values of public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares.
- To investigate people's opinions of and preferences for urban squares and establish an understanding of users' needs and requirements.
- To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.
- To establish a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

In addition to the above research objectives, in the policy development stages, the following gaps identified in the literature of public urban squares highlight the main issues that should be addressed:

- There is a variety of urban planning regulations for developing public open spaces in the UAE communities. However, there are no design guidelines that mandate integrating urban public squares in the city master plan.
- An empirical design process has not been established by urban planners for creating public squares as focal, social and gathering zones within the city master plan.
- There is no defined urban planning policy to encourage developers to understand the significance of public squares in the communities they develop.

### **1.4.3 Research Questions**

The main research question that this study seeks to address is: “How can planning and urban design policies be formulated to develop public squares that are responsive to residents and users’ needs in the new sustainable UAE cities?” The following sub-questions arise from this question:

- RQ.1: What is the appropriate conceptual framework that can be developed for analysing urban public squares in the UAE?
- RQ.2: What are the appropriate methods for analysing public squares in the UAE?
- RQ.3: Who are the main actors of urban planning and urban design involved in the process of developing public squares, and what are their roles, responsibilities, and capacities?
- RQ.4: What is the role that urban public squares play in the daily life of local users and residents?
- RQ.5: What are the positive behavioural responses and progressive outcomes after experiencing public square liveability in terms of physical, social and functions?
- RQ.6: What are the most appropriate urban planning strategies and recommendations that can be adopted to achieve building public squares in the UAE cities?

## **1.5 CONTEXT AND RATIONALE**

It has been long recognised by planners, architects and citizens that civic spaces, like public spaces, squares and plazas, are important urban elements of all communities. Banerjee (2001)



asserts that the incidence of public squares is diminishing, and to flourish, they must accommodate three major trends: privatisation, globalisation, and communication. This is especially true in urban settings that typically do not have markets that are commonly found in rural villages where citizens gather for business and social interaction. The first challenge mentioned by Banerjee (2001) is the privatisation of public spaces described as corporate plazas, shopping malls or arcades that are becoming increasingly popular destinations; for example, in Spain, Italy, and elsewhere. The second challenge is the emerging tension and conflict regarding the economy, the environment, and equity, as they become a by-product of the restructuring of the global economy. Finally, the information, communication, and technology revolution is contributing to profound changes in the traditional concept of place, community, and public life (Banerjee, 2001:10).

Alexander, Ishikawa and Silverstein (1977) explain that the open spaces, when placed into a community spatial environment, act as a pattern that forms a core activity node that can help generate other nodes by its mere existence, provided that it is correctly placed along the intersection of well-used pathways. Putnam (1995; 1996) also argues that since World War II, there has been a steep decline in the civic spirit of European cities. He attributes this decline to growing exposure to television (and today to the revolution of the internet). In a similar vein, Banerjee (2001) expresses his viewpoint that the steady decline in quality and supply of urban open spaces is occasioned by the slow deterioration of social interaction that contributes to the liveability of cities and communities. Thus, by enhancing the physical quality of public squares and plazas, this would in turn help to improve their liveability and consequently affect the lifestyle and health conditions of their citizens. Moreover, according to Ulrich (1981), having access to a public square may reduce depression, enhance contemplation and provide a sense of peace to residents and users alike. Contemporary research on the use of urban squares and public open spaces verifies beliefs about stress-reduction benefits and combatting of health problems like obesity by encouraging people to walk more and participate in sporting activities (Conway, 2000; Hartig, Mang & Evans, 1991). In a survey among urban square users, a significant relationship was found between the use of squares and the perceived state of health of its citizens. Individuals who consistently used public squares and plazas were more likely to report better health than those who did not (Godbey, Graefe, & James, 1992). Further to the social and psychological benefits mentioned above, urban squares can provide economic benefits for both municipalities and citizens. However, the empirical evidence on the positive functions of urban spaces suggests that citizens benefit more than municipalities. This was

further shown in a study by Sullivan, Kuo and DePoorter (2004) where residents living in communities with plazas and urban squares reported lower levels of stress, diminished fear and decreased levels of aggression and violent behaviour.

The UAE urban development during the last three decades and the rapid rate of urbanisation in the years 2000 to 2016 have led to a sprawling spread of communities that lack public open spaces. Urban, demographic, and economic growth along with land privatisation processes have progressively changed the nature and theme of public squares within the community and more widely in the cities. Until the mid-1980s, this process took place without sufficient consideration of the historical, social, and cultural values of public open spaces and urban squares of the UAE cities. In some communities and cities in the Arab world, existing public squares have lost cultural and social value as areas for gatherings, entertainment, and social and commercial space. Instead, the lack of thoughtful urban planning has transformed public squares into either an intersection of main roads dominated by vehicles or used as car parking to serve commercial enterprises. Consequently, urban public squares have been converted from being social spaces into areas supporting transportation and service yards.

It is evident that urban public squares in UAE cities are neglected in the current urban and city planning design guidelines for planners, architects, developers, and decision makers. The urban square is found neither in communities nor in the newly-developed modern cities of the UAE. Most urban planning studies concentrate more on the investment side, seeking revenue and pay-back values at the expense of public spaces that support social life (Ezzeddine & Al Hajj, 2014).

This research provides an in-depth study and analysis of the effectiveness of formulating an urban design and city planning guidelines in promoting spaces with liveable, friendly environments in the country's new urban development. It investigates the physical and social nature of the urban public square in UAE cities in the context of current urban growth and land development of new cities. This raises a number of questions. For example, what has led the UAE cities to grow without consideration for urban public squares? Can public squares be reintroduced into urban planning development? What policy can be formulated and implemented to include public squares within the new master plans of the UAE communities?

This research addresses the importance of urban public squares for the well-being of the community residents and users and for the sustainability of the city they live in. Furthermore,

it is a vital opportunity to link case studies from the UAE with growing stream of urban regeneration studies and to enrich the materials available for international comparisons.

### 1.5.1 UAE Context

The UAE is located in the southeast part of the Arabian Peninsula with a total land area of 83,600 km<sup>2</sup>. It was founded in 1971 as a union of seven emirates, namely Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, Fujairah, and Ras Al Khaimah (see Figure 1.1).



Figure 1.1: UAE Map–The Seven Emirates

Source: (UAE-property.org, n.d.)

The climate in UAE could be classified as a sub-tropical, dry, hot desert climate, with low annual rainfall (Federal Research Division, 2010). In the early 1960s, oil was discovered in Abu Dhabi, an event that led to quick calls for development made by the sheikhdom when Sheikh Zayed bin Sultan Al Nahyan took over the leadership of the country. The UAE has urbanised rapidly over a comparatively brief time frame and is considered today as a modern, oil-exporting country with a highly diversified economy, with Dubai, in particular, developing into a global hub for tourism, retail, and finance, and is home to the world's tallest building, largest man-made seaport, and busiest international airport. Furthermore, being the first in the

region to permit the foreign ownership of real estate, foreign investment into the country has made it possible to create development projects like the Palm Islands, the World, and other large urban districts and communities. As a model, Dubai features prominently on the global map of emerging places and is now considered by some experts to be among the “world cities”.

According to Worldometers (2018), the UAE population has been increasing by more than 1.5% annually for the past 10 years and currently ranks number 93 in the list of countries by population with a density of 114 person/ km<sup>2</sup>. As of June 2018, the population of the United Arab Emirates was 9 535 178 (equivalent to 0.13% of the total world population), based on the latest United Nations estimates. This research follows the official classification of the UAE population according to people’s nationality as Emirati or expatriate. As per the GMI Blogger (2018), about 92.1% of the population are living in urban areas including Emirati citizens representing 12% of the total population. The UAE society is dominated by young people with a median age of 33.5 years. The adult age group from 15-64 years comprises 78.7%, and elderly people of age 65 years and over comprise only 0.9% of the population. According to the census, there are 340 000 buildings in the country, and 35% (119 000) of them are in the Emirate of Abu Dhabi. The total number of housing units in the country exceeds 870 000, 61% of which are in the Emirates of Abu Dhabi and Dubai. The total number of establishments in the country is about 195 000, 38.5% of which are in the Emirate of Dubai (Ministry of Foreign Affairs, 2013).

### **1.5.2 Research Focus**

Community social open spaces in the UAE are a great concern to the researcher. In my experience of over 35 years as an architect and urban planner in the Arabian Gulf region, it is clear to me that public open spaces and urban squares are being neglected in the urban planning guidelines and the new planning criteria and that they are slowly disappearing from cities of the UAE. This concern has developed during ongoing urban design studies and liaison with the urban planning authorities, which are in charge of releasing permissions to develop communities and cities. In addition, several trips to various European cities and the admiration of their ancient civilisations led to a realisation of how the west appreciates the significant role of urban squares and plazas in presenting a city’s identity. The vast difference in developing public squares and plazas between the West and Middle Eastern cities has strongly motivated the researcher to explore and investigate this phenomenon. Modern urban development in the UAE has replaced traditional community spaces and squares, including old existing plazas,

with contemporary, scattered, and non-functional spaces. There is a lack of urban studies on planning new communities in general and on urban squares specifically.

The opportunity to participate in urban planning studies in Dubai provided an opportunity to evolve a deep understanding of the UAE communities that lack liveable public and private open spaces where citizens can socialise and gather for entertainment. Planners, architects, and urban designers have slowly reduced their emphasis on public squares and plazas because of commercial and financial pressures.

## **1.6 SIGNIFICANCE OF THE RESEARCH**

Nowadays, UAE cities and residential communities are facing a shortage of public open spaces, and an imbalance in their distribution. This research aims to explore the transformation of the public realm that has led to fewer public squares and outdoor amenities, and the consequent lack of essential social interaction that constitutes the core of civil society (Ezzeddine & Al Hajj, 2014). In addition, this study aims at determining the need for establishing public open spaces as a primary part of the community fabric.

Many urban planning studies have concentrated more on the area of investment, quick revenues, and pay-back values, rather than developing a space that supports social life and helps in creating a multifunctional, open space that is hospitable and meaningful to the people living there (Ezzeddine & Al Hajj, 2014).

Furthermore, this research seeks to review the current conditions of city public squares in the UAE, and to advocate actions and a new urban planning policy that would help create liveable outdoor places for UAE cities. These squares might help towns in the UAE to be socially, economically, and culturally self-sustainable. The broad objective of this study is to develop a conceptual framework and policy that can be adopted to incorporate public squares in the city of Dubai, UAE. Furthermore, this study will take the opportunity to link existing case studies from UAE cities which have shown a growing pattern of urban regeneration, and will thus enrich the resources available for international comparisons.

## **1.7 RESEARCH METHODOLOGY**

The concept of the urban square relies on the importance of its function. According to Bryman (2008:13), the relevance of framing this investigation within the constructionist ontology is that “social phenomena and their functions are continually being accomplished by social actors

and that they are not only produced through social interaction but that they are in constant state of revision”. Moreover, an interpretive epistemology is required to “grasp the subjective meaning of social action”. This approach will suit this investigation because it emphasises the meaning of the phenomenon from the perspective of the “social actors”, rather than the search for causal explanations of human actions.

Regarding the relationship between theory and practice, this research adopts a combination of deductive and inductive methods. The research begins by developing a conceptual framework based on theories and principles that is further used for analysing the reality. Then, the findings of the analysis inform the theories. This theory-building approach guides inductive reasoning as the ongoing process of the overall research.

In this investigation, a mixed-methods research strategy (Creswell, 2007) was selected using the so-called “QUAL/quant method” suggested by Teddlie and Tashakkori (2003:27).

The qualitative approach was used for the collection and analysis of data because: a) it emphasises an inductive approach; b) it considers the ways in which individuals interpret their social world; and c) it embodies a view of social reality as constantly shifting (Bryman, 2008). An additional reason to undertake a qualitative study is that it emphasises the researcher’s role as an active learner (Creswell, 2007).

To provide an in-depth understanding of how contemporary urban transformations are affecting urban spaces in the UAE, a case study is identified as an appropriate research strategy because it is preferred when: a) a ‘how’ research question is being asked; b) the investigator has little control over the events; and c) the focus is on contemporary phenomena within some real-life context (Yin, 1994).

The case study of existing urban squares is analysed using qualitative methodologies, such as historical analysis (O’Donovan, 2012), agency role analysis (Giddens, 1984; Healey, 1992), urban morphology analysis (Whiteland & Larkham, 1992) and environment-behaviour analysis (Zeisel, 2006) which suit the needs of the enquiry process. Due to the nature of the factors involved, a selection of research methods and techniques is chosen for data collection purposes. The research methods range from archival information, visual surveys, and analysis of urban plans and projects, through observing and registering the use of public space by means of photographs and annotated drawings, to semi-structured interviews and focus groups.

The quantitative approach was used to gather numerical information. This was done by means of surveys with eight key stakeholder groups. The analysis was presented in tables and graphs using descriptive statistics such as means, “that help describe, show or summarise data in a meaningful way such that, for example, patterns might emerge from the data” (Laerd Statistics, 2013:n.p.).

The methodology and plan of work for achieving the objectives of this research are carried out in the stages explained in Chapter 5.

Figure 1.2 below presents a diagrammatic overview of the research:

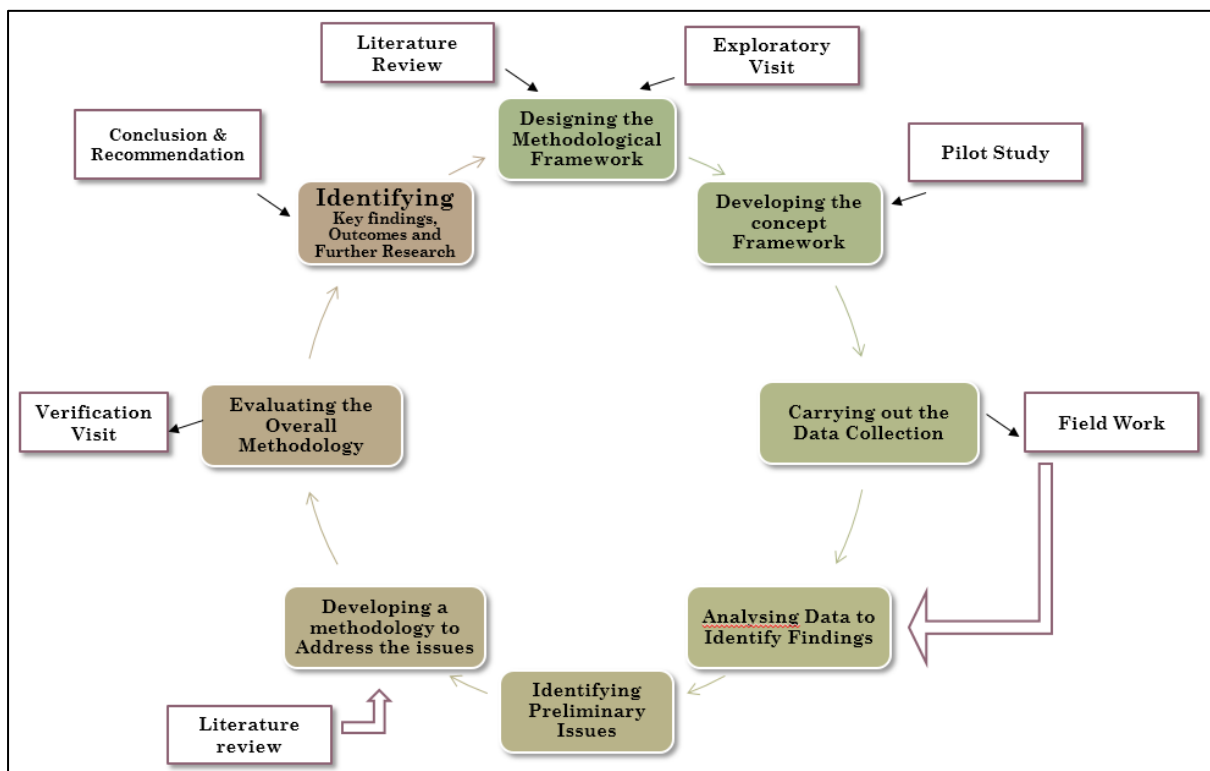


Figure 1.2: Diagrammatic overview of the research

Source: (Researcher’s own)

The following paragraphs detail the stages of the research and their relationships with individual chapters of the present thesis:

- **Stage 1: Developing the conceptual framework**

A literature review was carried out to develop a preliminary conceptual framework for identifying the dimensions, components, and interactions involved in the relationships between residents and urban open space. An exploratory visit to different communities to identify local

research informed the development of the framework. The initial framework was refined by iterative feedback loops in further stages of the research (Chapter 5).

- **Stage 2: Designing the methodological framework**

The conceptual framework was used for designing the methodology for analysing the relationship between community residents and the urban square. A multi-method approach for data collection and analysis was used due to the complexity of the interactions identified. The methodological framework included agency role analysis, urban morphology analysis and environment-behaviour analysis, as well as appropriate methods and techniques for data collection. The methodology was piloted in different communities before carrying out the main data collection (Chapter 5).

- **Stage 3: Carrying out data collection**

The field work for data collection is conducted in two different communities, gated and un-gated. The data collection methods used in this research are shown in Table 1.1.

Table 1.1: Data collection methods

Secondary data	Primary data
Document analysis <ul style="list-style-type: none"> <li>• Visual surveys</li> <li>• Urban plans</li> </ul>	i. Case study selection and description ii. Survey: quantitative iii. Interviews: qualitative <ul style="list-style-type: none"> <li>a. Semi-structured interviews</li> <li>b. Focus group interviews</li> </ul>

Secondary sources were used to understand the historical development of urban squares. Visual surveys and urban plans provided information on the urban morphology. A survey questionnaire and semi-structured interviews were used for examining the roles and interests of urban actors in relation to the urban squares. Semi-structured interviews, focus groups and case studies were used for determining the opinions of participants on the use and experience of places (Chapter 5).

- **Stage 4: Analysing data to identify findings**

Data collected in fieldwork were analysed at city level and at the level of specific areas undergoing transformations. First, the historical development of place-identity and the roles and interests of urban actors were analysed at city level (Chapters 2 and 3). Second, socio-



spatial transformations were identified at site-level in each one of the three sub-case studies (Chapter 5).

- **Stage 5: Identifying preliminary issues**

Spatial and temporal connections are established between the findings to identify contemporary socio-spatial issues affecting the urban spaces in the UAE cities. In order to enrich the interpretation and validate the findings, focus groups with urban actors are carried out in relation to the six sub-case studies (Chapter 5).

- **Stage 6: Developing a methodology to address the issues**

The method for addressing the issues in relation to urban squares relies on collaborative practices through a dialogical approach by which the researcher and urban actors were engaged in discussing proposals and developing recommendations and strategies (Chapter 1).

- **Stage 7: Evaluating the overall methodology**

A methodology for analysing and managing urban transformations in relation to urban open space was produced during the investigation process. This stage evaluated the methodological consistency, and the procedures and the outcomes of the research.

- **Stage 8: Identifying key findings, outcomes and further research**

The conceptual framework was readdressed, and the research questions are answered. Key findings and outcomes of the research are identified. Contributions to knowledge are discussed, and recommendations for further research are suggested (Chapter 7).

## **1.8 CONTRIBUTION OF THE RESEARCH**

Findings of the research added to the knowledge and understanding of the subject of achieving sustainable public urban squares in the UAE cities. This study is significant because it:

- a) Allows for the identification of the concept and framework of developing the new UAE public urban square that takes into account achieving environmentally sustainable developed space.
- b) Reveals the characteristics of public urban squares that would be appreciated and valued by users and the community.
- c) Formulates a model of public urban squares that addresses citizens' preferences.
- d) Emphasises the importance of public urban squares in achieving quality of life in urban communities.
- e) Provides useful knowledge on factors that might impact the successful achievement of sustainable public urban squares.

## 1.9 THESIS STRUCTURE

The thesis is organised in nine chapters including this chapter—the introduction—which explains the circumstances that encouraged the researcher to undertake this research, and the reasons behind the choice of study (Table 1.2). The other chapters of the thesis reflect the sequence of objectives of the research and report the findings related to the objectives, followed by the discussion and conclusion chapters. The structure of the thesis is as follows:

- **Chapter 1** provides a generic overview of the research. This includes the background to the research, the research problem, and research focus exploring reasons behind undertaking the study. It includes the aims, objectives, broader theoretical framework, and structure of the thesis.
- **Chapter 2** reviews theories and approaches to the analysis of public square, and provides a review of public squares from the western literature related to the history of the relationship between urbanity and the public urban square. Furthermore, the analysis reviews the impact of planning and urban design on developing liveable public squares in the West. Then, it discusses in-depth the different typologies and classifications of public squares in Europe in relation to their function and purposes.
- **Chapter 3** reviews the urban public square in Middle Eastern history and the evolution of the urban square morphology in cities in the Arab world. This chapter describes the UAE profile and the old public square as an urban element of traditional architecture which faces deterioration and negligence. Finally, this chapter discusses the traditional urban architecture and their main features in developing eco-cities in the UAE future cities.
- **Chapter 4** discusses the impact of sustainable development on urban open spaces and the concept of socio-cultural sustainability in the newly-developed cities. It examines the sustainable resource and environmental management in the UAE. It also addresses the difficulties in implementing sustainable development that hindered the provision of public squares in newly-developed districts in the UAE.
- **Chapter 5** uses an analytical framework to develop the research strategy for analysing the place of the public square in planning and urban design systems. It discusses the methods for collecting, analysing and validating the research findings.
- **Chapter 6** analyses the results of different groups and stakeholders' opinions and their understandings to the importance of public square to community liveability and social interaction. It evaluates the gap between urban planning process controlled by decision-

makers and the community end users. Finally, this chapter concludes the results collected from the research methods and research survey.

- **Chapter 7** discusses the key findings of the research. It attempts to draw together all the main findings from the previous chapters and summarises general findings on the effectiveness of the planning and urban design process. Finally, it answers the fundamental research question of the research.
- **Chapter 8** discusses the context of urban squares and urban design in the West to support developing open public spaces in the newly-developed cities. It emphasises the value of public square in the urban design process and the importance of the community involvement and participation in sharing thoughts and opinions in developing their communities. Finally, this chapter compares the current urban planning process in the UAE and the remedial urban planning cycle proposed by the researcher. It also addresses the implementation of urban design policy in providing open public squares in the urban design system.
- Finally, **Chapter 9** provides the conclusions and findings of this research. It also highlights the limitations of the research and makes recommendations for the new planning and development of urban square in the UAE cities. It also identifies opportunities for further research.

Table 1.2: Relationship between research questions, aim and objectives and chapters

<b>Research Question</b>			
How can planning and urban design policies be formulated to develop urban squares that are responsive to residents and users in the new sustainable UAE cities?			
<b>Overall Aim</b>			
To formulate a conceptual framework and urban design policy for managing and developing liveable communities in the context of contemporary urban growth in the UAE.			
<b>Questions</b>	<b>Objectives</b>	<b>Methods</b>	<b>Chapters</b>
			<b>Introduction</b>
How are public squares characterised in the historical development of the UAE?	To review historical, social, and spatial values of public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares.	<ul style="list-style-type: none"> <li>Literature Review</li> <li>Questionnaire</li> <li>Interviews</li> </ul>	Chapter 2
What is the current urban planning process for establishing public spaces in the UAE?			Chapter 3
Who are the leading players in contemporary urban development and what are their roles and interest in public square space?	To investigate people's opinions of and preferences for urban squares and establish an understanding of users' needs and requirements.	<ul style="list-style-type: none"> <li>Document Analysis</li> <li>Interviews</li> <li>Surveys</li> <li>Focus Group</li> </ul>	Chapter 8
What are the main theories of public squares in the urban planning process?			Chapter 5
How can public squares influence the socio-spatial environment in the UAE?	To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.	<ul style="list-style-type: none"> <li>Literature Review</li> <li>Focus Group</li> <li>Document Analysis</li> <li>Case Studies</li> </ul>	Chapter 6
What are the key issues of contemporary urban development in relation to public squares in the UAE?			Chapter 7
What are the most appropriate strategies and recommendations for managing the urban development of public squares?	To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.	<ul style="list-style-type: none"> <li>Observation</li> <li>Questionnaire</li> <li>Surveys</li> </ul>	Chapter 8
What are the weaknesses in planning and urban design of public squares in the Middle East?			Chapter 4
What improvements can be made to planning and urban design systems in the UAE to create sustainable public spaces that are both appropriate for communities and sustainable?			Chapter 8
	To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities	<ul style="list-style-type: none"> <li>Questionnaires</li> <li>Document analysis</li> </ul>	Chapter 9
			<ul style="list-style-type: none"> <li>Document Analysis</li> <li>Structured Interviews</li> <li>Questionnaire</li> </ul>

Source: (Researcher's own)

## **1.10 CHAPTER SUMMARY**

This chapter discussed the background to the phenomenon of urban public squares in UAE cities. It highlighted that there has been a lack of consideration in the planning of newly-developed cities, thereby removing an essential, traditional characteristic of the social life of communities. The chapter also provided the objectives of the study and showed how these objectives will be researched by means of a mixed-methods approach using a wide range of research tools. The intended contribution of the study was also outlined. The next chapter provides the reader with an overview of the concept of a public square, its value and importance in a city, and discusses the procedures for incorporating public squares in urban areas.

## **CHAPTER 2:**

### **UNDERSTANDING THE PLACE OF THE PUBLIC SQUARE IN URBAN AREAS**

#### **2.1 INTRODUCTION**

This chapter provides an overview of the concept of a public square, its value and importance in a city, in addition to discussing the procedure for establishing a public square in urban areas. Public squares form an integral part of daily activities: people gather there, relax and seek entertainment or walk through them (Madanipour, 2003). Furthermore, a method for the examination of a public square and procedures for its construction is proposed based on current literature for maintaining public squares in urban areas of the United Arab Emirates (UAE) cities.

The aims of this chapter are to review and discuss the concepts of public squares in urban areas, to provide an overview of approaches that would allow the analysis of public square areas as products, as well as, the analysis of the process by which these are planned, built, and managed. This chapter provides a review of the literature pertinent to cultural and social values. In addition, the literature covering the meanings and functions related to public urban squares are reviewed. In a generic way, the planning of the public urban square throughout the centuries has been and still is linked to the dynamism of culture. As such, it is important to determine if changes in social values result in changes or perceived changes in the built environment (Tibbalds, 2001). This has led to an increase in research in understanding and looking into the history of urban spaces in cities of the United Arab Emirates; which has revealed that over many years, public urban squares have slowly disappeared. Subsequently, researchers have shown greater concern about this factor, as they believe that public urban squares are a crucial component of every city.

The social and cultural literature available on public squares reveals the essential meaning behind having such an urban structure established in a city. It also includes the steps and procedures involved in drafting a plan for building a public square to match the dynamism and vitality of a city and its surrounding culture (Tibbalds, 2001). Thus, it is essential to explore the changes and alterations in an ever-changing environment in terms of the cultural aspects (ethics, values and religions) of everyday life. These factors have led to the researcher's increased concern and motivation to understand the present state of affairs of urban spaces in the historic city of Dubai, UAE. The researcher firmly believes in the vitality and

indispensability of having public urban squares in such a city and the importance of reconnecting the society with public spaces such as squares and plazas. This study seeks to enhance the people's social life and interactions by developing public squares in the new UAE cities.

## **2.2 THE PUBLIC SQUARE CONCEPT**

### **2.2.1 Definition of a Public Square**

At its most basic definition, the public square is a void defined by the surrounding built environment. The precise arrangement and scale of these encompassing structures have a significant effect on the space they create, either by chance or by creatively sculpting the void. The Webster's Dictionary (2017, n.p.) defines a town square (public urban square) as:

- An open area or a public square in a metropolis or township;
- Shopping mall or an open arena for shopping;
- Situated along a throughway with additional public facilities where such things as washrooms or service stations are accessible.

"Whether they are being referred to as an agora, forum, plaza, piazza, or souk the town square has been a differentiating feature of European cities for over 200 decades" (Lennard & Lennard, 2008:11). As described by Bravo and Guaralda (2017), public squares are urban structural elements and places for people to interact, as well as places for discourse and relaxation.

The term "public squares and plazas" has a few fascinating etymological roots: from Latin, the word *platea* or road, and from Greek *plateia*, or wide road. The definition for place has about fifty distinct implications; for example, an open space or square in a city or town. This leads to the conclusion that a public urban square is a fundamental urban, open space for public use.

Lynch (1981) defines the public urban square as an activity-based place that is situated at the heart of some intensive urban territory. What is prominent here is that he sets the public square as the focal point of the city. He also states that a public square is "intended to pull in gatherings of individuals" and that it is not just a null or an empty space amidst the mass of buildings. Cooper-Marcus and Francis (1998) define a public square as a generally hard-surfaced, outside open space from which automobiles are excluded. It is a spot for walking, sitting, eating, and sight-seeing; a terminus, instead of simply a spot to traverse. While there might be some areas of ground covered with trees, the surface is generally finished with hard



pavers, and those spots that seem to have relatively more grass than hard pavers, are considered parks (Cooper-Marcus & Francis, 1998).

### **2.2.2 The Historical Background of Public Squares**

Public squares have played a key role in the way civil society has functioned throughout the ages (Van Melik, 2008). The Greek agora is recognised as being the oldest classic urban open space of its typology. The Greek agora, such as the Ancient Agora of Athens, was constructed with the sole purpose of being a place to gather or a place of assembly. However, it developed different uses such as a place for athletics, military duty, spirituality, as well as a marketplace. Although it is officially recognised as the oldest open space, there are many inner-city open spaces that precede the agora. Countries and regions like India, Mesopotamia and Egypt, to name a few, showed evidence of open gathering and assembly areas (Zucker, 1959). However, one cannot accurately depict or categorise them as an agora or "town square" as they were extremely unclear in their structure, were demolished or were extremely well-concealed. This made it impossible portrays them as a (town) "square".

The word 'agora' signifies "assemble" or "gather" as it was an open space assigned for political and social affairs. These open territories were increasingly formalised in Greek government procedures and were constructed around the outskirts of the city as enclosed open spaces that acted as arcades that enveloped the city. This is also where governmental regulatory and legal functions would take place.

After the government gatherings were moved into these closed spaces, the open zones were passed on and used for an assortment of social, cultural and commercial programs. In fact, agoras became, at their best, an ideal point of reference for modern downtown areas; they were "a part of the road network of the city; not encased or isolated from the other parts of the city, however, critically connected with it" (Whyte, 1980). They were a forum where individuals went for one function but stayed for another, permitting society to grow together as a unified unit as shown in Figure 2.1. Furthermore, this kind of square also functioned as a democratic public space. Ancient Greeks built their forums in the form of a *quadrato*, and from the 5th century BC, called it a square. This was associated with the architect and town planner, Hippodamus, who was the first to redesign the city of Miletus by arranging the pathways and streets in a rectangular pattern (Wycherley, 1976:205). Roman urban areas inherited this typology but utilised it mainly as a premise for administration. Roman towns included many public squares to serve different urban and business functions, as required (see Figure 2.1).

The rise and fall of the Roman Empire led to the temporary drift away from the square typology. Although other aspects of the Roman architecture retained their impact and dominance, public squares were forgotten.



Figure 2.1: Roman Agora, Historic Square

Source: (Artist's Painting photographed by researcher)

In the early medieval times, the Roman agora typology was neglected by urban developers. This was portrayed by a general absence of enthusiasm towards having any form of public space. Hence, this concept was neither valued nor given any attention. Where public squares emerged, they were fundamentally used as the widening of an area on a trade route to make space for commerce or for a marketplace. Alternatively, it was an open region around a church, town gate or town centre (Van Melik, 2008). At times when there was no financial support for an open space to be fused into the "organic" road design, it became difficult to establish open spaces. Nevertheless, unsuccessful road grids and designs were effectively converted into large public spaces. Successful examples of this are the renowned Italian city squares, such as the Sienna's Piazza il Campo and the Piazza San Marco in Venice, or other famous European squares such as the great Flemish marketplaces in Belgium, the Koningsplatz in Germany and the Parisian City squares in France. However, similar open and vast spaces were generally envisioned and later constructed as cities were being developed and expanded to accommodate more people, migrants and traders.

Similarly, public squares followed the same concept and were constructed and established in cities, specifically around buildings and streets. However, during their lifespan, they were prone to alterations, or even removal depending on social or economic events (Lefebvre, 1990). An effective portrayal of such a concept can be found at the Place des Vosges, in Paris. It was formerly known as the Place Royale which exemplified the European method of city planning and was later turned into a residential square. Various other public squares, which have lost their purpose as a place to gather, have now been turned into mere parking lots.

With regard to public squares of the early and medieval towns, these tend to differ based on their origin, culture and time period. In fact, medieval towns were unique in that some originated from the Roman times. This Roman influence is evident in various monasteries and newly-planned towns. Similar to the Roman towns, newly-planned towns included public squares that were rectangular in shape and small in size.

From the 17th to 20th centuries, English planners and private developers introduced private squares to expand properties and occupancy benefits, instead of constructing larger neighbourhoods (Boerefijn, 2010). These spaces were not used for gatherings and were segregated from one another as opposed to connecting together to form a larger "place/plaza". Nowadays, there are numerous regions with private squares in close proximity to one another, yet they are not used as an open space for gathering or assembly. Had these large spaces not been conceptualised by individuals influenced by Roman styles, these public spaces would have been used differently.

However, by the 20th century, the viable functions of a public square or open space were noticeably altered, a concept called functionalism, where the typology came to be viewed as an added accessory instead of an integral necessity. Occupants of residential towns were permitted to choose whether they wanted a public square or not; thus, there was no requirement for the establishment of a square (Zucker, 1959).

Danish architect, Jan Gehl (1987) stated that some public squares were not favoured by people, mainly after converting the space to roads, parking and grass lawns, with a loss of space walkability. Therefore, people could not imagine living in new cities when architects' ideas of modern and robust buildings were implemented. A significant part of this study is to highlight the public square location, size, and typology, and at the same time emphasise its capability for uniting municipal, social and business spaces while adapting and fitting into the techniques of new urban planning and city development.

A city should be built to provide security and happiness for its inhabitants (Sitte, 1899). Sitte's words clearly acknowledge that the world had already entered the time of professional architects and urban planners. Moreover, the square typology had been scrutinised and analysed enough to identify what made for an honest "artistic" open space, in Sitte's terminology. His style guidelines impacted the development of open spaces to include streets and neighbourhoods. A series of cases have been explored in this study to find out whether artistic considerations mirror the typological characteristics that create dynamic shop fronts and regenerate outlying areas.

Following this general background, the next section discusses in more detail the historical development of the urban public square.

### **2.2.3 The Shape of Urban Public Square**

The parvis, or the square in front of the church, was one of the most commonly-found features of cities during the medieval times. This comprised two separate squares; a parvis in front of the church or adjacent to it, and another square which was a defined distance away and served as a market square, from which only the tower and the steeples of the church would be visible (Zucker, 1970).

The parvis functioned as a casual gathering place for the people who visited the church, pre- and post-mass church services. Zucker (1970) discusses how public squares lacked spatial unity or three-dimensional form. Despite not looking appealing, this was compensated for by the difference in architecture such as the modest dimensions of the formal buildings compared to the size of the cathedral, where the common man was portrayed smaller than the house of God (the church). This was relevant to the medieval mindset and value system, where irregularities in sizes and proportions were made to look good due to the contrast provided by the dimensions of the buildings.

Nevertheless, ever since the revival of learning and culture, public squares have been denoted by their geometric shapes. The towns that were advanced with regard to learning and tradition after the Renaissance focused more on town planning compared to people living with a medieval mindset. Metaphysical reasoning and aesthetic considerations paved the way to the conception of single sections of towns and for towns as a whole (Ellis, 2005).

Reflection of regularity and order was the purpose for which public squares were designed. An example of this is the ornamental features of urban planning in France where the royal squares

were surrounded by identical architectural style buildings which in turn became places for people to gather. In addition, an equestrian statue was erected in honour of the ruler. The symbolic power of these squares was reflected by its features and spatial arrangement. These squares served as arenas for tournaments, ceremonial processions and sports to entertain the public (Pinon, 1999).

Towards the end of the 19th century, the changes in Paris occurred due to the end of rule by emperors and the introduction of democracy affected the structure of roads and boulevards. These included the inception of “intersection squares”. Usually, a well-carved statue or an artistic wellspring was placed in the centre point of such squares (Pinon, 1999).

## **2.2.4 The Change of Function of Public Square in Historical Context**

### **2.2.4.1 500 BC**

The historical backdrop of European city squares began around 500 BC with the construction of the public square the “*agora*” in urban communities of Ancient Greece (Webb, 1990, cited in Van Melik, 2008:29). A public square, seen as a place to gather and a market, was a comparatively extensive, open region situated in the heart of the city or close to the harbour (Herzog, 2006, cited in Van Melik, 2008:30). It formed the urban centre of the city and was encompassed by public buildings. Public squares were considered a fundamental part of a free city or polis, a representation of a vote-based system (Webb, 1990, cited in Van Melik, 2008:31). In addition, they were seen as the mark of democracy, the heartbeat of the city. Public squares were intermittently utilised as marketplaces; however, their primary purpose was a sort of assembly area to gather people in. The successor of the Greek marketplace was the Roman forum which functioned as a democratic, open space; although its form differed from the agora.

### **2.2.4.2 The Middle Ages**

Historically, the Medieval period witnessed the urban development of European squares. From Sweden to Spain and from Hungary to Belgium, numerous market squares were established to mark the epicentre of new European cities. Of course, medieval squares can be considered as and equated to “trading” and “commercial” areas, despite the fact that it was not their predominant role. The business sector of the square instead had a multifunctional purpose; it allowed for commercial activities and social gatherings, which instituted the growth of tradition, society, leisure and egalitarianism (Lennard & Lennard, 2008). In particular, public

urban squares provided individuals with the motivation to socialise, to converse with each other, to cooperate, to meet, to coordinate activities and celebrate together.

#### 2.2.4.3 Renaissance Age—16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> Centuries

As opposed to city squares that were built during the 16<sup>th</sup> century, city squares built in the 17<sup>th</sup> and 18<sup>th</sup> centuries were predominantly the outcome of rational planning. Due to the increase in wealth and leisure time, there was a growth in traditional art forms such as classic literature, music, sculpting and architecture. This tendency which can be considered as the directing force of “the revival of art and culture” is also known as humanism (French, 1983, cited in Van Melik, 2008:32). This, in turn, led to the birth of modified Renaissance squares which emphasised spatial arrangement, regularity and envelopment. This size of such squares was huge, as Sennett (1978:56) describes: “the squares under this period were not just serving their mainstream functions but were also provided with eminent illustriousness as a monument itself, with limited activity happening amidst, with passage or locomotion taking place on a bulk scale”.

#### 2.2.4.4 Industrial Revolution Time—19<sup>th</sup> Century

The technical inventions and innovations of the Renaissance led to the industrial revolution, dating back to the 19<sup>th</sup> century. The notable rise in the number of factories and industries had magnetised machine vendors from the rural parts of that region. The cities began to overflow with people, due to the migration to coal fields and ports in a short period of time. These factors led to a reduction in the demand for public squares and consequently, the areas for city squares. Gradually, people started calling for parks rather than squares, in order to help them get away from the urban cacophony (Webb, 1990, cited in Van Melik, 2008:32). Over time, a new type of square emerged: the train station square. The city had a new entrance through the railways, and the train station squares were used for commercial purposes. Goods were sold at different locations of the station, and in any of the neighbouring train-station squares, not in the central city squares, as it used to be in earlier years (French, 1983, cited in Van Melik, 2008:33).

#### 2.2.4.5 The 20<sup>th</sup> and 21<sup>st</sup> centuries

Over the span of the 20<sup>th</sup> century, and as the transportation of goods via rail increased, the train station square became home to large-scale traffic junctures, congested with wagons, trams, buses and the like.

The period at the end of the 20th century and the start of the 21st century was accompanied by an increase in the number of ‘new’ squares that apparently were the outcome of an increase in ease of locomotion, increased consumption patterns and a boost in recreational activities. As the terminology ‘new squares’ was welcomed, these were located at places with good accessibility, for example, on the outskirts of the city or near the highways. These new squares were considered to be ‘public’ squares but were not mainly established for this purpose, such as commercial marketplaces, antechambers of hospitals, airports, petrol bunkers and funfairs (Van Melik, 2008). They were categorised as ‘new’ as they often had an unusual contour, were situated in strange places and were ephemeral in nature. Although they are unique, they still demonstrate a key similarity to the ‘old’ city square. That is, their key function is as a gathering point, which is why they are categorised as squares. Yet this line of reasoning seems contentious. Those who argue otherwise, believe that ‘real city squares’ speak of history and sentient times. Hence, shopping centres and other buildings cannot be classified among the city squares (Mommaas, 2004, cited in Van Melik, 2008:61).

Based on a review of the literature on urban planners’ ideas of effective public squares, Table 2.1 provides a simplified overview of the development of various European city squares.

Table 2.1: Development of European city squares

Period	Style	Dominant Planning	Dominant Function
Classic (1500BC-500AD)	Greek	Organic	Mono-functional
	Roman	Planned	
Medieval (500-1500)		Organic	Multi-functional
Pre-industrial (1500-1800)	Renaissance (1500-1600)	Planned	Mono-functional
	Baroque (1600-1700)	Organic	
	Neoclassic (1700-1800)	Planned	
Post Industrial (1800 - Present)	Industrial (1800-1960)	Organic	Multifunctional
	Post-industrial (1960)	Planned	

Source: (Van Melik, 2008)

### 2.3 PUBLIC SQUARE OVERVIEW AND SPACE

Different public spaces typologies, particularly urban squares, have played an important role in different civil society functions throughout history (Orum & Neal, 2010) as they are platforms for exchanging knowledge, culture and entertainment.

Krier (1991) argues that, more likely than not, public squares were the primary way man discovered for utilising urban space. He points out that a public square is structured by the

grouping of houses around an open space. This arrangement plan enabled a high level of control of the inner space, and allowed for a line of defence against outer hostility by minimising the periphery at risk of assault. Moreover, Krier (1991) characterises a public square as more of a yard, that added a symbolic value to houses and was subsequently used as the paradigm for the construction of various social and holy places where people could gather (agora, cloister, forum, mosque or courtyard). An example of such a concept is a group of houses built around a central patio; this arrangement served as a framework for later times (Krier, 1991).

On the other hand, Vale and Campanella (2005) stress that the term ‘urban square’ must unmistakably be defined and comprehended by other descriptions. They highlight the importance of the meaning it holds within the societal structure, so that the idea of urban square spaces can be said to hold some legitimacy in modern town planning.

As per Low’s (2000) analysis in his urban planning studies, public squares have frequently been equated with patios, yet differences between the two spaces relate to the volume of occupancy and function. Originally, yards had a residential measurement, being the focal point of the house in Roman and Islamic traditions. Yards were ordinarily encased on all sides by private constructions or properties. On the other hand, a public square typically had a greater capacity and purpose; it was regularly utilised as a commercial centre or a large gathering place, not as a solely religious or private space (Kostof, 1993).

According to Lennard and Lennard (2008), a public square provides an unparalleled school for social learning, for exercising responsibility and for developing a sense of community and space for democratic decision-making. It is worth mentioning Gehl's (1987) studies and research, in his book *“Public Spaces and Public Life”* which focuses on different types of public squares and roads. For public spaces, he examined the actual physical conditions provided to pedestrians, whereas, for public life, he studied pedestrian activities in these particular spaces. As he focused quite intently on social exercises, he stated that “all social activities depend on the collaboration of groups of people and collective performances in public spaces” (Gehl, 1987:14).

Furthermore, Palladio (1997) defines the role of a public square, as a spot that facilitates people's business, allowing it to function successfully, which, in turn, helps people to meet their wants and needs. For this multipurpose feature to work efficiently, it requires an apt and large enough space that is fit-for-purpose and accessible, and thus, enables people to assemble, converse and conduct trade.



## **2.4 URBAN SQUARE ATTRIBUTES**

Consistently through the centuries, public squares have been established and put to good use for a variety of purposes: from casual, formal or informal social gatherings to commercial transactions for exchange of commodities (or services) and as avenues for political campaigning or special occasions (Webb, 1990, cited in Van Melik, 2008:31). Most urban planners concentrate on three principal traits, highlighting the arrangement of buildings or variant structures.

### **2.4.1 Proportion of Public Squares**

Studies of many urban scholars consider the proportional ratio of length to width to height to be a vital attribute in the creation of artistically-structured public squares, although a successfully-constructed square does not have to be rectilinear (which is why the term square is something of a misnomer and might better be called a plaza). For instance, the Palazzo Pubblico on the Piazza del Campo, in Siena, Italy, is a shell-shaped medieval square, encircled by imposing palaces (Ingersoll, 1995). The sculptured, sloped auditorium down to the Palazzo Pubblico made the square the focal point of public life in the city. Another example is the Times Square in New York which is not a square shape in the geometric sense; it is more of a bowtie shape, or two triangles emanating roughly north and south from other main streets around the Square (Wallach, 2011).

Most squares are rectangular, leading various scholars to set firm guidelines for what makes a proportional square. Vitruvius set this proportion at 2:3, and Alberti at 1:2, while Palladio set seven unique proportions that ought to be taken into consideration for any indoor or outdoor room (Wittkower, 1945). Sitte (1979) recommends that it be a rectangle of proportions around 1:3. The proportion of width to height was also a matter of logic. Alberti believes that the height of the outskirts of the square to its aggregate width, ought to be somewhere between 1:3 and 1:6. Sitte identifies the most distinctive structural element as the measurement of the square, which is typically around 1:1, whereas Zucker (1970) contends that the greatest building height ought to be that whose engineering components may, at any time, be noticeable from the floor of the square, giving a stature or length proportion of somewhere around 1:4 and 1:6.

### **2.4.2 The Square Enclosure**

Beyond optimal proportions, most scholars concur that the more precisely the size of the square enclosure is determined, the better. Lennard and Lennard (2008) state that the buildings

surrounding a square create an orderly setting for the crowds moving between different little shops and outlets. For example, San Marco in Venice, Italy, is the most people-friendly gathering square in Europe, as it combines arcades and offset streets to hide the interrupted skyline in the periphery.

On the other hand, Sitte (1979) emphasises that the common principles for designing and developing creative squares promote concern when the surrounding walls envelop the square. He prefers expanded public squares that are generally open spaces. The reason for this is that he was concerned about the wellbeing of people and the cleanliness and ease of movement in town. He contends that these issues should be dealt with especially when related to meetings occurring in public squares.

Sitte (1979) also emphasises that the primary visual appearance of the square is that the space is firmly embraced by sections secured by arcades and alleyways. Furthermore, the public square enclosure helps users to perceive the overall objects of the space, mainly when the enclosure is created by a group of buildings around the space centre (Carmona, Heath, Taner & Tiesdell, 2010). Thus, seeing into and out of the square, ought to be controlled and constrained, so that individuals inside the square are able to have an outward view of the surrounding city neighbourhood, while those on the outside are unable to see into the square. The square ought to be structured as an outdoor room with clear distinguishable cutoff points and a tangible feeling of being walled-in.

### **2.4.3 The Square Accent**

This type of public square reflects regularity and centre-line accessibility by orienting itself to a single, accentuating building. It also amplifies the importance of a single monument such as a sculpture or water feature. Zucker (1959) calls this 'the dominated square', where the open space concentrates on one building or architectural feature, for example, a town hall, church, or campanile (e.g. the bell tower campanile of San Marco church in Venice which is located in one of the corners and is one of the most recognisable symbols of the city). This strengthens the inward orientation of the square, with the prime focus on the building within its periphery rather than a distant point in the city.

## **2.5 THE IMPORTANCE AND VALUE OF PUBLIC SQUARES**

Public squares, since the time of ancient Greek agora, have customarily served to unite individuals, whether in peaceful gatherings or violent protests (Glancey, 2014). They focus on

urban civility, and hence, give way to social and political exchange, imperative to the workings of a democratic society (Low, 2000). They are an essential component of towns, technically depicted as the heart of the city. They serve as a spot for people to assemble, and they impact diverse individuals' contact with each other (Zucker, 1959).

In a nutshell, it can be seen that the primary purpose of a square, taking into consideration its capacity and structure, is to accommodate and unify groups of people. This idea is upheld by Zucker (1959:1) who states that:

amid the most recent decades, city organisers have been basically worried with so many issues as the utilisation of area, the change of activity and general correspondence, zoning, the relationship among private and modern zones, and so forth. These contemplations have fairly dominated the key significance of the square as an essential urban component, as the heart of the city.

Kostof (1992) provided two explanations for the importance of public squares. Firstly, they act as a spot for individuals to meet and converse face-to-face in carefully organised environments, which has become progressively uncommon. Secondly, they provide a place for ceremonies to take place; for example, celebrations, festivities, dissents, and even revolutions and riots. Thus, Mitchell (2003:36) highlights two noteworthy concerns with regard to the utilisation of squares: are they places for individual experiences and do they serve the same purpose for each individual? He invalidates both of these opinions, expressing that squares are "essential requirements for introduction and acknowledgement of the comprehensive structure of the city".

Tibbalds (1992) describes public urban squares within a town as places that belong to the people of the town—they do not belong to investors, developers, police or security personnel. Their scale, shape and size will influence their nature and the way in which they are related one to another. Although initially planned as a place for public expression and recreation, they have often led to increased real estate values of surrounding houses. A beautiful public square can revive a flagging city centre area and attract new investors to neighbourhoods and communities. A great deal of a successful open-space design is accomplished by urban planners with the aim of increasing the economic value and financial benefit of the surrounding properties, in addition to increasing the physical and mental health of individuals (Hajj 2000). However, public squares that are intended to benefit general society may only facilitate activities that benefit some individuals, while barring others (Low, 2000). While public squares

are occasionally products of their place in time, general standards of space-volume relations depend on the human form and are thus independent of historical style. Specific attributes can be found in plazas that vary in function or cultural setting. For instance, a plaza or square that is made for business, does not always take on a specific spatial form (Zucker, 1959).

Despite the fact that the need for public urban squares may be broadly perceived, their utilisation has been the subject of some dialogue and debate. Rochon (2003) offers a critical evaluation of the architectural planning of selected public spaces that could potentially contribute to increasing social interaction. She stresses that, without careful planning, open spaces may fail to become areas where people gather and create a sense of belonging to a community. Thus, it is essential that planners promote public spaces as areas for people to meet and interact with one another. Furthermore, such spaces can add to and subsequently increase the relative satisfaction rating of a person's quality of life which depends on these spaces being meticulously arranged and appropriately sized. The organisation, Project of Public Spaces (PPS), (2000), offers valuable information on the attributes and examples of such places from around the world.

The diffusion among civilisations, over space and time, of the idea of incorporating civic spaces into a city plan is elaborated in Zucker (1970). According to Zucker (1970:2), "The town square represents a psychological parking place within the civic landscape ... the square dictates the flux of life not only within its own confines but also through the adjacent streets for which it forms a 'quasi-estuary'". He provides the following description of squares in the life of a city and town, reminding us that:

the unique relationship between the open area of a square, the surrounding buildings, and the sky above creates a genuine emotional experience comparable to the impact of any other work of art...this central formative element [the square] makes the community a community and not merely an aggregation of individuals" (Zucker, 1970:1).

In addition, other writers such as Cleary (1999), have focused on specific squares, like the Places Royales in France, in particular countries and cities, and on the merits of open spaces on the quality of citizens' lives. Recent urban studies in the UK (Department of Health, 2006a) have concluded that providing public open spaces and squares in towns and cities provides an opportunity to improve physical and mental health by encouraging people to walk, entertain and play more sport to fight against obesity.

Clearly, squares are critical elements in the life of a town or city. With careful planning, they can enhance the status of a place as well as provide a necessary condition to ensure civic pride. For these reasons, a number of Middle Eastern cities, such as Dubai and Abu Dhabi, seek to attract tourists and integrate local citizens in everyday commercial, social and recreational life. Moreover, with the growing number of residents and visitors to the main UAE cities, urban planners and architects along with the support of urban planning councils should pay close attention to the planning of their communities and civic spaces, as they are valuable assets to be preserved and protected.

Within the context of public squares and urban plazas, Low (2000) discusses the impact of informal traders in historic city centres and their impact on international tourism in such centres. His fieldwork was conducted in Quito, Ecuador. He argues that old city centres can be seen as sites of confrontation, in other words, they are contested spaces. Public squares have, indeed, been sites for political manifestations as was evidenced in 1989 in Tiananmen Square in Beijing which is recorded the largest square in the world (Hung, 1991). However, with careful planning and stakeholder participation, they can be developed into sites that accommodate traders and attract the local public and tourists. With many years of fieldwork that began in 1972, Low (2000) examined the role of the plaza in Costa Rica and followed this by a detailed study on squares in San Jose. Low (2000, cited in Massam & Everitt, 2004:97) stresses that squares may be designed to offer people views of military parades or may offer views of the definitive architectural character of an area, or they can simply be spaces for informal discussions among individuals and for group activities.

## **2.6 THE CHARACTERISTIC FUNCTIONS OF THE SQUARE**

Examining urban squares from a functional point of view informs our understanding of them. Krier (1991) defines a public square as a spatial model that is primarily suited for private use. The private sphere corresponds to the inner courtyard or atrium of a house. The courtyard house is the oldest type of square space that reflects the social life theme. The important point highlighted by Krier (1991) is the public sphere, which indicates how the square has undergone the same development as the courtyard house. However, marketplaces, parade grounds, ceremonial squares, and plazas in the front yard of churches and town halls are all relics of the Middle Ages and have been robbed of their original functions and their symbolic content; and, in several places, are only maintained through the activities of conservationists. The loss of symbolism in architecture was described and lamented by Giedion (1977). The torch which he

carried for Le Corbusier in the 1930s expressed his hope that this loss would perhaps be ameliorated by a renewal of artistic expression in both architecture and in new construction techniques.

None of the contemporary public squares that have been constructed recently can be compared to older urban squares such as the Grande Place in Brussels, the Place Stanislas in Nancy, the Piazza del Campo in Siena, the Place Vendome and the Place des Vosges in Paris, the Plaza Mayor in Madrid and the Plaza Real in Barcelona. These spatial types await rediscovery. This can only occur, firstly, if the public square is imbued with meaningful functions and, secondly, if it is planned appropriately within the overall town layout.

## 2.7 THE PUBLIC SQUARE TYPOLOGICAL ANALYSIS

### 2.7.1 Overview

As a public space, squares have a long history of human creation and use, and they are particularly and sufficiently adaptable for a wide assortment of needs (Johnston, 2006). In defining the typology of urban space, spatial structures must be categorised as geometrical shapes; for instance, the ground plan of an open space in the shape of a circle, a square, a triangle or even a rectangle (Krier, 1991). They come in different shapes and sizes (see Figure 2.2).

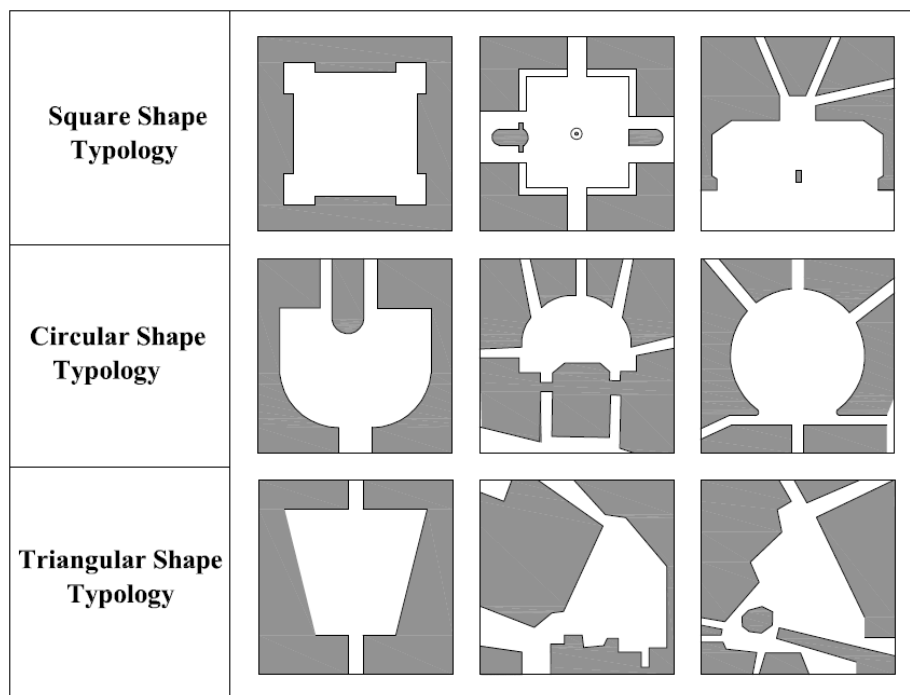


Figure 2.2: Krier's classification of public square typology

Source: (Adapted from Krier,. 2003)

As a result, the size of an urban square is likewise identified with its geometrical qualities. The scale must be specified and must fit with this geometrical typology. In the same vein, Kangur and Traks (2011) identify the characteristics of an urban square as “The open area of the square, the surrounding buildings and the sky creates a genuine emotional experience comparable to the impact of any other work of art”. They identify the square as a structural organisation and a frame for human activities based on very definite factors in relation to the buildings surrounding them: on their uniformity or variety, on their dimensions and relative proportions in comparison to open areas, on the angle of the entering street and on the location of focal points, such as fountains.

City planners of the past faced the same kind of problems as do the city planners of today. Whether the open area has to be shaped for royal spectacles or for political rallies, it does not make any difference in principle (Zucker, 1959). These functional considerations have influenced the planning of shapes and sizes of streets and squares. In terms of use today, they are not that different from what they were in earlier centuries.

Historically, squares can be divided into two main categories: a square within a town, which may have evolved with the town, or a square that has been planned and clearly defined as an individual piece of architecture. Developed squares were found in Hellenistic times during the 4th to the 1st century BC and late medieval towns of Central Europe. After the decline of ancient civilization, planned squares appeared again in England, Germany and France. In the early Renaissance, architects, starting with Alberti and da Vinci, planned whole towns and their squares around churches or palaces. Architects’ interest in squares reached its climax during the 17th to 18th centuries in France and Italy (Crawford, 2005).

### **2.7.2 The Public Square Archetypes and Classifications**

The appearance of each individual square represents a blend of topographical, climatic and national factors. Although squares of certain types reveal specific time periods, general space volume relations are independent of particular historical styles (Kangur & Traks, 2011). There are several basic types of squares that appear from time to time. The specific function of a square; for example, as a market square or as a traffic centre, never automatically produces a definite spatial form. Each different function may be expressed in various shapes and sizes. Nonetheless, several squares have changed their function over time (Peter, 1968). These

developments prove that the archetypes are structural; they are spatially, not functionally, defined. Over the years, archetypes have been classified by different architects and planners. The following are some of the classifications proposed by a few of these planners (Kangur & Traks, 2011).

#### 2.7.2.1 Classification by Paul Zucker–1888-1971

Zucker was a German-born architect, art historian and art critic, he practised urban planning and architecture space in Berlin. During his extensive studies to public open spaces and squares, Zucker summarised the squares in five typologies:

##### 1. *The Closed Square*: self-contained space (Place des Vosges, Paris)

The closed square is completely enclosed, apart from the streets leading to it. In addition, the important elements in such squares are the spaces walled by identical buildings and repetition of their façade types (Kangur & Traks, 2011). In other words, a closed square is one that is encased by four lanes of roads built around and thus forming its square shape (Figure 2.3). An example of an open square space is the Place des Vosges in Paris, which was previously known as the Place Royale.

Consistency and character of façade is also a determinant of an enclosed square of this sort, as are its width-length proportions. This plaza type is similar to a closed courtyard; nonetheless, whereas a courtyard is private or semi-private, an enclosed square is continuously open to the public and traffic flows (Zucker, 1959).

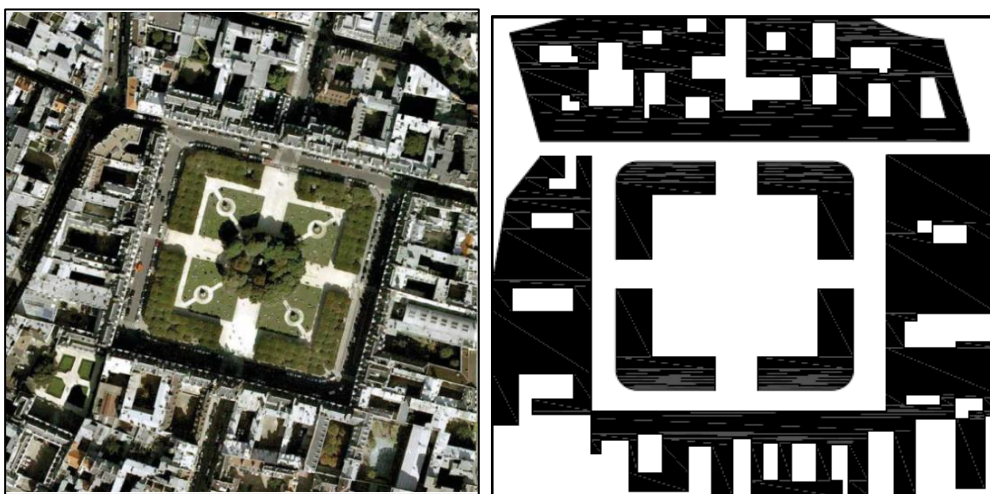


Figure 2.3: Map and layout of Place des Vosges, Paris—an enclosed square  
Source: (Wikipedia, 2017a)



## 2. *The Dominated Square:* (Piazza San Marco, Venice, Italy)

The dominated square is characterised by being directed towards one building or a group of buildings. The square and all different structures identified with this space are frequently described as a congregation, royal residence or town corridor (Kangur & Traks, 2011). Typically, all surrounding roads lead to this particular dominated square; these roads meet together forming a sizeable spatial square (or parvis) that provides individuals or spectators with an impressive view of the central building for which it has been built. The first medieval design that had a parvis of such sorts is the Notre Dame Cathedral in France. Although, typically, the dominated square provides a formidable "entry" to a monumental structure or building, it may likewise lean towards a mountain, a stream or the untamed ocean (Zucker, 1959). Using different terminology, Gehl (2007) described some urban squares as large courtyards where people could gather; this is well portrayed in Figure 2.4 that shows the Piazza San Marco, an open square in Venice. The Piazzetta is an extension of the Piazza that leads towards the tidal pond. Its shape provides a social, religious and political focal point of Venice (Peter, 1968).



Figure 2.4: Piazza San Marco–Venice, Italy–Dominated Square

Source: (Wikipedia, 2017b)

## 3. *The Nuclear Square:* space formed around a centre (Piazza di SS. Giovanni e Paolo with Verocchio's Colleoni monument, Venice)

The nuclear square is a dynamic space and is directed towards a terminal object such as a central statue, fountain or other vertical structure and does not depict or exemplify any artistic qualities of these said structures (Kangur & Traks, 2011). Within the nuclear square, space is less obvious than in the enclosed or dominated squares; however, such an area is present. To be considered or perceived as a nuclear square, the presence of a nucleus is necessary. This

core is usually portrayed by a vertical accent in the form of a monument, fountain or obelisk, providing a compelling focal point, creating an attraction and unifying the space. The said attraction results in the impression of a cohesive square (Peter, 1968). The Piazza di SS. Giovanni e Paolo in Venice, Italy, exhibits these characteristics (Figure 2.5). While it contains a large and imposing church, Verrocchio’s Colleoni monument in the midst of the space truly gives the plaza its unity. The artistic impact of the plaza coalesces around this small key element. Nevertheless, just because a square contains a focal element, it is not automatically considered as a nuclear square. For instance, St. Peter’s cathedral in Rome, while containing an obelisk, is not unified by this feature. This impression of bounded space is not threatened by the irregularity of layout or character of the surrounding buildings; in other words, if the expansion of the square to the size of the focal element gets too large, it will lose its unity (Zucker, 1959).

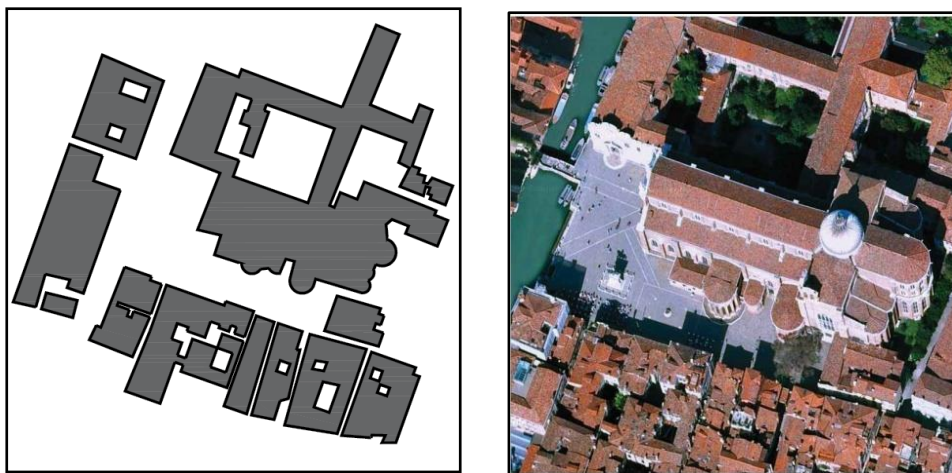


Figure 2.5: St. Giovanni and Paolo Basilica - nuclear square

Source: (Wikipedia, 2017c).

#### 4. Grouped Squares: spatial units combined (Salzburg Cathedral, Austria)

Grouped squares are a sequence of different sized-squares developed on a straight axis, where a smaller square links one of its sides to a larger square, so that the individual axes of each square meet at a right angle (see Figure 2.6). Scholars, such as Zucker (1970), describe the grouped square as a group of three or more squares of different shapes and sizes, surrounding one dominant building. In addition to this, it is also portrayed as a grouping of rooms inside a royal residence; the first room leads the way to the second one, the second to the third and so forth. Therefore, every square gets to be significant and is a consequence of the previous one. The rooms resemble joints of a chain and might be tastefully consolidated into one far-reaching

entity (Kangur & Traks, 2011). The Piazza dell Erbe in Verona, Italy, is an example of grouped squares (Figure 2.6). The associations between the squares might be immediate or circuitous; what is essential is that there is a mental understanding by the spectator of progressive pictures of changing spatial conditions (Peter, 1968). They provide a contrast between larger and smaller structures, higher and lower roofs, areas of wellsprings or landmarks as well as between arcades and their portals (Zucker, 1959).



Figure 2.6: Piazza dell Erbe–Verona, Italy - grouped square

Source: (Wikipedia, 2017d)

##### 5. *The Amorphous Square: space unlimited (Place de L'Opera, Paris)*

The final classification of spatial squares adopted by Zucker (1959) is the amorphous square. This type of square represents all squares that do not fit into the previously mentioned categories. These squares, in general, are formless and may not be organised or of a particular shape because of the heterogeneity of the surrounding buildings and roads (Kangur & Traks, 2011). However, they still give a sense of space and share some elements with the aforementioned squares (Peter, 1968). Times Square in New York and Place de l' Opera in Paris are examples of amorphous squares as their space is a junction of a group of boulevards meeting to form the public square (Figure 2.7). Times Square is considered an amorphous square as it is laid out as a rectangle and is enclosed on all four sides, but it cannot be considered a typical enclosed square due to its large dimensions, the heterogeneity of surrounding structures and a scattering of unrelated elements, such as a small triumphal arch. Although such spaces or locations have a less creative appeal, they are still categorised as squares (Zucker, 1959).

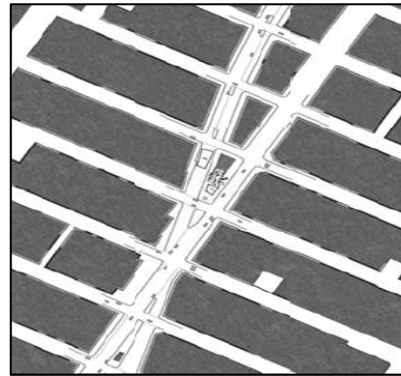


Figure 2.7: Times Square–New York–amorphous square

Source: (Wikipedia, 2017e)

Based on the review of the literature by Paul Zucker on the classification of public squares, it is concluded that a square may be not only one autonomous and segregated square, but rather it can be a combination of many together. Squares are living organisms and change continuously with varying socioeconomic conditions and technological advancements.

#### 2.7.2.2 Classification by Joseph Stubben–1845-1936

Joseph Stubben was one of the widely-known and significant city planners of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries in Europe. Stubben classified public squares into four typologies:

##### 1. *Traffic squares*

These consist of modern interchanges, circular and polygonal star plazas. Many of these squares can be seen in European cities such as Bela Kun in Moscow, Fira de Barcelona in Barcelona city, and Sergel Square in Stockholm. For example, the Place de l'Étoile ("Square of the Star") in France (Figure 2.8) now known as Place Charles de Gaulle. This square or plaza is a large road junction in Paris comprising twelve straight roads, each coming from different directions, but all leading to the Arc de Triomphe, a famous monument that stands at the centre of the Place de l'Étoile. Though there is no direct pedestrian access to the Arc de Triomphe; due to the twelve traffic lanes surrounding this space, an underpass was built for individuals to visit and admire the historic Arc (Peter, 1968).

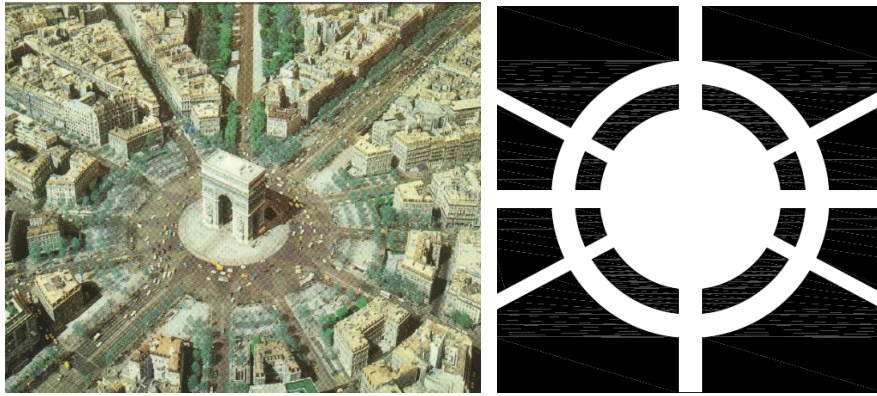


Figure 2.8: Place de L'Etoile–France–Traffic Square

Source: (Wikipedia, 2017f)

## 2. *The square for public use or market*

This type of square is primarily used for markets, parades, and public festivities (Peter, 1968). An example of this type of square is Oulo Square in Finland (Figure 2.9). The Oulo Market Square is a traditionally a popular shopping, meeting and gathering spot in the city and is located on the seafront; therefore, it mainly functions as a marketplace. The most notable area of the square has been the Market Hall for over 100 years. Moreover, the Oulo Market Square is located in the city centre, in the Pokkinen district for numerous regular customers and a favoured destination for tourists. Another example of a square for public use is the Rynek Glowny Grand Square in Krakow, Poland. It is one of the most famous European market squares. This 10-acre square was built in medieval times and is arguably one of the world's best attraction plazas to visit (Kangur & Traks, 2011).



Figure 2.9: Oulu Square, Finland–Market Square

Source: (Wikipedia, 2017g)

### 3. *English squares, also known as garden squares*

This type of square is a garden type public space, whereby trees and plants are the dominant landscape elements (Kangur & Traks, 2011). Russell Square in London (Figure 2.10) is a 19<sup>th</sup>-century example of a large garden square intended to be visited continuously by tourists and people heading to and from work. Russell Square was formed when the 5<sup>th</sup> Duke of Bedford decided to lay out new streets on the site of gardens. In 2002, Russell Square was re-landscaped in the style of the original early 19<sup>th</sup>-century layout by Repton (1752-1818).

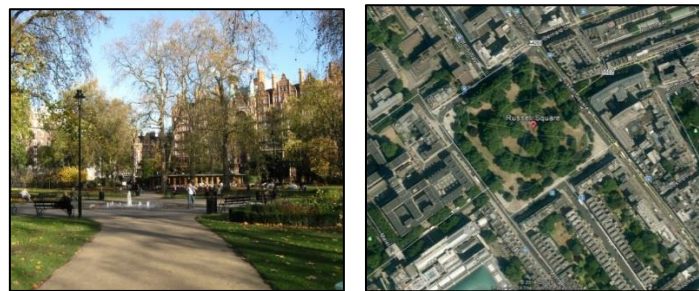


Figure 2.10: Russell Square, London—garden square

Source: (Wikipedia, 2017h)

### 4. *The architectural square or monument square*

The architectural square, also called a monument square, is constructed to purely accentuate or admire a single monument or vertical accent (Peter, 1968). Trafalgar Square is an example. It is a public, open space in central London and a touristic destination (Figure 2.11). The square has been a significant landmark since the 13<sup>th</sup> century. Major redevelopment of the square took place in 1805, by John Nash, but progress was slow, and the square was not reopened until 1845. Nelson's Column, an historical monument, is the focal point of the square. On the north side of the square is the National Gallery and to its east is St. Martin-in-the-Fields church. The square comprises of a large, substantial region surrounded by buildings; it has three main roadways leading to it, and a patio to the north, in front of the National Gallery. The primary use of this square is for political debates and group or social occasions; for example, the festival that takes place during New Year's Eve (Kangur & Traks, 2011).

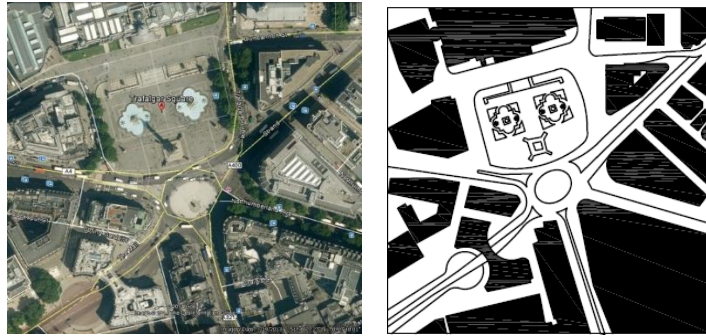







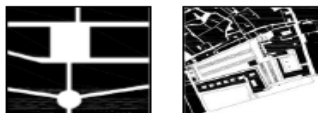

Figure 2.11: Trafalgar Square—monument square

Source: (Wikipedia, 2017i).

### 2.7.2.3 Classification by Rob Krier—1938

Rob Krier, a Luxembourgian architect, urban planner, sculptor, and theorist, has his own theory in typifying public squares. Table 2.2 below illustrates Krier’s classification of public squares which are discussed in this section.

Table 2.2: Krier (2003) – Classification of public squares

Square Type	Space Form	Example of Square
1 Rectangular squares with variations		*Turin, San Lorenzo Nuovo, 1775 **Place des Vosges, Paris
2 Orthogonal space * Without central building ** with central building		*Piazza Vittorio, Italy **Leptis Magna
3 Circuses and variation		* Place de Victoires, 1705 (Paris) **Finsbury Circuses Garden, London
4 Triangular squares and their derivatives		*Place Dauphine (Paris) **San Gimignano (Italy) • Piazza del Duomo • Piazza della Cisterna
5 Squares angled, divided, added and superimposed		*Piazza del Batistero, Volterra (Italy) **Piazza delle Erbe
6 Geometrically complex systems		*Karlsruhe (Germany) **Piazza San Marco, Venice Italy
7 Large-Scale Composite Plan		*Leningrad area. Theatre & Cernysev Square, 1828-1832

Source: (Researcher’s own)

### *1. Rectangular squares with variations*

Because of the equality of the space sides, this type of square does not readily lend itself to architectural emphasis, but rather directs attention to the open space. The rectangle is possibly the most frequently-used shape for the public place (Krier, 2003). One of its advantages is precisely that it allows a directional axis towards a prime monument. In the case of ancient Roman forums, the square was the main temple of the city (Krier, 2003). Examples of such rectangular squares are the Place des Vosges in Paris.

The Place des Vosges Square (Figure 2.12) is a pure 140 m x 140 m space and the oldest, planned, garden square in Paris. It is located in the Marais district and was considered quite a fashionable and expensive square during the 17th and 18th centuries. It was originally known as the Place Royale, which was built between 1605-1612.



Figure 2.12: Place des Vosges Square, Paris

Source: (ParisMarais, n.d.)

### *2. Orthogonal Space for squares*

This type of square comprises of two classifications. The first is the orthogonal space with a clear, central point distant from the surrounding buildings (Krier, 2003). The second is the orthogonal space for squares with a building situated in the centre of the space (Figure 2.13). An example of orthogonal spaces is the Ludwigsburg Square in Germany, a Baroque style marketplace (Marktplatz) and palace complex surrounded by an enormous garden of the same style (Hill, 2014). The square is a walkable-pedestrianised space containing various museums and tourist shops located within arcaded passageways with decorative architectural elements. The arches and gates are made of beautifully carved and crafted metal work (Table 2.2). The square offers visitors an insightful tour through the centuries from the Baroque to the Rococo and finally through the Neoclassical ages.





Figure 2.13: Ludwigsburg Square, Ludwigsburg, Germany

Source: (Ludwigsburg, n.d.)

### 3. *Circuses spaces and other variations*

This type of square comprises one or more combined circular spaces. Historically, the squares with circular and elliptical arena were Roman amphitheatres (Krier, 2003). The first stage in the transformation of the amphitheatre came with the conversion of the buildings into clan communities (Table 2.2).

This was a common practice in the south of France where each amphitheatre was occupied by several knights. The central space of the circus arena was left open as the community piazza while, the periphery was turned into a circle of defence, and the houses were built in rows. When this planning arrangement could no longer be tolerated in the context of an independent city, the defence was dismantled and the open space converted to a public square. The conception of the public place became a setting for spectacles—in this case, bullfights—and open-air theatre.

Circular form, as pure shapes, was a favourite of Neoclassicism. An example of such a circular space is Queen Square in Bath (Figure 2.14). The circle itself, with diameter 570 m, was defined by porticoes and official buildings of Neoclassical design that included a theatre, a costume house, an exchange, a bath and a pantheon. This square is built on a gentle slope, formed by the Georgian houses of 1728 and considered the primary architectural element in the city of Bath (Chapman, 2003). The architect, John Wood, aided in the restoration process of the square in order to regain the glory it had back in 1725. He stated that “the intention of a square in a

city is for people to assemble together”. The square’s surroundings are divided into individual plots with uniformly-designed buildings. Moreover, in 1738, an obelisk in the square centre was erected by Beau Nash who was the English leader of fashion and best remembered as the Master of Ceremonies at the spa town of Bath.



Figure 2.14: Queen Square–Bath

Source: (Visit Bath, 2017)

#### *4. Triangular squares and their derivatives*

The triangular open space in "organic" towns is quite often the most active intersection and the trademark setting for outside business markets (Krier, 2003). This component was much favoured in English medieval towns. Typically, having a triangle-shaped square or open space is a geometrically-uncommon structure; however, it has been used in many cities and countries.

The best-known area that uses triangle square is the Place Dauphine in Paris which is an excellent example of such square typology (Figure 2.15). This square is one of the major public squares in France and was originally developed as two components; a triangular square with a row of houses across the base of the triangle (Table 2.2). The square was initiated by King Henry IV in 1607. The Pavillion Maison des Etuves is located in the western wall garden of the square, the location where participants and public could gather and be entertained.

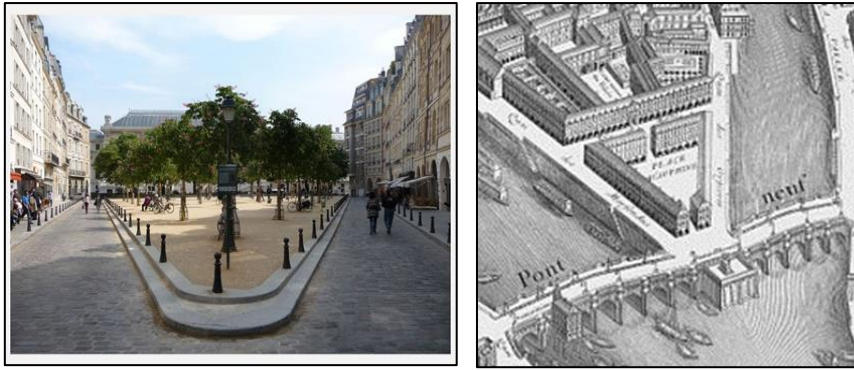


Figure 2.15: Place Dauphine, Paris

Source: (Zanda, 2017)

### 5. Spaces which are angled, divided, added and superimposed

This type of square varies in geometry, form, and size, such as angled square when two facing sides are not straight, or angled square articulated by an intersecting street, and other squares joined or superimposed by two geometrical spaces (Krier, 2003). The Piazza delle Erbe, Piazza della Frutta and Piazza dei Signori, Padova in Italy, can be considered examples of such spaces (Figure 2.16).

In the heart of Padova, the three interconnected squares mentioned above, are the most dynamic series of squares in Europe if not the whole western region. The three squares are dedicated to citizens of Padova, and they are an urban symbol of social, commercial and civic life (Table 2.2). The “Palace of Law” is located between Piazza delle Erbe and Piazza della Frutta, which recalls the proudest period of Padova (Lennard & Lennard, 2008).



Figure 2.16: Piazza della Frutta e delle Erbe–Padova, Italy

Source: (Aledo.it, 2017)

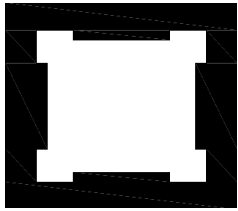
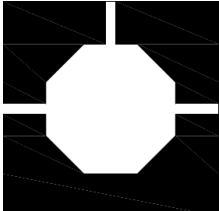
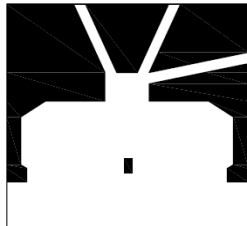
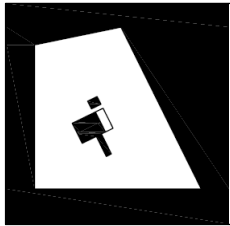
## 6. Geometrically complex systems

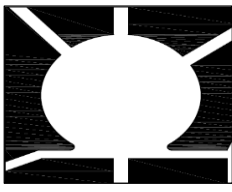
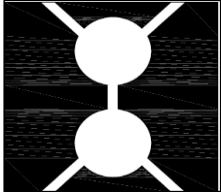
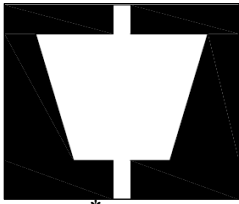
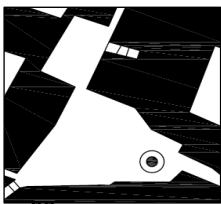
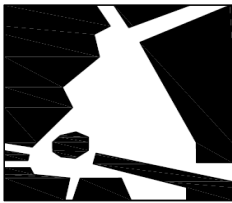
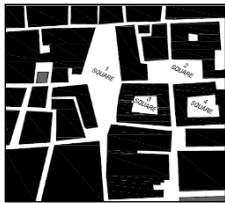
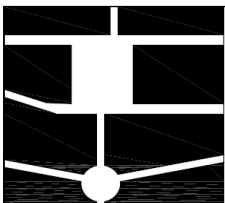
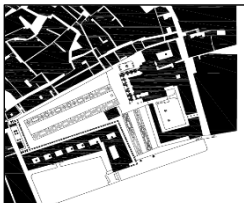

This type of public square comprises geometrical outlines and building positions. Bremer Marketplatz in Germany is one of the oldest public squares in the centre of the Hanseatic city; the square was planned on geometrically complex systems (Table 2.2). However, the area around the square has undergone constant construction and was levelled and paved at various times. Currently, the square covers an area of 3500 m<sup>2</sup> and no longer used as a marketplace except for the Christmas and New Year market days. Ronald Statue and the town hall in the square are listed as a UNESCO World Heritage site. The buildings in the square's periphery are uniform with facades of special brick and sandstone cladding.

## 7. Large-scale composite plan square

Krier (2003) has classified this type of Roman period square as the self-contained system of streets and square space. It is usually a large-scale square with different composite spaces connected by crossing passageways. The square forum is always adjacent to the streets but never a street crossing the square space. The intersection of streets is an exposed spot marked by an architectural feature, for example, Leningrad, an area containing the Alexander Theatre and Cernyser Squares, 1828-1832 (Table 2.2). The square is the central spot of the city and the former Russian Empire. It was the setting of many events. The centre of the square is marked with the Alexander red granite column of 47.5 meters high in the centre of the square.

Table 2.3: Classification of public squares

Square Type		Space Form		Example of Square
1	Rectangular Squares with Variations			*Turin, San Lorenzo Nuovo, 1775 **Place des Vosges, Paris
2	Orthogonal space * Without central building ** with central building			*Piazza Vittorio, Italy **Leptis Magna

Square Type		Space Form		Example of Square
3	Circuses and variation			* Place de Victoires, 1705 (Paris) **Finsbury Circuses Garden, Londo
4	Triangular Squares and their derivatives			*Place Dauphine (Paris) **San Gimignano (Italy)
5	Squares angled, divided, added and superimposed			*Piazza del Batistero, Volterra (Italy) **Piazza dell Erbe
6	Geometrically complex systems			*Karlsruhe (Germany) **Piazza San Marco, Venice Italy
7	Large-Scale Composite Plan			*Leningrad area. Theatre & Cernysev Square, 1828-1832

Source: (Krier, 2008)

Considering the above classifications, one can see that the idea of an urban square, while not technically forcing its design or style, is dependent on or framed by its surrounding structures. This space is also geometrically bounded by an assortment of heights. Krier (2003) characterised the urban square as the primary way man found of utilising an open space. It is typically delivered by grouping houses around an open space, thus forming a particular shape of a "square". This arrangement promotes a high degree of control of the inner space and thus acts as a type of fortification and protection against any signs of aggression from the outside.

### 8. Square as per intersection with streets

Krier (2003) has examined that some square classification can be based on the intersection of the square with the streets that lead to this space. The diagram (Figure 2.12) shows four possible ways in which one or more streets can intersect a square:

Street(s) leading to the centre of the square at a right angle to one side or more.

- Off-centre street(s) leading to the square at right angles to one side or more.
- Street(s) meeting the square corner at the lateral connection of the right angle.
- Street(s) leading to the square at the oblique connection of any point of entry.

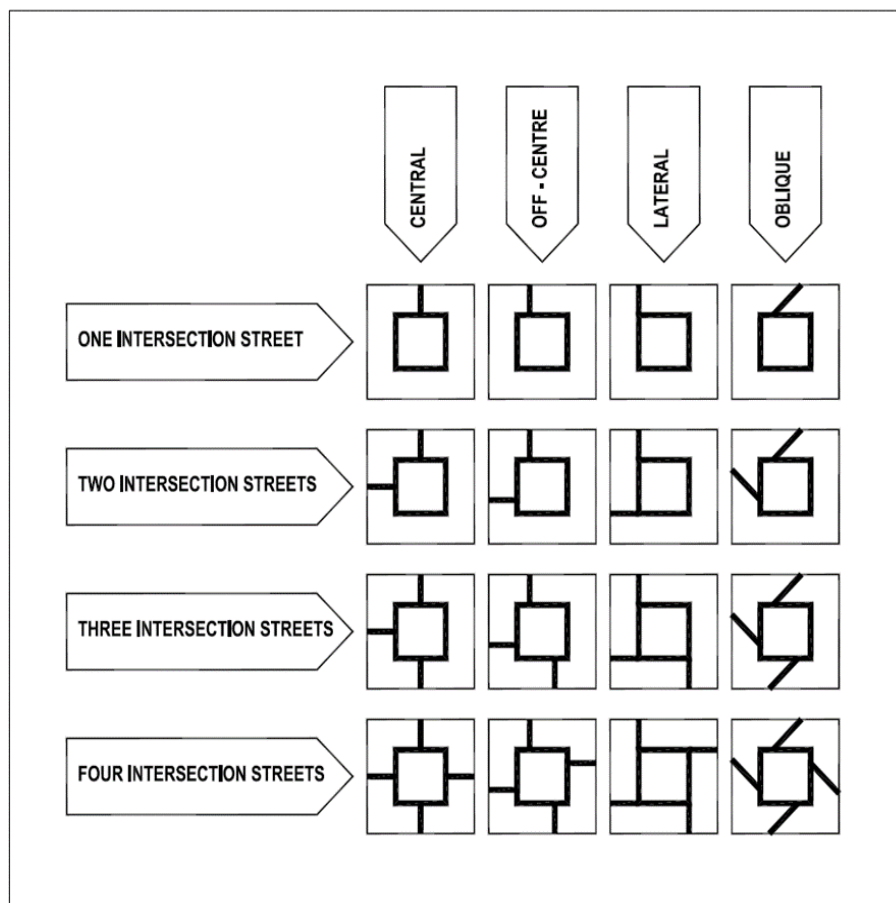


Figure 2.17: The concept of streets and square intersections

Source: (adapted from Krier, 2003)

To conclude the section of typology and classification of public squares in a comparative framework among the urban scholars, Zucker, Stubben and Krier, it is obvious that Zucker's classification (1959) delineated five types based on geometric shapes. Stubben sets his classification to project the types based on functionality rather than shapes. Finally, Krier

(2003) consigned public squares to two types—the square and its intersection with streets. This it can be concluded based on the different opinions of urban scholars, that the concept of the square is a combination of form and function that provides a socio-economic environment to people. Moreover, neighbourhood and residential public squares play important roles in building social life and bonds between inhabitants, whether classified as poor or middle-class spaces, or whether they are diverse in gender and ethnicity.

#### 2.7.2.4 Summary

The researcher can conclude from this section that the notion of public squares and their typology and characteristics have been the primary line of many European urban planners and architects as described above. The discussion on how the public squares are categorised by selected urban scholars such as Zucker, Stubben, and Krier reveals that public square typology/ or classification is based on the form or the primary function of this space, which has over time. Both Zucker and Krier focused on the form of public squares. Zucker, in his public square classification, argues that the square's function is not the key criterion for determining the categories, relating that, in time, the function of the square can change over time without changing the form or design of the square (Van Melik, 2008:42). Five types of squares were presented by Zucker: the closed, dominated, grouped, nuclear, and amorphous (Zucker, 1959:9-16) as shown in Table 2.4 below.

Krier (2003) is another architect and urban author who also focused on form rather than function. He differentiated the public square types based on the three basic geometrical forms: the square, the circle, and the triangle. A further step made by Krier in comparison to Zucker is that he combined his classification of each square typology with different façades and access routes to the square (Van Melik, 2008). Moreover, Krier was able to add different descriptions and variations to the public squares by sorting them into divided and angled spaces, geometrically simplex, and large-scale composite plan squares.

The German urban planning scientist, Stubben, took the lead in setting up the public square typology based on function. His analysis of the squares was based on their function regardless of the shape or the form and how they connect to streets and junctions. Four types of squares were distinguished based on their dominant function: traffic squares, public use or market squares, garden squares, and architectural squares dominated by surrounding buildings or include monument.

To conclude, the public squares typology can be divided into two groups: the morphology or form group and the function group. Because this research focuses on the importance of public squares as a vital part of developing liveable society, the function of the public square is the more appropriate typology.

Table 2.4: Typologies of public squares in previous research

Author	Publication Year	Focus	Category
<b>Paul Zucker: 1888-1971</b>	1959	Form	<ol style="list-style-type: none"> <li>1. Closed Square</li> <li>2. Dominated Square</li> <li>3. Nuclear Square</li> <li>4. Grouped Square</li> <li>5. Amorphous Square</li> </ol>
<b>Joseph Stubben: 1845-1936</b>	(In: De Vries, 1990)	Function	<ol style="list-style-type: none"> <li>1. Traffic Square</li> <li>2. Square of public use or market</li> <li>3. English Square or Garden Square</li> <li>4. Architectural Square or Monument Square</li> </ol>
<b>Rob Krier: 1938</b>	1977 & 2003	Form	<ol style="list-style-type: none"> <li>1. Rectangular Square with Variation</li> <li>2. Orthogonal Space for Squares</li> <li>3. Circuses spaces and similar variations</li> <li>4. Triangular Squares and similar variations</li> <li>5. Angled, divided, added, and superimposed spaces</li> <li>6. Geometrically complex system squares</li> <li>7. Large- scale composite plan square</li> </ol>
<b>Francis D. K. Ching: 1943</b>	1979, 1996 & 2007	Spatial Organisation (Form & Function)	<ol style="list-style-type: none"> <li>1. Centralised organisation</li> <li>2. Linear organisation</li> <li>3. Radial organisation</li> <li>4. Clustered organisation</li> <li>5. Grid organisation</li> </ol>

### 2.7.3 Spatial Organisation of Squares

The most completely characterised arrangement of spatial squares is by Ching (1996). His five types are used as the reference for spatial organisation typology.

#### 2.7.3.1 Centralised Organisation

A centralised organisation is a type of square composed of several secondary spaces surrounding a large, dominant area (Figure 2.20). This formation makes the centralised organisation a stable, concentrated space. This central space is typically large enough in size and shape such that it can adequately combine a number of secondary areas in and around its perimeter. The secondary spaces of the organisation may be equivalent to one another in function, form, and size, and create an overall configuration that is geometrically regular and symmetrically positioned. Yet, secondary spaces can differ from one another in terms of size in order to respond to individual requirements of function, express their relative importance, or acknowledge their surroundings. This differentiation among the secondary spaces also allows



the form of a centralised organisation to respond to the environmental conditions of its site (Ching, 1996).

#### 2.7.3.2 Linear Organisation

A linear organisation is a direct association that is primarily comprised of an arrangement of spaces (Figure 2.20). These spaces can either be straightforwardly identified with each other or be connected through a different, yet, unmistakable direct space. A direct association of many spaces, more often than not, comprises of dull spaces that are similar in size, frame, and capacity. It might likewise comprise of a solitary space that lengthens outwards into a progression of spaces that vary in size, shape, or capacity. In both cases, every space along the arrangement has an outside presentation. Spaces that are practically or typically imperative to that association can be positioned anywhere along the straight arrangement and have their significance explained by their size and frame. Their centrality can likewise be adjusted by the space area and by the function associated with the size (Ching, 1996).

#### 2.7.3.3 Radial Organisation

A radial organisation combines elements of both centralised and linear organisations (Figure 2.20). It consists of a dominant central space from which a number of linear organisations extend in a radial manner. While a centralised organisation is a planned scheme that focuses inward on its central spaces, a radial organisation is an outward directed that reaches out to its context. With its linear arms, it can extend and attach itself to specific elements or features of its side. As with centralised organisations, the central space of a radial organisation is generally regular in form. The linear arms, for which the central space is the hub, may be similar to one another in form and length and maintain the regularity of the organisation's overall form. The radiating arms may also differ from one another in order to respond to individual requirements of function and context (Ching, 1996). Figure 2.18 below provides a pictorial view of a radial arrangement.

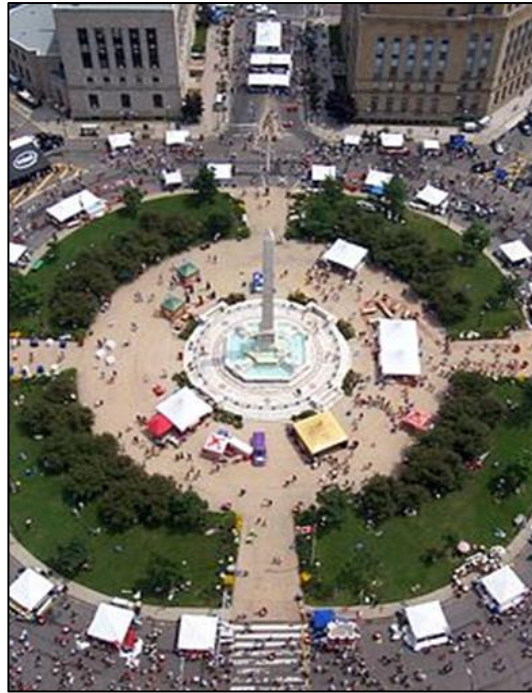


Figure 2.18: Buffalo's Niagara Square

Source: (Wikipedia, 2017j).

#### 2.7.3.4 Clustered organisation

A clustered organisation depends on the physical proximity of spaces to one another. It frequently comprises of different shape spaces that have similar capacities and offer a typical visual characteristic (Figure 2.20). A clustered organisation can likewise be a larger space inside which smaller spaces are available in different sizes, shapes, and capacities. However, they are linked to each other by their relative closeness to one another. Since its example does not start from an unbending geometrical idea, the type of a bunched organisation is adaptable and can acknowledge development and change promptly without influencing its character. Bunched spaces can be sorted out around part of a section of a building or during the building's development. The spaces can likewise be clustered around an extensive characterised field or volume of space. This pattern is similar to that of a centralised organisation, but it lacks the latter's compactness and geometrical regularity (Ching, 1996).



Figure 2.19: Piazza delle Erbe—several squares connected  
Source: (Wikipedia, 2017d).

#### 2.7.3.5 Grid Organisation

A grid organisation is a square that comprises of forms and spaces whose positions in space and associations to each other are controlled by a three-dimensional framework, for example, buildings in the shape of a gridblock or network. A grid is made up of two pairs of parallel lines; these lines are usually building blocks (Figure 2.20). The overall end-product is a type of matrix of an arrangement of monotonous, secluded units of space. The organisation of the buildings in two-directional grid lines and the regular settings of the streets in between create a powerful pattern that creates squares that have various forms and function (Ching, 1996).

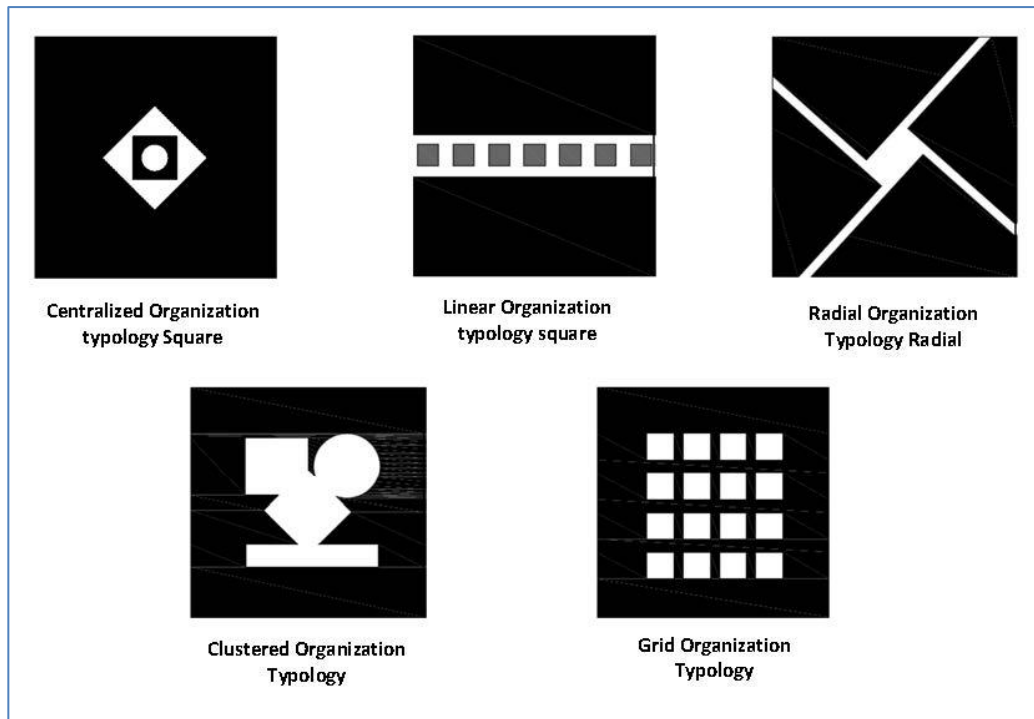

























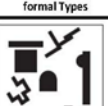










Figure 2.20: The spatial squares

Source: (adapted from Ching, 1996)

As one can see, there are countless definitions and characterizations or groupings of the many types of existing public urban squares. These have all been documented throughout history and have been spoken about at length in the previous sections. Although, we provided several descriptions and categorisation of these squares, and though they differ in their shapes, sizes, capacities, as well as, from one age period to another, what consistently remains the same is their sole purpose, which is, to serve as a meeting or type of gathering spot for individuals in the surrounding area.

In order to simplify understanding the different characteristics of public squares as classified by different urban planners, the researcher summarised these in Table 2.3. Though they provide valid opinions as to a public square's foundational structure and its purpose, each designer has his or her own thoughts and plans when creating the building blocks of this space.

Table 2.5: Comparison of public urban square forms and typology per author

AUTHOR	LEON KRIER 1946 - Present	CLIFF DOUGHTIN	CAMILLO SITTE 1843 - 1903	THOMAS THIS - EVENSEN 1946 - Present	PAUL ZUCKER 1888 - 1971	JOSEF STUBBEN 1845 - 1936	ROB KRIER 1938 - Present	Francis D.K. Ching 1934 - Present
Initial Form Types	 Urban Blocks Formed by Streets + Squares	 The Dominated Square	 Long	 The Equilibrrious Square	 The Closed Square	 Traffic Square	 Rectangular Square with variation	 Centralized Organization typology Square
	 Street+Squares Formed by Urban Blocks	 The Enclosed Squares	 Deep	 The Directional Square	 Grouped Square	 Square for Public use	 Orthogonal Square	 Linear Organization typology square
	 Streets+Squares are Precise formal Types	 Linked Squares		 The Centralized Square	 The Dominated Square	 Englise Garden Square - Landscaped Square	 Circusses and Variation	 Radial Organization Typology Square Conture
	 Buildings are Precise Formal Types	 Spaces Linked by an External Reference Point		 The Linked Square	 The Amorphous Square	 Architectural Square	 Triangular Square and their Derivatives	 Clustered Organization Typology Square
					 The Nuclear Square		 Spaces which are angled, divided, added and superimposed	 Grid Organization Typology Square
							 Geometrically Complex System	

### 2.7.3.6 Summary

This subsection highlights the public squares as spatial organisation types that merge function and form. The architecture design author and writer, Francis Ching, classified public square form in correlation with its function. Five types of spatial organisation squares were analysed geometrically to determine their functions and how they connect with their surroundings, Table 2.4: centralised organisation that dominates the surrounding space; linear organisation type that comprises a straightforward arrangement of spaces that are similar in shape and size; radial organisation that combines both centralised and linear organisation where different linear arrangements in shape and size branched from the dominant centralised space in order to respond to different functions; clustered organisation comprising different forms and sizes in one general space; and the grid organisation which comprises identical spaces in form and size.

To conclude, Ching's public square typology reveals that variety in the form and size of squares leads to their being used for different functions in the city.

## **2.8 THE RESEARCHER'S URBAN SQUARES TYPOLOGY**

For the current researcher as an architect and urban planner, a square can serve many functions and purposes. This section provides the researcher's own view and in-depth analysis of the public square typology derived from the literature review. A simplified classification is drawn by the researcher focusing on the dominant function of each type of public square. The following is the author's characterisation of squares:

### **2.8.1 Square's Political Function**

This square typology is planned and built for the purpose of emphasising and projecting the greatness and glory of administrative, landmark buildings, rulers' palaces or historic government complexes.

Such urban squares are not continuously open to the general public, but are fundamentally used for political discourse or debates, military parades or as an assembly point for a political exhibition.

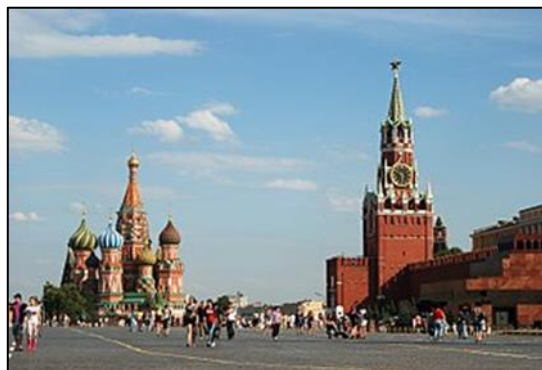


Figure 2.21: Red Square in Moscow

Source: (Wikipedia, 2017k)

### **2.8.2 Religious Square**

This type of square is linked to a focal place of worship, such as a church (the square is called a parvis), a mosque, a sanctuary where individuals accumulate prior to the service or mass and later attend the religious service. The famous San Marco cathedral Square in Venice, Italy is an example of a square that attracts pilgrims from the whole world. Moreover, this type of square may also be utilised for social occasions (Figure 2.22).



Figure 2.22: San Marco Square–Venice

Source: (Planetware.com, 2017)

### 2.8.3 The Symbolic Square

This kind of square is planned and built to preserve the historical memory of a famous hero, leader, through a particular statue or sculpture. This sort of square is also utilised for social occasions. Riyadh Al-Solh Square in the heart of Beirut downtown is an example of a square named after the first Prime Minister of independent Lebanon. Despite the several transformations and damages made to the square and its surroundings during the civil war (1975-1990), the statue of the Prime Minister was finally returned to its original location in 1998.



Figure 2.23: Riyadh Al-Solh Square, Beirut

Source: (Souar, Lebanon, 2017)

### 2.8.4 The Commercial Square

This type of square is usually surrounded by mixed-use buildings of commercial and business functions, mainly located in the centre of the city or the business district. This type of square is a place for civic buildings, residential complexes, grouped offices and business centres, entertainment facilities, cinemas and shopping streets and arcades to meet at the square space.

It is the busiest urban space in the classification provided by the author, as it draws in an assortment of individuals and grouped forms of buildings around the square space. One of the best grand scale examples is St Peter's Square in Rome as an important node in the urban fabric of Rome and as well the centre of the Catholic Universe (Moughtin, 2003).



Figure 2.24: St Peter's Square in Rome

Source: (Wikipedia, 2017)

### **2.8.5 The Entertainment Square**

This type of public square is an open venue designed to host events and has a variety of lifestyle entertainment and recreational amenities; it is mainly visited by tourists and families for the purpose of entertainment and relaxation. This urban square type is usually free of transportation movement and car parks. Commercial aspects such as shops and retail outlets do not dominate this square, yet some food and beverages are still made available to visitors. The Burj Khalifa Dubai fountain square in Dubai is a unique example of the largest choreographed fountain system square in the world. The square is linked with Dubai Mall, the largest shopping mall in the world, and nowadays considered the best entertainment landmark place in the tourism venues ranking.





Figure 2.25: Burj Khalifa Dubai fountain square

Source: (Let's visit Dubai, n.d.)

## 2.9 URBAN DESIGN

This section offers exposure to different approaches and dimensions of urban design. It includes a comprehensive overview of urban design and master planning policies across the world. The structure of this chapter is intended by the researcher to be a self-contained, easily accessible literature review, with cross-referenced sections, in order to enable readers to extract specific information.

Urban design as an important part of urban development, planning and conservation process, is a group of guidelines and processes used by architects and urban planners for creating holistic human settlements (Carmona et al., 2008; Carmona, 2016). Furthermore, urban design is a practice which focuses on the shaping of the built environment and collectively integrates the disciplines of spatial planning, architecture, environmental planning and landscape architecture (Oliveira, Pinho, Batista & Patatas, 2014). The researcher's experience in urban planning and architecture in the UAE, in addition to his synthesised and integrated theories and ideas from various urban planning sources and survey, generated the belief that urban design policy lacks consideration of peoples' perceptions, opinions and participation in community master planning decision-making. This chapter reviews and highlights the concept of the urban public square (UPS) and its missing provision in the urban planning policy and design guidelines in the UAE. In addition, this chapter draws principles and objectives required to implement urban design policy that guides urban planners and planning decision-makers to make provision for UPS in the city and community master plan.

## **2.10 THE CONTEXT FOR URBAN DESIGN**

### **2.10.1 What is Urban Design?**

In the late 1950s, the term ‘urban design’ replaced the outmoded term ‘civic design’ which limits its focus to the design and siting of major commercial and residential buildings, museums, opera houses, and how they relate to open spaces. Nowadays, the understanding of urban design has a more expansive, diverse approach, evolving from the initial distribution of various types of building masses, and different irregular spaces, to a new urbanisation theme that integrates buildings, spaces, streets and people (Davies, 2000). It gives more priority to the quality of the public realm—both sociocultural and physical—and place-making for people to entertain and socialise (Carmona et al., 2008). According to other urban design scholars, such as Tiesdell, Heath, Oc and Carmona (2008), ‘urban’ relates to the characteristics of towns, communities and cities, while the term ‘design’ suggests designer activities such as sketching forms, colouring and shape-making. In another approach, urban design is an outline of how city blocks, streets and public squares can be organised and formed properly to satisfy the citizens’ need (Urban Design Group, 2011). Gosling and Maitland (1984) define urban design as a typically ‘common ground’ architecture and town planning process, while Cuthbert (2006) describes urban design as the link between three areas: architecture, town planning and landscape architecture. Lynch (1981) defines urban design more broadly as a variety of different spatial dimensions that involve urban designers in preparing comprehensive regional planning studies, regional parks and public squares, establishing guidelines for conservation or development, and setting out a participatory planning process.

### **2.10.2 Urban Design Today**

This chapter highlights urban design observations related to different cities in the European and North American regions. There is a wide range of opinions from urban planners and built-environment scholars on urban design. Carmona et al. (2008:3), citing the urban planning scholar, Madanipour (1996a), identifies urban design from seven perspectives:

1. Should the focus of urban design be at particular scales or levels?
2. Should urban design be focused on the visual qualities and components of the urban environment or, broadly address the organisation and management of urban space?
3. Is urban design about transforming spatial arrangement, or more about social and cultural relations between space and society?

4. What should urban design focus on the urban environment or the process by which it is produced?
5. How can urban design be part of the design process of architects, planners, or landscape architects?
6. Should urban design be part of private- and public-sector activity?
7. How should urban design be seen: as a science or art?

According to Madanipour (1996b), shaping and managing the built environment is the urban designer's interest in the urban planning process and its product, while urban design can be used as a reference point for all the products and development processes in terms of urban planning and architecture. Cowan (2001) contends that an urban design framework or master plan cannot be a product of a single professional. The best master plan is a comprehensive product of the collaboration of a number of people with different experience and skills.

### **2.10.3 Towards Understanding Urban Design**

The term 'urban design' has unlimited meanings and different understandings by professionals and urban actors. Carmona et al. (2008) analyse this term as two conceptual words: 'urban' suggests the characteristics of cities, towns and villages, while 'design' relates to the tasks of architects and planners such as sketching, concept sketching, planning and pattern making. It is frequently difficult to analyse the urban design term and to precisely understand what it is. It differs from other related terms such as architecture, landscape architecture, infrastructure, civil engineering, or town planning. Urban design may, however, include these activities (Raco, 2003). In general, there is wide understanding by the majority of urban planning actors that the term 'urban design' is a common ground and combination of both 'architecture' and 'town planning' (Gosling & Maitland, 1984). As contended by Cowan (2001), producing urban design tasks and master planning activities cannot be embodied by a single design actor or professional. Moreover, urban design is a collaboration and coordination process, involving the skills and expertise of a variety of professionals and decision-makers. In his definition of the term 'urban design', Lynch (1981) argues that urban design is the large-scale preparation of a comprehensive regional study, involving a new town plan, a protection of streets and parks, revitalisation of a public square, or set a planning process, guidelines and regulations for development and conservation. Moreover, Morris (1994) highlights that the British urban planners were guided by specific regulations and planning criteria to allow open space and plazas between the buildings to ensure the functionality of cities and towns.

## **2.11 RECOGNITION OF URBAN DESIGN IN THE WEST**

Urban design in the West and mainly Europe has been recognised as an essential area of practice by architects, urban planners and built-environment professions, and recently has even been the focal planning procedure followed by local government decision-makers, and incorporated fully into the planning strategies (Carmona et al., 2008; Carmona, 2016). As an example, the Urban Design Alliance (UDAL), represents a multi-profession base, established by the built-environment professions and institutes to promote urban design policies.

Furthermore, in the majority of states in the USA, urban design has been comprehensively conceptualised and incorporated into the activities and design processes of the established urban-planning professionals. As an example, Portland and San Francisco clearly demonstrate this as of the planning history of their cities (Lutzoni, 2016). Moreover, generally in the UK, combined initiatives in both the professional and public sectors produced new criteria for better urban design that focus on creating well-developed activities, by engaging the local community in the design, management and the reshaping of their local built environment. The urban design provides a clear framework that needs to be used by the urban planning actors, starting from identification of the tasks and all resources needed to get the work implemented (Illsley et al., 2010). To accomplish this, a process of evaluating and measuring the design practices must be guided and monitored by the authorities and all urban design stakeholders involved in the process. Based on the monitoring results the corrective efforts are to take place by the urban designers to improve the overall urbanism quality (Ali & Armstrong, 2012).

Urban design has become an expanding discipline that is increasingly demanded by private and public sectors for practitioners, or generally for urban design experts (Shahreen, 2010). Currently in the UK, there is a range of urban planning courses at many academic institutes that are recognised in planning, architecture, landscaping and real estate education for those wanting to develop urban planning skills and knowledge. From his practical experience in architecture and urban planning studies, the researcher recognises that it is the time for all urban designers and urban-planning decision-makers to have clear knowledge and understanding of how to combine their design actions and interventions in the built environment to create people-friendly, viable and vital high-quality environments in shaping future smart and sustainable communities (Ezzeddine & Al Hajj, 2014). The urban design as a field of various activities has secured its place and became a focal element among the other established built-environment professions as a primary means of addressing interdisciplinary concerns (Carmona et al., 2008).

While urban planning and its design practice continue to evolve in the UAE, in this chapter, the researcher incorporates advanced thoughts on the urban design practice, planning processor, and critiques the failures of urban design plans and programmes which, through lack of awareness and appreciation, have omitted certain key considerations.

## 2.12 URBAN DESIGN TRADITIONS OF THOUGHT

A few decades ago (1950-1990), urban design thought was represented by two broad traditions stemming from different approaches to design. Carmona et al. (2008) and other urban planning scholars analysed what was emphasised by Jarvis (1980, cited in Tibbalds, 1992:115), who presents urban design as two traditions ‘visual-artistic’ tradition emphasising the architecture quality and space and a ‘social usage’ tradition mainly linked to the people’s social environment, activities and space. In recent years, a third tradition of ‘making places’ has synthesised the visual-artistic’ and ‘social usage’ traditions (Figure 8.1)

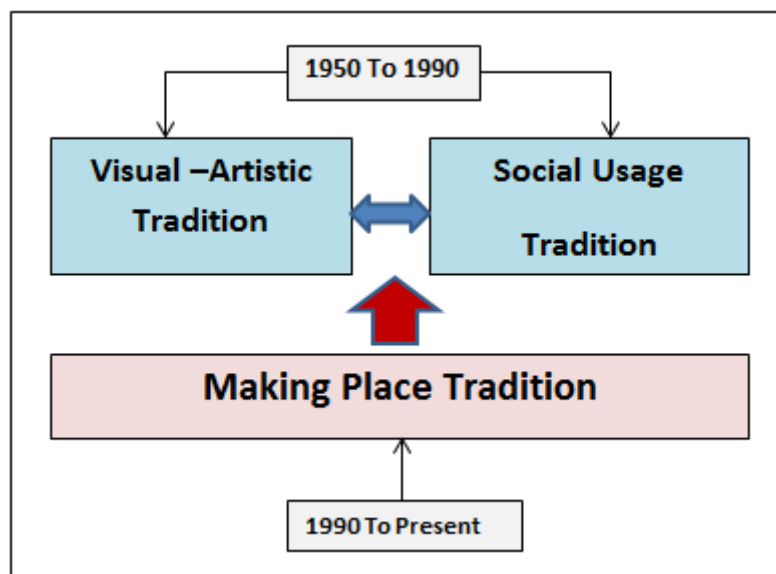


Figure 2.26: Urban design traditions of thought

Source: (Researcher’s own)

### 2.12.1 The Visual-Artistic Tradition

The visual-artistic tradition was limited to ‘architectural’ focus with a narrower understanding of urban design. It focused on the aesthetic and visual qualities of spaces, rather than on the economic, cultural, social, spatial and political factors contributing to successful urban development. As an example, Cullen (1995) failed to acknowledge people’s perceptions of places and townscapes, whereas Lynch (1960) highlighted these.

### **2.12.2 The Social Usage Tradition**

The second urban design concept is the social usage tradition that projects the way people occupy and utilise space. For example, Alexander et al. (1977) argue that urban design patterns are intended to provide a useable series of relationships between spaces and their activities. In his comprehensive urban studies, Lynch (1960) examined people's perceptions and mental images. Other urban design scholars, such as Jacobs (1961), Gehl (2007) and Whyte (1980), concentrated on the socio-functional aspects of parks, street, public squares and their role in encompassing social interaction and human activity between people and their urban spaces.

### **2.12.3 The Making Place Tradition**

Over the past 25 years, the dominant focus of urban design has been on making places for people. This urban design philosophy is nicely summarised in different definitions by many scholars:

- Gibberd (1953) argues that any town planning or urban design study is not only to see the place functioning properly, but must also present a pleasing urban appearance.
- Jacobs (1961) highlights that approaches to city or neighbourhood planning should expose art for life rather than simply displaying a number of architectural elements.
- Buchanan (1988) argues that essential urban design is not for making specific spaces, but for shaping them for activities and events.

From the above three traditions, comes urban design as the notion that comprises public spaces design and management, the spaces formed by the surrounded buildings, the social activities done within these spaces, and the managing of these activities (Urban Design Group, 2011).

## **2.13 THE VALUE OF PUBLIC SQUARE IN URBAN DESIGN**

A UPS can incorporate many essential cultural values by considering community social, economic and environmental attributes. Thus, an important role of the UPS is to enhance social life (children's play and family gatherings), recreation (events and celebrations), health (sport and exercise) and leisure (Dines, Cattell, Gesler & Curtis, 2006), all of which will benefit community users

Furthermore, a UPS creates strong connections and interaction between people sharing the same neighbourhood and is recognised for its contribution to the unique character of community identity and neighbourhoods, cultural heritage value, and tourism potential (PPS,

2010). In recent years, UAE society has seen a change in people's lifestyle that influences the need for public open spaces. These include:

- Changes in recreational and leisure activities—mainly seen as an emphasis on recreational and sporting events, specifically with a demand from the youth for outdoor areas and open spaces which will accommodate their interests and pursuits. The UAE 'outdoor lifestyle' is growing in popularity. Furthermore, interest in competitive sport has grown substantially in the UAE. Growing economic prosperity has seen an increase in disposable income for people to spend on recreational and leisure activities.
- Increased level of understanding and health awareness of the benefits and advantages of physical activity has led to constant and regular exercise and need for open spaces for walking, recreation, and cycling. Health institutes and academic research predict that people's life expectancy is increasing, and the need for health services will grow accordingly. Medical reports in the UAE also indicate that obesity and physical inactivity among women will be major health risk factors (Al Zaabi, Shah, Sheek-Hussein, Abdulle, Al Junaibi & Loney, 2016). An ageing population will increase the need and demand for public squares and other types of outdoor spaces to provide more specialised recreation and leisure opportunities. The federal urban planning policy in the UAE does not address these health issues.
- Changes in the work environment—longer daily working hours have resulted in less time for entertainment and recreation and, although some groups in different sectors have more flexible working hours, they lack access to outdoor open spaces where they can relax and exercise.

#### **2.14 UPS IN THE WEST: VISION AND OBJECTIVES**

The UPS strategy was initially developed in the West as part of a comprehensive urban planning framework that aims to manage people's recreation and public urban space assets for current and future community needs.

UPS in the West are essential urban planning elements directly connected to the urbanisation and transformation of cities and communities (Lea, 2016). Moreover, the provision of public squares in European countries aims at achieving the urban planning mission that leads to responsive and sustainable services to the diverse communities within cities. In doing this, the cities seek to preserve and enhance their environment and lifestyle for the future (Department of Economic and Social Affairs [DESA], 2013). The UPS vision is to: "Develop a network of

resource-efficient quality public open spaces across the city that will satisfy current and future social and recreational needs in an equitable and sustainable manner” (Garau, Masala & Pinna, 2015).

To achieve this vision, several objectives were established as follows:

- To recognise and make provision for the range of functions (environmental, cultural and recreational) in public open spaces.
- To provide for a range of UPS types.
- To accommodate accessibility and walkability of public squares to communities and users.
- To ensure that siting and design take into account the safety and enjoyment of public squares by the public.
- To improve the efficiency of land use by entering into collective partnerships to address the needs for multi-purpose use of public squares.
- To reduce constraints on the community’s environmental, social and economic resources.
- To include sustainability principles in urban development models to allow for consistent planning, decision-making and continued management of public squares.
- To involve the community in planning so that their needs and aspirations are addressed.

## **2.15 UPS POLICY CONTEXT**

This section explains the urban design context which combines the influence of four main overarching contexts, namely local, global, market and regulatory, that provide the platform for the urban design process (Carmona et al., 2008) (Figure 2.27). These contexts underpin and inform six individual dimensions of urban design principles and design practice that constitute the design process. The urban design dimensions are ‘morphological’, ‘perceptual’, ‘social’, ‘visual’, ‘functional’, and ‘temporal’. These dimensions are to be considered as overlapping and not separate, as they are the everyday aspects of urban design. To achieve a successful urban design concept that includes liveable open public spaces and plazas within communities, the four contexts and six dimensions must be used simultaneously in problem-solving (Carmona et al., 2008). With the connection between the different contexts and dimensions, urban design is developed, controlled and communicated to move the urban design process from theory to action.



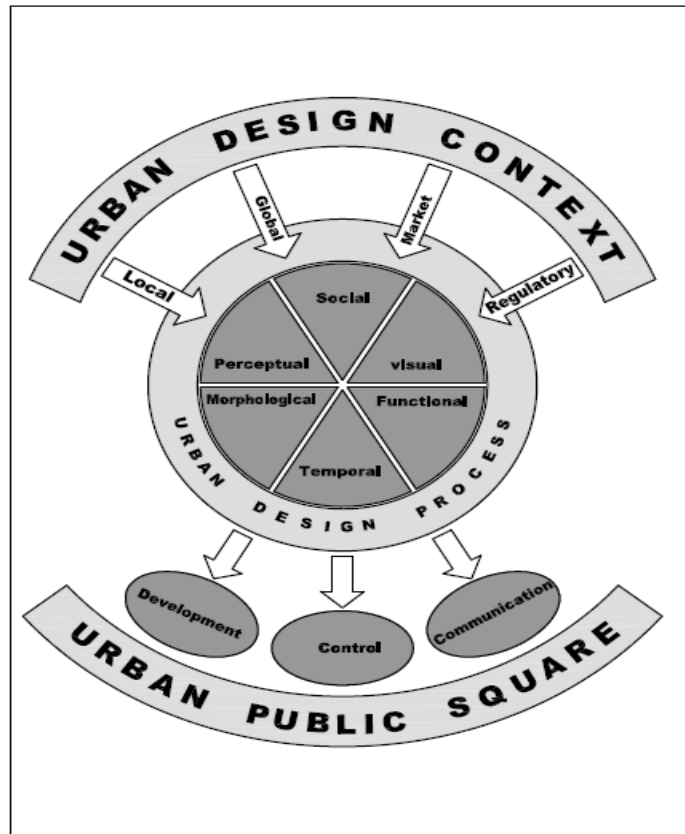


Figure 2.27: Urban design context components

Source: (adapted from Carmona et al., 2008)

The common UPS strategy in the western countries is accommodated within a broader context of legislation, planning guidelines, policies and strategies. Manuals are provided to guide strategic planning, objectives and considerations of statutory and operational impacts in strategy formulation. These policies, guidelines and strategies encompass core values and principles including sustainability; conservation; best practice in planning and design; considerations for future spatial planning; efficiency in transportation; and community health and well-being (UN-Habitat, 2015).

### 2.15.1 Community Involvement Values

This section discusses the researcher's new urban planning proposed procedure required to involve the community in the development of urban planning strategies. It is essential and vital to involve community participation in decision-making and sharing opinions to develop communities and their surroundings. Several urban studies were conducted in the UK on open spaces and squares in ten developed countries cities, chosen due to their high level urban planning development. The cities examined plans and settings found that they all presented the

value and function of public squares planning (Carmona et al., 2008). Moreover, their urban planning system asked community users to share their opinions in developing open space, plaza, and squares in communities. Recently, in the UK, in order to inform their UPSs, urban planning councils have engaged with the community in order to gather information about the community's use of various projects and their values and attitudes towards these projects (Community Development Alliance-Scotland [CDAS], 2016).

However, there is always a high demand from communities for improved public spaces and provision of more facilities that bring social sustainability to people's lives. According to a survey conducted by the researcher in Dubai, community opinion seems to be divided on the issue of quality versus quantity of public open spaces (Berkeley Group, 2011). The outcome extracted from interviews with gated-community users in Dubai is that despite the provision of adequate open spaces between the dwelling units, the spaces lack facilities that allow for social interaction and family gatherings.

## **2.16 CONCLUSIONS OF THE REVIEW OF LITERATURE ON PUBLIC SQUARES**

Public urban squares were a major part of historic towns from the early Romans to their establishment in French and British societies. However, over time, the traditional public urban squares lost their purpose in people's lives. What was once a location for gathering and communication, has now become a concept that is somewhat forgotten. However, the urban square is something that is required in every surrounding city or neighbourhood regardless of archetype or characterisation, and these urban spaces need to be reintroduced, as they are an essential part of social existence.

Moreover, the fundamental reason behind this research is the author's conviction that in our advanced urban communities we have dismissed the customary comprehension of urban space, especially that of the group square, which tends to gather people in one space for the purpose of communication.

The concept of city squares as reflections of community development was the focus of this chapter. The literature review shows that the design, form, and function of public open space have been adapted over the years, which make urban squares for the city a great, historical repository of the development and characteristics of a society. Rapid, exponential transformation in urban planning occurring since the late 19th century led to the perception that the only secure thing about modernity is insecurity (Gordon & Richardson, 1997). However,

public spaces can restore the identity of cities by emphasising cultural, economic and social values and enhancing the lifestyles of their citizens and giving them opportunities for new experiences. “Public spaces are needed. The need for spaces of all types and sizes is obvious from the little residential street to the city square” (Gehl, 1987:53).

Other than the urban development of city squares, this chapter has provided an overview of the typologies of European squares. The literature review found that over twelve different typologies have come into being in the last two centuries. These typologies can broadly be divided into two groups: The first group focuses on form or morphology while the other concentrates on function. The overview serves as input for the development of a new typology of urban squares. Furthermore, this chapter introduced the evolution of urban regeneration in some European countries, the history of urban public space, and the role that urban squares play in urban regeneration.

From the above discussion, it can be concluded that there are principles and disciplines in providing urban squares to cities that may be drawn from western experience, particularly with regard to users’ needs and engagement. Western urban design is fairly advanced in developing concepts that provide sustainable urban squares and similar open spaces. The social liveability in western countries’ urban squares succeeds because the public space is embedded in the planning process. Western countries’ planning is based on economic, environmental, political and local factors.

Now that the value of public spaces and the importance of design and planning in creating them has been established, it is vital to remember that the design approach for creating these spaces should be site-specific. Each public space has its own inherent meaning and use. Such spaces should be carefully created considering the type of usage, lifestyle of users and the context of its surroundings.

## **2.17 CHAPTER SUMMARY**

This chapter addresses research objective 1: ‘To review historical, social and spatial values of public squares in the UAE cities. This is mainly to trace the roots of the current phenomenon and to record the transformation of public squares’. The review of the literature in this chapter traced the public square concept, the historical development of urban public square and its evolution in different eras. Additionally, this chapter focused on the importance and value of public squares and their characteristic functions. Moreover, this chapter summarised the

different typologies and classifications drawn by most influential urbanists and urban scholars in Europe. Aspects of urban design with a focus on the inclusion of public squares were also discussed.

Finally, the researcher has identified the complexity that lies in the subject matter of not only designing, creating and maintaining public spaces but also in their fundamental definition itself. Although it is quite challenging to urban developers, architects and government decision-makers, creating new public spaces and maintaining them should continue to be taken very seriously.

## **CHAPTER 3:**

### **THE MIDDLE EAST URBAN PUBLIC SQUARE: AN HISTORICAL PERSPECTIVE**

#### **3.1 INTRODUCTION**

Over time, the form of public open spaces in the Arab world changed dramatically, shaped by social, economic, environmental, and political development (UNPD, 2014). Urban public squares in the Middle East region have been hubs of political, cultural, and economic interaction for centuries. At the close of the 1960s, modern architecture and contemporary urban design from Western cultures transformed urban planning systems in Arabia, introducing modern concepts of urban planning and design (Stanley, Stark, Johnston & Smith, 2012).

This chapter describes the evolution of urban public squares in Arab cities, with a review of historical and contemporary categorizations of open public spaces in various cities. Moreover, this chapter presents the traditional architecture in the UAE, examining historical building types and features considered important examples of historical sustainability.

#### **3.2 THE EVOLUTION OF PUBLIC SQUARES IN THE MIDDLE EAST**

During the second half of the 20<sup>th</sup> century and in the first decade of the 21<sup>st</sup> century, until the time of the Arab uprising in 2011 and during the continuous global development that followed, open squares were consistently changed in line with social needs. Many of the most important historical events in Middle Eastern cities have coalesced around public urban squares. Over the past two centuries, most Middle Eastern cities suffered urban degradation because of social fragility, declining respect for traditions, increasing danger and violence in open spaces, consumer inequalities, and changes in income levels, amongst others (Yarwood, 2011). Modernisation and industrialisation resulted in progressively disconnected neighbourhoods with declining popularity of urban squares. A public place where citizens assembled, worked, shopped, or simply mingled lost its relevance. This research highlights the major formative phases of public urban squares in Middle Eastern urban communities. Its primary emphasis is on those crucial periods and events which led to the establishment of such squares in Arab cities.

Modern Arab states have undergone major changes in those social, economic, and cultural structures with Western influence or Western origins, with an intensity that varied from country to country and from city to city (Rabbat, 2012). These transformations translated into structural alterations in urban environments that evolved more slowly, with little foreign influence.

Another type of open space, the court or square, emerged in the late nineteenth century, either as core urban advancement, as per the French, or as extra spaces that were then transformed into squares (Rabbat, 2012). The *maydan* is another type of urban open space in Arab cities. It originated as an urban space for equestrian activities in the pre-modern period when most Arab cities were ruled by military traditions. Although *maydans* served as outdoor commercial centres, they were primarily reserved for rulers and were never viewed as public space.

Most modern urban amenities were imported as complete de facto entities, conceived and developed elsewhere. They had no neighbourhood history to enrich their significance; they were not the outcome of socio-political struggle typical of pre-modern European cities.

Public squares in Arab cities were ruled by the central governing regime and local authorities; for example, several urban areas of the Maghrib, from Morocco, Algeria and Tunisia, and as far as Egypt and Iraq. The authorities applied a tradition of spatial control with wide, straight boulevards radiating out from the squares, which facilitated surveillance, military deployment, and crowd control. A number of squares thus assumed popular civic importance at a time when nationalist movements of the early twentieth century were revolting against colonial rule. Public squares were consecrated by the deeds of martyrs fighting for independence, made more significant by their use as places of execution.

As a consequence, city squares in many Arab countries, including Beirut, Aden, Algiers, Damascus and Tripoli, named after prominent events and people in political struggles, such as *sahat al-shuhada* (Martyr's Square) in Beirut, and stand as a monument to the victims of that struggle. These dedicated squares serve both as reminders of history and as venues for political and artistic expression.

Squares, such as the Tahrir Square in Cairo, Taghyeer (Change) Square in San'a in Yemen, and Sahat al-Sa'a (Square of the Clock, renamed Freedom Square) in Homs have come to represent Arabian history, and communicate the richness, beauty and anguish of their cultural history. They have acquired the same mystique as Western squares like the Red Square in Moscow, and Tiananmen Square in Beijing. Squares in Middle Eastern cities have become preferred areas for protestors. They sometimes stay and sleep in squares. The subjective, popular value of squares in Arabic society became more poignant because several people had lost their lives there during the Arab Spring unrest.

### **3.3 UNDERSTANDING AND APPLYING APPROACHES TO SUSTAINABLE DEVELOPMENT IN URBAN OPEN SPACE**

Community approaches to tackle the application of sustainability are varied (Clayton & Bass, 2002). In the words of Al Waer (2014: 29), “...to develop better approaches to sustainable urban development, a deep mandatory competence and collective understanding through dialogue, rather than debate is needed between the future master planning teams”. Over 70 national, regional, and local regeneration and development organisations have committed to investigating the scope of creating more sustainable communities. There are three core aims in developing sustainable communities:

- A healthy environment involves minimal ecological impact, minimal waste or pollution, and maximum recycling, protection, and enhancement of the natural environment. Environmental benefits include greenery, physical and social well-being, and space for leisure activities.
- A prosperous economy generates wealth and long-term investment and maintains the natural and social capital that all economies depend on. It minimises the use of resources and environmental impact, develops new skills, improves education and training, and stimulates local jobs and services.
- Social well-being arises from a sense of security, belonging, familiarity, support, cohesion, and integration of social groups, based on respect for different cultures, traditions, and backgrounds.

Based on these approaches, the researcher argues that new urban planning policies adopted by decision-makers and urban planners in the UAE to develop sustainable open spaces and squares in the new community master plans must regulate and include new design guidelines that contemporary architects and urban planners are bound by. The regeneration of public urban squares in cities of the UAE is a major issue as multiple factors have to be taken into consideration during the design stages, including the aesthetics and attractiveness of the location of the square; its accessibility by all population groups (it is imperative to meet the requirements of elderly and disabled people) (Zhu, Zhang, Tzeng, Huang & Xiong, 2017); local mitigation of urban temperatures in summer; increasing regenerated surfaces; use of eco-friendly materials; reuse of old elements; and using structural techniques and materials that display long durability and resistance to outdoor conditions. Meeting all these factors widens the level of interaction between public urban squares and citizens. However, that crucially

requires carefully planned strategies and policy models. Dovers and Handmer (1992) suggest that sustainable development can be identified as a pathway for premeditated change and development that balances or instigates the attributes of the system, while still attending to the existing population's needs.

### **3.4 URBAN OPEN SPACE IN A MIDDLE EASTERN CONTEXT**

The Arab region stretches from Morocco on the Atlantic Ocean to Oman and the Arabian Gulf. Language, religion, and history provide a robust and unified identity for the people in these regions (Germeraad, 1990). There were two primary planning themes in the Middle East in the Islamic era that substantially impacted on contemporary open spaces: (1) historical Islamic urban planning that relies on retaining ties of social privacy, religion, traditions and culture limiting the role of public open spaces in communities; and (2) contemporary architecture and urbanisation of public open space reflecting Western characteristics in modern Middle Eastern architecture. Cities of the region were shaped by three major principles: Sharī‘ah, social constraints, and natural law (Germeraad, 1990; Saoud, Al Hassani & Alp, 2014). This section presents three connected areas in the urban open space.

#### **3.4.1 Traditional Urban Morphology in the Middle East**

Historically the Middle Eastern cities evolved around a central nucleus and spread on the four directions forming integrated neighbourhoods connected by narrow streets, alleys, public squares, and gateways. Houses and buildings are interconnected by common walls, steps, public footpaths, and shade canopies to allow children and women to move freely during the daytime hours (Abufayed, Rghei & Aboufayed, 2005).

The last three decades saw urban open spaces and public squares in Middle Eastern cities neglected by government or municipalities, rarely accessible to the public (Akbar, 1984, cited in Al Jabri, 2014:61). Germeraad (1990) highlights that streets and passageways in traditional Arab cities were never considered simply as vacant spaces between buildings. Instead, they functioned to support community residents. Typology of urban open spaces in traditional Islamic cities varies with similar spaces in the West. The following terms reflect the traditional urban open space in the Middle Eastern region:

- *Al Musalla* is a large, open space mostly isolated from the residential areas and located outside the city or neighbourhood boundary. It is used twice a year by the public as an area for prayer and worship, but mainly for the Islamic festival of Eid (Hakim, 1986). *Al Musalla*



has also been used as a location for political events, social gatherings and preparation of the army for military purposes (Figure 3.1).

- *Al Hoash*, meaning a courtyard in Arabic, is a walled area open to the sky and is the outdoor part of homes or buildings of individuals. These spaces were often used as the place for family gatherings, and religious events (Figure 3.2). Hakim (1986) highlights that there are two different types of public courtyards: A semi-public courtyard surrounded by an arcade linked to rooms; and a public courtyard in public buildings, such as Wekala, Khan and Nazl lodges used for residential purposes, as well as for merchants to display goods.
- *Al Masjid or Al Jawamie*, (mosques) has a large central courtyard for worship, surrounded by shaded arcades used as an extension of the prayer hall when the main prayer hall is full.
- *Yard* is an area of land immediately adjacent to a building or group of buildings. It may be either enclosed or open. The word comes from the same linguistic root as the word garden and has the same meaning.



Figure 3.1: Al Mussala & Al Masjid concept

Source: (Researcher's own)

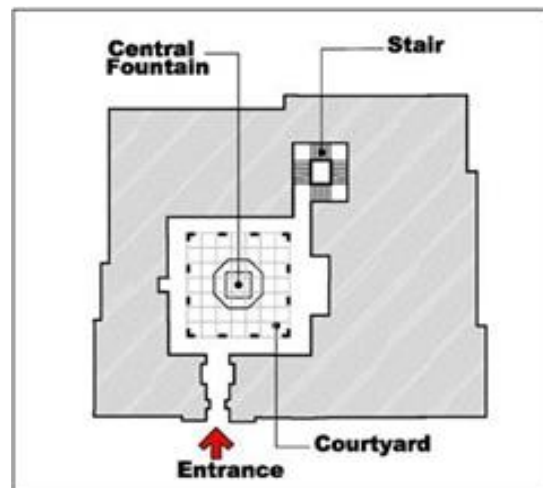


Figure 3.2: The house courtyard concept

Source: (Researcher's own)

- *Sikkas or Harat* are narrow alleys, streets or passageways with non-uniform dimensions, governing the circulation of traffic and connected by open space that used for meeting and resting. They were covered by straw, fabric or palm-leaf canopies for protection from the elements (Abufayed et al., 2005). However, over time, a number of streets and passageways in Islamic communities were transformed to fares (Germeraad, 1990). Furthermore, streets and alleys were designed according to their functions, and are classified into categories

according to their width, hence were generally measured in cubits (Akbar, 1984). The sequence and integration of both streets and houses in Islamic cities reflected a clear hierarchy punctuated via transitions (Zeisel, 1981, cited in Kiet, 2010:40).

- *Gardens* were exceptionally well-known inside Islamic societies. Everyone, from royalty and privileged individuals, had their own particular private patio or garden (Hakim 1986). Muslim communities drew motivation for their patios and gardens outlines from envisioning descriptions of heaven, as depicted in the Holy Qur'an (Germeraad, 1990). This evoked element of nature and art, including falling water, fountains, sculptures and outdoor gazebos.
- *Finaa'*, an internal location within a residential area used exclusively by residents in the surrounding residential units (Hakim, 1986). It can also be considered as a communal courtyard.
- *Souq*, better known as a market, is one of the most characteristic features of Islamic cities. The souq, or trading place, was and still is the retail sector in the Muslim world. It is typically located beside the mosque and is used as a commercial zone (Hakim, 1986). The *souq* is usually an arcaded covered market with kiosks and shops grouped according to the type of goods being sold. The *jamia'* in most of the Muslim world was the core structure of the city surrounded by the souq and was shaped like a maze with a circular pattern (Kiet, 2010). *Maydan* is an open public field that comprises the main square or plaza in a city. It was historically a military training ground. The *maydan* is generally situated in front of the *Jamie'* (mosque) or governor's palace, such as the "Maydan Al Tahrir"; the Liberty Square in Cairo (Akbar, 1984). It is found within the dense core of structure of an Islamic city and encompasses multifarious religious, commercial, civic, educational and social activities (Kiet, 2010). It was seen as a location for commerce acting as an extension to a market for arts, portraits, and crafts (Saoud et al., 2014); and was also found in relatively small spaces at the junction of fares and along streets to halt animals from trespassing (Germeraad, 1990).
- *Sahat* (plural of *Saha*) are open spaces located at a y-shaped junction of two streets within a neighbourhood, dominated by ocery store (Hakim, 1986). They are relatively small in size with accessibility from the alleys and passageways.



Figure 3.3: Old Islamic City- Dubai

Source: (Researcher's own)



Figure 3.4: Model Image of Old Town in Dubai

Dubai

Source: (Model photo by researcher)

### 3.4.2 The Open Space in Middle Eastern Urban Development

According to Germeraad (1990), modern urban design concepts appeared in the mid-19th century during the colonial era, when a considerable development of Middle Eastern cities took place due to the establishment of governments, industrialisation and the onset of the agricultural revolution. As a result, the new developments created new requirements, such as increased demand for roads and vehicle accessibility, causing erosion in the open spaces. Efforts to maintain Arab-Muslim identity in the region increased with the establishment of the Arab League in 1960. Nonetheless, the Middle East considers implementing western urban design a developmental necessity.

### 3.4.3 Contemporary Urban Open Space in Middle Eastern Cities

The understanding of public open spaces has recently been transformed in the region in terms of design concepts and usage. Middle Eastern governments have allowed western concepts to be introduced into cities, including urban landscaping, natural reserves, playgrounds, managed beach areas, outdoor sports areas, waterfronts, streetscapes, and squares and plazas, as part of the modernisation process. Squares and plazas are examples of western ideas that have been transferred to the Middle East. Due to the overlapping linguistic meanings and the fact that the concepts of urban square and plaza are imported from Western regions, these two terms are used interchangeably in the Arab region. Various aspects of a city's open spaces have long been used in Islamic cities, such as *maydan*, *saha* and *rahba*. The rapid growth of Middle Eastern towns and cities at the beginning of the 20<sup>th</sup> century led many Arab countries to convert

open spaces in cities into military or political arenas. A clear example of this is Al-Saha Al-Khadra in Tripoli, which changed after the revolution into Maydan Al-Shuhadaa.

### **3.5 THE DUBAI CASE: HISTORICAL PROFILE**

The Emirate of Dubai, situated on the Arabian Gulf, is one of the seven Emirates that form the United Arab Emirates (Al Abed, 2001). The city of Dubai comprises of two sections (Deira and Dubai) isolated by a river streaming inland from the Arabian Gulf. The historical backdrop of Dubai retreats a several thousand years (Riel, 2011). Other than being a port where merchandise was transported between and traded with Gulf nations, Iran, India and East Africa, it is also one of the towns on the road from Iraq to Oman (Al Ali, 2014). A timeline of the history of Dubai is presented below:

- 1587: The Venetian pearl trader Gaspero Balbi coined the name "Dubai"; he portrayed it as a pearl-plunging town along the Gulf
- 1822: British Lieutenant Cogan provided a description in recording the populace of approximately 1200, that there was a low dividing wall around the town with three watchtowers, and the houses were made of mud. He also provided the first map of the city of Dubai and its elevation from the ocean.
- 1833: The Maktoum Family came to power (Al Sammani, 2011).
- 1841: A smallpox outbreak in Dubai led to more individuals populated the Deira side of the city and began to construct houses and markets.
- 1894: A major fire broke out in the town that faced the Deira which destroyed the settlement. Construction methods changed as powerful and wealthy individuals started constructing their homes from coral stone and gypsum to better protect themselves against fire. Sheik Maktoum Bin Hasher Bin Maktoum became the ruler and is considered to have been instrumental in making Dubai a main trading centre in the Arabian Gulf. He set laws on import and export services and urged the shippers to build up their trade houses in Dubai (Al Sammani, 2011).
- 1908 The city expanded rapidly and had reached 10,000 inhabitants. Lorimer (1986, cited in Ortega, 2009:2) recorded the statistics of Dubai in 1908, stating

there is no customs, the yearly income is \$15,400 mostly from pearls, in Deira side there are 1600 houses and 350 shops. In Shindagha territory, there are 250 houses. In Dubai side, there are 200 houses and around 50 shops. There are around 4000 date palm trees in the

town, 1650 camels, 45 horses, 380 colts, 430 dairy cattle and 960 goats. In the stream, there are 155 watercrafts for jumping and exchanging and 20 little vessels "Abrams" to take traveler between the two banks of the creek.

- 1910-1920: The population of Dubai increased due to merchants and other skilled individuals moving from Iran to Dubai as a result of political circumstances and establishing their own businesses. Immigrants, with their architectural skills and traditions, such as wind-towers, air-pullers and decorative gypsum panels influenced architectural styles in Dubai.
- 1912-1958: Sheik Saeed Bin Maktoum provided more services and facilities to merchants, in order to help them establish their trade in Dubai which turned into the main trading centre of the Arabian Gulf. It worked as the main trade centre and fare of products between ports of India and East Africa by means of dhows. The principle means of payment was in pearls.
- 1930 The pearl exchange began to decay after Japan delivered refined pearls in and the economy weakened. The 1930s proved to be troublesome years for Dubai economy. The presentation of refined pearl on the one hand, and the beginning of the Second World War on the other, prompted financial misery. Hence, individuals relocated to neighbouring provinces, such as Saudi Arabia, Qatar and Kuwait where more opportunities for work were available.
- 1940-1953 The populace diminished from 38,000 in 1940 to 20,000 in 1953.
- 1958-1990: Sheik Rashid bin Saeed Al-Maktoum was appointed ruler and began laying the infrastructure and framework of Dubai. In 1958, he made an agreement with an Austrian organisation to dredge the creek in order to facilitate the exchange of trading activities and encourage larger ships to load and unload their trading goods.
- 1959: The first airport was constructed to attract worldwide airlines to use Dubai as a landing field between Europe and Southeast Asia. In that same year, Sheik Rashid bin Saeed Al-Maktoum assigned a British planning consultant to help further develop and evolve Dubai into the city he had imagined. The city plan altered the traditional fabric of Dubai, a city that was known for its narrow alleys and courtyard houses, and introduced a modern European feel to it.
- 1960: Asphalt started to be laid on roads in order to facilitate transportation between various parts of the city. Laying these roads in the historical settlements led to the demolishing of many houses.

- 1961: The Dubai electricity company was established, thus providing houses and shops with electricity, which enabled the wind-towers to be replaced with fans and later air-conditioning systems.
- 1963: The first bridge was built to connect the two sides of the creek.
- 1937: The first oil agreement was signed with Britain to search for oil in Dubai on land.
- 1955: Cement was first imported into Dubai, and the first concrete building was built in 1956. Cement was much cheaper than gypsum, the binding material traditionally used for building construction. It soon replaced coral stone and gypsum as it was easier to use since it came in the form of ready-made cement construction blocks. This was the new era where traditional ways and forms of architecture were abandoned and the new European styles adopted (Al Abed, 2001).
- 1966: After a long 30 years without success, oil was finally discovered offshore. Oil discovery increased the Emirate's income and consequently led to major infrastructure projects to commence.
- In 1968, the union of nine Emirates including Qatar and Bahrain was announced in Dubai; Sheik Rashid Bin Saeed Al-Maktoum, who played a major political role in the formation of the United Arab Emirates, then became the vice-president of the United Arab Emirates (UAE), and was the prime minister from 1979 till his death in 1990.
- 1969: The first production of oil.

Dubai is now one of the most important and prominent cities in the Middle East, noted as a leading commercial and touristic attraction. Large ports, modern airports, wide roads and highways, and high-quality services attracted businesses. In addition, tourists can spend weeks in this cosmopolitan city where modernism is mixed with heritage and culture. Trade industry, re-exports and tourism were the main economic pillar of present Dubai. The city grew exponentially during the last three decades, and the population reached about 4,300,000 million in 2004, out of which 750,000 were citizens of the city (Al Ali, 2014). It is predicted that this Emirate will witness an incredible increase of populace in the coming 15 years because of the flourishing business development it is encountering at the present time. The Emirate of Dubai is considered as the business capital of the UAE. It holds the name of the “Pearl of the Gulf”, while others, with profound respect, have named it “Bride of the Gulf” (Al Sayegh, 1998).



Figure 3.5: Dubai in 1920

Source: (Telegraph.co.uk, 2014)



Figure 3.6: Dubai in 2016

Source: (itsaboutdubai.com, 2016)

### 3.6 THE UNITED ARAB EMIRATES (UAE) CURRENT PROFILE

Architecture is the mirror of history. Everywhere throughout the world, the importance of past civic establishments might be seen through the architecture of urban communities, fortresses and sanctuaries. The establishment of urban areas relies on different components, for example, topographical, political and social impacts. On the Arabian Gulf, most urban areas have been built along the coast (Dubai Municipality, 2000). Creeks gave safe ports for dhows. Moreover, the ocean provides a helpful method of transportation, in addition to being a means of giving nourishment and pearl harvesting. The other important element for cities that developed along the Gulf coasts was the availability of fresh water from freshwater creeks. Dubai eventually developed into a hub of commercial activity where people of different cultures and traditions came from far and wide, settled and inter-mixed, resulting in the unique community of today (Ragette, 2003).

#### 3.6.1 UAE Old Open Spaces

United Arab Emirates' main cities, Abu Dhabi, Dubai, and Sharjah, have grown considerably in the past six decades. With age, these cities have lost the heritage theme of the 'Old Social Public Space' or what is known in Arabic as *al saha*, *al baraha* or *fereej* area that is surrounded by the houses and reached by narrow pathways called *Sikka*. The old Public Space was the area of entertainment, social collaboration, and market space for the residents within a pedestrian-friendly environment. Al Shindagah and Al Bastakiyah are two current areas in Dubai containing few old squares to date, that were restored by the Dubai Municipality at the end of the 1970s. There is, therefore, a need to understand the nature of this emerging type of urban space within its community, in order to achieve sustainable environmental spaces. Likewise, urban planning has transformed the old community open space to either a commercial

intersection of main roads dominated by vehicle movement or used as parking lots to serve the trading domain (Ezzeddine & Al-Hajj, 2014). As a result, the public open spaces have been converted from social spaces characterised by vibrant, lively interaction into areas supporting the transportation and movement of service yards.

Al Nasser square, known as *Baniyas Square*, shown in Figure 3.6, is located in the central section of Dubai *Deira* district and considered one example of old public open spaces located at the Old Souk area of Dubai, on the creek side. The Baniyas square was the social and trading station of Dubai before the modernisation of the city began to unfold in 1966 after the first oil well was established. It used to be an important destination for traders and pearl merchants, focused on the economic and social activity of the area, and a place for people to gather and to celebrate their festivals. Nowadays, the square is a network of roads and scattered parking areas integrated with little soft and hard landscaping elements. The square has its social and cultural identity and has become a primary metro station zone for traders and shoppers.



Figure 3.7: Al Nasr (Baniyas) Square in *Deira* Dubai- 1956)

Source: (Chapman, 2017)

Al Shindagha, Al-Ras Old Town areas in Dubai and Al Merraija in Sharjah are other examples of existing restored historical sites that reflect the UAE old community (Figures 3.7 & 3.8).





Figure 3.8: Al Shindagha old community square- Dubai

Source: (Visitdubai.com, 2017)



Figure 3.9: Al Ras old square master plan- Dubai

Source: (Researcher's own)



Figure 3.10: Al Merraija historical area in Sharjah

Source: (Heart of Sharjah, 2016)

According to Hadjri and Boussaa (2007), the process of restoration of the three heritage sites is planned to make their locales attractive to tourism by providing museums showcasing the region's heritage, traditional skills, and crafts relating to jewellery, costumes, herbal medicine, and music events in the square area (*saha*) of each old city.

### 3.6.2 The Forgotten Urban Public Squares in the UAE

Abu Dhabi, Dubai, Manama and Doha have common characteristics of urban squares (*al saha*) linking the different strata of the community social fabric together. *Al saha*, *Al maydan* or *Al*

*baraha*, all have one meaning—public urban square. They used to be the centre of social life and family gatherings, but they were open spaces used more privately between families and not accessible to the public. At the beginning of the 20<sup>th</sup> century and up until 1960, urban squares were important places for social gatherings and customs.

Hasty urban, demographic, and economic growth alongside land privatisation process has progressively changed the nature and theme of public squares within the UAE community and widely the city. However, the few remaining squares and plazas in the UAE no longer hold true to their nature, they are no longer places for social gathering or public entertainment, but have now been converted to roads and street intersections or have been deconstructed into parking lots. Until the mid-1980s, the disappearance of squares all over cities of the UAE took place without the consideration of historical origins, and the social and cultural value of public squares in the UAE.

### 3.6.3 Public Open Spaces 2000-2015

Currently, urban public squares in UAE cities are almost neglected in urban and city planning design strategies. The Emirate of Dubai witnessed two periods of urban development (Figure 3.10). The first was between the year 1970 and 2000, which represents three decades of conservative urban development. The second occurred between the years 2001 and 2015, fifteen years that included what was called the “Boom” period. During both periods, neither open spaces nor community public squares were a concern in the new development of the city.

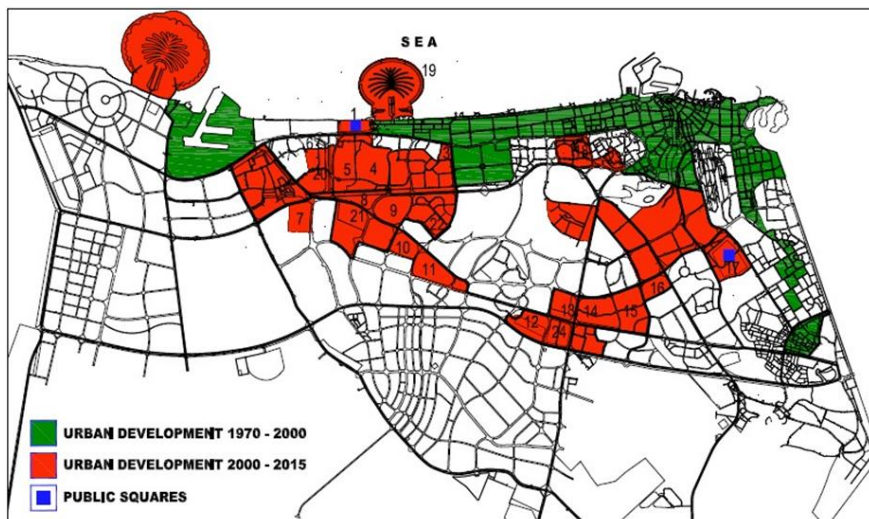


Figure 3.11: Dubai Map—Two different periods of urban development

Source: (Researcher’s own)

Enhancing the physical quality of squares and plazas helps to improve their liveability, thus affecting lifestyle and health conditions of the surrounding population. According to Katzmann (2004), a public-square experience may reduce depression, enhance contemplativeness, and provide a sense of peace. Contemporary research on the use of urban squares and public open spaces verifies beliefs about stress-reduction benefits and mental health (Chiesura, 2004, cited in Conway, 2000:11; Hartig et al., 1991). Urban and landscape scholars (Sullivan et al., 2004) collectively indicated that residents living in communities with plazas and urban squares reported lower levels of stress, and less fear, aggression and violence.

In reflecting on such situations, this research has investigated the physical and social nature of the urban public square in the cities of the UAE, giving a more particular focus to the Emirate of Dubai, in the context of current urban growth and land development of new cities. This raises many questions, for example, what has led the UAE cities to grow without the availability of urban public squares? Has it negatively or positively affected their emotional and physical wellbeing and their overall quality of life?

Given this background, this research has been undertaken for the implementation of 'Leadership in Energy and Environmental Design' (LEED) or 'Building Research Establishment Environmental Assessment Method' (BREEAM) (BREEAM.com, 2015) guidelines and certification, both regarded as the most widely-used green-building rating systems in the world. This research also aims to address and highlight the importance of urban public squares and their effect on the wellbeing of its current and future community residents and users, and for the sustainability of the city they live in. However, as stated by Kabisch, Qureshi and Haase, (2015:27), "it's much easier to suggest solutions when you don't know too much about the problem". Thus, one of the main objectives that the researcher aims to achieve is formulating policies and compliance regulations for architects and urban planners to follow for appropriate location and size for open spaces such as square or plaza during the planning design stage for communities and cities.

#### **3.6.4 Old Public Squares in the UAE—*Al Fereej, Al Saha & Al Baraha***

One of the most effective social bond and cultural traditions in family life in the UAE is the constant interaction with others. The old, haphazardly-planned community was based on setting houses close to each other with narrow passageways in between, all linked to an open space for people to gather and entertain. This section focuses on typologies of public open spaces and squares that characterise the urban morphology of the UAE old city.

#### 3.6.4.1 *Al fereej*

*Al fereej* is the term given to traditional housing organised around a public open space *Al saha* means a place for people to gather and socialise (Figure 3.7). The traditional term *Al fereej* formed the building blocks of communities and cities where families were clustered together as urban settlements (Law & Underwood, 2012). Nowadays, new housing layouts and the urban planning systems in the UAE have completely forgotten this terminology.

#### 3.6.4.2 *Al saha*

The researcher as an urban planner prefers to use the popular local term *Al saha* to refer to open spaces that are on the fringe of a town. *Al saha* is a semi-public space, located in neighbourhoods inhabited by a clan or tribe. It has parallels in western cities, in what Kostof (1992:125) has named “the clan piazza”. These are described by Kostof as family squares surrounded by the clan’s property. Most old UAE cities were built following the same clan or tribal structure. Moreover, these cities’ neighbourhoods were named after particular tribes, clans or guilds. Yet, actual public spaces, although unplanned, were either external to the city or in open spaces between these family neighbourhoods. Kostof provides the example of Genoa as a city that remained without a large public space until 1460. Those spaces were and are still referred to as *saha* (singular) or *sahat* (plural). Similar to the city of Genoa, the growth of the public sector and the formation of a bureaucratic system in UAE cities, which started in the 1920s, occurred in open spaces (*sahat*), in palm forests (*nakhal*) and on waterfronts (*seef*). Hakim (1986:61) reports that a *saha* in Arabic terminology refers to a public square or an open space that is typically shaped as a Y-intersection of three distinct lanes. These *sahat* are inside the urban fabric of the city. Nevertheless, actual public spaces, although unplanned, were either external to the city or in open spaces between family neighbourhoods.

Other than his description of a *saha* and its purpose, Hakim describes other spaces as a part of the urban morphology of the Arab-Islamic city, two of which are located outside the city's walls. One square used occasionally is known as the *mussalla*, an area where petitions are made to Allah, and the other, the *Magbara*, regularly used as an open burial ground. In UAE, *saha* is an open space that is larger than the *Baraha*., yet it could be a space that is either located within the city's urban fabric or on its fringes. The medium-sized scale of UAE towns and cities made it essential to include the *sahat*, particularly in the densest cities such as Dubai and Abu Dhabi. The medium scale allowed city-dwellers to reach those public spaces with relative ease (as they were less than 2km from the centre of the town). The open spaces around the old UAE

cities had similar characteristics to those of Old Tunis, where those spaces accommodated public cemeteries. In the UAE, these were located on the creek edge, such as the Al Shindagah and Al Bastakiya areas. The *saha*, in other Islamic cities and towns, is used for many different purposes, such as the open spaces used for playing equestrian events in historical Persian cities. The *Al Sahat*, when referred to in the UAE, are similar to open fields or forests in the western context which attract users across the spectrum of age groups and are used for many different purposes.

These comparisons do not explain the fundamental nature of this sort of space nor why there is little explanation of it in historical records. Akbar (1988: 7) states that in the literature on the traditional form of the Arab-Islamic city, the focus is usually on the product rather than the societal process. Conversely, the researcher found that the bulk of the historical record on the socio-political environment in UAE cities focuses on events and overlooks the square. Thus, on the one hand, attention is given to the physical aspects of the place while its societal function is ignored; while on the other hand, we see a more in-depth focus on placeless events. Without any physical reminders that could exemplify these *sahat*, and due to the lack of historical records, the *saha*, as a concept and part of the urban morphology of the old town, has been lost. Only Al Shinadagah and Al Bastakiya in Dubai continue to exist, due to their physical remains remaining unchanged.

Another factor that could have assisted in the success rather than the current neglect of this type of open space is that the morphology of the Arab-Islamic city focuses on large-scale cities, for example, Baghdad or Cairo, or on small-scale settlements. In both cases, the *saha* as a type of open space has less importance due to the scale of the settlement. In the large-scale cities, the focus is usually on the spaces that are accessed by city-dwellers on a daily basis. This also applies to villages where we find only one or two open public spaces in the heart of the village that are accessible to all people. These are usually able to accommodate most collective activities which obviates the need for marginal *saha*. However, in medium-sized cities, such as Manama and Muharraq in Bahrain, the situation is different, and the hierarchy of public open spaces is not the same. Referring to the example of Tunis, we find from Hakim's diagram (1986: 68-9) that there are some *sahat* on the fringes of the city but still within the city walls. The origins of this could have been a marginal *saha* that turned over time into a square, with shops serving both local residents and others from outside the city.

However, the *saha* has a transitory nature in UAE cities. Due to its open and almost unmarked nature, the *saha* is often the first victim of the city's urban expansion. Similar to UAE cities, the origin of Muharraq city in Bahrain is recorded as being in the middle of the island, which means that it was originally surrounded by *sahat* that separated it from the sea. The expansion of the town forced its residents to find other locations for *sahat*, to accommodate both their daily industrial, social and cultural and their occasional needs (Al Ansari, 2009).

Nonetheless, the author argues that *sahat* face severe challenges for several reasons, particularly those on the waterfront due to property privatisation and the transformation of the coastal strip to resorts and mixed-use complexes. Furthermore, *sahat* in the towns suffered a sombre fate. With any country in the west, those open spaces are generally private property, so they were typically developed to satisfy the inhabitants and users, but regrettably, in the Middle East region, these open spaces which tended to serve the public were destroyed by the authorities' decisions to convert them or construct road networks without seeking the opinion of the public.

#### 3.6.4.3 *Al baraha*

*Al baraha* is the specific term used to describe the open public space that is between homes and the coastal area (Al Ansari, 2009). Furthermore, *Al baraha* within the UAE context is another term used to describe an old public open space. These terminologies or spaces need to be brought to the urban planning decision makers as they are key areas that seem to be neglected.

In the UAE, few historical areas remain unchanged, and the decision was taken to restore the remaining parts of the old districts. For example, Al Shindagah and Al Bastakiya, two districts in Dubai located with their scattered open spaces on the creek edge, are now considered the only historical areas to reflect the old community (Figure 3.7 & 3.8).

The next section discusses the traditional architecture of the UAE before looking specifically at the architecture of Dubai.

### **3.7 THE PUBLIC SQUARE AS AN ELEMENT OF TRADITIONAL ARCHITECTURE**

#### **3.7.1 Traditional Architecture and Urban Conservation**

The attention given by planning authorities in the UAE to the architectural heritage of their historic areas, especially in Abu Dhabi, Dubai and Sharjah, is not accidental. It is a fairly

genuine impression of their conviction towards producing a substance of progress and success and a prologue to their future.

Over two decades, urban planning officials and decision-makers in the UAE have been actively planning to restore the modest urban heritage haphazardly developed and built between the early 1900s and 1960s. At the beginning of the 1970s, a considerable historical part of the heritage areas was demolished due to an unplanned construction boom since, at the time, the emphasis was on modernization and contemporary urban growth, in addition to the lack of awareness of the significance of old buildings, as part of culture (Gray, 1995). However, lack of urban planning legislation to protect these heritages led planning authorities to invite a number of European experts to carry out the restoration processes and develop conservation strategies; however, the extent of involvement of these experts has not been documented (Hadjri & Boussaa, 2007). To illustrate, the conservation actions were taken in specific architectural and urban heritage sites, such as both Al Shindagah and Al Bastakia in Dubai and Al Merraija in Sharjah. The primary action of the conservation plan of these heritage sites was to restore the architectural building elements and the social and cultural urban areas as well as the narrow passageways between the buildings (*sikka*) and the Squares (*al sahat*). Moreover, the UAE officials' objectives of the restoration process were to turn the historic sites into active heritage centres that attract tourists and local visitors and thus bond the present with the past.

Furthermore, the initiative taken by the UAE municipalities in the establishment of the Historical Building Department acted as support to both the conservation to the historic architecture and heritage areas of all the UAE and as the first step in commencing a solid restoration plan by demonstrating the scientific and methodical applications of these planning guidelines. The old urban squares (*al sahat*), being the social and cultural link between peoples' houses, are the vital urban elements in the restoration plan designed and managed by Dubai Municipality as they reflect the past, socially and culturally (Boussaa, 2003). Moreover, by law, these open squares and any buildings associated with them are not allowed to be changed or tampered with unless granted permission by the municipality itself. According to Bukhash (2012), nowadays, the planning authorities believe that a well-balanced mixture of different activities and functions, such as tourism, culture, heritage and residential, can create critical elements in revitalising a historical area.

### **3.7.2 Eco-Villages and Eco-Cities**

A sustainable city, the so-called eco-city, is a city planned based on the idea of achieving environmental impacts; this has been brought about by a number of occupied individuals devoted to the minimisation of the use of natural resources, such as energy, water and nourishment and waste yields. One of the key elements of a sustainable city is that it can maintain itself with minimal reliance on the encompassing region. Reasonable advancement requires harmony between ecological, social and financial support. The environmental features referred to above should be acceptable to people and should be in harmony with their economic development aspirations.

According to the World Bank (2009), eco-cities are cities that create economic opportunities for their citizens in an inclusive, sustainable and resource-efficient way, while also protecting and nurturing the local ecology and global public goods, such as the environment, for future generations.

Eco-friendly communities cannot exist without their villages being devoted to the ecological movement. The idea of eco-villages has been a subject of discussions worldwide since the first international conference on “Eco-villages and Sustainable Communities–Models for the 21st Century”, held in 1995. Today, eco-villages are generally seen as little groups with a firmly-knit structure integrated by natural, social, or societal needs. They share a profound admiration for nature, with people as a fundamental part of the natural system. Eco-villages address social, ecological and monetary measurements of supportability in an incorporated route, with human groups as a major aspect of, and not part of, balanced ecologies (Newman & Jennings, 2008).

### **3.7.3 Role of Urban Architecture in the Creation of Eco-cities in UAE**

Public urban squares in the UAE urban areas that existed a few decades ago were used as places for gatherings for social and entertainment purposes; however, these urban spaces have lost their original cultural values and qualities as a space for communication. Due to current trends in architectural advancements and market needs, urban squares have changed considerably, especially with the advancement in UAE urban communities with increasing financial prosperity and expanding business demands. This has led to the eradication and constant changes in the structure streets and neighbourhoods, i.e., the construction of new streets and interstates and the destruction of the old structures into new and upcoming buildings. With these constant changes, the historical and preserved old public urban squares have now lost



their essence, values and traditions due to the absence of legitimate urban planning in implementing such inner-city spaces as a must-have feature of the new age and thus having them enforced into new towns and urban areas. Having these squares or plazas reinstated into urban neighbourhoods would aid in bringing back to life the UAE culture that has been forgotten. It will drive back and liven the social personality of the urban areas, bringing back its original purpose of acting as a meeting place for individuals living in the community.

In spite of the fact that the expression "eco-city" developed amid the late 1980s, the thoughts that have progressively leaned towards the idea and concept of eco-city; for example, "Greenhouse city" or "green city" have been around for much longer. With time, the importance of ecological cities has taken the forefront due to extending worries of environmental issues. Moreover, with the changing needs of national and universal requirements, it has become a must. Amid the 1960s and 1970s, the goal of the eco-city was primarily to make the air, water and soil clean. At present, in the 21<sup>st</sup> century, the acknowledgement of an eco-city requires the mix of different ecological targets; for example, climatic change alleviation, bio-assorted qualities protection and sound material cycles with the goals of commercial development and reasonableness in urban areas (Chan, Imura, Nakamura & Ao, 2008).

However, group manageability, especially regarding social values, such as social character, social uniqueness, ethnic peculiarity and group belongingness has been greatly influenced by the move towards globalisation (Butterworth, 2000). Environmental sustainability is, for the most part, perceived through specific markers, for example, environmental change, global warming, water and air quality, natural gas outflows, destitution, economy, society's well-being, education, characteristics, and so on (United Nations, 2007). It is often posited that culture needs to be protected from globalisation and market forces because it is perceived that individual communities will lose their cultural identity, traditions and languages to dominant ideas and cultural components (Duxbury & Gillette, 2007). This has impacted the achievement of sustainability as discussed in detail in Chapter 4.

It is also seen that sustainable architecture, planning and design are predominantly subject to the technological approach which places little attention on community-based components unique to their social and cultural contexts. Thus, the town or community may lose its identity because of the application of styled or branded designs, the type of imposed uses or perhaps due to the replacement of key building components by completely alien ones as that might be required for them to be considered "green". Contrary to this, Woodcraft, Hackett and Arendar

(2011:17) state that “socially sustainable communities have the capacity to deal with change and to adapt to new situations, attributes that are now becoming increasingly essential in a globalised world”. Furthermore, other factors are also driving substantial attention to urban sustainability. First, there is an undisputed reality that in the 20<sup>th</sup> century, we passed from a primarily rural life to a primarily urban one, with more than half of the human population now dwelling in cities and communities. The collective creation of a more sustainable future must necessarily contend with this fact. Jabareen (2006:42) writes that “socially sustainable communities have the capacity to deal with change and to adapt to new situations, attributes that are now becoming increasingly essential in a globalised world”.

#### **3.7.4 Urban Challenges to Sustainable Development in UAE cities**

The concept of sustainable development in Arab cities is a relatively new paradigm. The thought that cities are somehow inappropriate or venues of confusion for human habitation has a much longer history as archived in both European and Middle Eastern traditions. The new focus on urban sustainability disputes this history. Several authors and scholars argue that, throughout the history of mankind, some people seem to have found some sort of balance with their natural environment for a specific period of time (Diamond, 2005; Smith & Wishnie, 2000). The collective creation of a more sustainable future must necessarily contend with the primary location of habitats.

#### **3.8 UAE CITIES: ARCHITECTURAL FEATURES**

Architecture is the mirror of history. Everywhere throughout the world, the importance of past civic establishments might be seen through the architecture of urban communities, fortresses and sanctuaries. The establishment of urban areas relies on different components, for example, topographical, political and social impacts. On the Arabian Gulf, most urban areas have been built along the coast. Creeks gave safe ports for dhows. Moreover, the ocean provides a helpful method of transportation, in addition to being a means of giving nourishment and pearl harvesting. The other important element for cities that developed along the Gulf coasts was the availability of fresh water from freshwater creeks.

### 3.8.1 The Main Features of the Architectural Character of the UAE

- The style generators

Dubai's traditional architecture is a result of the cultural mixture of different nationalities of people who live there. In general, it is influenced by Islamic architecture that developed in the area from the 7<sup>th</sup> century. The main features of this architecture were simplicity, functionality, durability, suitability for climatic environments and social life. In a way, courtyard houses suited societal traditions and were in harmony with the local climate. Many architectural elements were copied from neighbouring countries; for example, wind-towers and decorative panels from Iran, or carved doors and balconies from India. The traditional architecture of Dubai was primarily the result of the interaction between three main factors; the humid climate, the locally available construction materials (tangible factors), and the people's traditions and religious beliefs (non-tangible factors).

- Architectural concept
  - The concept of all building types is distinguished by its intro-environment where all the major and minor functions are shaded by arcades overlooking the middle open space "Patio or Plaza".
  - The principal structure in all the traditional buildings is the regular compact form with projections from various sides in line with the urban pattern of the old city's *sikkas* which for the most part ran from north to south and finished at the creek.
  - Urban patterns follow a high-density design where buildings are near each other, as seen in a large number of Arab urban areas.
- Architectural style
  - The traditional UAE Architecture is characterised by components that are high adaptable to the ecological conditions, i.e. climatic, geographical, social, and so on, with an appreciation for Islamic customs.
  - The main distinguishable components are wind-towers (*Barajeels*), air-pullers, arches, columns, well-defined passageways, shaded arcade (*rewak*), corbels, and different sorts of ornamentation.
  - The city picture is characterised by its corrugated skyline where the wind-towers are the most elevated components.

- Building materials and roofing systems
  - Vernacular architecture in the UAE depended on the local availability of building materials. (“Vernacular architecture is used to describe structures built by people whose design decisions are influenced by traditions in their culture” (Zhai & Previtali, 2010:357)). In the hilly terrains, the house ramparts and walls were built using stones and gaps that were produced due to the uneven shape of the stones were sealed with mud. Later on, walls were built using mountain stones with mud as the mortar. Rooftops were secured with palm-tree trunks and matting.
  - Shell, coral ore and adhesive were the fundamental components of walls, and palm leaves, and ceiling wood joists (*chandal*) and braces were utilised in constructing roofs.



Figure 3.12: Building materials and roofing system

Source (Wikipedia, 2008)

- Ornaments and decorative elements
  - Gypsum boards with floral and geometrical shapes and patterns were used in all types of buildings as decorative elements. Likewise, calligraphy and coal painting could be found in divider breaks along the primary elevation.
  - Gypsum powder was put to good use in the making of decorative items that were used in towers, arches, chambers and architraves. The decorative panel was poured onto a surface that was usually flat and rectangular, after which, geometrical shapes and floral designs were engraved on the mould, which helped in fixing its position with the gypsum mortar.



Figure 3.13: Ornament and decorative elements

Source: (Akellen, n.d.)

- Building Types

In all the UAE historical districts, vernacular buildings of various themes (Figure 3.11) were constructed by extracting themes of many architectural elements and features from India, Iran and partially Oman. The wind tower or the wind catcher (*barajeel*) which forms the main part of a UAE historic house is one of primary parts of the building. The external façade of the building was purely a mixture of earth materials such as the mud and wood.



Figure 3.14: Vernacular buildings–Wind-tower element

Source: (Wikimedia, 2015)

The following are a few characterisations of building types that were commonly found and documented in the old UAE architecture:

The following are a few characteristics of building types that were commonly found and documented in the old UAE architecture:

- Defensive architecture came in the form of forts, watchtowers, city walls and high gates that were constructed and set on the peripheral walls of the towns to protect the community from attacks by other tribes.
- Residential architecture where different kinds of traditional stone houses, such as Khima and Arish, were established in old historical communities by setting the buildings close to each other. Narrow passageways (*sikka*) were the veins of the neighbourhood body. The *sikkas* provided a network that corresponded with the character of the space and the social requirements of its users (Kiet, 2010). However, over time, a number of streets and roadways in the UAE and other Islamic communities were converted to gathering spaces in response to public requirements (Germeraad, 1990). Furthermore, streets and roadways were designed according to their purpose and classified in categories according to their width, which was generally measured in cubic metres (Akbar, 1984). The sequence and integration of both streets and houses in Islamic cities established a clear hierarchy and punctuated changes through transition, which also represented changes in social behaviour and norms (Zeisel, 1981, cited in Kiet, 2010:42).
- Commercial buildings similar to shops and *souks* are some of the most characteristic features of UAE historical architecture. The *souk*, or trading square, was and still is the commercial retail selling area in the Muslim world, and is typically located beside the *jamia* or *masjid* (mosque) (Hakim, 1986). The *souk* is usually an arcaded, covered market with kiosks and shops grouped according to the goods being sold. Some *souks* are interconnected with civic and educational buildings and other religious and social structures. The *jamia*, in most of the Muslim cities around the world, is the core structure of the city surrounded by the *souq*, creating a maze-like pattern (Kiet, 2010). According to Bianca (2000), a market in a typical Islamic city consists of multifunctional core structures enveloping (or at least partially surrounding) the *jamia* by different trading layers of interconnected *souks* (Bianca, 2000, cited in Kiet, 2010:40).
- Religious buildings in the form of mosques and holy *Quran* learning houses. Mosques have large central courtyards surrounded by shaded arcades which are occasionally used as an extension of the prayer hall when the main prayer hall is full. In addition to the mosque, is the grand mosque (*Al Jamea*) which is a large open space mostly isolated from the residential areas and located outside the city or neighbourhood boundary. It is used twice

a year by the public as an area for prayer and worship, and mainly for the Islamic festival of *Eid* (Hakim, 1986). It is also used as a location for political events, social gathering and preparation of the army for military purposes (Figure 3.12).



Figure 3.15: Sheikh Zayed Grand Mosque, Abu Dhabi

Source: (Piccolo, 2017)

### 3.8.2 The Traditional Architecture of Dubai

Dubai's traditional architecture is a result of the cultural mixture of different nationalities of people who live there. In general, it is influenced by Islamic architecture that developed in the area from the 7<sup>th</sup> century. The main features of this architecture were simplicity, functionality, durability, suitability for climatic environments and social life. In a way, courtyard houses suited societal traditions and were in harmony with the local climate. Many architectural elements were copied from neighbouring countries; for example, wind-towers and decorative panels from Iran, or carved doors and balconies from India. The traditional architecture of Dubai was basically the result of the interaction between three main factors; the humid climate, the locally available construction materials (tangible factors), and the people's traditions and religious beliefs (non-tangible factors).



Figure 3.16: UAE old architectural style

Source: (Constructionweekonline, 2017)

- The impact of climate factors on the style of Dubai

In addressing the hot, humid climate, the following factors influenced traditional forms of architecture and the planning of the urban structures. These activities can be summed up as follows:

- A high-density urban fabric where buildings were close to each other, as seen in most Islamic cities. This fabric created narrow alleys, *sikkas*, which were shaded from the sun, for most of the day. In addition, these alleys mostly ran from north to south and ended at the creek, thus permitting the prevailing north winds to pass through. Furthermore, these narrow alleys create a mechanism that causes the wind to increase in velocity as it passed through, thereby creating a comfortable area for both pedestrians and inhabitants (Figure 3.15)
- Courtyard houses, where a large number of the rooms had internal arcades overlooking an open space to consistently draw air indoors and give a superior living environment to the tenants.
- Wind-towers (Figure 3.15) were an exceptional and exquisite component of architecture that was utilised as a part of the zone. Other than giving elegance and refinement to the buildings and providing a beautiful horizon to the city, these high towers served as courses for the trapped air to be drawn into the rooms below. Normally, cots and benches were arranged under the wind-towers to take advantage of the cool air coming through. In winter, these wind-towers were shut with wooden boards to secure the rooms beneath against rain.



Figure 3.17: A *sikka* with a wind-tower

Source: (Steven, 2015)



- The impact of social and religious factors on style

The reflection of society and religion on the local architecture can be found in the following activities (Hessam & Sotoue, 2016):

- Islamic religious philosophy supports solitude and humility, and courtyard houses fulfilled this condition by giving an internal looking dimension or dividers also known as walls. Therefore, all the rooms were open onto the yard, and the outside dividers were generally strong with the exception of some diminutive ventilation openings at an elevated level. This was to prevent walkers looking into the houses, providing privacy, and to effectively disperse the hot indoor air to the outside.
- The curved entrance of the houses, where the main gate was fenced with a solid wall to provide privacy for the inhabitants, even when the entrance door is wide open.
- Air-pullers are an interesting bit of local architecture, to abstain from opening windows to the outside; the architect, Ostaad, came up with a creative solution. The opening, where the window ought to be, was replaced by two parallel fortifications with a separation of about ten centimetres in between them. This allowed the wind to strike the outer wall, avoid the opening and go through the inner wall into the adjoining room. This idea succeeded in giving both air and privacy to the occupants (Figure 3.15).

Other important factors include:

- Economic factors: Trading, fishing and pearl diving.
- Social factors: Common traditions of the tribal community, and Bedouin settlements
- Neighbouring styles: Persian, Indian, Arabic Islamic styles and Arabian Peninsula (Nagdian and desert) styles.
- Aesthetic aspects: Symbolism and abstraction due to Islamic fundamentals. All measured proportions are related to the multiplication of a basic unit *meter*, i.e. 15:19cm.

### **3.9 CHAPTER SUMMARY**

This chapter examined the evolution of public squares in the Middle East, and specifically focussed on understanding and applying approaches to sustainable development in urban open space. A key issue was how urban space and sustainability are related, and the importance of sustainable urban development in the social life of a community was explored. This was contextualised to communities in the Middle East, and the discussion traversed the history of open urban spaces in the Middle East from traditional to contemporary urban morphology. The

forgotten urban public squares in the UAE such as *Al Fereej*, *Al Saha* and *Al Baraha* were described in order to create a profile of traditional Middle Eastern cities. In doing this, the public square was highlighted as an element of traditional architecture, leading to an analysis of the need for urban conservation and the creation of eco-villages and eco-cities, and the role of urban architecture in the creation of eco-cities in the UAE. The chapter concluded with a detailed description of the architectural features and character of the UAE, with a focus on the traditional architecture of Dubai. The next chapter focuses on the impact of sustainable development on urban open space.

## **CHAPTER 4:**

### **THE IMPACT OF SUSTAINABLE DEVELOPMENT ON URBAN OPEN SPACE**

*“A sustainable development is a term widely used by politicians and environment experts all over the world, even though the notion is still rather new and lacks a uniform interpretation. Important as it is, the concept of sustainable development is still being developed and the definition of the term is constantly being revised, extended and refined” (Soubotina, 2004:8)*

#### **4.1 INTRODUCTION**

This chapter investigates the roles of social and cultural sustainable strands in the spatial organisation of the community in order to find out whether UAE traditional communities incorporate these aspects spatially and architecturally and how these aspects can be used in our approaches to move toward a more sustainably-built environment. Furthermore, as a reflection on the spatial arrangement of the UAE traditional community, the spatial morphology of the traditional urban form is discussed in depth. This, in turn, shows how the sequence and organisation of different social spaces have been affected by the social and cultural interactions of people with people, people with things and things with things. Urban spatial organisation is shaped by external forces interacting with primary infrastructure and regulations. Furthermore, spatial organisation is usually the unintended outcome of unforeseen consequences of regulations and policies that were formulated without any particular spatial concerns (Baerlocher, 2008). The researcher's argument is that the arrangement of different outdoor activities, social spaces and its actors' daily lives and practices are determined by the influence of these two key factors: the social and cultural features.

The review of the literature presented and discussed in this chapter funnels down from the general and wider context of sustainable urban open space to the specific context of the sustainable development within the UAE. The chapter then concludes with a section on the importance of the public urban square in the case of the UAE urban development, thereby addressing the research problem by reflecting on the four objectives of the study.

#### **4.2 AN OVERVIEW OF SUSTAINABILITY**

The notion of sustainable urban environments has emerged as a vital approach within the field of architecture and urban planning, being instrumental in encompassing the aims of social, economic and environmental aspects, yet posing a significant challenge for designers and urban planners (Nurse, 2006). The concept of sustainability planning is set by combining theory

(science) and practical (practice-based) proof that is basically formed to assist all interested stakeholders to develop, execute and analyse a prosperous sustainability plan (Wolfram et al., 2016). Despite extensive studies on sustainable aspects of the community dealing with physically and environmentally sustainable properties, limited research has been done on social and cultural influences of traditional settlements. These built environments display significant contextual fields for the discussion and analysis of the socio-cultural connections and disconnections of people, communities and human nature (Tuedio, 2002). The spatial organisation of the traditional environment and its physical form demonstrate influential factors in society's cultural expressions. They translate the social, cultural and structural values into physical components (Taleb & Sharplap, 2011) and social spaces which are crucial to the dynamics and continuity of everyday life.

Many scholars in published research have addressed the concept of the everyday life of the individual and the group within the community and stressed its significance in the creation of a sustainable environment. This socio-spatial approach represents a key criterion for sustainability due to its primary focus on the concept of human settlements, which, according to Taleb (2006), reflects the reality of social organisation, rather than the result of political influences on people. The community plays a key role in constructing a platform where the different aspects of sustainability, namely, economic development, environmental preservation and socio-cultural equity, demonstrate their inseparable relationships by the conscious balancing of competing interests within the community. Social and cultural sustainability diverge where "social well-being" and "culture" respectively become the objects of sustainability. It can be proposed here that the perspective of sustainable development offers an integrative approach to community research (Chiu, 2004:68). Presently, the need for a well-developed health and welfare space for communities and families is directly proportionate to the change in their behaviour that shapes or reshapes people's liveable space. It is, therefore, essential that the issues of public health and the outcomes that would result from a prolonged, sustainable impact are addressed.

The late half of the 20<sup>th</sup> century witnessed the emergence of four vital themes from the agglomerative concern and ambition of the world populace, those being; Freedom, Peace, Development and Environment (Clark, 2013). The race to develop nuclear weapons posed an immediate threat to the peace that was supposed to be secured post the 2<sup>nd</sup> World War in 1945. There was a drive towards maintaining global peace, but this did not apply in many individual

countries. In many countries, civil war manifested itself and continues to this day. Peace has not prevailed, especially in the Middle East and some parts of Africa.

However, the idea of environmental sustainability captured the governments' attention as reflected in the strategies of different governments since the 1980s. This attention came as a result of many attempts of environmental protection movements in the period between the 1960s and 1970s (Chiu, 2004:66).

The 1972 UN Stockholm Conference on Human Environment, which was considered the first international conference, introduced the concept of sustainability to the international arena. However, there is a general consensus that the World Commission on Environment and Development (WCED) (Brundtland, 1987) was considered the first to take responsibility for achieving an integrated intellectual framework and conceptual relation between sustainable concerns and developmental outcomes in all aspects and categories, where architecture occupies a key area (Nurse, 2006:34).

The WCED (1987) provided a specific definition for 'sustainability' as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Kim, 1998:6; Nurse, 2006:33). The report focused primarily on the planet's major and persistent environmental problems presented by inequality among nations. This concept has since been addressed as a matter of priority in all sustainable approaches, developments and debates (Dixon, 2011:4). This triangulated concept is a result of "Our Common Future", commonly known as the Brundtland report (1987), which became the key driver and provided the logic that underpinned the whole concept of sustainable development. This development is conceptualised and measured by several institutions (Moore, 2007). Kim (1998) argues that this definition does not give an accurate description of the ethical roles of individuals in relation to their existence on planet earth. Therefore, the challenge for long-term solutions for the successful existence of humans and their well-being would be more persuasive and beneficial than attempts to provide merely a terminology and description of human needs. The Rio Declaration on environment and development, which was held in June 1992 at Rio de Janeiro - Brazil under the name 'The Earth Summit', articulated an action plan comprising 27 principles as a blueprint for sustainable development to be achieved in the 21st century. It was commonly referred to as Agenda 21. It conceptualised sustainability as a triangle of competing interests. In its first principle, "Human-beings and their different demands are at the centre of concerns for sustainable development" (Williamson, Radford & Bennetts, 2004:5).

According to Berke and Manta-Conroy (2000, cited in Moore, 2007:1-2) “sustainable development is ... a dynamic process in which communities anticipate and accommodate the needs of current and future generations in ways that reproduce and balance local, social, economic, and ecological systems, and link local actions to global concerns”. Scholars and supporters of sustainable development, depicted as a ‘three-legged stool’, confirm that sustainability cannot take its role as a whole, without equal focus on the following three constituents of social networks which suggest the crucial interests of ecology, economy and equity (Figure 4.1). According to the argument of the urban planner Moore (2007), architects’ and planners’ roles are to mediate and stabilise the conditions of conflict in order to achieve sustainable societies.

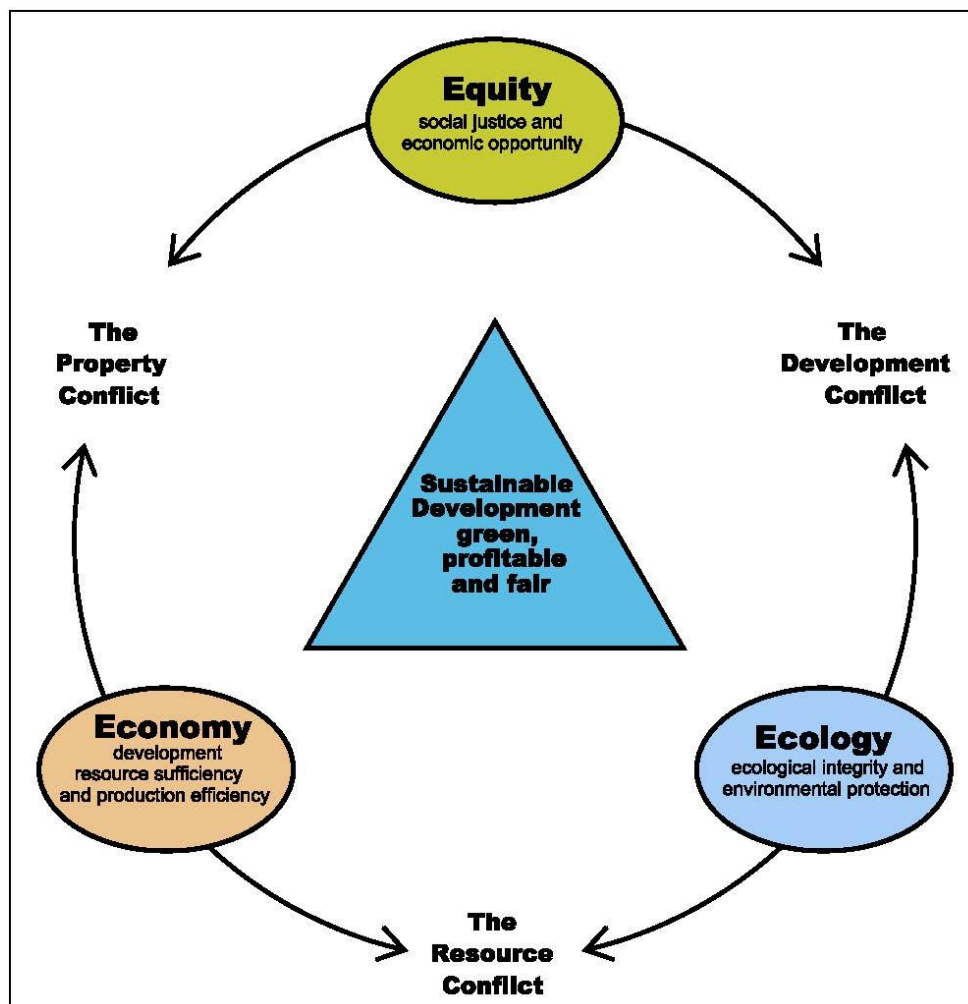


Figure 4.1: The 3 Es of sustainability

Source: (Moore, 2007:5)

The interrelated combination of social equity and environmental protection represents the most crucial issue in achieving sustainability. The former concerns the privacy, safety, security,

human health and well-being of the human, while the latter deals with the consumption of natural resources, energy efficiency, and environmental impact on the biodiversity of habitats (Eldemery, 2010; Steptoe & Shankar, 2013). Transitions in social and environmental issues, with all their complexities and ambiguities, are largely presented in transforming approaches toward the development of sustainable architecture and built environment (Guy & Farmer, 2001). The environmental factors have been studied extensively, but literature focused on social and cultural sustainability is limited, and a comprehensive study of these concepts is still missing. Most scholarly research about the environment considers physical and environmental concerns with little reference to the impact of social values and cultural beliefs on the sustainability and continuity of this environment. The emphasis of this current thesis is on the latter, namely, values and beliefs, in achieving more sustainable development. It investigates their role in the physical formation and spatial organisation of the traditional community environment in the UAE. It discusses initially the general concepts of social and cultural sustainability and identifies areas common to these concepts (Chiu, 2004).

Although it is generally accepted that sustainable development requires a blend of the three pillars of economic development, social equity and environmental protection, the fundamental conceptualisation of sustainability is still unclear. Since the publication of the Brundtland Report and the Rio Summit, it has been accepted worldwide that sustainable development is a worthwhile goal and many governments have devised metrics for sustainable development, despite implementation being problematic. Matthew and Hammil (2009:1120) note that the main problem lies “in designing the move from theory to practice. Here the tenacious grip of technological, political and other constraints becomes clear”.

### **4.3 THE CONCEPT OF SOCIAL SUSTAINABILITY**

*“Perceived needs are socially and culturally determined, and sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecological possible and to which all can reasonably aspire to”* (WCED, 1987:44).

Development of urban space and public areas enhances the well-being of people and society. This section focuses on the importance of sustainable urban development and its impact on social life investigates how primary open spaces be sustainable in newly developed communities (Javadi, 2016). The social factor occupies a specific role in the triangular plan of sustainability referred to above (Figure 4.1).

Colantonio (2007) argues that sustainability relates primarily to the personal and societal assets, habits, customs, rules and processes which empower individuals and communities to participate in the long term and equitable achievement of goals based on self-expressed needs and aspirations within the physical boundaries of places. According to this interpretation, built environments are determined by social constraints set by social norms. To sustain any development socially is to confine it to specific social relations, customs, values, interactions and structures. In this respect, Thaman (2002, cited in Chiu, 2004:68) posits that “to be sustainable is to be rooted in people’s social and cultural values”. Therefore, the social dimension occupies a fundamental value in achieving a sustainably built environment. According to Polèse and Stren (2000), the architecture of homes and the spatial sequence of social space in community environments are compatible with the harmonious evolution of society. The values reflected by family and community members in social spaces enhance the concept of everyday life as an approach to sustainability.

The second interpretation aims to implement some kind of social cohesion and integrity, social stability and quality of life’s improvement. Consequently, social equality needs to be achieved in terms of social inclusion, among all strata of society, and social continuity. This kind of interpretation is a people-oriented approach, as long as it refers to, maintains and improves people’s well-being (Chiu, 2004). The last interpretation is an environment-oriented attitude where ecological sustainability is the main focus. According to the Brundtland report, rules and values within a social context determine how natural resources and assets are distributed within and between generations (WCED, 1987).

In response to these interpretations, the social dimension is a fundamental concept in achieving a sustainably-built environment. It relates overall to the improvement of community values, political issues and many ethical principles which affect social relations between community members. In this regard, equity is interrelated with and integral to social aspects as it focuses on the satisfaction of basic human needs within the community (Nurse, 2006). These values are demonstrated in the architecture of the UAE community houses and the spatial morphology of Al Fereej in UAE traditional built environments. These contexts, as argued by Patrick and Roseland (2005), have the ability to maintain and build on their own resources for centuries, and have, at the same time, “the resiliency to prevent and/or address problems in the future” creating, thus, an integrated built environment. Similarly, Williams (2003, cited in Duxbury & Gillette, 2007:3) asserts that traditional communities show the capacity to deal with different changes and to adapt to new situations and conditions which are essential to the continuity and



dynamism of social and cultural aspects of the community. In line with Polese and Stren (2000), the architecture of the home and the spatial sequence of social spaces in traditional environments are compatible with the harmonious evolution of society, at the same time, fostering, a conducive environment to the compatible cohabitation of culturally and socially diverse groups within the boundaries of the neighbourhood unit or *Al Fereej*. In spite of this diversity, this architecture fosters social integration, cultural interaction and social homogeneity (Sachs, 1999, cited in Polèse & Stren, 2000:1516), with improvements in the quality of life for all segments of the community. These values are reflected in the daily practice of family and community members within different social spaces of the UAE traditional urban environments. This process illustrates the extent of the social cohesion and interaction within families and communities, and at the same time, imbues the place with a sense of belonging, thus creating a specific identity (Forrest & Kearns, 2001). This idea is illustrated in the Vancouver model of social sustainability (Figure 4.2).

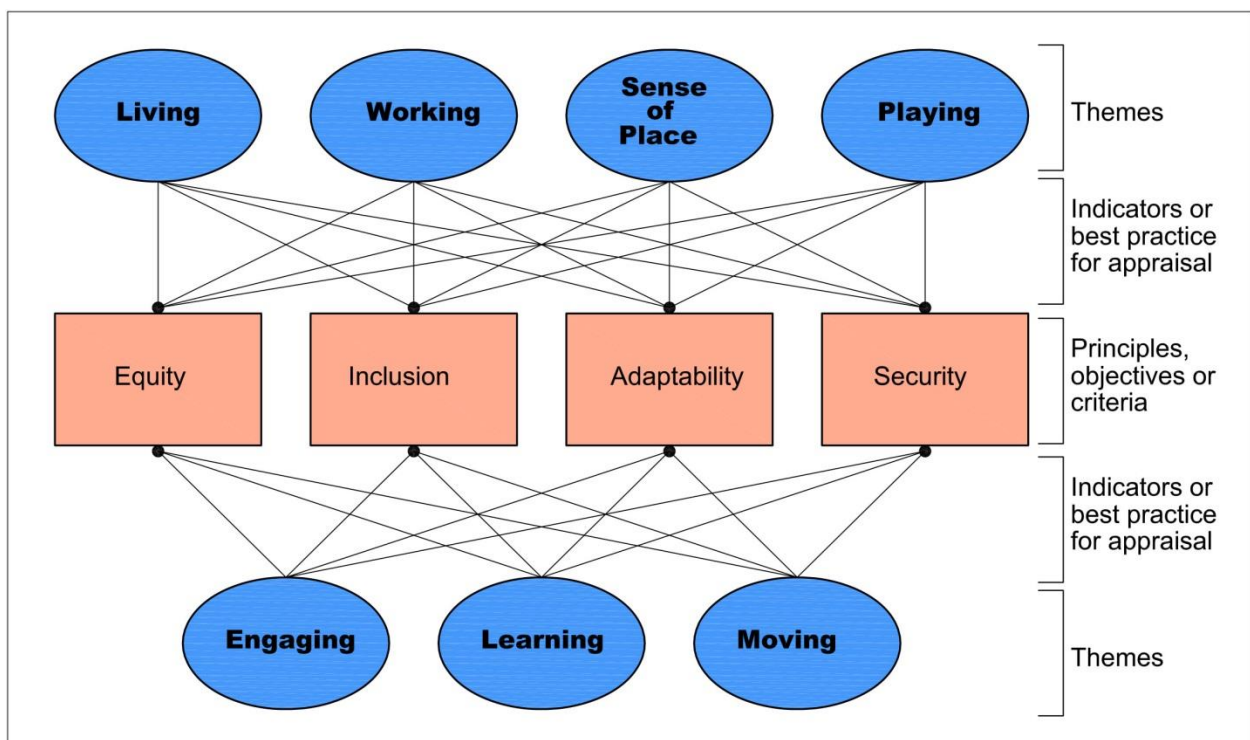


Figure 4.2: Vancouver model of social sustainability

Source: (Colantonio & Dixon, 2010:1070)

#### 4.4 THE IMPORTANCE OF CULTURE IN SUSTAINABILITY

Two decades' worth of research regarding the concept of sustainability, considered 'culture', as its base, rooted in the cultural values of the individual and the human group (Chiu, 2004). It

is broadly defined as being “the whole complex of distinctive spiritual, material, intellectual and emotional features that characterise individuals and society. It includes not only the arts and letters, but also modes of life, fundamental rights of the human being, value systems, traditions and beliefs” (Duxbury & Gillette, 2007:4). Rapoport (2005) identified two distinctive elements to show the real meaning of culture. These are the social factor and the ideological dimension factor. The former includes concepts such as kinship, family structure, identity, status and social network, while the latter encompasses values, ideals, images, norms, standards, rules and expectations. This kind of cultural unpacking shows how social values are important in cultural approaches and how they both illustrate inseparable elements and principles for our approach toward sustainability (Chiu, 2004).

This approach illustrates the anthropological point of view in terms of the way of life and the social aspect of human behaviour. It includes morals, values, laws, codes, customs, traditions, heritage, lifestyle and the ways we socialise with each other, within specific social structures. Respectively, it summarises the whole socio-cultural dimension within a specific society (Chiu, 2004). The triple-bottom-line model of sustainable environment proposed by Campbell (2003) has been rearticulated to encompass culture, besides other factors, to maintain the well-being of society (Figure 4.3).

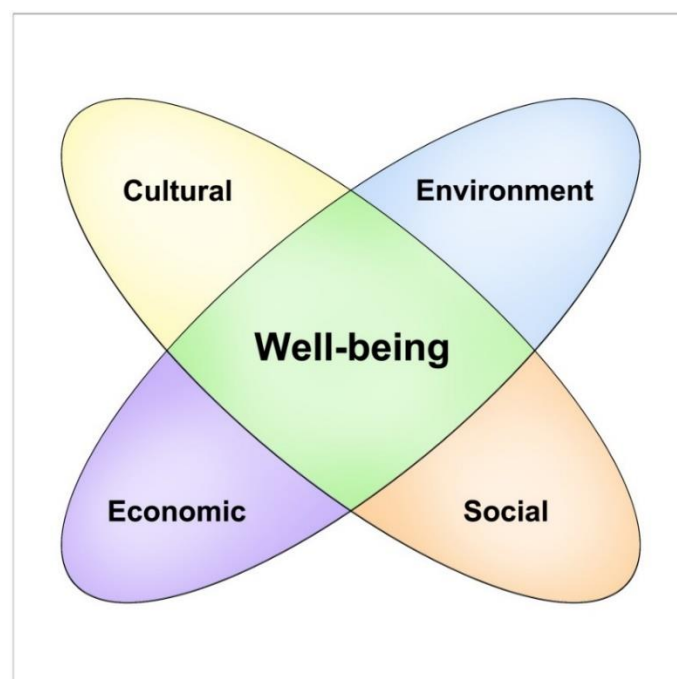


Figure 4.3: The four well-beings model of sustainable community

Source: (Duxbury & Gillette, 2007:15)

The main objective of this model is in mediating factors and competing priorities in the search for the value represented by the centre of the model (Guy & Farmer, 2001). Duxbury and Gillette (2007) argue that culture is an essential value that allows for change to take place in a coherent way, with people's cultural values providing a specific identity to the place over time. This culture-place-time intertwined relationship is inseparable from and enriched by the social properties of society. It emphasises the dynamism of culture, as discussed earlier, over the course of time and maintains its diversity along with social history, traditions with social values and heritage with categories of places (Chiu, 2004). These cultural values have been inherited in tangible and intangible forms from the past and have been passed on to future generations, thus, fostering privacy and social inclusion, social interaction, public relationships and ecological preservation (Duxbury & Gillette, 2007). An example of such a scenario is the case of the historic building and former home of Sheikh Saeed bin Maktoum Al Maktoum, a ruler of Dubai built in 1894 along the Dubai Creek in Al Shindagah old district. It epitomises the attempts to include the traditional, physical components in the design and of contemporary housing developments (Al Sammani, 2011).

Such critiques led the approach toward an alternative framework where culture is introduced as a key factor and fully integrated with other principles, in the search for the conceptualisation of the meaning of sustainability (Figure 4.4). This approach is utilised, in a way, to present: (a) a specific cultural identity where social elements are rooted in cultural values; (b) a self-reliant community which depends mainly on its social and cultural resources; (c) the concept of social justice which gives priority to those most in need; and (d) an ecological balance of the different resources (Nurse, 2006). This approach demonstrates, as Sachs (1999, cited in Vallance, Perkins & Dixon, 2011:343) argues, the utilisation of cultural aspects, as balancing issues between externally-imposed changes and internally-developed environments.

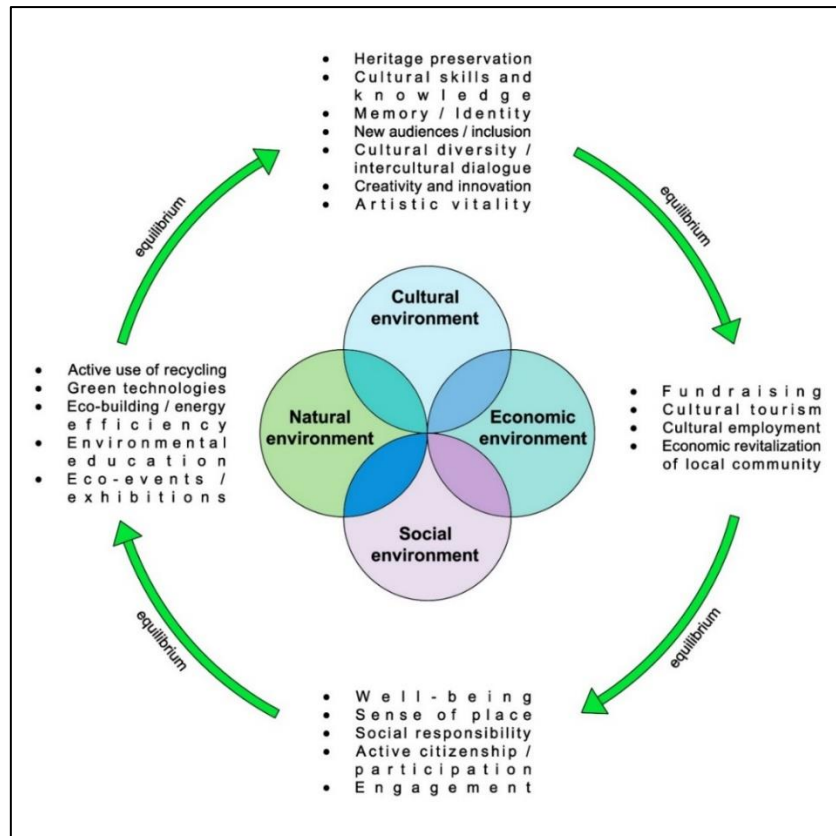


Figure 4.4: The four-pillars/dimensions model of sustainability  
 Source: (Runnalls, 2006, cited in Duxbury & Gillette, 2007:14)

#### 4.5 COMMON SOCIAL AND CULTURAL ASPECTS OF SUSTAINABILITY

*“We must note that a fairly clear distinction is emerging in these theories, between the notion of ‘society’ and ‘culture’, and that culture is something which overreaches, reflects and ultimately has its own effect on the social”* (Giddings, Hopwood & O’Brien, 2002:188).

Social aspects and cultural beliefs are interwoven with each other, difficult to separate and are often considered as one due to the interlocking and integrated impacts of these principles or criteria on society. They can be partially dismantled into social values, cultural beliefs, norms, customs, social structure and lifestyle. The common areas between them are those related to the social and cultural boundaries of the sustainable environment. Social factors represent the social well-being of people, while cultural elements show the continuation of culture, as an important principle in achieving and performing a specific identity. In his study on the social and cultural principles of sustainability in the housing sector, Chiu (2004) asserted that social dimensions encompass the following four aspects; (a) the social requirements and preconditions which lead to the use of sustainable environments; (b) justice in the distribution

and consumption of different resources and assets; (c) harmonious social interactions and relationships between users of the residential district; and (d) an acceptable quality of housing conditions. The first and fourth factors are also related to cultural dimensions, including the preservation and maintenance of traditional properties and housing heritage, as well. As an example, in the newly-developed area of Al Jaddaf in Dubai, the decision was made to confirm the cultural dimensions through accurate processing of traditional structures reflecting the mutual relationship between the values of different social and cultural principles.

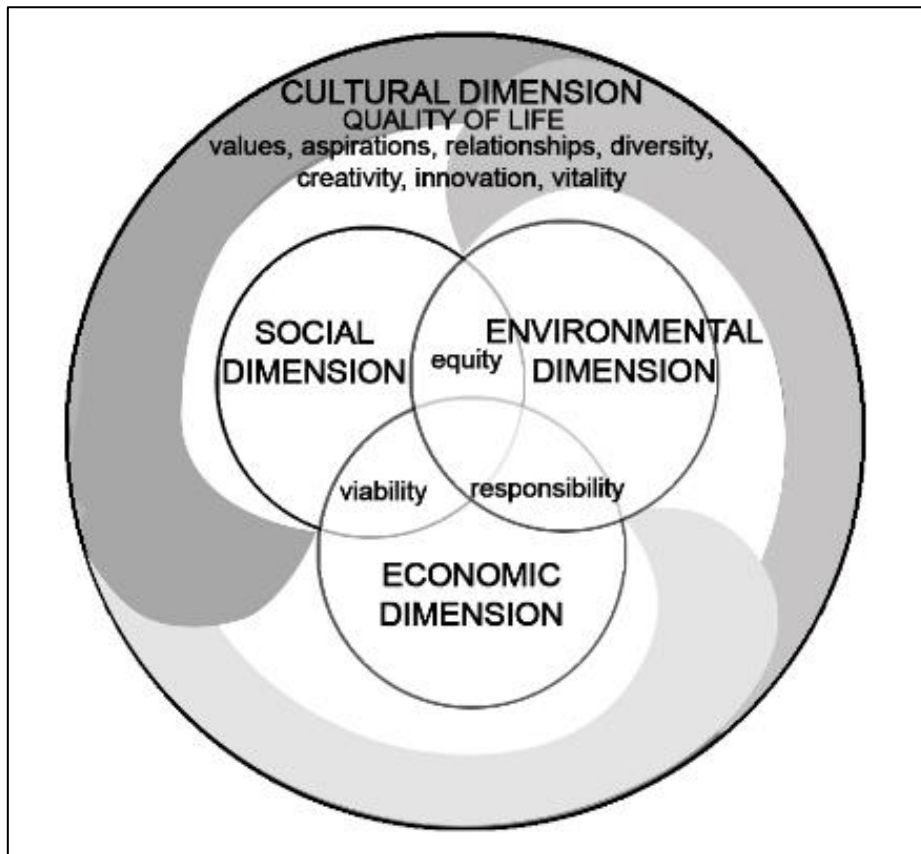


Figure 4.5: The four aspects of the social dimension

Source: (Runnalls, 2006:20)

On the other hand, some differences exist in the manifestation of social and cultural factors. Social dimensions are intangible and cover many levels of privacy, social cohesion, social stability, social equality, social equity, and social inclusion, while cultural values are more tangible and include various rituals, customs, habits, religion and religious practices. In spite of the commonalities between them, they are, in fact, not the same and each relates to specific areas of concern. This kind of separation or distinction can be clearly highlighted and portrayed in the architecture of houses where residents' customs and habits have a distinctive role in its

order and arrangement. The design and use of the house accurately reflect this diversity, as well as their integrated relationship (Chiu, 2004). Privacy, as a social issue, for example, affects the spatial organisation and functional performance of the space at the entrance of the home, which forms a type of bend preventing any kind of direct visual intrusion by strangers or guests outside the house. At the same time, the private area dedicated for family or the courtyard, in a more traditional context, turns into a public space and can be accessed by guests during different type of festivities or religious events. The opposite sex, in such circumstances, uses the social spaces on the first floor to watch and monitor those on the lower floor. These practices provide evidence that social and cultural factors are in fact integrated with each other in the design and use of social spaces of the traditional house.

#### **4.6 SUSTAINABILITY IN URBAN FORM**

Sustainability, in all its principles, especially social and cultural factors, plays a fundamental role in the formation of the built and urban environment through maintaining equity and social inclusion and diminishing negative environmental impacts. The fairness and validity of any built form depend largely on the achievement of a dynamic and continuous balance between these competing and conflicting issues. Meanwhile, social and cultural diversity has a significant impact on the continuity and dynamic systems of the urban form, achieving long-term health and validity. This diversity, as discussed earlier, explains and highlights its ability to adapt to change (Dempsey & Jenks, 2005). Wheeler (1998, cited in Dixon, 2011:4) states that sustainable urban form includes a clear focus on the importance of social factors in achieving a more sustainable built space. He argues that sustainability is the “development that encompasses the long-term social and ecological health” of built forms. This approach relies primarily on the actions to be taken today, depending on existing, inherited values and characteristics. By contrast, Richardson (1992, cited in Parker, 2004:167) relied on the impact of the natural environment in the formulation and achievement of a more sustainable urban form. He explained the significance of the human-environment relationship, lifestyle and people’s inspirations in the formulation of the main tools and the correct settings for a sustainably built form. This approach presents, moreover, the socio-spatial factor in the mutual relationship between humans and the surrounding environment.

The overriding objective of achieving a high quality of life for people in any context within a socio-cultural framework is a fundamental basis for a sustainable urban form. The wider meaning of these integrated factors determines human life, the socio-spatial relationship, social

interactions and cultural values of individuals and society. In line with this, Dempsey and Jenks (2005) state that many social and cultural principles need to be included in the context of sustainability. Their perspective is revealed by the 'polycentric form' which is closely linked to appropriate public transport systems, allowing ease of access and sustainable social and cultural behaviour, which involves all individuals residing in the neighbourhood (Clifton, 2010; Dempsey & Jenks, 2005). These properties highlight the concept of compactness as a new paradigm for and a major factor in sustainability (Ben-Hamouche, 2008). Wheeler (1998, cited in Dixon, 2011:4) suggests the compact urban form as a fundamental approach to sustainable urban form, restoring natural systems and providing better living environments, a healthy social ecology and good cultural preservation. This perspective brings to mind the urban form and spatial organisation of the traditional neighbourhood unit (*Al Fereej*) in UAE. This form, displayed for several centuries, is a perfect example of homogeneous social and cultural relationships between its users and a hierarchical sequence of narrow, bent and shaded streets and spaces from private areas to the public ones (Al-Hemaidi, 2001). Different factors such as access methods, privacy, social segregation, social inclusion and interaction can best describe it. This perspective ensures proper and easy access to all houses, workplaces, services, facilities and social spaces, all the while respecting existing and inherent social and cultural values, habits and customs of the community. It offers, moreover, a "coherent way to integrate ecological thinkers with all social and cultural planning factors" (Dixon, 2011).

Traditional urban form displays a high variety of activities which give life to the community, and, thus, achieve the sustainability of the liveable place and the whole urban fabric. The degree of diversity was popularised by Jacobs (1961) and accepted by many scholarly studies on the built environment, such as the smart growth, new urbanism and sustainable development. For Jacobs (1961, cited in Jabareen, 2006:42), this issue is vital and necessary to avoid the decline and deterioration of the built form becoming just an expression of a place of living. Diversity in the urban form is a 'multidimensional phenomenon' indicating some similarities between this issue and the concept of mixed land uses, in a specific context. This phenomenon promotes many essential features, different house typologies, household sizes, cultures and social styles (Turner & Murray, 2001). It supports and maintains the socio-cultural factors of the built environment. In traditional contexts, diversity was promoted by the spatial and physical variety of buildings and urban properties which relied significantly on social and cultural values derived from Islamic culture, principles and elements. This variety showed a high degree of unity. By contrast, if these contexts are not diverse, according to Wheeler (2002, cited in

Jabareen, 2006:42), “then homogeneity of built forms often produces unattractive, monotonous built forms; a lack of housing for all income groups, class and racial segregation...” as is the case in most contemporary developments in the Arab world.

Diversity in traditional contexts has inspired many scholars in their attempts to better, built forms, on the basis of a neo-traditional approach to the employment of social, cultural and physical characteristics (Wey & Hsu, 2014). This approach, which is known as the new urbanism approach, is a design-oriented one, which, according to Bohl (2000), depends primarily on traditional precedents for the creation of adequate ways to connect different housing varieties to form a neighbourhood unit. The latter displays the basic planning unit, which is limited in its physical size, and consists of a central, public open space with well-defined edges (Campbell, 2003). Scholars of this approach believe in the need for diversity of residential features, which can satisfy users, support good social contacts, achieve a strong sense of community and human interaction, and enhance relevant social and cultural relations, rather than just being super-blocks and typical residential units. Wheeler (2002, cited in Jabareen, 2006:42) argues that diversity in traditional contexts is among the most attractive, vibrant and popular concepts and requirements, instead of forced zoning which works against the diversity of the built form. This approach emphasises specific categories of sustainable urban form represented by the establishment of a self-contained district promoting the concept of mixed land uses in a tightly clustered context and indicating the preference of having a high-density environment and walkable urban pattern. The application of the latter model demonstrates a variety of path options and a sequential spatial order and encourages social and cultural interaction in different types of open public spaces (Wey & Hsu, 2014). The main problem with this movement, according to Harvey (1997, cited in Campbell & Fainstein, 2003:183), is that the new urbanism approach gives little attention to social factors in terms of creating social inequalities as is the case in modernism.

#### **4.7 SUSTAINABLE BUILT ENVIRONMENT AS A SOCIO-CULTURAL ENTITY**

The importance in discussing sustainable community environment is to go beyond talking about the preservation of arts, heritage and architectural identity, but to include its main factors and values embodied in the notion of culture as a “whole way of life”. In other words, according to Nurse (2006), it informs the underlying belief system which articulates people’s social and cultural relations and interactions with the surrounding environment. Most studies in the field of the traditional built environment and urban studies have used the socio-cultural base of their



approaches. Norberg-Schultz, (1985, cited in Soud, 2010:45) argued that each traditional context includes a set of ideals about the social and cultural system. Thus, the community component is considered as an expression and a reflection of a specific socio-cultural language. In tracing the history of a given society, the social, cultural and intellectual developments reveal an essential effect on its architecture and formulate an adequate discussion with regards to its sustainable values. Accordingly, the physical and spatial properties of the community are formed by social values and cultural beliefs of its residents, and, therefore, the result of thousands of practices and events conducted in several generations. The same can be said about the city and the entire urban fabric which reflect particular social and cultural values and represent the way in which aspects and values of that culture have evolved (Boussaa, 2003).

Sustainable architecture, planning and design in the UAE are predominantly supported by the technological approach which places little attention on community-based components and their social and cultural contexts. This may lead to a loss of identity of the town or community because of stylised or branded designs imposed on the urban plan, possibly because the key, traditional, building components are replaced by completely alien ones that comply with the “green” philosophy.

At the beginning of the 20<sup>th</sup> century, our society faced a significant problem, which was the loss of a prominent trend, which coincided with the rise of the new architectural fashion: what was considered traditional architecture such as *Al Fereej* is now gone. Nowadays, contemporary examples show great ignorance and neglect of identity and reference (Soud, 2010). The need, therefore, is to identify and specify the principles upon which spatial and physical features of the traditional built environment can be based.

#### **4.8 LOCALITY IN SUSTAINABILITY**

Rapid changes and urban developments in many developing countries of the Arab world, UAE in particular, have produced certain home settlements which are noticeably different from traditional counterparts. In most cases, these changes pay little attention to structural, social, cultural and environmental considerations. At the same time, they take little account of the needs of such environments, over the long term, in terms of sustainability and interactive growth. As a result, built settlements are often alien and devoid of traditional values and qualities, causing thus a significant loss of identity and the breakdown of traditional aspects (Taleb, 2006). Looking for quick, sustainable-development solutions, according to immediate

and urgent need, led to the imposition of alien models which are unfamiliar to or inconsistent with the inherent aspects of the indigenous people.

In sustainable approaches, it is very important to discuss the necessity for local architecture, socially and culturally, as an essential issue in achieving sustainability. It demonstrates the significance of socio-cultural aspects of the traditional heritage and the methods adopted by people in taking advantage of these factors and values; spatially and architecturally, in their built home environments. The locale, according to many studies, was viewed as an essential socio-spatial resource in which a range of social, cultural, physical and institutional relations play a fundamental role in creating a more sustainable environment (Marvin & Guy, 1997). Therefore, it may be rational to think globally, as is the case in most built developments, but it is also necessary to act locally in our approaches to promoting sustainability (Chiu, 2004). The locale confirms the desire to maintain continuity and sustainability. People have a tendency to associate with valued parts of their local environment in their attempts to emphasise local attributes that demonstrate the importance of their cultural heritage. This issue of the influence of several social, cultural and environmental factors and has led to several studies on their impact on people's satisfaction or contentment. To understand this concept further, most Arab societies suffer from the effects of modernisation that led to a significant rupture in the continuity of inherited social and cultural aspects of the community. Eldemery (2002) argues that local architects should take responsibility for bridging the gap, which has been opened by the historical conscience, between past and present through the creation of sustainable built environments which are faithful to tradition by encouraging the inspiration of inherited cultural aspects.

#### **4.8.1 Understanding and Applying Approaches to Sustainable Development to Urban Open Space**

There are different visions and approaches that tackle the application of sustainability of communities (Clayton & Bass, 2002). As identified by Al Waer (2014: 29), "to develop better approaches to sustainable urban development, a deep mandatory competence and collective understanding through dialogue, rather than debate is needed between the future master planning teams". Over 70 national, regional and local regeneration and development organisations have contributed to investigating the scope of creating more sustainable communities. There are three core aims to develop sustainable community:

- A healthy environment involves minimal ecological impact; minimal waste or pollution and maximum recycling; protection and enhancement of the natural environment; such that all may enjoy environmental benefits such as greenery, careful planning for physical and social well-being, space to walk, cycle, meet, gather, play and relax.
- A prosperous economy generates wealth and long-term investment without destroying the natural and social capital on which all economies ultimately depend; minimise resource use and environmental impact; develop new skills through education and training; and meet basic needs through local jobs and services.
- Social well-being arises from a sense of security, belonging, familiarity, support, cohesion and integration of different social groups, based on the respect for different cultures, traditions and backgrounds.

Based on the approaches mentioned above, the researcher argues that the new urban planning policies adopted by the UAE decision-makers and urban planning officials aimed at developing sustainable open spaces and squares in the new community master plans must bear in mind, regulate and include new design guidelines that future architects and urban planners should abide by. The regeneration of urban squares in cities in the UAE is a major issue, as multiple factors have to be taken into consideration during the design stages, such as the aesthetics and attractiveness of the location of the squares; their accessibility by all population groups (it is very important to meet requirements and have special access for elderly and disabled); local mitigation of urban temperatures in summer; increase of regenerated surfaces; use of eco-friendly materials; the reuse of old elements and structural techniques and materials that display durability with time and to outdoor conditions. Having all these factors met will widen the level of interaction between public urban squares and their users. However, such relationships cannot be achieved without carefully planned strategies and policy models for the sustainable development of such urban spaces. In fact, Dovers and Handmer (1992) suggest that sustainable development can be identified as a pathway for premeditated change and development that balance or enhance the attributes of the system while attending to the existing population's needs.

## **4.8.2 Linking Urban Space and Sustainability**

### **4.8.2.1 The importance of sustainable urban development**

The notion of sustainability represents an important issue in the field of urban planning and architecture. It plays a specific role and reveals the most challenging approach that faces architects and urban planners whose main interests are the formation of different factors of the built environment (Power, 2004). Few studies have investigated the socio-spatial implications of sustainability on people's needs, which, according to Taleb and Sharplas (2011:384), “reflects the reality of socio-organisation, rather than the result of political or technical aggression”. Public open spaces are primary platforms in forming sustainable communities. Social sustainability must succeed where “social well-being” is the criterion (Markvart, 2015:45). An open space should strengthen interactions amongst residents, and consequently enhance social sustainability (Harun, Zakarya, Mansour & Zakaria, 2014).

### **4.8.2.2 Sustainable urban development and social life**

The social factor pillar plays a specific role in the plan for sustainability. According to Colantonio (2007), sustainability relates primarily to the personal and societal assets, habits, customs, rules and processes which empower individuals and groups within communities. According to this interpretation, built environments are determined by social constraints set by social norms. To sustain any development socially is to confine it to specific relations, values and interactions. Thaman (2002) argues that “to be sustainable is to be rooted in people’s social and cultural values”. In response to this interpretation, the social dimension occupies a fundamental value in achieving a sustainably built environment. It relates primarily to the improvement of community values, needs and many ethical principles which affect social relations between community members. According to Polèse and Stren (2000), the architecture of the home and the spatial sequence of social space in community environments are compatible with the harmonious evolution of society, fostering at the same time, an environment that is conducive to the compatible cohabitation of culturally and socially diverse groups within the boundaries of the community. These values reflected in the daily practice of family and community members within different social spaces enhance the idea of considering everyday life as essential in creating a sustainable environment.

#### **4.9 SUSTAINABLE RESOURCE AND ENVIRONMENTAL MANAGEMENT IN THE UAE: CURRENT SITUATION, COMMUNITY PERCEPTIONS AND PROPOSED NEW POLICY FRAMEWORKS**

Based on the main objective of this thesis, which is to develop a new framework for sustainable environmental resource management in UAE, a review of relevant literature was carried out. The literature review focuses on the theoretical and practical basis of sustainable development and their application in the UAE. Sustainable developmental frameworks are inherently linked to the evolution of development theories, resource management paradigms and their application in the MENA region, specifically in the UAE. Therefore, relevant literature is needed in order to identify a sustainable managing framework appropriate for the UAE. Furthermore, the UAE and the MENA Region are viewed from the perspective of global development theories and trends. Hence, in order to develop a foundation for the sustainability process, the government has undertaken to create a revised policy framework that addresses sustainable development issues in the UAE.

The way in which a society responds to development theories is a key indicator of community priorities, national institutions and their perceptions, and the resources used in practice are determined and shaped by the management of environmental resources. Thus, the impact of development theories on a society and how resultant changes are managed by institutions, either through the development of policies or through debate, dialogue and stakeholder consultation, are also reviewed in order to be applied within the context of the UAE.

There are three main objectives in this chapter. The first is to identify and review the literature pertinent to the research questions and problems that have been discussed in chapter 1. Secondly, the development and justification of theoretical and methodological models have to be understood in order to carry out the subsequent empirical investigations in this current study. Finally, this chapter defines and clarifies the key concepts that have been used in reference to the current study and that must be applied in the UAE.

#### **4.10 SUSTAINABLE DEVELOPMENT: DEFINITION AND PRINCIPLES**

Although this concept has been defined in various ways, the description of sustainable development adopted in this thesis is the one proposed by the Brundtland Commission, namely, that “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Cerin, 2006;

Dernbach, 1998; Dernbach, 2003; Stoddart, 2011). The ultimate goal of sustainable development (SD) is the enduring stability of the economy and the environment which is only possible by mean of integrating and acknowledging stakeholder's social, environmental and economic concerns at all stages of decision-making. The principle of conserving resources for future generations is a major aspect of sustainable development policies that distinguishes them from traditional environmental policies, which also seek to address environmental degradation.

In applying this definition of SD, the issue of substitutability of capital, whether social, natural or man-made, needs to be considered. When the only consideration is the aggregate level of capital, using artificial or manufactured capital as an alternative to natural capital, then SD is weak. Robust SD, on the other hand, admits that natural resources cannot be replaced by manufactured capital. Ecologists and environmentalists generally support the latter case (Stoddart, 2011).

Furthermore, sustainability also relies on several other fundamental principles such as intergenerational equity which recognises that sustainability needs to be a long-term endeavour if it is to address the needs of future generations (Dernbach, 1998; Stoddart, 2011). Also, the 'polluter pays' principle states that "governments should require polluting entities to bear the costs of their pollution rather than impose those costs on others or on the environment" (Dernbach, 1998:58).

The precautionary principle establishes that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measure to prevent environmental degradation" (United Nations Conference on the Human Environment, 1992). Therefore, anyone who proposes an activity that affects the environment bears the responsibility of proving that the action will not result in significant harm. The Rio Declaration states explicitly that each nation must play its part in SD, even though their responsibilities may be different because of the various contexts in which development takes place. This principle also takes into account the environmental degradation caused by developed and developing nations, while considering the future development needs of less-developed countries (Brodhag & Taliere, 2006; Dernbach, 1998; United Nations Conference on the Human Environment, 1992). Developed nations, therefore, have a greater responsibility because of their resource-demands and the pressures they bring to bear on the environment.

The basic principle of SD is decision-making that is based on the integration of environmental, social, and economic factors. Thus, integrated decision-making is the core principle of the SD framework (Dernbach, 2003; Stoddart, 2011) which distinguishes SD from other environmental policies.

From an institutional perspective, government organisations are generally grouped into ministries or departments and divisions. This works reasonably well in relatively simple situations but not in systems requiring a consideration of something as comprehensive and highly integrated as SD. Therefore, SD requires consolidation rather than fragmentation; that is, environmental, social and economic concerns must be integrated throughout decision-making processes if the world is to achieve development that is truly sustainable.

#### **4.10.1 Theoretical Perspectives on SD**

Recognising that there are limits to biological growth, the maximum sustainability yield and the carrying capacity of ecology provide the foundation of sustainable theories such as the Ecological Sustainability Review (Adams, 1990; Rees, 1990; Shiva, 1992). In this context, sustainability refers to environmental sustainability. This base of SD, environmentally and ecologically, has a strong economic perspective. Tilton (1996:94) called this the “Fixed Stock Paradigm”. Scientist and ecologists are thus deeply concerned about the depletion of limited resources that are not renewable.

The second foundation is sustainable economic growth which takes into account that the global economy is constantly growing although there also recessionary periods. Sustainable economic growth implies that SD is possible only if the economy is allowed to grow at its own pace (O’Riordan, 1981). This notion is defined as technocentric (believing that humans have the technological ability to control nature and maximise the use of the environment). Moreover, this view is related to the concern for project sustainability, regardless of the project’s ecological sustainability or otherwise. Integrating environmental and economic concerns in one theoretical framework is a method favoured by ecological economists (Barbier, 1993; Common, 1995; Pearce, 1993; Tiesdell, 1993). This is because the ecological system brings into question the distribution of goods and services and the economic system dealing with their production. Economic growth is essential and achievable, but such development should minimise any harm to the environment.

The third principle is sustainable societies. The social approach considers people who live in poverty and their basic needs for a start-up enterprise (Chambers, 1986) and emphasises social equity, justice and liberation. This includes the eradication of injustice and the reduction of inequalities within a society, including racial, class and gender divisions; basic human rights contraventions by authorities; or extreme inequalities in wealth distribution (Merchant, 1995; Mies & Shiva, 1993; Salleh, 1997). Another important consideration in this view is intergenerational equity and the fair distribution and access to sustainable systems over generations (Dover & Handmer, 1992; Elliot, 1994; Reid, 1995; WCED, 1987).

#### **4.10.2 Participatory Management Approaches**

Participatory approaches make provision for the direct and indirect involvement of communities and other stakeholders in the formulation of policies and decision-making or their input on the technical aspects of the functions of the central authority (Imperial, 1999; Sairina & Kumpulainen, 2006). It demands transparency and accountability from regulatory authorities on the one hand, and, on the other hand, encourages greater responsiveness from the community in the implementation of management programmes and objectives, and leads to greater compliance (Imperial, 1999). Ladder (1969) states that participation involves eight steps: ‘manipulation’ and ‘therapy’ stages both aiming at educating participants; ‘informing’, followed by ‘consultation’, ‘placation’, ‘partnership’, ‘delegated power’ and finally, ‘citizen control’. Ladder’s steps for participatory management imply an increasing degree of control by the community as the participants become empowered.

In participatory, community-based management, the community takes responsibility for managing its resources (Fisher, 1995); in this sense, ‘cooperative management’ relates to the community’s willingness to voluntarily work together over and above the basic requirements of formal legal provision or community rule (Cunningham, 1994). In the community-based management model, the local community shares responsibilities for resource management with an external agency or organisation (Pomeroy & Williams, 1994).

#### **4.11 DIFFICULTIES IN IMPLEMENTING SD**

The concept of SD is widely accepted yet the implementation of SD has been largely unsuccessful particularly in improving the lives of the poor (Moyo, 2009). The integration of three economic, social, and environmental pillars of SD, remains a challenge. SD will take the time and dedicated effort of all the relevant stakeholders.



Many UN summits have involved broad discussions, leading to the production of documents, policies and goals; but the action plans tend to be “sprawling documents that offer something for everyone” (Victor, 2006:2). In fact, Hodas (2010:29) notes that high-level international meetings like the CSD and UNFCCC have not resulted in concrete plans of “how to shift to a more sustainable, low carbon world economy plan” and “international talks increasingly become disconnected from real-world policy”.

Implementation of SD is largely influenced by mainstream economic planning and market-based investment, to ensure that overall growth is not disrupted. Consequently, implementation has been slow and incremental without any real shifts towards transformation. The WBCSD argues that this is due to a lack of firm leadership from anyone which has limited real progress toward SD. Holliday, Schmidheiny and Watts (2002:18) note that “politicians tend not to run for office on promise of making the price of goods reflect their real (higher) costs for the sake of SD; consumers tend not to demand to pay such higher costs; business tends not to lobby lawmakers for higher process”.

Developing countries claim that lack of financial and technological resources and unfair terms of trade limit their implementation of SD as they do not have the required access to technology, resources, infrastructure, governance or the economic environment needed to stimulate SD (Economic Commission for Africa, 2002).

SD strategies, plans and initiatives at national and local level have not resulted in any major changes. Chasek, Downie and Brown (2010: 37-38) report that most countries have not lived up to their Rio commitments, stating that the National Agenda 21 efforts led to an “increased academic debate, heightened public awareness and minor adjustments in the systems of national accounts and taxation rules, but they have not fundamentally altered the way we manage and measure our national economy”.

One reason for the problems with implementation is that actions have tended to emphasise the symptoms and not the underlying cause of environmental degradation. MacNeill (2007: 5), former Secretary General of the Brundtland Commission, asserts that:

we are still struggling with an issue raised in the Brundtland Report which is that the institutions and policies we put in place to address SD issues were not only weak but they had been directed one way or tackle the symptoms of environmental degradation and to ignore its sources. The sources, of course, are to be found in government (and corporate) fiscal, tax, budget, trade, energy, agriculture and other policies and in the values underlying.

Furthermore, governments have not succeeded in breaking down the silos between departments to find complex, integrated answers.

#### **4.12 MOVING FORWARD WITH SD**

While some would argue that SD is a failure, two decades is a relatively short timeframe to implement the changes needed in addressing such a complex and challenging issue. Systemic changes need a complete change in how the world works and conducts business, which will, in turn, impact lifestyles and consumption patterns worldwide. Such changes are often resisted in a world that prioritises economic growth and accumulation of wealth over environmental and social issues.

The financial implosion of 2008 and the collapse of trust in the liberalisation and globalisation model could see the introduction of a new SD paradigm and a development path that is genuinely concerned with equity, poverty alleviation and reducing excessive use of resources. The time thus seems right to move beyond an incremental approach to real systemic change to a more radical and disruptive approach which will shift the status quo.

There are some signs of a paradigm shift with the development of the “green economy” with renewable energy, green buildings, clean transportation, water management and waste management being key elements of the approach (Robins, Clover & Sarawanan, 2010: 12). Moreover, several countries have allocated the largest percentage of their stimulus spending packages to green investments.

Green stimulus spending is expected to provide a greater number of sustainable economic growth opportunities, in terms of financial recovery and environmental goals. It is, however, (in 2017) too early to gauge its success. Ladislav and Goldberger (2010) note that green stimulus programmes have to be underpinned by strong policy incentives and commercial frameworks to ensure sustainability of the initiatives long after the initial stimulus is gone.

The “green” movement will require radical changes in technology, which could stimulate increased economic activity. National and sub-regional governments could incorporate this into their core industrial strategies. For example, the electrification of the transportation industry will require massive infrastructural development with concomitant investment to create significant economic activity. Achieving this paradigm shift will be a challenge that will need drastic action rather than simple debate and discussion. The following are suggested as ways of moving implementation forward:

- Taking SD out of the environmental “box” taking into account a wider social, economic, and geopolitical agenda. The fields of energy, security, trade and investment, and development cooperation are likely to be targets of SD. It will require the removal of the silo-mentality between ministries and an integrated perspective on “growth”. In fact, the WSSD predicted this correctly in 2002. What we now require is commitment and buy-in from top leadership and engagement with finance and development agencies (Drexhage & Murphy, 2010).
- A paradigm shift in addressing the health of economies. New metrics will be required to measure, evaluate and report on the integration of various agendas, such as trade, finance, environment and food security.
- Moving to actual and accountable implementation. SD cannot simply remain an esoteric idea; real, concrete action is needed that includes measurement of the achievement of milestones. This would be in line with the OECD’s intentions. After approximately 15 years of dialogue on frameworks and policy, it is time to take action and implement and translate them into reality.
- Measuring the impact of actions to encourage transparency and accountability, not simply ticking off the plans that have been implemented; thus, the evaluation of the SD system must be performance-based.
- Using public/private partnerships to identify and devise new approaches, and to scale up any that appear to be promising. Public funding should be aimed at supporting sustainable private investments, but the private sector will be more motivated to increase and maintain their investments in SD financing if their voice is heard by being involved in the policy-making process. Buy-in from political leaders and a coherent intergovernmental approach are needed to start implementing SD. Strong political leadership is required to deal with the challenges; but, on its own, this is insufficient. It also essential that SD becomes embedded in bureaucratic, corporate cultures and systems.
- Effectively communicating SD successes, policies and learning. A communications plan indicating achievement of milestones and targets will help kick-start and maintain the implementation of SD.

The attention given by UAE planning authorities to the architectural heritage of their historic areas, especially in Abu Dhabi, Dubai and Sharjah is not accidental; it is a genuine display of their determination to demonstrate progress and success and a commitment to the future.

Over more two decades, urban planning officials and decision-makers in the UAE have been actively planning to restore the modest urban heritage haphazardly developed and built between the early 1900s and 1960s. At the beginning of the 1970s, a considerable part of the historical heritage areas was demolished due to an unplanned construction boom, since at the time, the emphasis was on modernisation and contemporary urban growth, in addition to the lack of awareness of the significance of old buildings as part of culture (Gray, 1995). However, lack of urban planning legislation to protect these sites led planning authorities to invite a number of European experts to carry out the restoration processes and develop conservation strategies, but the extent of involvement of these experts has not been documented (Hadjri & Boussaa, 2007). To illustrate this notion, the conservation actions were taken in specific architectural and urban heritage sites, such as both Al Shindagah and Al Bastakia in Dubai and Al Merraija in Sharjah. The primary action of the conservation plan of these heritage sites was to restore the architectural building elements and the social and cultural urban areas, as well as the narrow passageways between the buildings (*Sikka*) and the squares (*Al Sahat*). Moreover, the UAE officials' objectives in the restoration process were to turn the historic sites into active heritage centres attracting tourists and local visitors, thus bonding the present with the past.

Furthermore, the initiative taken by the UAE municipalities, in the establishment of the Historical Building Department, supported both the conservation of the historical architecture and heritage areas of all the UAE, and was the first step in starting a substantial restoration plan by demonstrating the scientific and methodical applications of these planning guidelines. The *Al Sahat*, being the social and cultural link between peoples' houses, are the vital urban elements in the restoration plan as they reflect the past, socially and culturally (Dubai Municipality, 2010). Moreover, by law, these open squares and any buildings associated with them may not be changed or tampered with, unless permission is granted by the municipality itself. According to Bukhash (2012), nowadays, the planning authorities believe that a well-balanced mixture of different activities and functions such as tourism, culture, heritage and residential, can create critical elements in revitalising historical areas.

#### **4.13 CHAPTER SUMMARY**

This chapter focused on the concept of sustainability, with a particular focus on social and cultural aspects of communities and how the built environment can be designed as a socio-cultural entity within a specific context, in this case, the UAE. The chapter focused on how sustainable approaches can be used in the development of urban open space and the link

between sustainable urban development and social life, which need to be combined with environmental management and underpinned by policy frameworks. There are, however, no quick and easy answers to the inclusion of sustainable development principles in urban planning. The chapter emphasises the need for regulators and planners to garner the interest, input and support of communities through participatory processes in order to make progress in the implementation of sustainable development within the UAE. The next chapter deals with the research methodology which explores how these factors can be used to address the main aim and objectives of the study.

## **CHAPTER 5: RESEARCH METHODOLOGY AND DESIGN**

### **5.1 INTRODUCTION**

This research is a significant attempt to enhance the quality of urban planning through a proper urban design process in order to create people-friendly urban public squares in the newly-developed cities in the UAE. Many central open spaces within the UAE cities lack the liveability factor: they are still spaces for noise and commercial activities and are characterised by heavy traffic movement.

This chapter outlines the research design and methods applied throughout the research to capture information and feedback on the use of public squares in Dubai and understand whether people are open to such a concept. Moreover, the selected research methods are used to ensure the attainment of the research objectives set out in Chapter 1. In addition, this chapter addresses the urban design strategy intended to be evaluated in this research. It includes the analytical framework and the research methodology adopted by the researcher in answering the research questions. It begins with the analytical framework which has been derived from the theoretical perspectives extracted from the literature review. It then discusses the mixed-methods research design employed in this study followed by a description of the population and sampling design.

The data collection methods used in this research are shown in Table 5.1.

Table 5.1: Methods of data collection

Secondary data	Primary data
Document analysis	iv. Case study selection and description v. Survey: quantitative vi. Interviews: qualitative a. Semi-structured interviews b. Focus group interviews

Data analysis methods used are then explained. Finally, the ethical considerations and the limitations of the research are examined.

### **5.2 ANALYTICAL FRAMEWORK**

Diverse theoretical aspects were embedded in this study in order to understand theoretical explanations along with their practical implications. This research is comprehensive and

explanatory in nature, as its objective is to understand the context of public open spaces in the UAE within an international theoretical and empirical perspective. As stated in Chapter 1, this research assumes that planning and urban design can greatly contribute to the provision of good quality liveable public open squares. In this sense, Chapter 2, focused on theories, methodologies, concepts and the practicality of providing liveable public spaces discussed in Western literature. In order to understand the context of the case study, literature on the Middle East in general and the UAE more specifically was also reviewed. Evidence of Western hegemony was found in the concepts and processes that have provided the basis for the urban design of contemporary public open squares in the Middle East, as far as these have been documented (see Figure 5.1.).

The analytical framework developed in this section draws on the knowledge gained from the literature to identify concepts and criteria to be measured in the empirical work. This analytical framework is presented in graphical form in Figures 5.1 and 5.2.

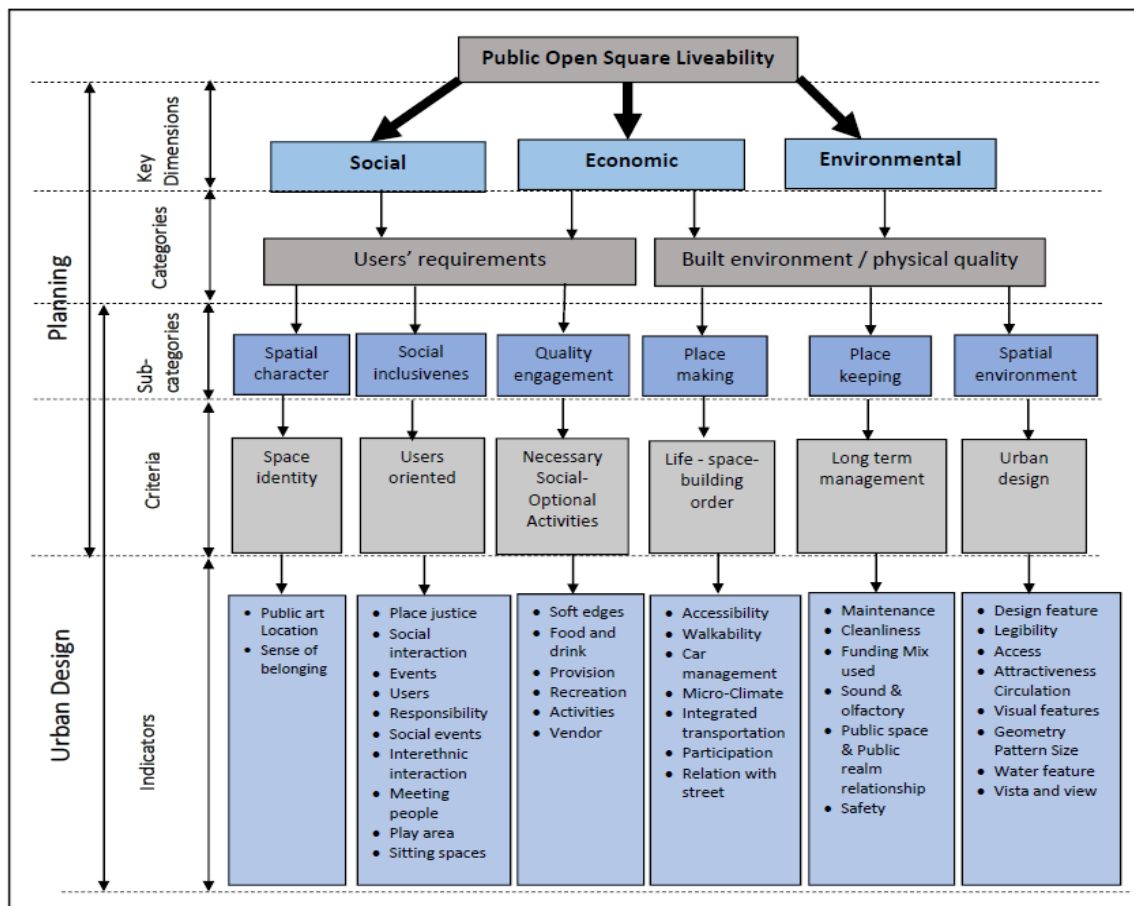


Figure 5.1: Analytical framework: dimensions, concepts and evaluation criteria

Source: (Researcher's own)

The literature review on public open squares has shown that liveability is a composite phenomenon that includes different concepts and disciplines. Figure 5.1 is therefore structured around the three key dimensions of public open-space liveability identified in Chapter 2.

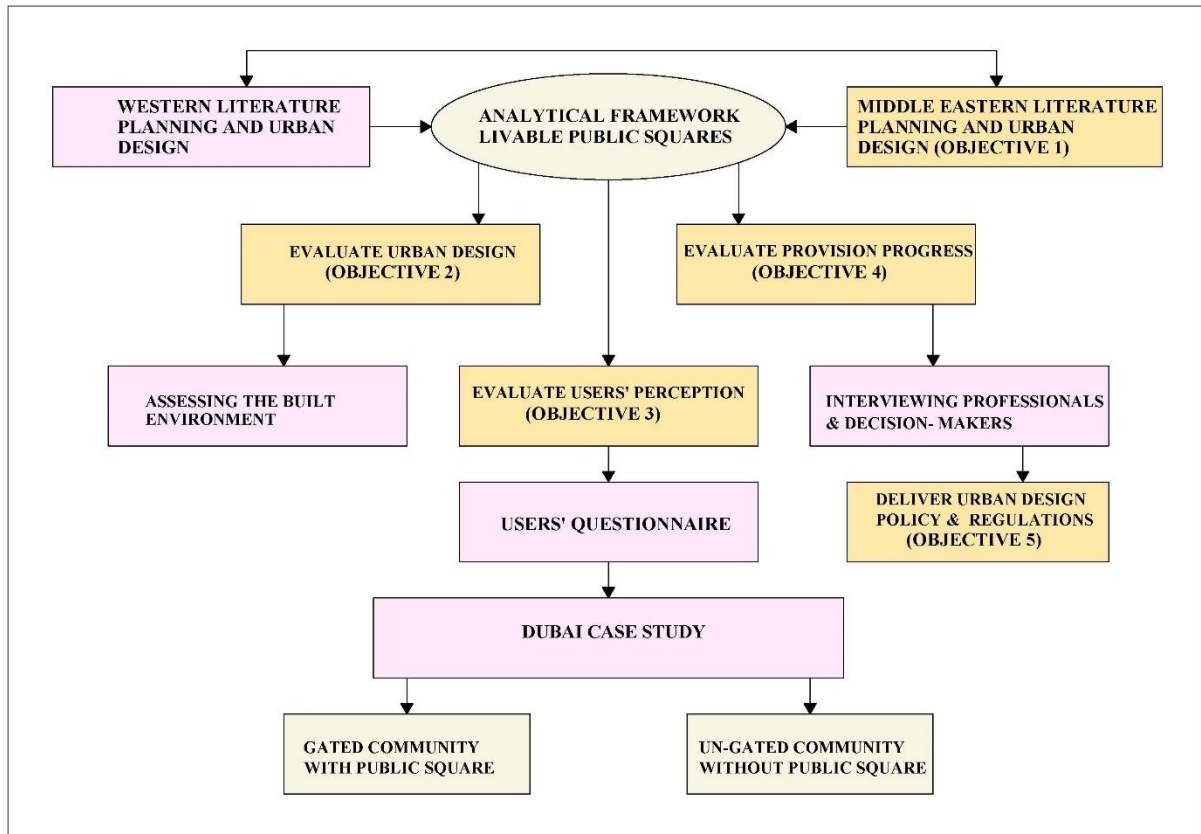


Figure 5.2: Analytical framework: relationship between research components

Source: (Researcher’s own)

To evaluate liveability, the concepts derived from the literature were split into two: user requirements and the tangible quality of the built environment. Those two main categories are classified into sub-categories, which represent criteria that include a set of indicators used to analyse public squares and plazas in the UAE. These provide a basis for understanding the liveability of public open spaces and are used in the assessment of the case studies in this research, though not directly in the order presented here, as explained later in this chapter.

Figure 5.2 illustrates the components used to answer the research objectives and questions set out in Chapter 1. Three key areas were evaluated in the research process: the urban design (the product), perceptions of the users at large and the provisioning process. Chapters 6 and 7 have also been structured accordingly. Evaluation of each of these components involves considering a range of concepts and indicators across the three dimensions shown in Figure 5.1. The



components shown in Figure 5.1 do not map exactly onto the three research components shown in Figure 5.2. Rather, in some cases, a given indicator may be found in each component, but from a different perspective (e.g. planners' perceptions, on-the-ground professional evaluation, and user perceptions), and, in other cases, a given indicator may be more relevant than another (e.g. partnerships may be a primary concern of the public square providers in the provisioning process, but the operation of the partnership may still affect the product and user perceptions). Each of the following subsections provides a brief description of the key focus of each component shown in Figure 5.2.

### **5.2.1 Objective 1: Evaluating Planning and Urban Design in the Middle East**

This section provides summary of what was found in the literature about open public squares in the Middle East (Figure 5.2). Two urban design approaches were highlighted:

- The old traditional urban design in the Islamic era which was controlled and developed by the rules of Islam and influenced by the culture of each group of people living in one community for serving their needs and customs (Hakim, 1986). Social life was a conservative environment that limited mixing of families. Public open spaces such as *Sahat* or *Meydan* were small pockets of spaces located between the houses and were not private places, but allowed for people to gather occasionally. Some spaces were small and semi-public used for limited activities and dwellers' social meetings such as *Finaa*'. Large scale public squares such as Meydan or Sahat were used for celebrations, occasional market days and weddings (Germeraad, 1990).
- The modern urban design approach from the West during the colonial era was to organise the Middle Eastern cities in gridlines comprising straight lines roads and streets following the shape of land where open public spaces of different sizes were established at the junctions and intersections, such as public squares and plazas. Urban modernisation in many Middle-Eastern countries, in particularly UAE as part of the GCC countries, was accelerated after the discovery of oil in this region. Modernisation and globalisation of Middle-Eastern cities have deteriorated and weakened the traditional concept of urban design and have allowed almost universal implementation of the Western design concepts and greater provision of public squares (Al Abed, 2001). The researcher concludes that the Middle-Eastern literature concerning open public squares is not as rich and comprehensive as the Western, but there are similarities in the concepts of liveable public spaces.

### **5.2.2 Objective 2: Evaluating the Urban Design of Urban Squares**

The literature review in Chapter 2 identified a wide range of concepts and indicators that must be considered when evaluating the quality of public open spaces in the built environment in order to assess liveability. Jacobs (1961), Newman (1973) and Carmona, et al. (2010) stressed the influence of built environment. Other researchers, including Gehl (2007, 2010; 2011), Jacobs (1961), Cooper-Marcus and Francis (1998) point out different concepts in urban design that can promote liveable public space. These include the location of the space, accessibility, availability, appearance, human scale, visual complexity, micro-climates, transitions, boundaries, subspace, size, circulation, pedestrian, seating, urban furniture, activities, age group and movement. These concepts and indicators range across all three dimensions shown in Figure 5.1.

Two key objects of study emerge from the wide-ranging literature referred to above: (1) the nature and characteristics of the place (or open public square in this case); and (2) human behaviour within the space being studied. Addressing this research component, therefore, entailed two modes of enquiry explained in the data collection methods section.

Application of open space evaluation tools, drawing on established methods that can be applied by professionals (or others), which cover a range of indicators mentioned above.

### **5.2.3 Objective 3: Evaluating Users' Perceptions**

Liveability is all about people being able to use space positively. Sets of concepts and indicators that may be used in the assessment of users' needs when evaluating the liveability of public open spaces have been drawn from the literature review in Chapter 2. Criteria relate to how users perceive the quality of the built environment and how they perceive that it responds to their needs. This research views liveable public open spaces as a product of the planning and urban design processes. The success of any product must be evaluated on the basis of the opinion of those are targeted by design, in this case, the whole community. This analytical framework was designed to use criteria from the literature such as the quality of the space, pleasant appearance, hygiene, maintenance, communal activities, accessibility, users' facilities and participation in planning in order to consider liveability from the users' perspective. These concepts and indicators range across the three dimensions shown in Figure 5.1.

## 5.2.4 Objective 4: Evaluating the Provision Process

The provision process component in the analytical framework is concerned with how professionals evaluate the process of providing public open spaces. In Chapter 2, several theories relating to the influence of planning and urban design in providing liveable public open spaces were discussed (Albrechts & Balducci, 2013; Curry et al., 2010, cited in Illsley, Jackson, Curry & Rapaport, 2010; Gehl, 2010; Vigar, 2009). The review of the literature on Western and Middle Eastern countries identified a set of what are considered good urban design and planning principles in relation to public space provision. As explained in Chapter 2, liveable public open spaces are those that are well-used. Planning and urban design can influence this through appropriate consideration of the social, economic and environmental dimensions (Figure 5.3).

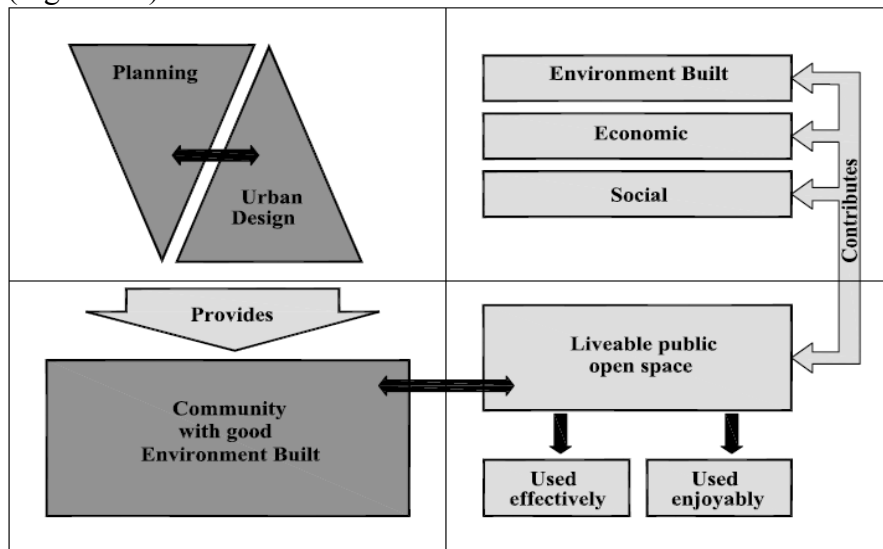


Figure 5.3: Relation between urban planning system and public open square

Source: (Researcher's own)

The planning system can, therefore, impact the liveability of public open spaces. The planning commission needs to comprehend the nature, importance and contribution of public open spaces to cities if these aspects are to be incorporated in policies and strategies for the provision of liveable public open spaces. The literature review in Chapter 2 provided an overview of an effective planning system has been developed in the West; for example, in the UK and the Netherlands. It is considered that for a planning system to be effective, it must have well-defined objectives set out in a hierarchy of plans—e.g. an overarching, national plan, local plans and development plans. Generally, overarching objectives will cascade down to plans at local level and development initiatives. In respect of the provision of liveable public open spaces, this should be a high-level objective. Figure 5.4 shows an example of a planning system (based on how it operates in the UK), which illustrates the various levels of the hierarchy of decision-making at which public open squares could be considered. As is explained in Chapter 4, the

planning system in the UAE is based on the UK system (hence the relevance of considering a system such as that shown in Figure 5.4), and has been in place for a relatively short time.

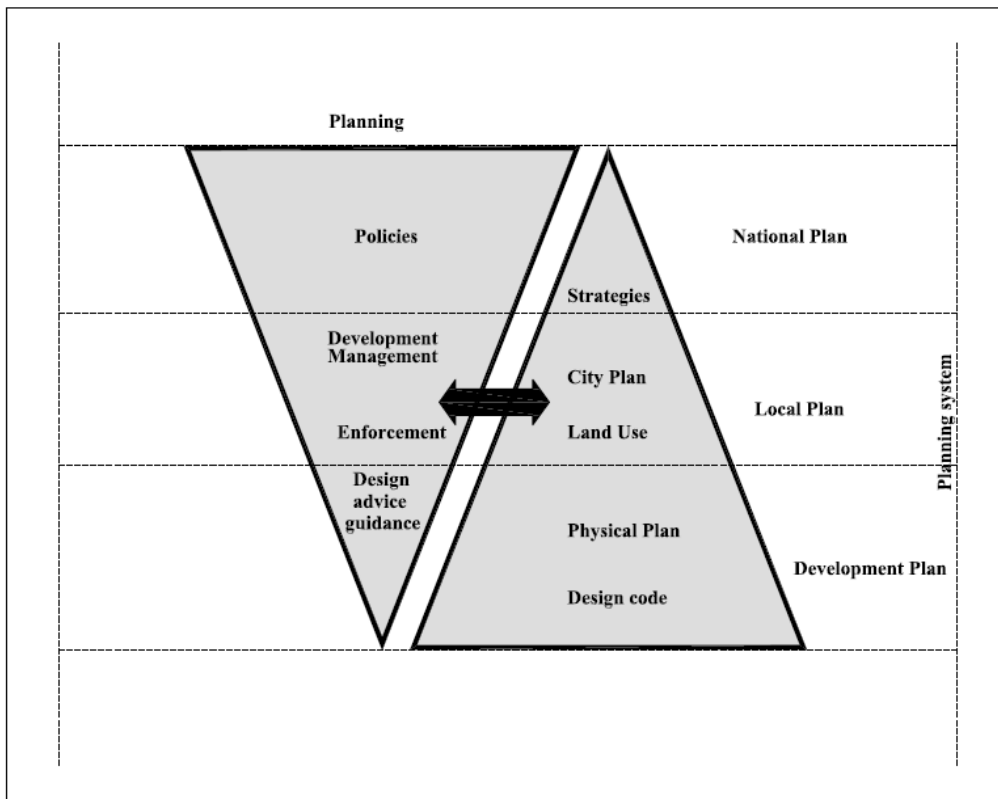


Figure 5.4: Proposed urban planning system

Source: (Derived from UK urban planning system, 2006)

Evaluation of the process of providing liveable public open space in UAE has therefore involved two lines of enquiry:

1. Examination of the nature of the planning system in the UAE in practice, and of the extent to which it explicitly addresses the provision of liveable public open spaces, through desktop study as well as some input from interviews with professionals involved in the operation of the planning system.
2. Exploration of the perceptions of liveable public open spaces among the professionals involved in the operation of the planning system and in the planning and design of public open space. This exploration covered relevant planning process indicators that systematically connect and flow starting from urban planning policies set for developing management to enforcing design guidelines and codes that aid urban planners to include open public squares in master plans (Figure 5.4).

### 5.2.5 Objective 5: Evaluating Urban Design Policy and Regulations

This section presents the main component of the analytical framework proposed by the researcher (Figure 5.2). This component addresses the answer to the research question “*what improvements can be made to the urban planning design and system to implement appropriate policy to develop urban public squares in the sustainable development in UAE?*” Today, the urban planning design and the planning system must be linked with traditional concepts and, at the same time, use innovative modern urbanisation ideas from the West. The empirical work in this thesis presents key findings and recommendations that would enhance liveable public spaces by incorporating new planning principles and concepts. This chapter addresses modern planning principles together with the traditional planning principles such as social value, spaces with function and occasional market spaces for festivals which together form the core construct of liveable public squares. Moreover, the research addresses the contemporary urban planning principles introduced from the Western experience and presented in the urban planning guidelines. The researcher makes recommendations to enhance the sustainability of existing and future public open spaces in the cities of the UAE as follows:

- The authorities’ urban planning process and design system should be updated by involving community residents, users, and other stakeholders in planning and devising policies and should integrate their suggestions in the planning requirements and guidelines. This would allow for renewal in the formulation or reformulation of urban planning policies and design criteria to include urban public squares and open spaces in communities for the enhancement of social liveability.
- Public participation is to be considered under the patronage of the authorities and should be implemented in two ways: first, to involve people and community residents and users in decision-making related to the urban planning process, and secondly residents and community habitants should be trained and educated to raise and present issues connected with their places of residence and social environment.
- A planning system strategy should be introduced as guidance for urban planners, architects and developers that will assist in developing quality liveable public squares.
- In order to implement plans promptly, decisions must not be limited to senior level decision-makers and should be allowed to be taken at the lower, local levels.
- entertainment facilities with more activities should be provided to enhance the liveability of public open spaces and provide family-friendly gathering spaces.

### 5.3 ELEMENTS OF THE RESEARCH PROCESS

This section broadly discusses the research approaches adopted in this research. It covers three important aspects: research ideology, theoretical perspective, and research design. To justify the method applied in this study, four elements of the process need to be clarified (as shown in Figure 5.5), namely, epistemology/ontology, theoretical perspectives, methodology/strategy and methods (Crotty, 1998).

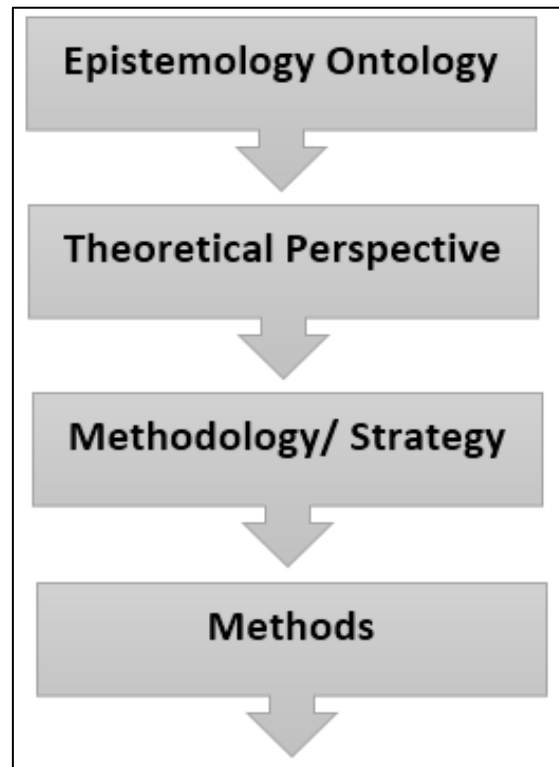


Figure 5.5: The four main elements of the research process

Source: (Crotty, 1998)

#### 5.3.1 Ontological issues

Ontology is the study of being (Crotty, 1998). It is the way of understanding things, the nature of existence and structure of reality. Together with epistemology, ontology governs the theoretical perspective adopted in any research. Each and every theoretical perspective has its own understanding of epistemology and ontology (Crotty, 1998). In social research, the ontological refers the consciousness of the nature of social entities. Social entities are thus viewed in objectivism as objective entities, whereas in subjectivism, social constructions have a role in defining the social actors. This research suggests that different planning and urban design factors influence the public open squares in the UAE. Moreover, the research provides

categories which emphasise the understanding of the nature of provision processes for the existing public open squares in the UAE. Perceptions of both professionals and consumers have been considered in the research. An assumption of the research is that human observations and beliefs differ from person to person. The truth is not fixed, and societal aspects drastically affect human perception. A largely subjective ontological approach would, therefore, be suitable for this particular research.

The different approaches to ontology provide the basis for different research paradigms, of which two are key: positivism and interpretivism. There are differences in the epistemology of positivist and interpretive paradigms (Hennink, Hutter & Bailey, 2011). Researchers must have a clear awareness of the dominant paradigms of their academic discipline and the extent to which these influence the formation of their research (Hennink et al., 2011). Babbie (2007) states that paradigms are bases for understanding which outline both what we observe and how we realise it (Hennink et al., 2011). The positivist paradigm represents the scientific approach to research. Such an approach places great emphasis on objective measurements of social issues in the social sciences. A distinction is made between facts and value, and research is seen as value-free. This approach has been criticised in social research due to its failure to acknowledge the interactive and co-constructive nature of data collection within human beings (Hennink et al., 2011).

On the other hand, the interpretive paradigm intends to understand society from the perspective of people. This approach is based on interpretation and observation in understanding the social world (Hennink et al., 2011). It is essentially based on the experiences of people (Marshall & Rossman, 1999). Research is not value-free, and the researcher has some influence on data collection or interpretation. Despite the seeming differences between the two paradigms, these are not distinct. Positivism and interpretivism are the base paradigms of quantitative and qualitative research respectively (Hennink et al., 2011).

In order to determine the influence of planning and design in public open squares, a distinction must be made between people and objects and the study of the subjective meanings of social action. In this sense, subjectivism is an appropriate ontology to understand this kind of phenomenon, while interpretivism is the matching epistemological approach to provide the appropriate knowledge for this research.

### **5.3.2 Epistemological issues**

Epistemology is the consideration of the appropriate theory of knowledge embedded in the theoretical perspective as a discipline according to the nature of the research area. Furthermore, it includes the approaches used to assess this knowledge, obtain claims to truth and the extent of truth that could be achieved by the knowledge (Crotty, 1998). Epistemological approaches, namely the way in which reality is understood, include objectivism, subjectivism or something in between.

Objectivism as a concept has long been used in research. It understands reality as ‘existence exists’ and states that things are what they are independent of what might be thought about them. In this concept, the world exists independently outside of individuals’ minds, and the nature of things is objective (Crotty, 1998). Individual thoughts cannot, therefore, change reality. Epistemology in objectivism views knowledge as uncontested facts that enter the human mind and provide a foundation for other knowledge. Objectivism states that while individuals can create concepts, these concepts are objective and freely produced away from any external force such as the influence of society (Bryman, 2008). However, logic is the personal understanding of knowledge based on absolute truths, whereas emotions and intuitions are not part of knowledge.

By contrast, subjectivism views the truth as an abstract value where nothing can be known for certain since it is viewed through the experience of individuals. The truth is inside everyone’s mind. Individuals have radically different perceptions of the world for genetic or historical reasons (Crotty, 1998). This extends to all individuals’ senses and thinking due to their interactions with their environment. Thinking and perception are therefore unique to every individual. From a subjectivist perspective, all knowledge is incomplete; reality, logic, emotion and heuristics are inherently biased; and individuals recall experiences from their personal perspectives, which may or may not be correct. Human thinking, whether conscious or subconscious, is influenced by experience and does not necessarily follow an abstract, rational or logical pattern. Unique experiences, moral values and religious beliefs lead individuals to view everything differently (Bryman, 2012). This results in a subjectivist approach that questions what ‘reality’ is. According to this epistemological approach, there are no absolutes or objective truths because individuals interpret moral issues differently.



### 5.3.3 Theoretical Perspective: Social Constructionism

Social research is a term used in social science fields, such as sociology, human geography, social policy, politics and criminology (Bryman, 2008). Moreover, it is a type of research that draws on social science for conceptual and theoretical inspiration (Bryman, 2008). Social research tends to be motivated by potential developments and changes in social areas, as is the case in this research. The rationale for adopting a social research approach for this thesis is the central question of the effect of planning practice (a social process) in creating liveable public open spaces, which are social outcomes. A major dilemma in the philosophy of social science is that it differs from the 'hard' sciences (physical and natural) because of the different ways of viewing and measuring social reality (Bryman, 2012). Social research is to a large extent interlinked with society. The way in which the research topics and issues are formulated and in which findings are interpreted are core differences between social and natural science research (Bryman, 2012). Social researchers revolted against positivism because of the failure of science to determine scientific laws for human behaviour, such as Comte and Marx and his followers would like to have discovered. In addition, many research philosophies have been posited in recent times, providing researchers with a myriad of alternatives for research design.

Among the philosophical approaches, social constructionism is regarded as the appropriate theoretical lens for this research being founded on the idea that there is no absolute truth and that knowledge is constructed and interpreted by individuals. Constructionism provides a basis for both objective and subjective interpretations of human experience (Crotty, 1998). The current research hopes to determine individuals' perceptions of their built environment: a constructionist philosophy thus underpins the design of this research.

The theoretical perspective plays an essential role in forming the point of departure in research. From a realist perspective, the natural and social sciences must utilise the same approach to determine the reality that already exists. There are two main types of realism: empirical realism and critical realism (Bryman, 2008). Empirical realism assumes that there is a perfect or very close correspondence between reality and the way in which it is understood. This approach fails to identify the enduring structures and generative mechanisms that underpin the understanding of social events, whereas critical realism conceptualises the way in which reality is understood. Unlike empirical realism, critical realism argues that there is a separation between reality and the term used to describe it. Critical realism allows for the establishment of an interface between pure science and social science.

Constructivism, as we have seen, argues that knowledge is constructed by people (Jackson, 2006) who perceive and interpret their unique physical and social experiences and develop their own ideas about the world they live in (Morgan & Smircich, 1980). The epistemological concern of constructivism is how humans develop this meaning and knowledge of their world (Molteberg & Bergström, 2000) as they interact with other individuals or groups and create their social reality.

Thus, people initiate, embed and change their social reality by means of a continuous, dynamic process of perceiving and interpreting knowledge. Knowledge is, therefore, an ongoing, active, creative process through which individuals construct mental models of their world, which are never static and are constantly being updated as they engage with themselves or others. Learning emerges out of the discourses that categorise the world and analyse phenomena. Since this study sets out to explore the reality of urban design of public open spaces, quality and vitality are tested from the perspectives of users and providers. It emphasises the way in which knowledge is shaped and changed within specific contexts, shaped and expressed through different media, and processed in different individuals' minds. The social constructionism concept was therefore used as a theoretical perspective for data collection and analysis.

#### **5.4 RESEARCH DESIGN**

Theories are essential to guide data collection and analyse findings in order to address the research objective, as illustrated in Figure 5.7 (Bryman, 2008). The theory is important for social research as it provides the rationale and the framework within which the social phenomena can be understood and the research findings interpreted. In deductive theory, the hypotheses are deduced from theory at the very early stage of the research, which directs the process of data collection. On completion of the research, the results are used to refine the existing theory in a kind of reciprocal action that adds to the body of knowledge (Bryman 2008). This strategy usually results from quantitative research. However, with an inductive approach or qualitative research as used in the current study, the theory is an outcome of the research.

As shown in Figure 5.6, theory is derived from observations, as is the case of this research. The research strategy in this study aimed to draw out a generalisable interpretation about public open spaces by observing the quality of squares and plazas. Moving back and forward between data and theory is a general strategy to establish linkages between theory and data, which is

known as an iterative approach. This approach is evident in grounded theory (see Figure 5.7), which could be used as a potential strategy to combine theory with practice (Bryman, 2008).

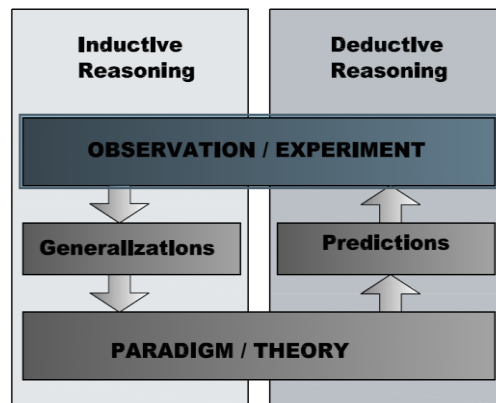


Figure 5.6: The process of deduction and induction

Source: (adapted from Bryman, 2008)

Grounded theory is now extensively used in qualitative research as a framework for analysing data (Bryman, 2012). The concept of grounded theory, which is based on emerging theory from the data, was first introduced by Glaser and Strauss (1967). However, grounded theory is more likely to be considered as the generation of categories rather than actual theory (Bryman, 2012). In this research, aspects of existing theoretical approaches were selected and applied to case studies. The collected data governed the emergent theory of this research. The objective was to use case studies to develop a grounded theory by drawing concepts from findings in three different observation contexts: the physical environment, users and professionals in order to generate a formal theory about public open spaces in Middle-East.

This research uses both deductive and inductive reasoning. Deductive reasoning works as a “top-down” predictive approach working from the more general theory and then narrowing it down to the more specific hypothesis with a confirmation or not of the original theory (Bryman, 2008). (Figures 5.7 & 5.8).

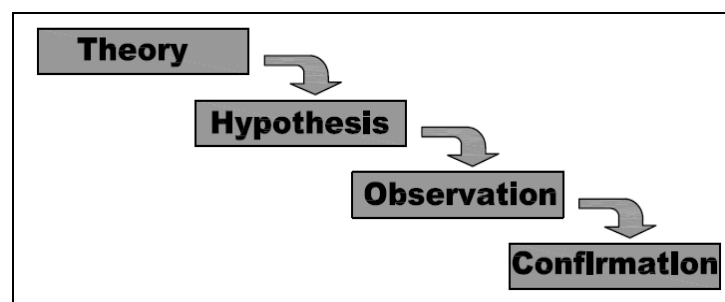


Figure 5.7: Deductive approach

Source: (Bryman, 2008)

Inductive reasoning is a more open-ended and exploratory approach that works from the bottom-up, moving from more specific observations to broader generalisation and theories (Bryman, 2008).

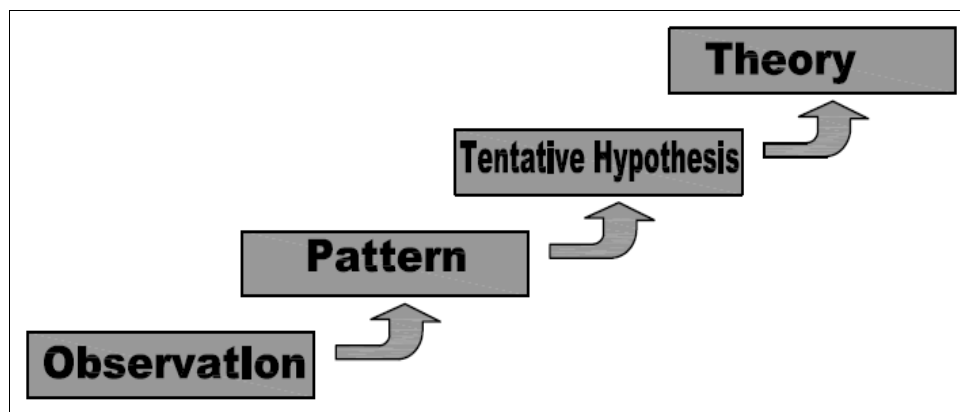


Figure 5.8: Inductive approach

Source: (Bryman, 2008)

## 5.5 RESEARCH APPROACH

The research approach is a mixed-methods design, using both qualitative and quantitative methods as discussed below. A mixed method approach is beneficial if the advantages of both qualitative and quantitative approaches are to be realised (Creswell, 2003). Qualitative methods were used to explore the existing situation and to discover variables for in-depth, detailed study. The quantitative approach was used to examine the variables in a wider context. In order to generalise the phenomenon, quantitative techniques were applied. The findings were generalised and then developed into an in-depth meaning of the phenomenon.

### 5.5.1 Qualitative Approach

On the basis of the nature of research questions and literature review, it is apparent that this type of subjective and socially-constructed study can be related to the explanatory approach which refers to multiple realities with regard to social and personal interactions and behaviours. The study will use the qualitative approach because of the effectiveness of this methodology in Social and Urban Planning Studies. This method is useful in obtaining specific cultural information about the social and cultural values, opinions, behaviours, principles and beliefs

of a particular society. It provides information regarding the "human" side of any subject, and often relates to contradictory aspects of human behaviours, beliefs, opinions and emotions in addition to its focus on the relations of individuals with each other. The qualitative method is also effective in identifying intangible factors, such as social norms, socio-cultural aspects, gender roles, ethnicity, and religion whose role in the research issue may not be readily apparent (Bhattacharjee, 2012; Kramer-Kile, 2012). The qualitative research method enables the researcher to accommodate people and understand their everyday life and 'why things are the way they are' in our social life, and 'why people act the ways they do'. Its main concerns relate to the interpretations associated with the social phenomena and social, cultural and behavioural factors of our daily lives (Hancock, 2002). As indicated in Figure 5.9, the qualitative approach has both strengths and weaknesses that may be experienced. The qualitative research provides a comprehensive perspective, through the identification of a set of variables and explicit and implicit principles and rules without any attempt to manipulate the situation under investigation. These aspects are crucial in the study of the home environment as long as the latter relates to non-determined or, in particular, non-measurable features. It concerns the understanding of the meaning people construct about their experiences and feelings of the world around as well as their social, cultural and behavioural interaction with surrounding contextual spaces (Hancock, 2002; Mason, 2002; Silverman, 2008). The simplest, but most functional definition was provided by Mason (2002) in his argument that qualitative research does not refer to ordinal values in its data.

In their investigation, several scholars and researchers in the field of the urban environment depend on various research strategies spanning from design and architectural methods to experimental, analytical strategies. The former can be noticed in the work of Groat and Wang (2002). They revealed seven examples of research strategies which can be used to inform the design process: historical, qualitative, experimental, co-relational, simulation, logical argumentation and case study and multi-method approaches. The latter type of research strategies combines architecture with social and cultural values as in the works of Rapoport (2005). Rapoport relies on or employs general issues, such as 'family', 'position of women', 'privacy', and 'social intercourse' and the '*genre de vie*' phrase in the understanding and investigation of how important these socio-cultural factors are in the traditional built environment.

### 5.5.2 Quantitative Approach

Quantitative methods emphasise “objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques” (Labaree, 2013: 60). The researcher thought that it would be best to follow and implement such a research methodology into the study and conducted a community survey to measure the satisfaction of community residents and users, and identify the opinions of different UAE resident communities and users, about their community urban planning provisions, open spaces and social activities, in addition to gauging participants’ opinion on the significance of having urban open space in cities and communities (see Figure 5.9). The researcher did not, however, use inferential statistics but used descriptive statistics to present tables and graphs, having calculated percentages and means as presented in Chapter 6.

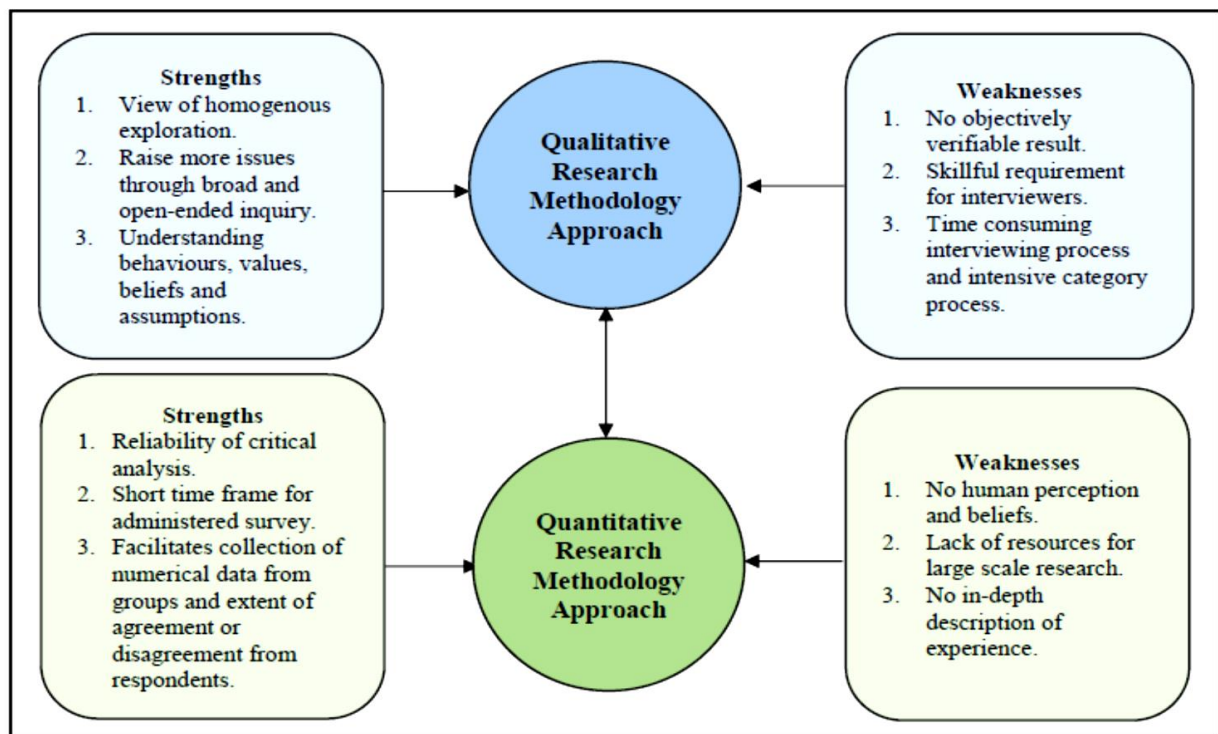


Figure 5.9: Strength and weaknesses of quantitative and qualitative methodologies

(Source: Choy, 2014)

### 5.5.3 The Mixed-Methods Approach

Combining the two research traditions helped strengthen the research findings as it allows the same issue to be investigated in greater depth. In terms of structure and process of this research, the qualitative method provides a perceptive view of social life, whereas the quantitative

method provides a statistical account. This combination enables the gap between macro and micro levels in the research to be filled.

This research draws on multiple methods in order to understand the social setting of investigation and intends to go beyond pure description to conduct an intensive analysis of the examined environment. Multiple methods have been widely used in social science for years (McNeill & Chapman, 2005). However, there are potential constraints in using several methods, as there is an immense amount of data produced. There is also the potential problem of ending with contradictory findings (McNeill & Chapman 2005). To avoid these problems, this research was conducted with a highly explicit focus on the interpretation of social reality.

As mentioned earlier, constructionism research fits somewhere between objectivism and subjectivism. Constructionists may require both qualitative and quantitative approaches to be implemented in order to understand social phenomena (Crotty, 1998). A combination of qualitative and quantitative approaches has thus been used to drive the empirical work. The combination of qualitative and quantitative approaches expanded the variety of methods used to gather data in order to answer the research questions. The approach used in both methods was executive and results were analysed under the umbrella of social constructionism.

## **5.6 METHODS OF DATA COLLECTION**

This section defines different methods adopted by the current research. A wide range of research methods exists, and it is important to choose the most appropriate one to gather the most relevant data (Bryman, 2008). This research involved a combination of various data collection methods: secondary data were obtained from reviewing literature and documents; while primary data were obtained from fieldwork on case studies (which included an urban design audit, development of an urban design inventory, visual assessment, observation and behaviour mapping), a questionnaire, structured interviews and focus group interviews. Since the research was embedded in social constructionism, the meaning of reality was socially generated by individuals and groups. Methods were therefore selected to determine the perceptions of either users or professionals.

The chosen data-gathering approach comprises multiple methods because different types of evidence are likely to yield various opinions about the topic and extend understanding (Bryman, 2008; Sommer & Sommer, 2002). These methods differ in their emphases, seeking to produce a range of findings which answer the research questions. The use of multiple

methods provides different lenses for potentially understanding and critical evaluating the findings. These methods are briefly described below. The multiple methods chosen to gather data are (see Figure 5.10):

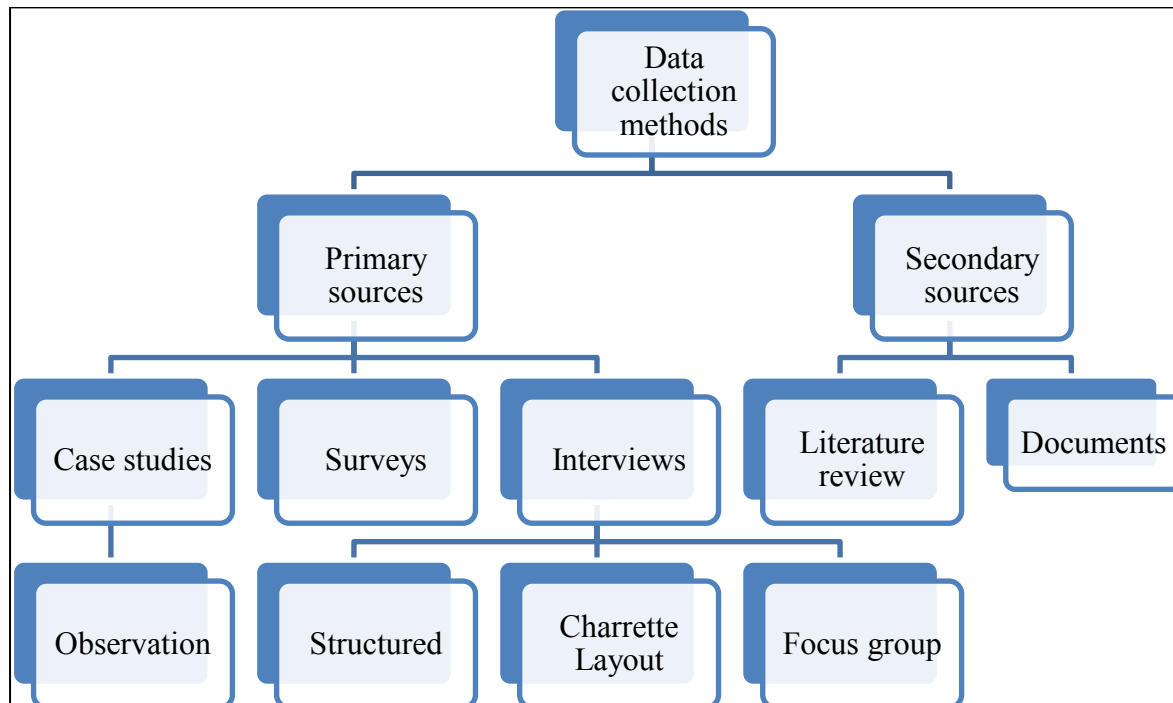


Figure 5.10: Data collection methods

Source: (Researcher's own)

### 5.6.1 Literature Review

To review historical, social, and spatial values of public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares, a literature review was undertaken (Objective 1). The literature review is considered an important part of the research process (Groat & Wang, 2002). A general and in-depth literature review was carried out throughout the research, constantly forming and expanding ideas and concepts. Figure 5.11 illustrates the relationship of the literature review to the overall research process. The researcher worked from two directions: the main question he was trying to answer and the audience who would receive the results. the researcher drew upon two bodies of literature in the literature review: urban planning and urban design. The arrows indicate the relationship between the literature and the various junctures of the research process. The research results relate to the literature by expanding it. The literature review is thus an ongoing activity.



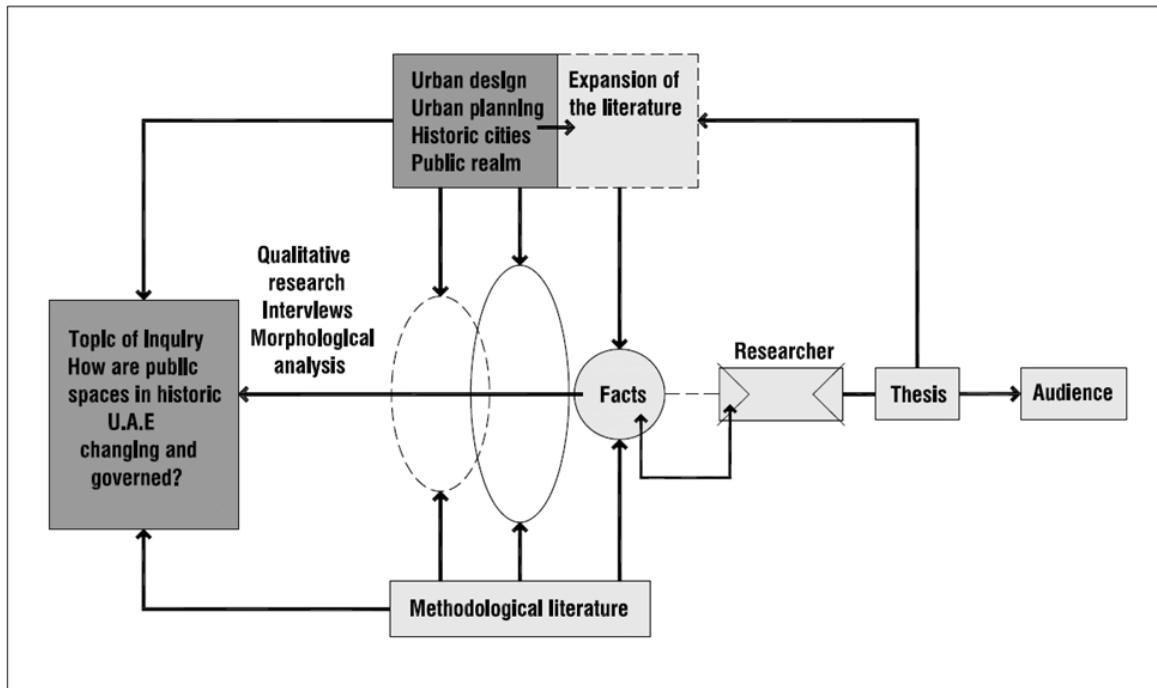


Figure 5.11: Relationship of literature review to the data collection strategy

Source: (adapted from Groat & Wang, 2002).

A combination of academic and professional literature was reviewed. Academic literature focused on urban planning, urban design, and social science research methods to determine concepts relevant to the regeneration of the public realm. A review of formal, informal, and recent relevant publications, journals, websites, online documents all focused mainly on open public spaces and drew on literature which was generated through the reports of development agencies such as CABE, PPS, UN-HABITAT and UNESCO. The focus of these resources was linked to the main aim of the research: the development process of public open spaces in Western and the Middle-Eastern cities.

In relation to the cases used in the survey, books and academic journals were the principal sources consulted. Some specific books and reports were obtained upon undertaking field trips in Dubai and Madrid. A more specific literature review addressing issues related to Dubai and the UAE context was also undertaken. This literature included urban development in the UAE and the history of the public realm, drawing mainly from Arabic sources consulted during the researcher's meetings with several urban planning departments in the UAE, as well as some books available in Abu Dhabi and Dubai municipalities and the National Library in Dubai.

### 5.6.2 Charrette Layouts/ Tool

To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents, a Charrette tool was designed (Objective 3). The term “Charrette” is a French word meaning ‘Little Cart’ and refers to architects and urban planners’ intense work before the meeting deadline. It is the preferred technique for consulting with research stakeholders. The Charrette process aims to build a series of feedback that cycle and foster a holistic understanding of complex problems by all participants, and forms the basis of a plan that reflects all viewpoints (Todd & Lindsey, 2016). Public places must be designed to feel safe and build social ties between community occupants (Francis, Giles-Corti, Wood & Knuiman, 2012). Haphazard community planning and random buildings setting discourage residents from building social ties (Nasar & Julian, 1995). To test people’s preference, a Charrette tool was prepared by the author on an A2 size coloured drawing, comprising four different options of community buildings distribution master plans which were presented to the interviewees (Figure 5.12). The four options differentiate in the dwelling buildings distribution, as follows:

- Option 1: Parallel buildings setting.
- Option 2: L-Shaped and linear buildings setting.
- Option 3: Framed buildings setting with a central urban square theme.
- Option 4: Two-directional buildings setting.

This tool (Figure 5.12) was designed by the researcher to test the preference of people if given a choice to select their living community.

- The four layout options were sent to the eight different groups by email.
- The layout was used in the face-to-face interviews.
- The layout was used in the focus groups sessions.

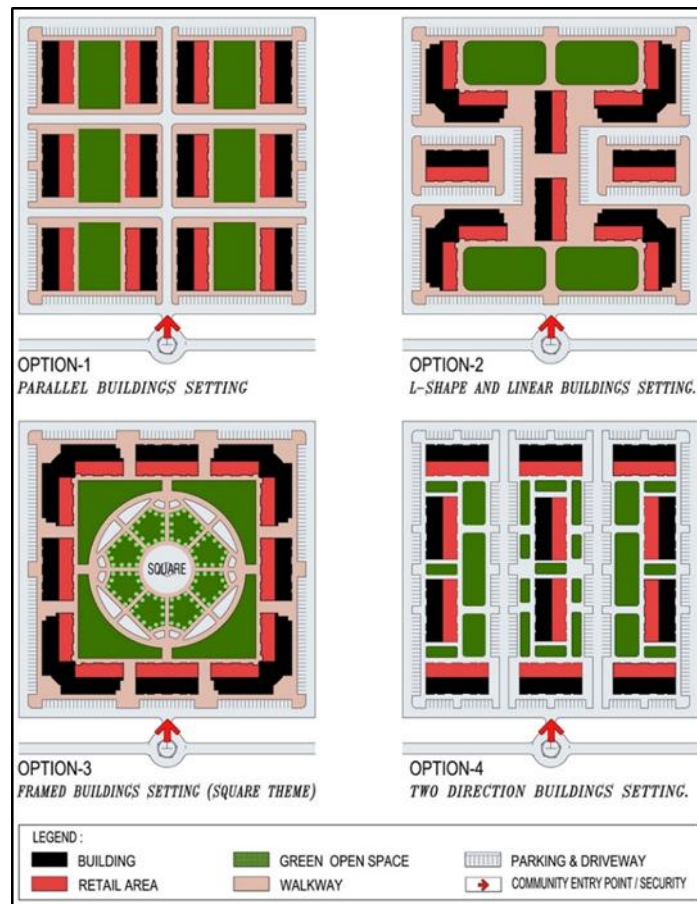


Figure 5.12: Charrette layout–master plan for different communities  
(Source: Researcher’s own)

The four master plan options are equivalent in terms of plot size, plot area and area. Retail outlets as indicated in red are distributed equally in areas, for all options.

The majority of participants interviewed were directly involved in two existing communities that include urban open squares. The first community is Uptown Mirdiff Dubai (UMD), and the second is Dubai Marina Walk (DMW). The interviews lasted, on average, from 30 to 45 minutes, were recorded, transcribed and then critically analysed.

### 5.6.3 Document Analysis

To establish a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE (Objective 4) and to develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities (Objective 5), the researcher need to depend on many sources and narratives to find out the reasons why urban design decision-makers do not generally consider including a public

open square in the city master plan. Documents, drawings and maps were collected by the researcher from different urban planning departments in the UAE. Archival material and current urban planning strategies were reviewed and discussed with four urban planning senior decision-makers. The purpose of meeting the decision-makers was to evaluate the extent to which the planning process and the design guidelines allow for public open spaces and squares in the community master plan.

These sources incorporated narratives and four decades of previous urban planning development in both Emirates, Abu Dhabi and Dubai. Different types of documents provided ideas, data and information relating to the phenomenon in question. In order to understand the relations between the social, cultural and spatial aspects of UAE society and the organisation of different social spaces for many of the neighbourhoods in different contexts of the UAE, it was necessary to provide a research strategy that covered the period stretching from 1970 until the present. This date was considered as it refers to a period of transition from a traditional society to a capitalist world market with the influences of Western ideas and culture.

Previously mentioned resources and other historical accounts were the main sources used to collect data or obtain information covering this period. Historical and archival records, photographs, old documents and letters were reviewed with respect to the spatial organisation of various urban plans. They were considered as important sources which could provide a background to the research questions (Peersman, 2014).

The documents were discussed with architects, planners, officials, decision-makers and socialists in terms of their social, cultural, behavioural and economic impact on the UAE urban planning process and its outcomes. This approach led the researcher to use comparative analysis to determine the positive and negative aspects of both traditional and contemporary contexts. The selection of contemporary case studies was based on the following principles: the cities were designed and constructed according to specific and detailed social, cultural and economic values and considerations, and for a specific class of society, mainly for those with limited income; and the traditional context provided important data and information in relation to the concept of urban public squares.

#### **5.6.4 Case Studies**

To investigate people's opinions of and preferences for urban squares and establish an understanding of users' needs and requirements (Objective 2), a case study approach was

adopted. This helped to answer the main research question and achieve the main aim of this investigation because it presents distinct advantages when (i) the study is focused on contemporary events in a context-specific situation, and (ii) the research aims to expand previously developed theories (Yin, 2013). Golledge and Stimson (1997:18) highlight that "...[it] has potential as a tool to help develop explanation, particularly through the use of repetitive case studies that confirm or refute verification of postulated explanatory factors". According to Bryman (1988), case studies allow the exploration of different populations and activities to determine data samples from specific locations. However, researchers argue that there is the extent to which the selected case study could represent the whole of the population is limited, and the question arises as to what extent the findings could be generalised. The generalisability of case studies is useful in terms of theoretical propositions rather than for the population or universal studies (Bryman, 1988).

A negative aspect of multiple case study design is that it is likely to require extensive resources and time (Yin, 2013). Nevertheless, since a multiple case-study design tends to be more robust than an in-depth single case study, it was the preferred study approach (Golledge & Stimson, 1997; Yin, 2013). The selection of the case study sites was based on their suitability in providing information for answering the main research question as well as achieving the main aim of this study. Thus, two urban public squares were chosen as the main unit of analysis for this research because this typology, by attracting a greater diversity and number of people than other urban open spaces, represents a potentially enlightening opportunity to explore how the most common human needs and preferences may be met by urban open spaces. In order to have a more precise definition of the main unit of analysis of the present research, this study adopted the following concept: "[Central] urban squares are public open spaces [located in the city centre] meant for leisure and social mingling, accessible to the population and free of vehicles" (Robba & Macedo, 2003 cited in Barros, 2010:51) in her study of central urban spaces in Madrid, Spain.

The preference for studying the status of urban squares within the UAE cities was the motivation by the researcher's ongoing efforts to design and develop outdoor public squares for new communities and cities in the UAE, as well as the researcher's aim to develop an urban strategy for transforming the existing public open spaces into pedestrian-friendly areas in order to generate more sustainable forms of urban living. Choosing a few specific cases was, therefore, more appropriate than using random samples (Flyvbjerg, 2004). The researcher considered UAE to be a critical case in the following sense: if the quality of public open spaces

was weak in UAE, they would most likely be weak anywhere else in the Middle-East region; as two main emirates of UAE, Abu Dhabi and Dubai are the political and economic hubs of UAE and the Arabian Gulf region, urban planning and design should be stronger there than anywhere else in the country. The research findings could, therefore, be generalised in UAE. However, a positive evaluation from the case study of Dubai spaces could not be generalised to UAE, as the presumption of weaknesses in UAE's spaces formed the starting point of this research. Flyvbjerg (2004) states that a strategic selection of even a single case study could firmly increase its generalisability. Despite the lack of samples, these spaces represent the quality of urban spaces that exist in Dubai in particular and UAE in general. By developing a more in-depth understanding of the meaning of the phenomenon in the chosen case studies, the findings could potentially be generalised to UAE and the Middle East. Four case studies were developed:

- *Case study 1:* Heriot-Watt University–Dubai campus (HWUD): this was a pilot study.
- *Case study 2:* Emaar Square Complex (ESC) in Burj Khalifa district, a commercial complex: this case study was used to test perceptions of people working in a place with a public square.
- *Case study 3:* Uptown Complex in Mirdiff district, residential and retail community with central circular public square.
- *Case study 4:* Dubai Marina Walk (DMW): A community with a public square.

The case studies were developed by means of surveys and face-to-face interviews involving four architects and an urban planner as shown in Table 5.2 below:

Table 5.2: Face-to-face interviews conducted involving four architects and an urban planner.

CATEGORY	GROUP	NO. OF INTERVIEWEES	POSITION
<b>CATEGORY - A</b>	<i>Group - 1 Residents and users of un-gated urban residential communities</i>	<b>15</b> Community Representatives	The selected interviewees were randomly chosen after their approval to conduct the face-to-face interview/meeting with them. They are all residents of three communities in Dubai International City, Dubai Silicon Oasis and Jumeirah Lake Towers.
	<i>Group - 2 Residents and users of gated urban community with urban Square</i>	<b>12</b> Community Representatives	The selected interviewees were randomly chosen after their approval to conduct the face-to-face interview/meeting with them. They are all residents of three communities in Uptown Mirdif, Jumeirah Beach Residence, The Walk in Dubai Marina and Baniyas Square.

CATEGORY	GROUP	NO. OF INTERVIEWEES	POSITION
	<i>Group - 3 Retailers and Shopkeepers</i>	<b>7</b> Retailers and Shopkeepers	* Three retailers/ shopkeepers running businesses in communities of Group 1. * Four retailers/shopkeepers running business in communities of Group 2
<b>CATEGORY - B</b>	<i>Group - 4 Architect, Landscape Architect and Urban Planners</i>	<b>18</b> Professionals	* Five urban planners from urban design consultants with long experience in the UAE. * Eight senior architects from Dubai Municipality and the Urban Planning Council in Abu Dhabi. * One senior landscape architect involved in designing three districts in Dubai. * Four architects and civil engineers from Society of Engineers (SOE) in Dubai, these interviewees have been involved in planning coordination with urban planners/consultants.
	<i>Group - 5 Developers and Private Sector Investors</i>	<b>8</b> Developers	* Eight property and community developers representatives from Emaar, Damac, Select Group, Danube, MAG, Nakheel and Meraas. Key participants in Community Development.
	<i>Group - 6 Real Estate Agents</i>	<b>6</b> Real Estate Agents	* Six real estate agents and facility management senior representatives involved in operating communities.
<b>CATEGORY - C</b>	<i>Group - 7 Civil Services Agents</i>	<b>2</b> Civil Service Agents	* One police officer involved in providing security and safety to one gated community in Dubai. * One civil defence officer who reports to Dubai Civil Defence Authority for safety aspect in different communities.
	<i>Group - 8 Officials and Government Decision Makers (Local Authorities, Municipalities and Planning Departments)</i>	<b>5</b> Officials and Government Policy & Decision Makers	* Two authorised policy-makers from Dubai Municipality and the Urban Planning Council in Abu Dhabi. * Three Senior Urban Planners who are decision makers in the Urban Planning process in Dubai Municipality and Abu Dhabi Urban Planning Council.

The purpose of the case studies was to test the level of satisfaction of people/ residents in different areas and the impact of the existence of a public square on their quality of life. This research, therefore, focused on explaining and identifying user preferences and needs in the public squares.

#### 5.6.4.1 Direct observation

The case studies were also derived by means of observation. The direct observation and experience of a specific phenomenon reveal the social and cultural settings which are interacted to articulate the spatial and physical features of the phenomenon. Written descriptions, video recordings, photographs and artefacts as well as documentation are many tools of this strategy in collecting information or observable data of a specific phenomenon (Hancock, 2002).

Practising this method in the traditional areas is based on recording data during the transition from the most public domain of that area to the privacy of the house. The focus on many social considerations such as privacy, social cohesion and solidarity, the sequential and hierarchical order of spaces and the actual use of each of them is very important in achieving the purpose of this method. The observation form used is appended as Appendix G.

Three old heritage community sites in the UAE (Al Shindagah, Al Bastakiya in Dubai, and Al Merraija in Sharjah, communities that were built between 1912–1958) were visited by the researcher during several trips. Those old communities include public squares which were vital outdoor areas for residents and community users to entertain, gather and socialise. From the end of the 1960s and after the discovery of oil, the UAE architecture and urban areas faced deterioration and neglect of the local architecture and the planning identity of the community. This was influenced by the contemporary architecture from the West.

These visits included observation of the flow of visitors, retail areas and walkability, during which the researcher took notes and photographs. An important part of the above site visits is the researchers' interviews with 12 elderly people aged between 70–80 years sitting on benches and in heritage cafés, who are still visiting these places on a daily basis and consider them as their primary home and the place of memories.



Figure 5.13: Heritage community sites in the UAE

Source: (Researcher's own)

#### 5.6.4.2 The selected case studies

The UAE cities and mainly Abu Dhabi and Dubai, public open spaces are a mixture of Middle–Eastern and Western-style, although there are very few of them. This research claims that there urban planning currently neglects the provision of public spaces and squares for newly-developed communities. Furthermore, the researcher argues that the quality in terms of the



liveability of existing public spaces is found wanting. A description of the selected case studies is provided below.

#### 5.6.4.2.1 Case Study 1: Heriot-Watt University (HWU)–Dubai Campus

The facility is a branch of the campus of HWU university in Dubai. The campus is located in the Dubai International Academic City, on a 31000 m<sup>2</sup> of land stretching, 226m x 144m. The planning and construction of the campus buildings were completed in two phases: the first phase of construction was the academic facilities, followed three years later by the construction of the student accommodation as the second phase. The current capacity of university branch campus is 4000 students. The campus comprises of six main blocks as shown in Figures 5.14 and 5.15.

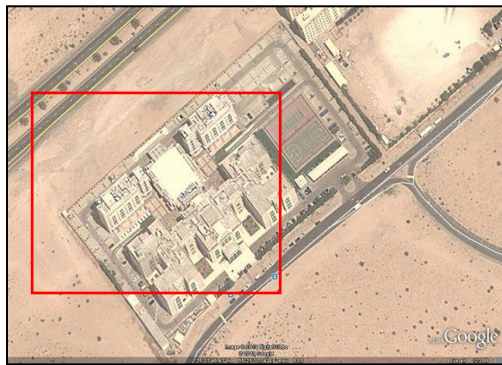


Figure 5.14: HWU Google aerial view  
Source: (Google Earth, n.d. (a))

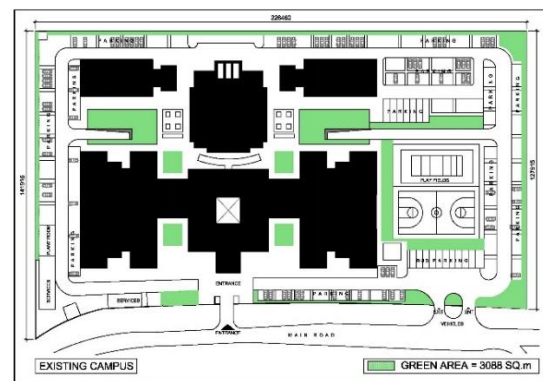


Figure 5.15: HWU existing master plan  
Source: (Researcher's own)

The six buildings are positioned closely together on the South-Western side of the campus plot, while the North-Eastern side is reserved for sports and a bus parking zone. The passages and walkways surrounding the buildings are stone pavements with small green areas integrated within the landscape. The campus phase 1 was handed over in 2011 and phase 2 in the year 2013. For the purpose of this study, a new planning proposal was developed for the university campus. Figure 5.16 reflects the rearrangements of the campus blocks plan, based on the central square concept, without any reduction or increase in the already built area.

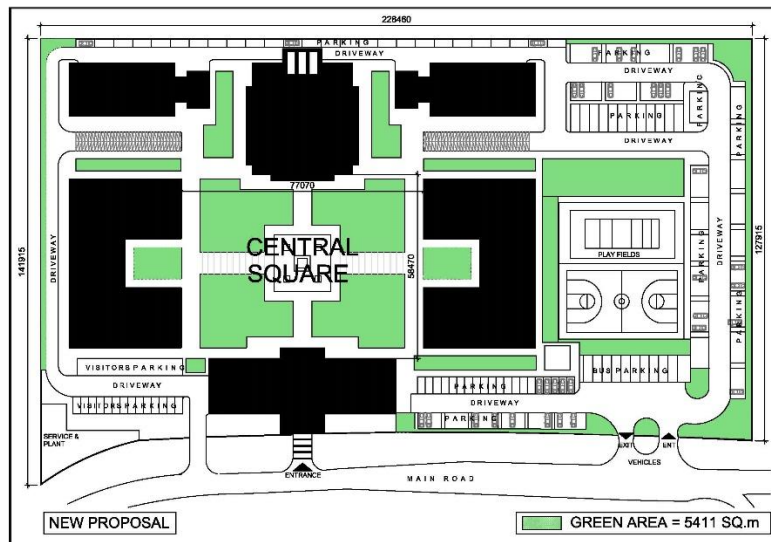


Figure 5.16: HWU new proposal with central square

Source: (Researcher's own)

An on-campus survey was conducted by the researcher in January 2014, in order to gather information on users' satisfaction with the existing facilities and their opinion on the new planning proposal of the campus. The survey aimed to provide information to analyse users' preferences. A total of  $n=48$  respondents completed the survey and offered suggestions for enhancing the general appearance of the campus. From the total sample,  $n=37$  of the respondents were students and  $n=11$  were staff and visitors. The majority of respondents identified similar topics and suggestions expressing the important role a central square can play in improving the learning environment and interaction between campus users. Appendix E summarises the profile of the participants in the on-campus survey.

The respondents were highly dissatisfied with the lack of green spaces, outdoor playing fields and places for events (see Figure 5.17). In addition, 65% were dissatisfied with the lack of shaded areas and the way in which the university walkways were designed. Students commented on the fact that not only outside social meeting areas were limited, but also that these areas had been reassigned to smokers, resulting in a polluted outdoor space.

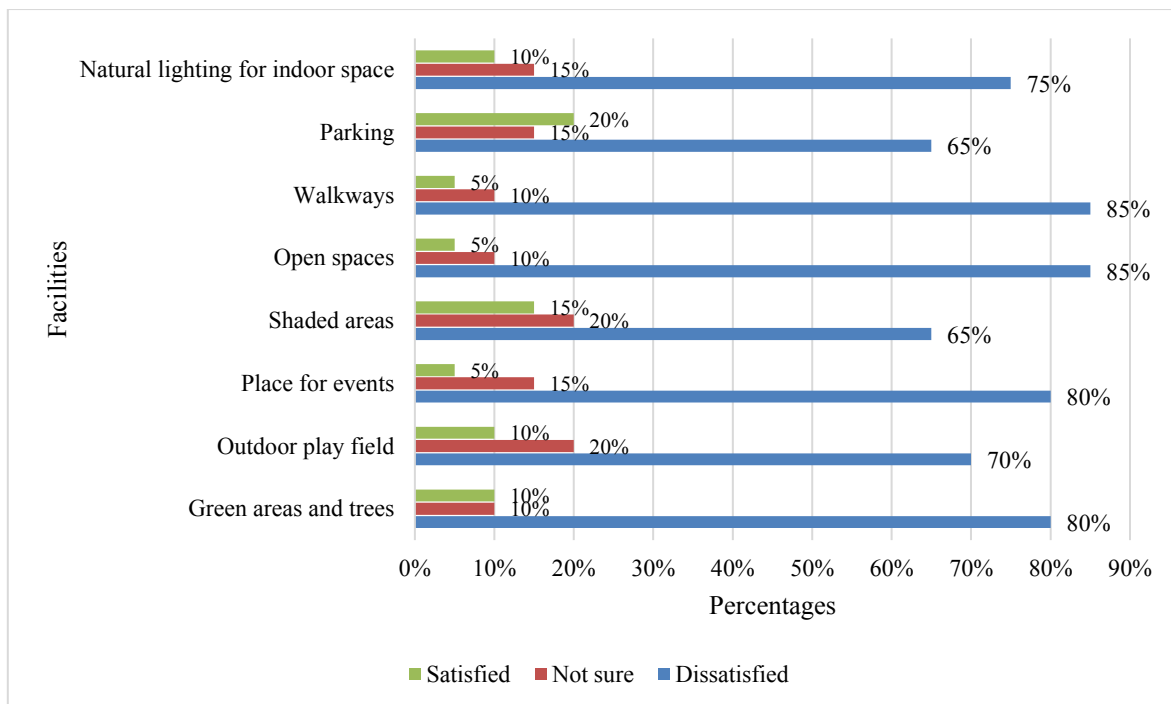


Figure 5.17: Users' average satisfaction on HWU campus facilities

Figure 5.18 shows the respondents' feedback on how their needs can be fulfilled. Out of a total sample of 48 respondents, 65% of them highlighted the significance of having a square as a central space and about 15% of respondents prefer to combine the landscaping zone as part of the central square while 60% of respondents highly recommended the outdoor zone for gathering and socialising. In addition, 15% of the respondents identified inefficient use of land and another 15% thought that the existing campus lacked proper landscaping.

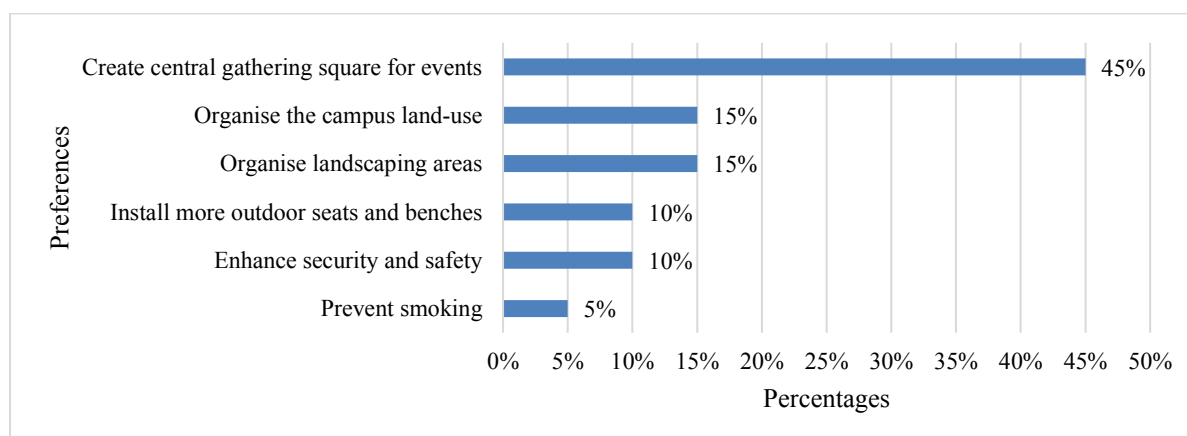


Figure 5.18: Percentage of respondents' needs

Figure 5.19 illustrates the respondents' perception of the positive impact a central square would have had on the students' learning environment.

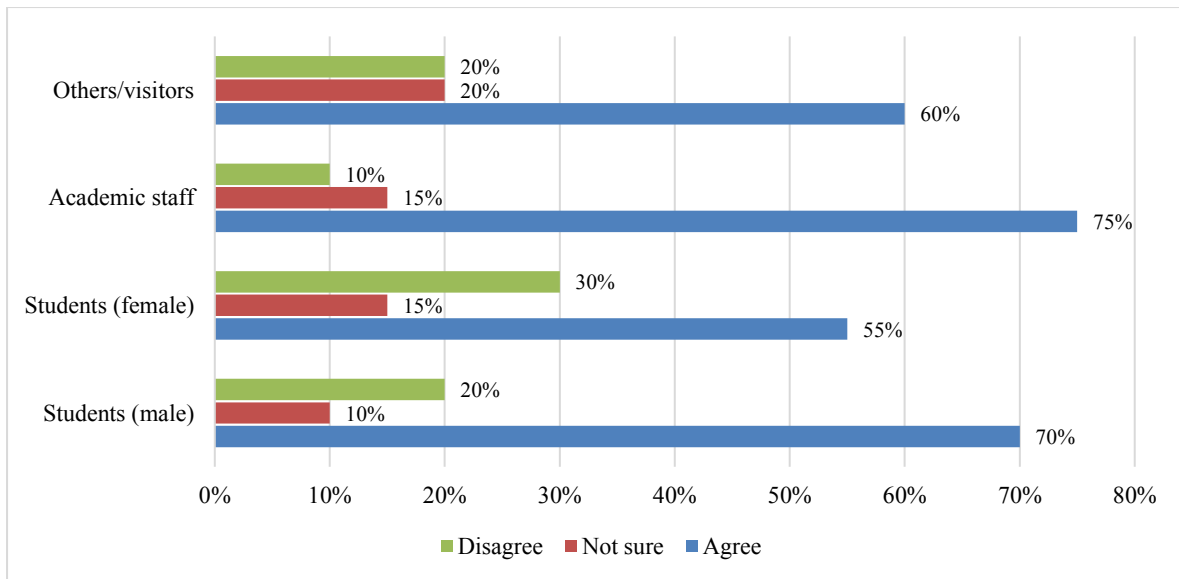


Figure 5.19: Opinions on the impact of a central square on teaching and learning

When it comes to having urban squares or plazas around campus, and the extent to which respondents found that it would improve their learning and teaching experience, 70% of male students, 55% of female students, 75% of staff and 60% of visitors were of the opinion that the presence of a square would be beneficial and improve the existing learning environment and ‘feel good’ factor among them.

The above findings are not inconsistent with the professional observation made by one of the researchers, an architect and urban design expert with over 30 years’ experience in the UAE and GCC countries. It is obvious that the existing plan of the university campus does not facilitate visual connection to many parts of the campus. Furthermore, the outdoor areas of the campus are not inviting; the landscaping is both harsh and sparse with minimal, scattered, green areas that do not complement adjacent buildings. The use of open space is also deemed wasted. There is a no central open space. Many offices and lecture rooms face other buildings resulting in insufficient natural lighting to indoor areas. There is also a lack of proper outdoor zones for the students and faculty for reading and study, as there is a lack of seating. Most of the above anomalies stem from the absence of the concept of a plaza or campus square, which as explained previously in literature review chapters, is a feature that promotes solutions and encourages outdoor interaction between campus users.

#### 5.6.4.2.2 Case Study 2: Emaar Square Complex (ESC)–Burj Khalifa Area–Dubai

ESC is a twin commercial and business centre found beside Burj Khalifa. It is an example of a central square surrounded by three office buildings which comprise of six levels each. The leasable area is fully occupied annually. The square is used as a liveable space for the staff who work there as they gather for lunch and short business meetings in the outlets linked to the square. In addition, visitors and the public access the offices building through the central square that connected to the lobbies with the staff lifts. The soft and hardscape environments create substantial interactions between the square and its users (Figures 5.20 & 5.21).



Figure 5.20: Emaar Square aerial view  
Source: (Google Earth, n.d. (b))

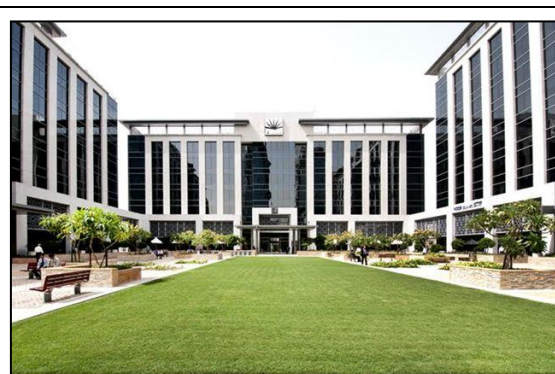


Figure 5.21: Emaar central public square  
Source: (Researcher's own)

Information on this case study was gathered in the period of December 2013 to April 2014. The objective was to assess ESC users' level of experience and their levels of satisfaction pertaining to having a central square space overlooked by the three office blocks and their associated facilities. A survey was designed to investigate users' perceptions followed by structured interviews to evaluate the opinions of square space provision by professionals. The survey consisted of the following questions:

- How far has the ESC Central Square improved employee productivity?
- To what extent do users feel that the ESC Central Square creates social interaction?
- What makes ESC Central Square a point of attraction?

The ESC Central Square is designed to accommodate social interaction spaces, and invite and attract the urban community of Burj Khalifa area. Water features and comfort are highly appreciated in the urban setting of the square.

ESC Central Square is primarily seen as a place used for relaxation, sitting, meeting and time off for employees and visitors, rather than just being a place to walk through. The quality of this square can be assessed by the number of people that frequently visit and enjoy this space.

A two-day survey was conducted at different times of the day to gather people’s opinions and their overall feedback and satisfaction of the existence of this square and the extent to which different people felt that the square had influenced their business environment and their quality of life. Over 35 respondents completed the survey and offered their feedback.

Figure 5.22 shows the high level of satisfaction the staff, employees, clients and visitors had with regard to the impact the Emaar Central Square had on their business environment. Although 6% said that the square was not an important addition to the environment and 10% were not sure, 84% of the respondents were very positive about the value the square added to their business environment.

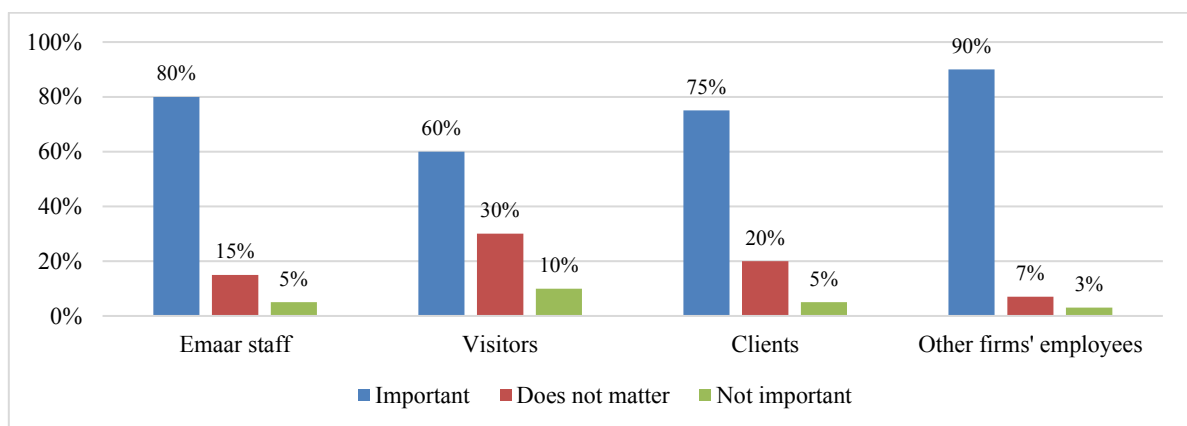


Figure 5.22: The impact of Emaar Central Square on users’ business environment

#### 5.6.4.2.3 Case Study 3: Uptown Mirdiff: community with central square/plaza

Uptown Mirdiff Dubai (UPMD) is a mixed-use community developed by Union Properties as one of the leading community developers in the UAE. This community is set in the east of the Mirdiff district, and was planned as the first open-air shopping centre and residential community with a central open public space/ square, built in the heart of one of Dubai’s most tranquil locations. Architecturally designed as an ancient theme town, the UPMD development has a variety of residential dwelling units, play areas and recreation facilities nestled within landscaped gardens and public parks. Superbly appointed townhouses, stylish row houses and five distinct apartment styles are planned around a circular plaza, the centrepiece of the

community. UPMD is a delightful, secure, family-living environment. The circular plaza is a strong form space, which dominates the urban setting of the community. It contains the shops and is the main gathering and events zone of the community.



Figure 5.23a: Uptown Mirdif Central public square

Source (Mitula, n.d.)



Figure 5.23b: Uptown Mirdif square activities

Source: (Better Homes Properties, 2017.)

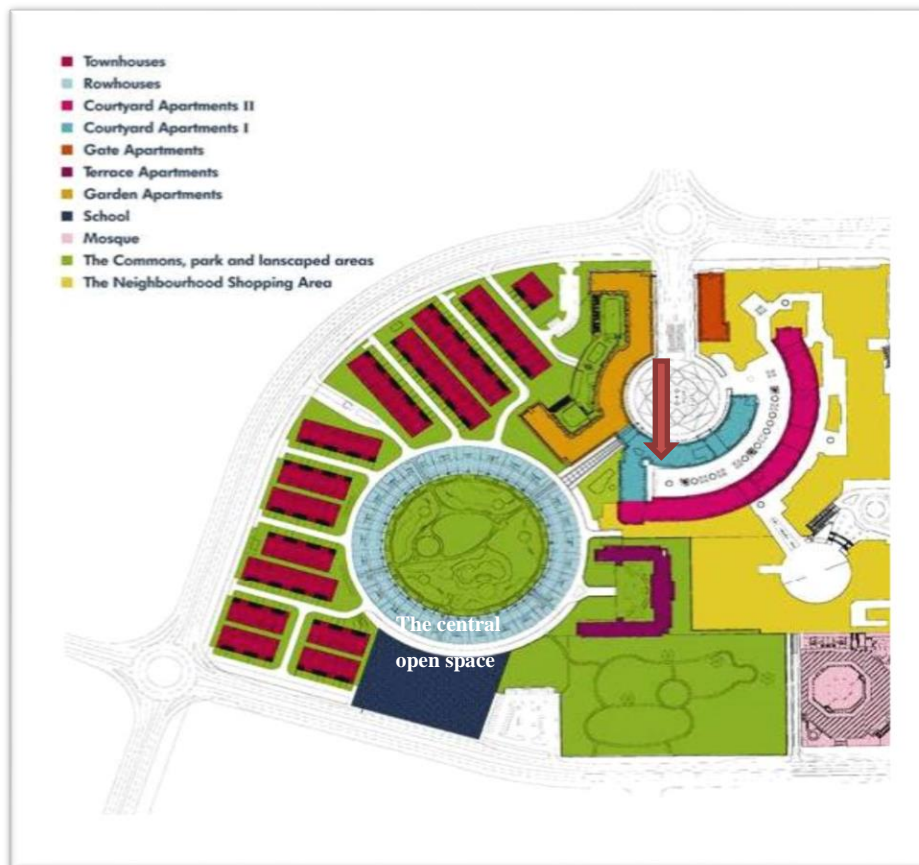


Figure 5.23c: Uptown Mirdiff Community master plan–Dubai–UAE

Source: (Lookup.ae, 2017)

There are over 100 outlets in 37,161m<sup>2</sup> net usable space, managed and leased by the developer. The outlets are closely integrated with the residential apartments as part of the low-rise buildings that are a feature of the development, with a dedicated underground parking garage for 1,700 cars and loading/unloading bays. A walk through the passageways leading to the square introduces a small-town shopping environment. UPMD is one of the first developments that offered outdoor square in Dubai.

#### *5.6.4.2.4 Case Study 4: Dubai Marina Walk (DMW): District with Public Square*

Dubai Marina is an artificial canal district in Dubai, built on 4 km<sup>2</sup> along a 3 km stretch of Arabian Gulf shoreline (Figure 5.24). It is located on Interchange 5 between Jebel Ali Airport and the area which hosts Dubai internet city, Dubai media city, and the American University in Dubai. The entire development was established in 2003 to accommodate more than 120,000 people in residential towers, villas and townhouses units. There is a large central waterway canal, excavated from the desert and 36 km in length. More than 12% of the total land area has been given over to the central district zone of so-called public space. Dubai Marina is entirely man-made and has been developed by Emaar Properties. The overall marina district is not limited only to residential development, but includes a variety of shops, department stores, cafes and dining outlets. The JBR is a 1.7 km strip facing the waterfront which was developed to accommodate 16,000 people; it is the largest single-phase residential development in the world and contains more than 40 residential blocks and hotels towers comprising 7,000 apartments. Recently Emaar Properties developed a public square in the JBR walk area which has become the focal point of residents' entertainment and a public spot for tourists.



Figure 5.24: Dubai Marina District aerial view

Source: (Sands, 2014)



#### 5.6.4.3 Existing urban planning features

The researcher undertook an in-depth review of the marina district master plan and conducted site visits to explore the urban spaces and their impact on residents and users' daily life. He identified several fundamental deficiencies in how the marina district was developed and how the urban planning lacked the necessary urban outdoor zones to cover the district. The main outdoor gathering spaces are located on the JBR side, leaving the community on Sheik Zayed road isolated with no outdoor spaces for social interaction. The following observations are pertinent to the negative impact the current development has on the social structure in Dubai Marina.

- Lack of public squares and plazas for people to socialise and gather, in particularly the Sheik Zayed Road community where many people live. They need to use pavements along busy roads to walk to the beach. Some interviewed residents expressed annoyance about the poor urban planning in the overall marina district, in particular, setting the building close together without considering families' need for gathering spaces and squares. A few residents expressed their appreciation of the urban development of the marina but criticised the exaggerated area of water introduced into the plan which did not then cater for squares and public gathering zones.
- Open spaces and green areas form only 3.5% of the total land use, negatively impacting on people's social interaction with their liveable place.
- A key issue for residents is the road network which affects the quality of the environment and has become a crossroad to the open spaces in the JBR area. The traffic and congested roads are rapidly causing unacceptable levels of noise and a weakened sense of community throughout the marina district.
- The waterway canal from the sea has divided the district into two community zones, connected by vehicle bridges which restrict pedestrian movements, making it inconvenient to move freely.
- The collection of retail and shopping outlets at the Jumeirah Beach Residence district (JBR) side is a source of complaints from residents on the Sheik Zayed road because of a shortage of food and beverage outlets. Such inadequate shopping and dining outlets force residents to take the long walk to the JBR beach area. Face-to-face interviews with residents and retail outlets users found that local residents felt that the marina district was not prettier, more comfortable or safer than it was 5 years ago. Local people expressed awareness that

squares comprising retail, food and beverage outlets would attract families and visitors to socialise, interact, and would be the best way to improve accessibility to the pedestrianised area.

- A survey questionnaire was circulated to 57 retailers occupying ground and first floor shops and outlets at both sides of the marina; 83% of the retailers located in the walk zone of JBR stated that their business had substantially improved after the development of the JBR beach square which is the only square in the overall marina district development; 73% of retailers on the Sheik Zayed road stated that their businesses lacked customers, and their location on the road network reduced customer accessibility to their business.

### **5.6.5 Focus Group Interviews**

To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents (Objective 2), focus groups were arranged. Using focus groups is a qualitative method for collecting data by inviting several participants in face-to-face meetings to discuss a research topic of mutual interest to themselves and the researcher (Morgan & Spanish, 1984). The planning for a focus group method includes a number of decisions that will assist in gathering data and conclude research findings (Morgan, 1997). According to Freitas, Oliveira, Jenkis, and Popjoy (1998), focus groups or in-depth interviews are a tool to collect reliable, valid data for a study. Furthermore, focus groups are used to provide supportive evidence for feedback, arguments, and outcomes from the other data collection tools. In this research, focus group sessions were structured in four parts:

- Presentation of the differences between gated and ungated communities in terms of open spaces and public areas.
- Comparison between different case studies in Dubai and the impact of public square availability in the community social life and people's interaction.
- The Charrette tool designed by the researcher to extract opinions and recommendations.
- Recommendation and conclusion chart distributed to stakeholders and urban actors to summarise and conclude the discussion by accepting/ or amending the findings.



Figure 5.25: The author in a focus group session

Source: (Researcher's own)

The challenge with the focus group tool was the difficulty of encouraging different urban actors to sit around one table and express opinions, discuss ideas and points of view without creating embarrassment by the presence of others (Ritchie & Lewis, 2003).

Twenty-six stakeholder and urban actors participated in four focus groups: five in Emaar Square complex (ESC), six in Uptown Mirdiff in Dubai (UPMD) community, seven in Dubai Marina Walk (DMW) and eight in International City Phase 3 (ICP 3). All focus groups included different participants such as local residents, shopkeepers, security officers, developers, urban planners and authority decision makers. The focus group participants are described in Table 5.3 below.

Table 5.3: Focus group participants

Focus Groups with Research Participants				
Area	Emaar Square Complex (ESC)	Uptown Mirdif Dubai (UPMD)	Dubai Marina Walk (DMW)	International City - Phase 3 (ICP3)
Number of participants	5 participants	6 participants	7 participants	8 participants
Code used by the researcher	A	B	C	D
Participant's role / Responsibility	A1: Local Employee	B1: Resident	C1: Resident	D1: Resident
	A2: Security Officer	B2: Retailer	C2: Retailer	D2: Architect
	A3: Private Developer	B3: Local employee	C3: Visitor	D3: Urban Planner
	A4: Architect	B4: Security Officer	C4: Urban Planner	D4: Dubai Municipality Senior Director
	A5: Senior Urban Planner	B5: Visitor	C5: Private Developer	D5: Dubai Municipality Senior Planner
		B6: Community Operations Manager	C6: Security Officer	D6: Retailer
			C7: Police officer	D7: Private Developer
				D8: Real Estate Representative

The researcher used codes for participants in order to maintain confidentiality. For example, as shown in Table 5.4, capital letter stands for the case study location, such as A for Emaar Square Complex (ESC), B for Uptown Mirdiff Dubai (UPMD), C for Dubai Marina Walk (DMW), and finally D for International City Phase 3 (ICP3). The number used next to the capital letter is for the participant. The focus group interview transcripts are appended as Appendix H.

In order to conclude this section, different types of data collection methods were selected to meet the research objectives and answer its main question. Data collection tools were designed to evaluate the liveability of the environment in communities with or without public squares.

## 5.6.6 Survey

### 5.6.6.1 Questionnaires derived from the case studies

The research questions in addressing objectives 2-4 were to evaluate the liveability of the selected case study spaces from a user's perspective. A questionnaire method was chosen for the empirical work to evaluate the liveability of the spaces from the perspective of their users. Furthermore, it was the most appropriate way of obtaining a representative sample of the

population (Bryman, 2012). Since the data collection targeted users in the space, the intention was to create random sampling and, due to time limitation of fieldwork, the questionnaire was administered one-on-one. A questionnaire was designed to obtain a comprehensive understanding of the users' perspective of the place, using straightforward closed questions.

The questionnaire consisted of questions that were connected within the social and cultural dimensions. Questions covered their visit, their assessment of factors related to the liveability of the space and their demographic details (age, gender and nationality). Participants were randomly selected by approaching every fifth person entering the space. To make this possible and accelerate the work, this part of the research was done by the researcher with help from four architects who had been working with him in an architectural and urban planning consultancy firm in Dubai since 2008. The surveys were conducted in two public squares in the Emirate of Dubai. The first round of the process took place in the “Dubai Uptown Mirdiff Community Square” between mid of May to end of June 2014, and the second round was conducted in the Dubai Marina “the walk square” at the JBR area. In both public squares, the communication problem appeared to be a problem, with many of the space users being female family members, who had limited command of Arabic or English, as discussed later in this chapter.

#### 5.6.6.2 Conducting the survey

During the process of obtaining quantitative data, an instrument consisting of open and closed questions was created by the researcher and his fieldwork team. All trained interviewers were told to dress neatly and carry clipboards that would convey the research purposes at a glance (see Figure 5.26). All the research assistants were trained to ask the set of questions in the same order and manner and were instructed to read twice over any question of interest in case of doubts or misunderstandings.

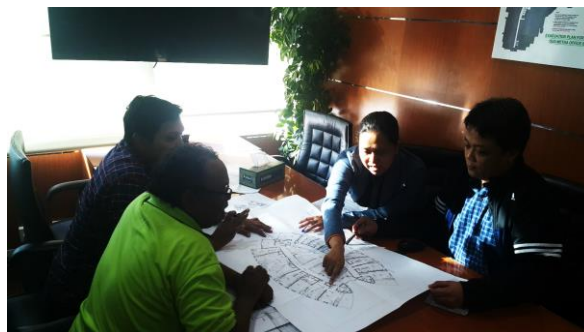


Figure 5.26: A team of trained interviewers in a session.

Source: (Researcher's own)

As part of the standardised procedure, the research assistants involved in conducting the survey process consisted of three architects and one urban planner. They all agreed to: (i) introduce themselves to the survey participants; (ii) explain to the participants the purpose of the research; (iii) ensure that the participants' rights and welfare, such as confidentiality and anonymity, were protected; and (iv) hand out to all those who agreed to participate, an information sheet and a consent form which they were asked to complete (Appendix A).

On completion, the research assistants were instructed to express appreciation for the person's time and effort. The recording of information gathered in situ was mostly guided by how it would be used. All answers to open-ended 'what' and 'why' questions were handwritten verbatim as far as possible to speed up the task of classifying the answers into fixed categories. If the respondent's replies were recorded exactly as spoken, irrelevant information, such as requests for more information and so on, would potentially be avoided.

Different coloured pens were used to relate 'attributive data' to 'locational data' assembled from the users' cognitive maps. More specifically, for those questions for which there was a defined range of five possible responses, a colour was associated with each of them: green was the colour connected to the first answer, blue was connected to the second, red to the third, and yellow to the fourth.

For example, supposing that the following range of four attributive data - 'gazebo', 'bench', 'coffee shop', and 'fountain side' - were given to the question: 'What is your favorite place that you frequently visit in the urban square in a weekday between 10 and 16 o'clock?' According to the procedure defined, the locational data gathered through the answering of the question: 'Where do you usually sit in the public square?' would be graphically registered with a blue pen on the map attached. The answer to the question 'Where do you usually meet friends in this urban square?' would be pictured with a red pen, and so forth.

The sketch maps produced by the research assistants on an outline map attached to the questionnaire were supplemented by handwritten information identifying all fixed and semi-fixed elements drawn. The procedure adopted consisted of (i) asking the question "what is it?" whenever a respondent drew a feature, and (ii) recording the answer on an attached paper sheet (see Figure 5.27). This strategy was pursued to (i) avoid misinterpretations of the elements pictured in the sketches, (ii) record the sequence in which the fixed and semi-fixed elements were drawn, and (iii) speed up the coding process, which focused largely on the handwritten material.



Figure 5.27: The research assistants recording questionnaire responses

Source: (By researcher)

#### 5.6.6.3 Sampling

Because the research was largely qualitative in nature, the samples were purposefully selected (Palinkas, Horwitz, Green, Wisdom, Duan & Hoagwood, 2015). This involved identifying groups of individuals that were especially knowledgeable about or experienced with the phenomenon of interest (Creswell & Plano Clark, 2011), in this instance, those who would have knowledge of living or working in communities with or without access to an open public square. This is also referred to as criterion sampling (Suri, 2011) which excludes other individuals from the sample, since they would be unlikely to have the information required to answer the questions. The selection criteria for the samples were thus that the participants should be:

- living within a gated or ungated community in Dubai; or
- working in some capacity within such communities (e.g. retailers, developers, decision-makers, or security personnel).

The samples were calculated using the formula for large populations as recommended by Cochran (1963:75) and are shown in Table 5.4.

Table 5.4: Description of survey participant groups and samples

Category and Group	Description	Size of Population	Survey participants invited	Responses received	Response rate	Suggested sample size
<b>Category A: Community end-users</b>						
<i>GROUP 1</i>	Residents and users of un-gated open urban residential communities.	2500	1238	550	44.50%	294 e=5%
<i>GROUP 2</i>	Residents and users of gated community with public square	100	48	22	45.80%	43 e=5%
<i>GROUP 3</i>	Retailers and shopkeepers	60	28	11	39.30%	27 e=5%
<b>Category B: Community developers</b>						
<i>GROUP 4</i>	Architects, urban planners, landscape architects and other built environment professionals.	460	337	138	41%	180 e=5%
<i>GROUP 5</i>	Property developers	145	95	54	56.80%	77 e=5%
<i>GROUP 6</i>	Real estate agents	130	83	48	57.80%	69 e=5%
<b>Category C: Community Regulatory Authority</b>						
<i>GROUP 7</i>	Police and security agents	80	49	36	73.40%	44 e=5%
<i>GROUP 8</i>	Officials and decision makers	110	54	42	77.70%	48 e=5%

In summary, 1932 residents, users, retailer, professionals and decision-makers participated in the survey. This reasonably reflects the total residential population (with a degree of error of around 5%). The response rates ranged from 39.3% to 77.7%. Although “there is no scientifically proven minimally acceptable response rate” (Johanson & Wislar, 2012:1805), Babbie (2009) states that a 50% response rate is acceptable for the results of a survey to be reliable. Thus, given the large size of the samples and an average response rate of 58.5%, the response rate can be regarded as adequate.



#### 5.6.6.4 Survey development

This section discusses the process, development and application of the survey method for assessing the impact of urban public squares on social interaction and social cohesion on a broad scale in different communities and urban areas dominated by high-density and privately-owned, medium-sized housing. A questionnaire was designed and distributed to eight different groups/actors representing three categories (Community end-users, community developers and regulatory authorities).

The full survey and the results of which are presented in this section were developed by the researcher in cooperation with three architects and one urban planner from the same urban planning and architectural firm. The survey team reviewed the initial draft to determine whether any of the survey questions should be adjusted, removed or shortened. It was possible to remove some questions because the key measures that they were addressing were already measured by other questions in the survey. The survey questions were distributed to all groups via electronic/online communications such as email, Facebook page and Twitter. However, paper copies were also distributed to few families who did not have access to online communication. The above results do not account for those participants who completed the survey on paper.

A survey of 169 questions was designed, divided and distributed manually and via an online survey platform (SurveyMonkey). The email address of each participant was taken from the researcher's company server which was sorted into different professions and qualifications. The questions were split into eight separate questionnaires and distributed to the different groups as detailed in Table 5.3, representing local residents, visitors and key stakeholders in order to identify different opinions, potential improvements and to gauge participants' support for the significance of public square in the UAE communities.

The questionnaire was structured as follows:

Objective 2: To investigate people's opinions and preferences towards the urban square phenomenon and establish an understanding of users' needs and requirements.

The questions that addressed this objective were as follows: (Appendix B):

Category	A: Group 1	A: Group 2	A: Group 3
Description	Ungated community	Gated community	Shopkeepers/ retailers
Demographic questions	1-7	1-6	1-4
Likert-scale questions to gauge opinions	Q8-42	Q7-21 and 27	5-14

Objective 3: To determine the properties and attributes of public squares that would enhance physical and social integration between functional and urban residents.

The questions that addressed this objective were as follows: (Appendix B):

Category	A: Group 1	A: Group 2	A: Group 3
Description	Ungated community	Gated community	Shopkeepers/ retailers
Likert-scale questions to gauge opinions	Q43-45	Q22-26	15-18

Objective 4: To identify a strategy for developing and planning vital liveable urban squares for the cities of the UAE to achieve environmental sustainability.

The questions that addressed this objective were as follows: (Appendix B):

Category	B: Group 4	B: Group 5	B: Group 6	C: Group 7	C: Group 8
Description	Architects, Urban Planners and Landscapers	Developers	Real Estate Agents	Security personnel	Officials and decision-makers
Demographic questions	1-6	1-4	1-3	1-3	1-7
Likert-scale questions to gauge opinions	7-16	5-19	4-12	4-10	8-11

This research investigated the impact of introducing a public open space into an already existing design plan to determine the role it could play in transforming the demography of a community, its social life and how it can enhance the liveable environments where the public interact. to eight different community user groups which formed category A, B and C of the research study (Appendix B).

#### 5.6.6.4.1 Category A

This category represents three different groups of stakeholders. Group 1 refers to residents and users of un-gated open urban residential communities, Group 2 refers to residents and users of a gated community with a public square, and Group 3 refers to different types of retailers and shopkeepers' outlets located in both groups 1 and group 2 (see Table 5.2).

- Group 1: The questionnaire comprised 48 questions. The questionnaire was emailed via a Survey Monkey link to 550 residents and household members. The email address of each participant was saved in the server of the researcher's company address book.
- Group 2: 25 questions were designed, and hard copies were distributed via the gated community facility management team to 48 residents/ occupants and users namely, UPMD

and DMW. The two communities were selected because they are the only communities with central, public squares in Dubai if not all UAE. The questionnaires were completed by the residents and space users in both locations.

- Group 3: The questionnaire comprised 20 questions devised for 28 retailers and merchants who are key stakeholders in the community development and prime economic actors in sustainable cities and their communities. It was difficult to collect data via internet/ emails from this group; therefore, the researcher did a manual collection of data with them by engaging a group of four persons to assist in collecting answers and feedback from retailers concerning their business in communities with/ or without an urban square.

#### *5.6.6.4.2 Category B*

This category comprised architects, urban planners, landscape architects and other built environment professionals; property developers; and real estate agents.

- Group 4: The questionnaire was sent in the middle of May 2015 to 110 of the most active architectural practices and construction firms dealing with residential architecture as those professions play a significant role in community design and development. These firms were selected from the record of UAE Society of Engineers (SOE). The questionnaire comprised 17 questions and was distributed through the use of the internet. The aim of the questionnaire was threefold: firstly to understand the level of awareness and level of implementation of sustainability policies and practices among built environment professionals during the design stages of residential communities that comply with people's needs; secondly, to understand possible reasons for willingness or resistance to including urban square within the community master plan for future sustainable cities and communities in UAE; thirdly, to collect thoughts and opinions about the possibility of improving conditions of existing communities in order to satisfy residents and users.
- Group 5: 20 questions were distributed to 95 property developers (Shihab, 2001), as they are one of the key pillars in the community development and construction sector.
- Group 6: 25 questions were devised for 83 real estate agents as this group is a pivotal actor in the relationship between developers, people, investors and designers. The aim of distributing the survey to this important category was to collect comprehensive feedback from their perspective on the need for public, open squares or plazas.

#### 5.6.6.4.3 Category C

This category comprised police and security representatives and government officials and decision-makers.

*Group 7:* 15 questions were distributed to police and security representatives. The aim of involving police and security representatives in the survey was to collect data on the impact of developing urban squares for the new sustainable UAE cities on the behaviours and attitudes of residents and users, comparing that with un-gated communities without proper social gathering spaces/ squares.

*Group 8:* 25 questions were distributed to a sample of 54 government officials and decision-makers. This group is the most vital actor for the research because the municipality or planning department of any local government plays an essential role in the development process and permission to design and develop communities and cities.

In all cases, the questionnaires were supported by presenting a Charrette tool drawing indicating four options of different community master plans, in order to test and evaluate the preferred concept of future developed communities in UAE.

#### 5.6.6.5 Limitations of the survey

Data from the survey was collected on three main areas; demography of users, their living and their frequency activities evaluation of the design and planning of the community. Limitations in communication, however, meant that the researcher could not use the survey with some expatriate families. The data collected also gave an insight into the reasons why the square is vital urban part of the community body.

### 5.6.7 Structured Interviews

The fourth objective of the research was to determine the properties and attributes of a public square that would enhance the social interaction between community residents and users. This matter could not be achieved without conducting a site survey in some communities to observe and meet users for in-depth dialogue. The research interview is a social dialogue and interaction between two people, the interviewer who initiates and controls the conversation with the other, and the respondent, for obtaining information bearing on predetermined objectives (Zohrabi, 2013). The interview schedule was designed by the researcher to determine the properties and attributes of the open public spaces, in particular, public squares and their effectiveness in

providing liveable communities in the UAE cities. In addition, the researcher's intention was to meet urban planning and architecture professionals, community representatives, and the regulatory decision-makers so that they could answer a set of questions about their perceptions of issues related to the properties and attributes of their communities' open spaces and whether liveability would be improved if public squares were provided and developed as part of the UAE's master plan for new developments.

The questions were designed to highlight specific properties and attributes of public open spaces in the UAE community from historical, contemporary development, economic value, environmental value, social value, and urban planning and design practice, ending with general recommendations (see Appendix B). Questions were designed as open-ended without exceeding the interview time for more than 45 minutes. Most of the meetings were arranged in advance, especially those with the urban planning professionals, heads of government departments and planning decision-makers. The researcher sent a letter to all interviewees to assure them that the meetings were purely for academic research purposes and that confidentiality and anonymity would be maintained.

Interviewees included the group in charge of the urban design sector, such as architects, urban planners, policy-makers and urban planning officials and decision-makers. Six interviews were audio-recorded, which made it easier for the researcher to transcribe and capture information and details later, as recording interviews helps to correct limitations and allows a thorough examination of the answers (Zohrabi, 2013). According to Gerson and Horowitz (2002), some portions of qualitative interviews are not always very useful and in some cases not relevant to the research topic; therefore, the researcher may need to go back to the recordings to find something that only emerges as significant in later stages of the analysis. The interviews concentrated on how important the open public spaces were and whether people used the public open spaces, their perceptions on having a public square within their community and its impact on social life. The interview sheet is appended as Appendix F.

## **5.7 DATA ANALYSIS**

Sorting and classifying data for the purpose of building interpretations and explanations (Mason, 2002) are the following goals of the research. This can help in focusing on and organising the collected information for further investigation and analysis. It supports and enriches the theoretical part of the study (Yin, 2013). Collected data and information were categorised and analysed in order to clarify the social, cultural and the everyday practice of

residents and users. This would respectively determine the required spatial and physical properties of the different public/private spaces and their impact on the architecture of communities. Content analysis was utilised in matching the collected information with the main aim, questions and concerns of the research. Data explanation, which formed the final phase of the research, identified the architecture of the communities. Viewing evidence and comparing defined case studies with contemporary cases enriched the interpretations and explanations. Moreover, data and information gathered from various sources were used to determine the potential for sustainability and the difficulties of social, cultural and spatial properties of various communities in order to determine the ideal perspective for our approach to a more sustainable city environment.

## **5.8 ETHICAL ISSUES**

Ethics is a term originally derived from the Greek word *Ethos*, meaning custom or character. Fundamental ethical principles and considerations mandated by HWU research guidelines and outlining the necessary actions needed to undertake this research were respected and followed by the researcher. Ethical issues are mainly to obtain permission to conduct the survey process without causing embarrassment to participants and community occupants, as well as the process employed to analyse data (Keeves & Sellin, 1997).

The participants were well-informed about the purpose of this research, were instructed on the risks they may face as a result of being part of the research and the benefits these individuals would gain as a result of participating in the study were clarified (Fritz, 2008). Matters of confidentiality were also discussed.

Ethical principles in producing social research are concerned with legitimate ways of conducting research. Diener and Crandall (1978, cited in Bryman, 2008:118) categorise these principles into four main parts: firstly, ensure that there is no mental, physical, or social harm to the researcher and the participants involved in the research; secondly, to obtain informed consent; to ensure respect to the privacy of participants with no embarrassment; and to make sure that there is no element of manipulation or deception.

During the research interviews and in order to avoid causing harm to participants, the researcher and his assistants avoided imposing any pressure in any way on participants to accept to be part of the research. As the research involved spending long periods of time in open public spaces, risks for the researcher in interviewing women was a consideration;

therefore, the researcher decided to appoint a female architect to assist in managing such interviews, either for questionnaire or observation purposes. In both interviews and questionnaires, the researcher and his assistants avoided sensitive issues that could cause potential complications. For facilitating all the conversations, the researcher committed to sticking to the designed questions whenever discussions drifted off course. Participants' names were not required and their personal identity was kept anonymous in both interview transcripts and recordings to avoid these data being accessed by anyone but the researcher. Regarding ensuring there is no element of deception to participants in this research, all participants were informed of the researcher's position as an architect and a PhD researcher, and details of the topic, the purpose of the research and the value of their contribution were provided. In order to ensure that the data remained confidential, were used for academic purposes only and avoided invasion of privacy, the interview transcripts and recordings were coded using numbers or pseudonyms in analysing the data and reporting.

## **5.9 LIMITATIONS OF THE RESEARCH METHODOLOGY**

The process-oriented aim of this study was to explore weaknesses in providing liveable public open squares in the UAE, not for the sake of criticism itself but to enhance the system in practice. In implementing the selected data collection methods of this thesis, there were several limitations. One of them was that some people in Dubai and Abu Dhabi treated topics related to urban planning policy or future strategy as very sensitive. Some senior-level interviewees from the urban planning departments answered the questions very conservatively, and another cancelled the meeting at the very last minute because they felt uncomfortable talking about the provisioning process, as for them this was a confidential issue. Some participants in the survey appeared to feel uncomfortable answering a question about whether the space was provided for them or to please the authorities.

Another limitation was regarding the language of communication. As shown in Appendix E, there are several ethnic groups in the UAE. Asian labour is one of them, as these workers can barely talk Arabic or English. This was an issue in using the questionnaire with users from such groups in the case study spaces. As explained earlier, the researcher had set a strategy for selecting survey participants randomly as every fifth person entering the space from an allocated point. However, this was not always the case as the researcher sometimes had to skip some potential participants due to the language barrier, especially in public squares connected to trading areas such as Baniyas Square in Dubai. Another general limitation was related to the

climate in summer where public square users' behaviour changes between seasons, time available for interviews was limited, and the researcher and his team had to conduct interviews during the evening and on weekends.

Furthermore, this research faced another limitation that should be stated here, namely that the collection of documentary evidence and data from the authorities' archives such as the planning departments was almost impossible, and the researcher had to deal with the issue by presenting his research to the head of department in order to be convinced to release possible data. This caused many interruptions to interviews, which often took up to four hours to be completed, although they could have been done in an hour. Furthermore, access to some maps for projects was very limited as some departments restricted provision of this type of material.

## **5.10 CHAPTER SUMMARY**

This chapter has developed the research methodology for analysing urban public spaces and squares in relation to the urban development of the UAE communities, data collection methods, and analysis that have been synthesised in this research. A mixed of quantitative and qualitative research approach was adopted, and during the research proved to be the most appropriate approach to meet the objective of the research and answer the research questions. Case studies of open public spaces and squares were selected as a basis for the empirical work.

Finally, the methodological framework was used to identify issues and develop strategies and recommendations in relation to providing urban public squares in the urban planning process and design guidelines. Following the different approaches as prescribed by the methodology, the research analysis and discussions are presented in the following two chapters. Chapter 6 provides the quantitative analysis based on the results of the surveys and Chapter 7 provides the qualitative analysis based on the interviews and focus group interviews.



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**A POLICY FRAMEWORK FOR DEVELOPING URBAN PUBLIC SQUARES TO  
ENHANCE SUSTAINABLE DEVELOPMENT OF UAE**

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A thesis in two volumes

**Volume 2**

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## DEDICATION

*In The name of God, the Most Gracious, The Most Merciful*

*“Act! God will behold your actions and (so will) His messenger and the  
believers.”*

*(Al Tawbah 105)*

*To the ones who I get my strength from, my beloved parents, my wife Hala, my  
son Hasan and my two lovely daughters Dunia and Leen. Thanks for your great  
support and motivation.*

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## **ABSTRACT**

For more than 2000 years, the urban public square has been a distinguishing characteristic of Western cities. For the last 200 years, European and North American cities have been deliberately planned to include public squares with an intention to bring people closer. In the United Arab Emirates (UAE), the urban public square was a prominent feature in most traditional communities, but, since the late 1960s, this feature has gradually disappeared from urban planning. A consequence of this is that the social fabric of community life has been eroded. Despite support from the UAE leadership and regulatory authorities for developing sustainable communities in line with global compacts, the gap between social life and community urban planning is yet to be filled. This research examines the effectiveness of developing urban public squares in the UAE cities and formulates policies for including such spaces in cities and communities.

The research used quantitative and qualitative methods to collect data. The research evaluated the liveability of different communities in the UAE through detailed case studies of four squares and plazas. Perceptions of different community representative groups were gathered through semi-structured interviews, focus groups, a survey and a Charrette technique.

Findings indicate that all participants would like to see public urban squares being included in urban planning in order to enhance liveability. Results show that public squares are an essential urban element in creating a place for people to interact with their environment. It is concluded that providing more liveable urban squares in the UAE cities requires improvement in the master planning and urban design regulations and a consideration of traditional practice in the creation and management of modern urban squares and plazas in the Middle East.

Key words: public squares; urban design; liveability; sustainability



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## **LIST OF ACRONYMS AND ABBREVIATIONS**

ADPM	Abu Dhabi Department of Urban Planning and Municipalities
AUPC	Abu Dhabi Urban Planning Council
BREEAM	Building Research Establishment Environmental Assessment Method
CABE	Commission for Architecture and the Built Environment
CDAS	Community Development Alliance-Scotland
CECC	Centre of Expertise on Culture and Communities
CSD	Commission on Sustainable Development
DCCA	Dubai Creative Clusters Authority
DCR	Development Control Regulations
DESA	Department of Economic and Social Affairs
DMW	Dubai Marina Walk (District in Dubai)
DSO	Dubai Silicon Oasis (District in Dubai)
EGIS	Energy, Geoscience, Infrastructure and Society
ESC	Emaar Square Complex (Business Complex in Dubai)
F&B	Food and Beverage
GCC	Gulf Cooperation Council
HWU	Heriot-Watt University
HWUD	Heriot-Watt University- Dubai campus
ICP3	International City Phase 3
JBR	Jumeirah Beach Residence (District in Dubai)
LEED	Leadership in Energy and Environmental Design
MENA	Middle East and North Africa
MHLG	Ministry of Housing and Local Government
MPC	Master Planning Committee
NOC	No Objection Certificate
OECD	Organisation for Economic Cooperation and Development
PPS	Project of Public Spaces
SD	Sustainable Development
SOE	Society of Engineers
UAE	United Arab Emirates
UDAL	Urban Design Alliance
UMD	Uptown Mirdiff Dubai

UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UPC	Urban Planning Council
UPD	Urban Planning Department
UPMD	Uptown Mirdiff Dubai
UPS	Urban Public Square
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WSSD	World Summit on Sustainable Development

## GLOSSARY

Arabic	Translation (English)
<i>Al Baraha</i>	Public open space connected to community or neighbourhood.
<i>Al Fereej</i>	Neighbourhood
<i>Al Shuhadaa'</i>	Martyrs
<i>Al Hoash</i>	Small open space connecting dwelling units or detached houses
<i>Al Jawamie'</i>	Mosques
<i>Al Khadraa'</i>	The green
<i>Al Masjid</i>	The Mosque
<i>Al Musalla</i>	Large outdoor prayer area.
<i>Areesh</i>	Dry palm tree leaves used for old house roof construction.
<i>Baniyas</i>	Name relates to tribal confederation in UAE.
<i>Barajeel</i>	Wind Tower built on the top of the house made of clay and fabric. The air hits the walls of the barajeel from the inside and flows down into the house to cool it
<i>Chandal</i>	The internal finish of the house roof made from tree trunks and straw
<i>Deira</i>	The old district of Dubai where all houses and communities built.
<i>Finaa'</i>	Public open space overlooked by houses and dwelling units.
<i>Harat (single of Hara)</i>	Outdoor place connecting houses, usually a place for children to play
<i>Jamie'</i>	A large mosque in a district/ community.
<i>Khima</i>	Tent
<i>Maghrib</i>	The sunset time
<i>Maydan</i>	Public Square/ or Plaza
<i>Maydan Al Shuhadaa'</i>	The Martyrs Square
<i>Nazl</i>	Lodging house/ inn
<i>Ostaad</i>	Teacher/ or specialist
<i>Plateia</i>	The Greek word for public square
<i>Parvis</i>	An enclosed area in front of a cathedral or church, typically surrounded with colonnades or porticoes.
<i>Rahba</i>	Public outdoor space used for gathering/ meetings.
<i>Rewak/ Rewaq</i>	Arcades connecting buildings/ or rooms.
<i>Saha (single of Sahat)</i>	Open public space/ Public square
<i>Sahat Al Saa'</i>	The clock square
<i>Shariaa'</i>	Islamic law and provisions
<i>Sheikh</i>	Elder tribe leader/ an honorific title
<i>Sikka</i>	Narrow passageway/ outdoor corridor
<i>Souk/ Souq</i>	Market
<i>Taghyeer</i>	Change
<i>Tahrir</i>	Liberation
<i>Wekala</i>	Commercial building within the market, which includes accommodation units, business area, shops and workshops.

## **Volume 2**

### **Chapter 6 to Chapter 9**

## **CHAPTER 6:**

### **ANALYSIS AND DISCUSSION**

#### **6.1 INTRODUCTION**

As discussed in the earlier chapters, the concept of a “public square” has been a considerable need for the residents in the UAE. This need is a reflection of progressive changes that have happened in the past few years along with the demand and economic impact of the people living in the Middle East. As the study focuses on the implementation of innovation in the creation of sustainable, multi-functional spaces in the UAE cities, it will provide a clear framework of the economic, social and cultural images of the public square and its relation towards the residents. According to Hauge and Jenkins (2005), the importance of sustainable communities purely relies upon economic, social and environmental needs. In order to analyse and achieve the integrated relationship between the respondents and the existing communities, surveys were done, and the analysis is discussed in detail in answering the research questions and the objectives mentioned at the beginning of the study. The study aims to analyse and understand the nature of emerging public squares with their communities to achieve sustainable, environmentally-friendly spaces. Hence, the residents from the communities around the public square were questioned and surveyed to understand the pros and cons of their liveability.

The main purpose of this chapter is aimed at the explanation of different opinions and understanding by the professionals about the development areas of public squares in UAE cities and the surrounding neighbourhoods through descriptive analysis. The interviews were conducted with different groups forming three categories: community end users; community developers; and community regulatory authorities.

The data analysis also revolves around the psychological, environmental, physical and other social-spatial components in order to understand the perceptions of the individuals of the UAE’s urban planning system design which contributes to developing the town areas of urban public squares (McGlynn, 1993). In short, it can be said that this chapter evaluates the gap between urban planning and the social life of the people’s experiences of liveability in the public squares.

Table 6.1: Response rates

Category and Group	Description	Survey participants invited	Responses received	Response rate %
<b>Category A: Community end-users</b>				
Group 1	Residents and users of ungated open urban residential communities	1238	550	44.5%
Group 2	Residents and users of gated community with public square, and	48	22	57.9%
Group 3	Retailers and shopkeepers	28	11	39.3%
<b>Category B: Community developers</b>				
Group 4	Architects, urban planners, landscape architects and other built environment professionals	337	138	41%
Group 5	Property developers	95	54	56.8%
Group 6	Real estate agents	83	48	57.8%
<b>Category C: Regulatory authorities</b>				
Group 7	Police and security agents	49	36	73.4%
Group 8	Officials and decision-makers	54	42	77.7%

The above table (Table 6.1) is the framework of the categories in the study that are analysed and discussed in this chapter. The respondents involved are the community residents and are classified according to their demographic background; hence both demographic data and the quantitative data gathered from the questionnaires are explained in detail. Along with the analysis, the chapter also interprets the results and compares them with the objectives of attaining solutions to the framed research questions of the study. The chapter consists of descriptive analysis, findings and conclusion.

## 6.2 DESCRIPTIVE ANALYSIS

### 6.2.1 Statistical Instruments Adopted

The responses through the first instrument, namely a questionnaire in the current study, were evaluated through the statistical tool SPSS with the help of graphical representations, charts and tables. The results from the second instrument, a survey, were evaluated through analysing the environmental, social, economic and cultural aspects in order to weigh the sustainable construction and sustainable environment of town areas in UAE. The responses from 10 people out of the 50 respondents to the third instrument, namely face-to-face interviews were analysed by coding. The fourth instrument of the study was a case study which brought out a better understanding of the current research through existing data and also helped in refining the phenomena of “why” and “how” in the first instrument. The study also made use of the Charrette layout technique (Figure 6.1), which was used for a holistic understanding of complex problems by all participants. In this technique, four options were designed (four



different communities) by the researcher and presented to the participants along with the questionnaire to determine which community master plan suited them best.

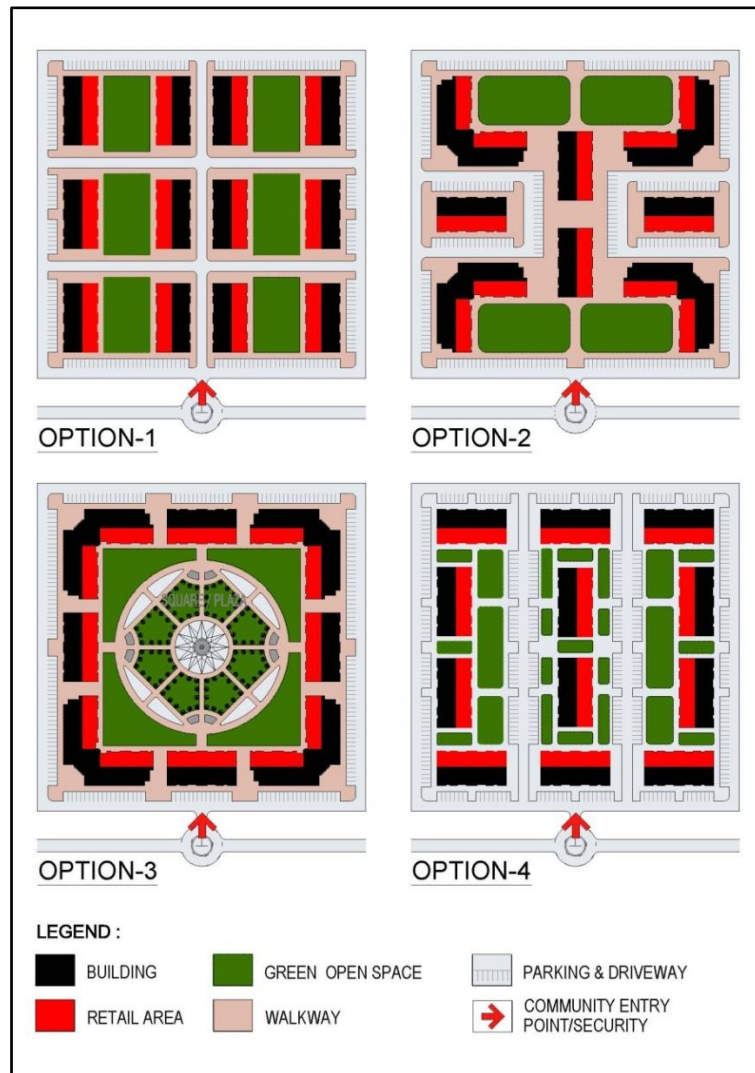


Figure 6.1: Charrette technique drawing of different communities

Source: (Researcher's own)

### 6.2.2 Demographic Data

The adopted methodology in the study is based on both qualitative and quantitative approaches through designed questionnaires, objective surveys and semi-structured interviews. As per the results of the conducted surveys the analysis of each individual category was evaluated under eight different groups and then categorised under three different categories as per their profession and community (refer table 6.1), such as: *Category A* (ungated community: Group 1; gated community users: Group 2; retailers and shop keepers: Group 3); *Category B* (architects, landscape architects and urban planners: Group 4; property developers and private

sector investors: Group 5; Real estate agents: Group 6) and *Category C* (civil service agents (security/ police officers): Group 7; other officials and decision-makers: Group 8).

The discussions below analyse each group (under each category) through the various responses made by the chosen respondents.

### **6.3 CATEGORY A**

This section highlights three combined groups under Category A that are considered by the researcher as the end-users for any community, residents and retailers/ shopkeepers.

#### **6.3.1 Group 1: Ungated Community Users**

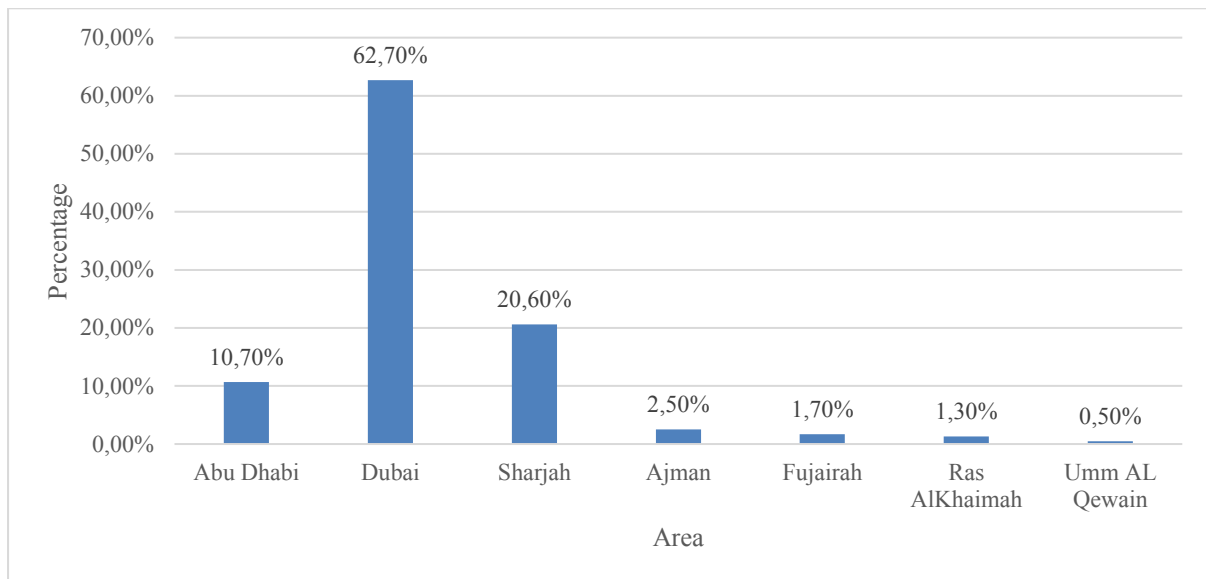
##### 6.3.1.1 Descriptive data analysis: Q1–4 (Appendix B)

The group 1 respondents as discussed earlier comprised 233 ungated community users. It can be inferred from the data gathered that the majority of the respondents were male (85.3%) of between 35 to 44 years (46.3%) and married (83.5%). It can also be inferred from the data that the respondents had either 1 or 2 children (55.0%). The finding in this section is an indication of the high rate of families residing in this group communities. (See Appendix B).

##### 6.3.1.2 Geographical data analysis: Q5–7 (Appendix B)

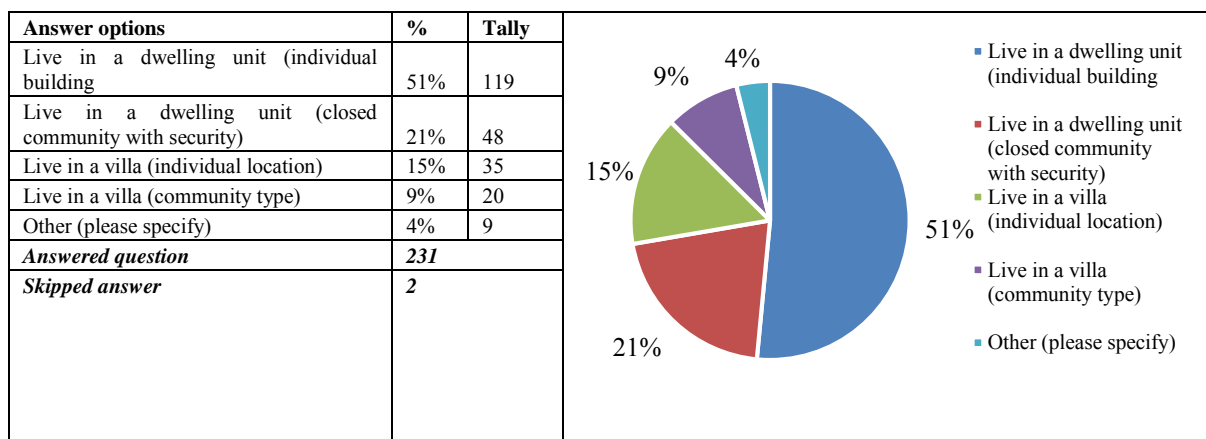
It was found that the majority (62.7%) of the respondents resided in Dubai in UAE, of whom 51.5% lived in dwelling units in individual buildings. It was also determined that 37.2% of the people had resided there for about 3 to 4 years. Moreover, the researcher's intention was to select high-density communities with a minimum of five years' residency to collect information about their experience in their community conditions and living status.

**Q5: In which Emirate in UAE do you live?**



The results of Q5 indicates that the majority of people living in ungated communities were involved in the research survey live in Emirate of Dubai as it is the most developed model and widely urbanised with different varieties of communities among other Emirates in the UAE. Al Sammani (2011, Chapter 4, S 4.4) outlined in her research the sustainable development-process of local housing community in UAE which backs the result in this research. As Al Sammani notes, Dubai provides the background for rich research outcomes due to the varieties of developed communities and planned future urban studies found in the city.

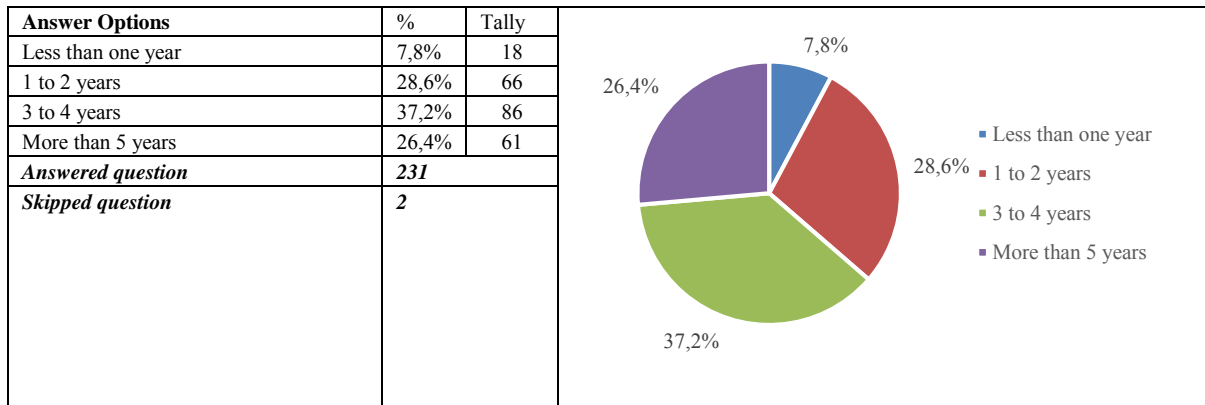
**Q6: Which of the following applies to your residence type?**



The finding of Q6 indicates that more than half of respondents in ungated communities are living in dwelling units in scattered suburbs. Gray (1995) (Chapter 3, s 3.7.1; Chapter 4, s 4.12) states in his comparative analysis of choosing to live in ungated communities that dwelling units in scattered individual buildings is a planning solution to accommodate a high-density

population mainly in metropolitan areas. Gray (1995) postulates that developing high density communities is an obstacle in providing adequate open spaces, as this simply will trim spaces that required to accommodate dwellings. The researcher argues that open spaces between dwellings can still be integrated in the master plan even if shaped as a courtyard.

Q7: How long have you lived in your community?



The result obtained from Q7 respondents indicates that 37.2% of residents lived in their community between 3-4 years and 26.4% lived there for more than 5 years. The finding is an indication that ungated communities are places that offer affordable housing for people earning mid-level wages where they have to stay in their dwellings for longer periods of time. This finding is consistent with previous research made by Madanipour (2003) (Chapter 2, s 2.1) and Gehl (2007) (Chapter 2, s 2.12.2). They suggested in different urban studies that the duration of stay in a community is correlated with how the convenient inviting and liveable the space is. The researcher envisages from the findings result that, if the community is provided with inviting open spaces, people would not often move, thereby creating stability within the community.

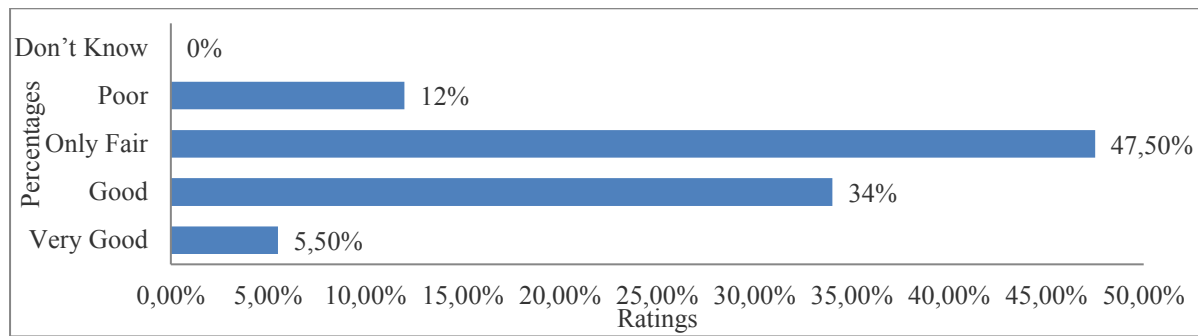
The research objective addressed in sections 6.3.1.3–6.3.1.5 is

- To investigate people’s opinions of and preferences for urban squares and establish an understanding of users’ needs and requirements.

### 6.3.1.3 Opinions about the community as a place to live: Q8–14 (Appendix B)

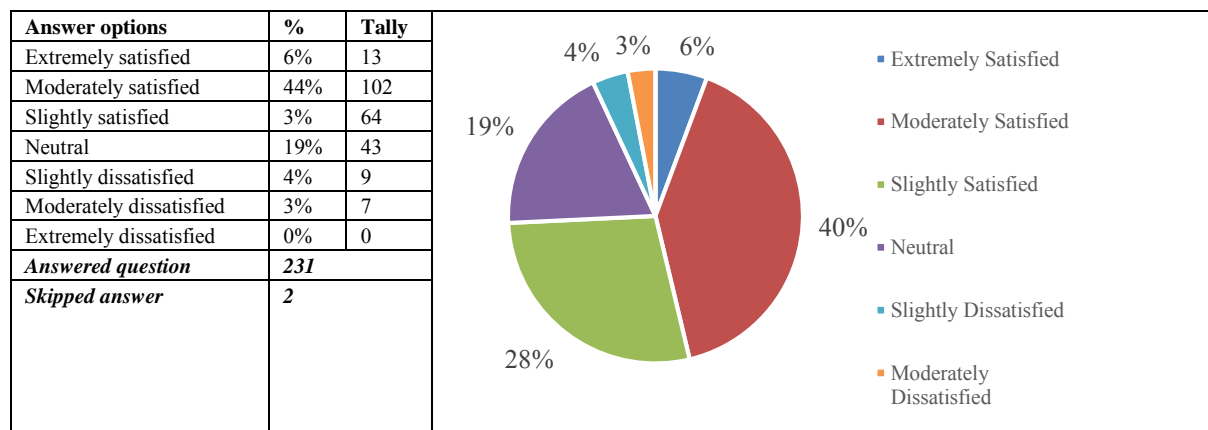
The quantitative analysis of the study shows the perceptions of the respondents about the spatial components of their liveability in their community as indicated in the tables and graphs below. A summarised verbal analysis of the findings is presented after the graphs and tables.

Q8: Overall, how do you rate your community as a place to live?



In rating the community as a place to live, 47.5% of the respondents rated it as only fair and 34% as good. This finding was reasonably expected by the researcher for ungated communities but is not in line with what Campbell (2003, Chapter 4, S 4.6) stated that ungated communities may attract fewer people. Campbell relates this to the lack of safety and security expected in high-density un-gated communities.

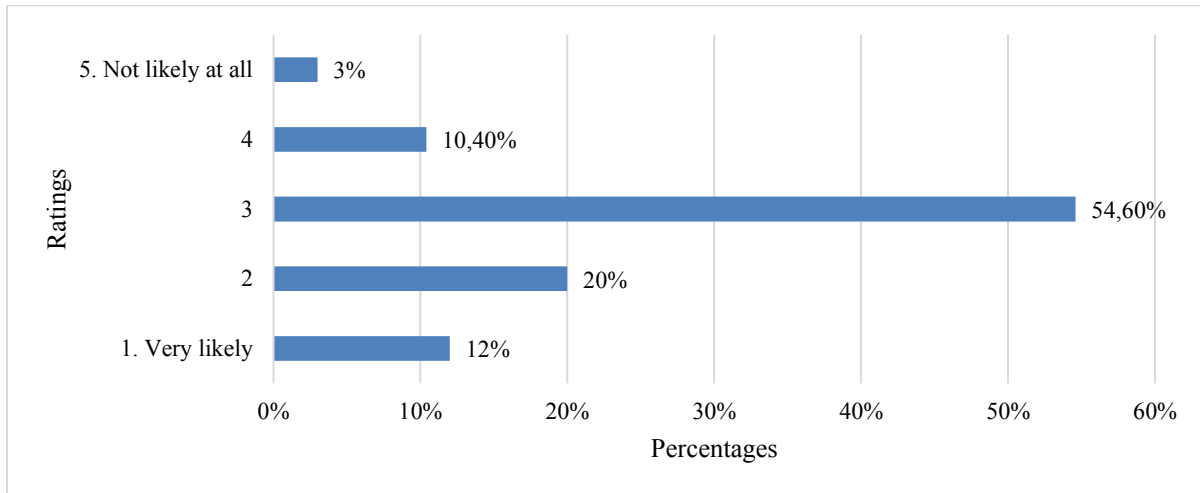
Q9: Overall, are you satisfied with this community as a place to live?



From the analysis, it can be inferred that the of respondents of the ungated community had moderately positive attitudes, yet often chose “neutral” or the middle value when they were asked any of the questions. The one difference is found in the answers to Question 9 where the majority of the participants stated that they were moderately satisfied with the community as a place to live. This may, however, be because there was a wider range of answer options. Moderately satisfied still points to a middle value (Lea, 2016, Chapter 2, S 2.14). In line with the findings, Lea (2016) states that the extent to which people are connected with a place is governed by wide range of factors including both physical and social attributes of the community environment. Although there is no substantive evidence to support Lea’s statement,

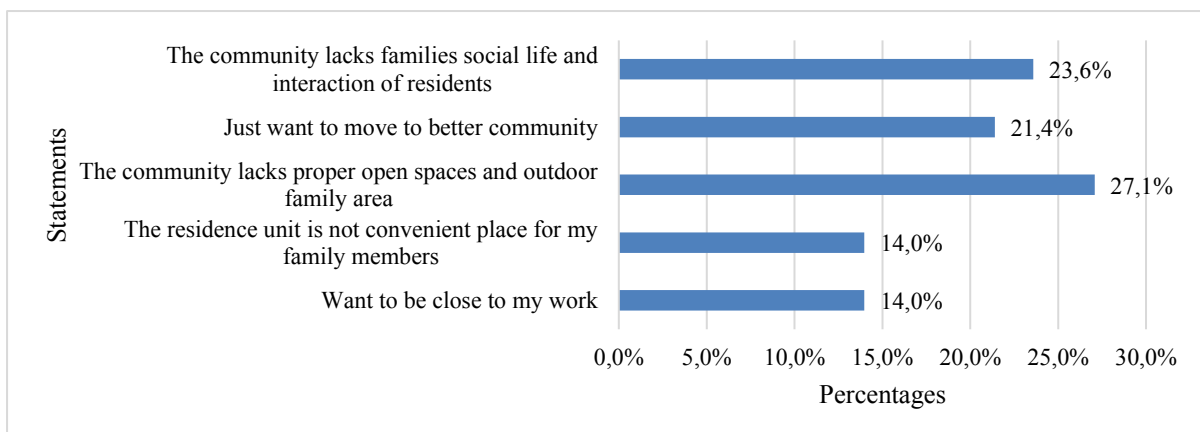
the fact that 74% of the participants were satisfied with their communities, points to those attributes being the factors that attach people to their living place.

Q10: How likely are you to stay for a long period of time in your community?



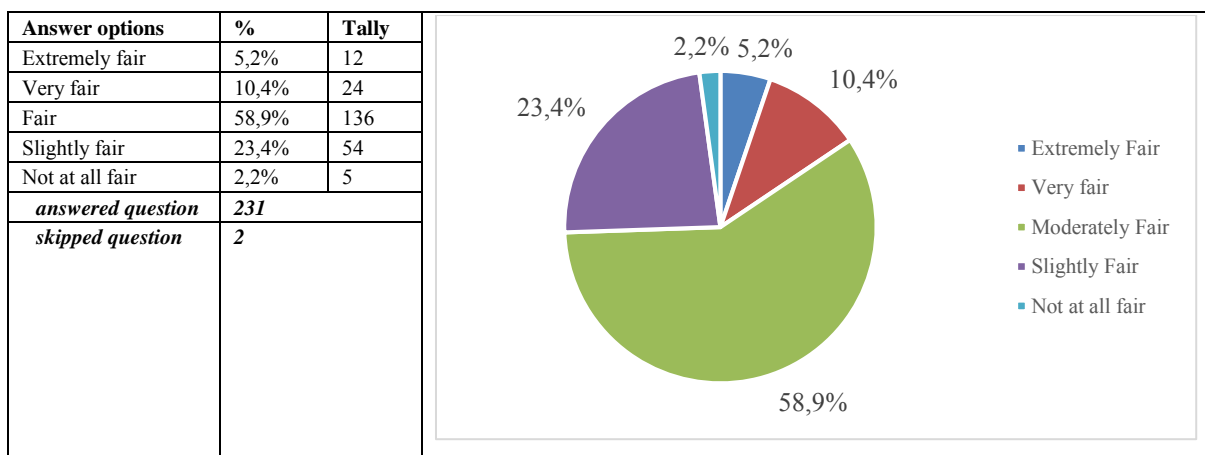
The results from the three survey questions Q8 to Q10 indicate that people living in the ungated community are moderately satisfied with their place of residence and have stayed there for a fair amount of time. In his research of gated and ungated communities, Dempsey, Bramley, Power and Brown (2009, Chapter 7, S 7.3.1) affirmed the correlation between the level of satisfaction in place where they lived and the period of stay in the community, where they concluded that the longer people remain in a place reflects higher levels of satisfaction. In line with this, the attachment of people to the place can be defined as a powerful and effective bond between the place and its occupants. Attachment to a place can thus lead to stability and sustainability of the community.

Q11: Which of the following best describes why you might move?



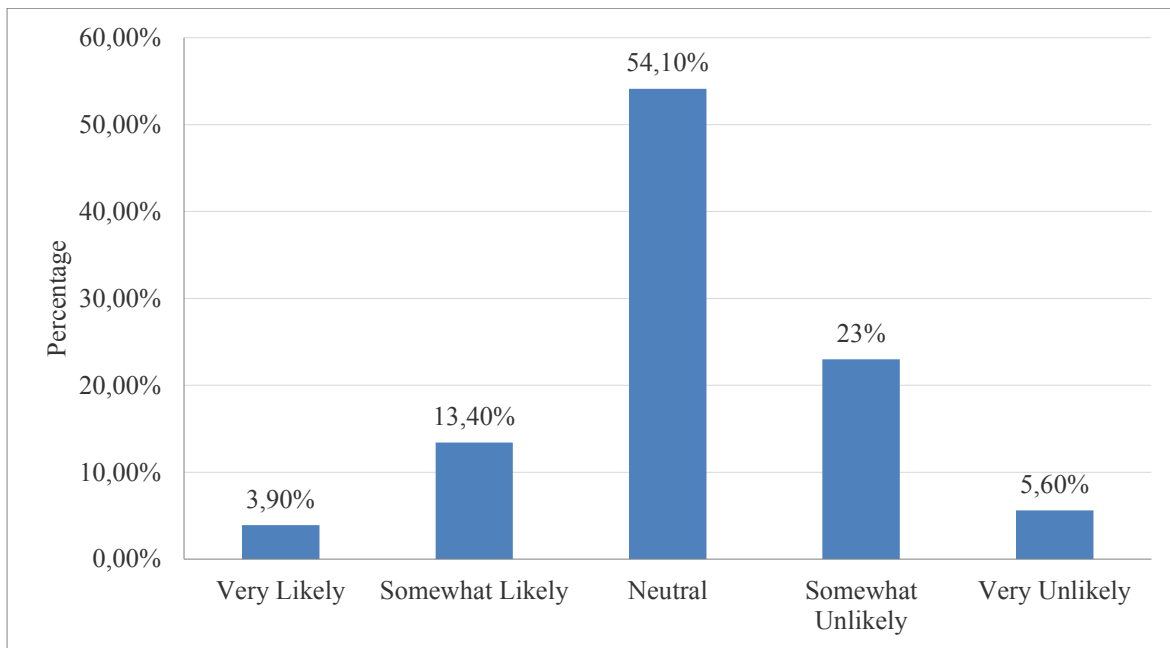
The result of Q11 reflects two primary reasons for residents to move out from their community: 27.1% stated that community lacks open spaces and outdoor area and 23.6% of respondents stated that lack of social life and interaction is their main reason to move out. This is in line with statement by Lea (2016) (Chapter 2, S 2.14) in his research on the influence of lifestyle in ungated communities, stating that lacking open spaces for social activities is an indicator of disconnection with the place, with the potential for instability and lack of sustainability. This lead to the conclusion that the power of connection to a place resides in the residents' ability to be involved in social activities within the community.

Q12: How fair is the rental for your accommodation?



The result from Q12 demonstrates that 74,1% of respondents are satisfied with the cost of rent, and this leads to a conclusion that affordable ungated community housing is a convenient place that meets residents' budgets (see chapter 5). This finding has no correlation with the international literature, but this finding may explain that when rental costs are fair, people would tend to remain in such accommodation, contributing to the sustainability and stability of the community.

Q13: How likely is it that you would recommend this community to a friend or colleague?



Q14: If you wouldn't recommend this community/residence type to a friend or colleague, indicate the degree of the following reasons:

Answer options	1. Low				5 High	Average %
Lacking parking area	44	20	20	16	16	8%
Unsafe and lacks security	40	27	32	6	3	2%
Lacking family gathering areas	26	17	26	21	18	14%
Lacking open spaces/children's areas	30	12	26	16	28	28%
No interaction with neighbourhood and other residents	21	25	28	20	16	27%
Lacking entertainment facilities	26	19	25	19	21	15%
The high rent value	18	14	28	31	25	3%
Lacking retail and food & beverage outlets	43	19	25	16	8	4%

From the combined results from Question 13 and Question 14, it can be inferred that the respondents would not recommend the community to their colleagues or friends because of the high rent values and the lack of open spaces and children's areas, followed by lack of entertainment facilities, lack of family gathering areas and parking, lack of retail and food and beverage facilities, lack of interaction with the neighbourhood. Few of the participants indicated that safety and security was a problem. The findings observed from the respondents reflect those of previous research by Gehl (2007) (Chapter 5, S 5.2.2) that examined the lack of public open spaces in communities and its negative impact on attracting people. In support of the findings, Gehl states that if public urban space is made available to people, more social interaction will result. This statement arises from fieldwork observations and an exploration

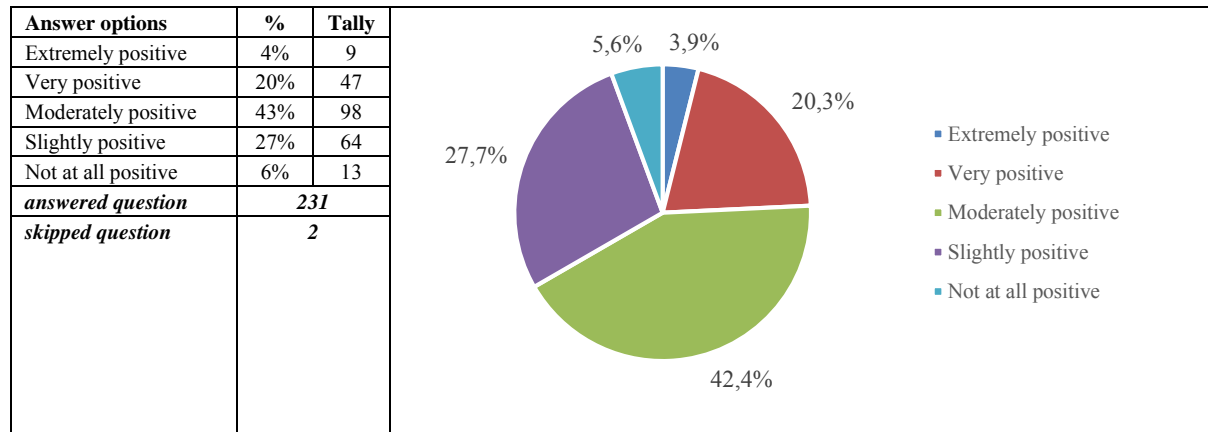


conducted in many open spaces in Europe as indicated in many photographs and figures provided in Chapters 2 and 3. These findings and the similarities of Gehl's work present a new approach that strategic urban planning is essential in enhancing newly developed communities. (see Chapter 3).

### 6.3.1.4 Opinions about social interaction: Q15–22 (Appendix B)

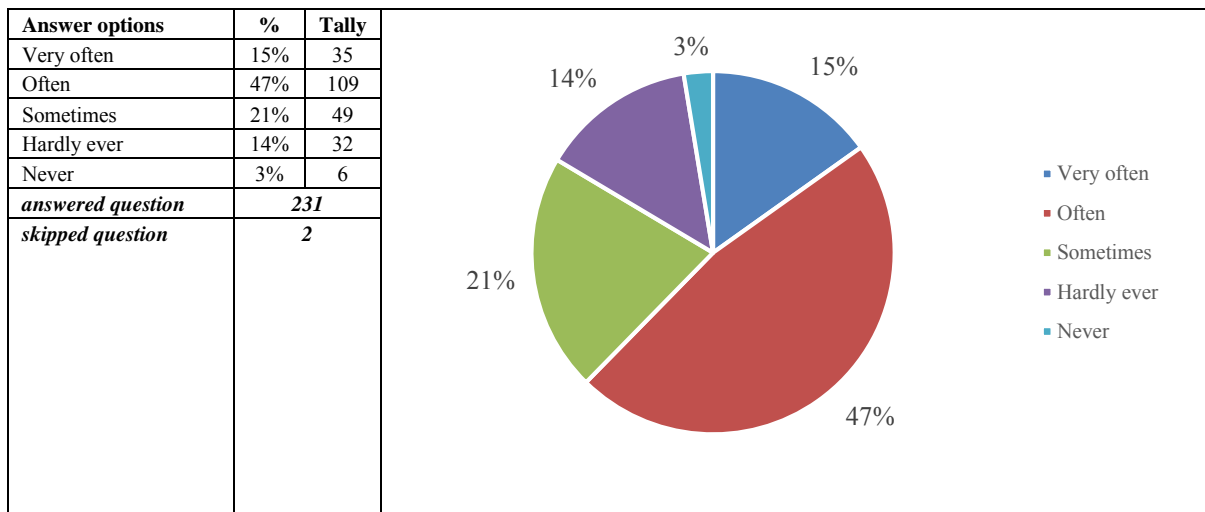
Participants were asked to provide their opinions about various aspects of social interaction within their communities. The results are displayed in the graphs below.

Q15: How positive are your interactions with residents in your living community?



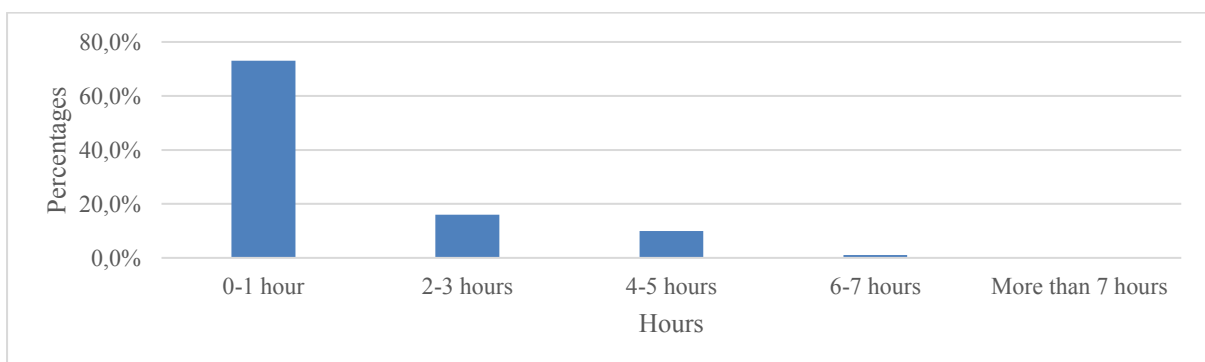
The result indicates that level of interaction between resident/ neighbours in ungated community was 42.4% moderately positive and 27.7% slightly positive. The finding reflects lack of interaction due to the disappearance of open spaces and squares in the community. This finding corroborates the studies of Madanipour (2003) (Chapter 2, S 2.1) and Gehl (2007) (Chapter 2, S 2.12.2; Chapter 5, S 5.2.2) who examined the ratio of interaction of residents with the open public spaces areas within the community. Moreover, this study correlates with what is stated by Gehl (2007) that providing for a range of activities within a community increases the likelihood of social interaction and justifies his findings on how public urban space can impact the level of social interaction.

Q16: How often do you participate in activities in your community?



Whenever there is some activity conducted in the community, 47.0% the respondents would “often” participate in those events while 15% would “very often” participate and 21% would sometimes participate. This shows that most participants (83%) would participate in community activities to a greater or lesser extent. This finding differs from published studies (Conway, 2000; Gehl, 2010) (Chapter 3, S 3.6.3; Chapter 5, S 5.2.4) which found that residents’ social interaction can take place in indoor areas. The researcher found that previous studies often focused on indoor activities and interaction, due to the cold weather which prevails in Europe.

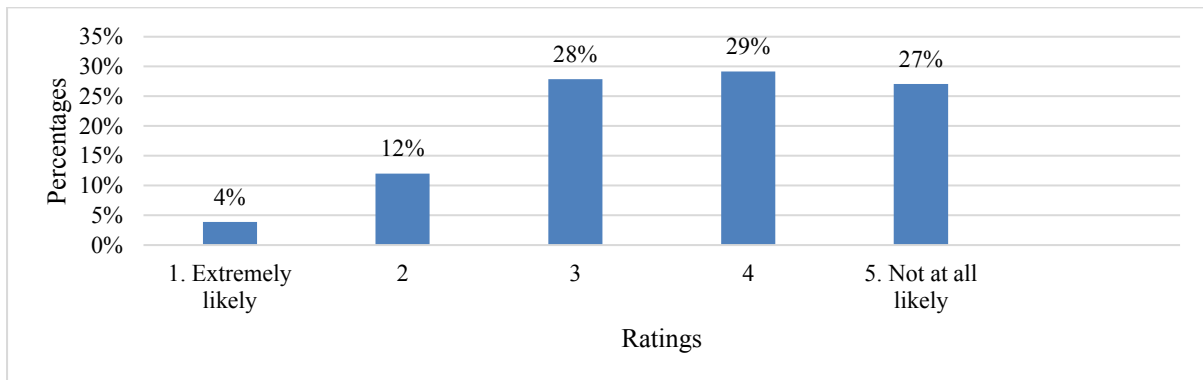
Q17: On a typical day, about how many hours do you /or your family spend outside your accommodation premises?



The following questions were asked to determine the level of social interaction within the community as well as where such social interaction typically takes place. The results reflected in the graph indicate that more than 70% of residents spend an hour outside their accommodation premises on a daily basis. This finding supports other urban studies (Gehl, 2007; Mandipour, 2010) (Chapter 5, S 5.2.2; Chapter 2, S 2.12.2), concluding that lack of

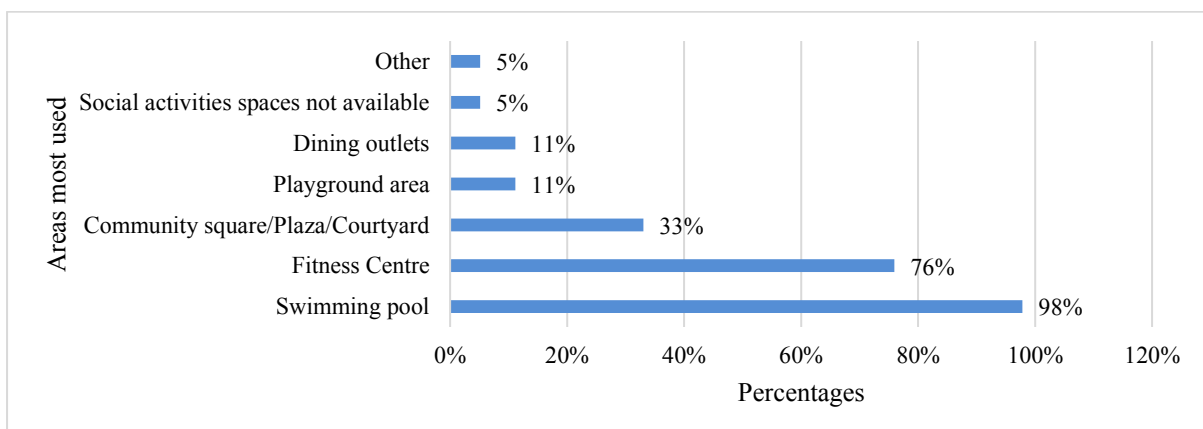
interaction between people relates to lack of places to meet. They both affirm that open public spaces are places to bring people from of different ages and ethnicity together.

Q18: In a typical week, how likely are you to interact socially in your community?

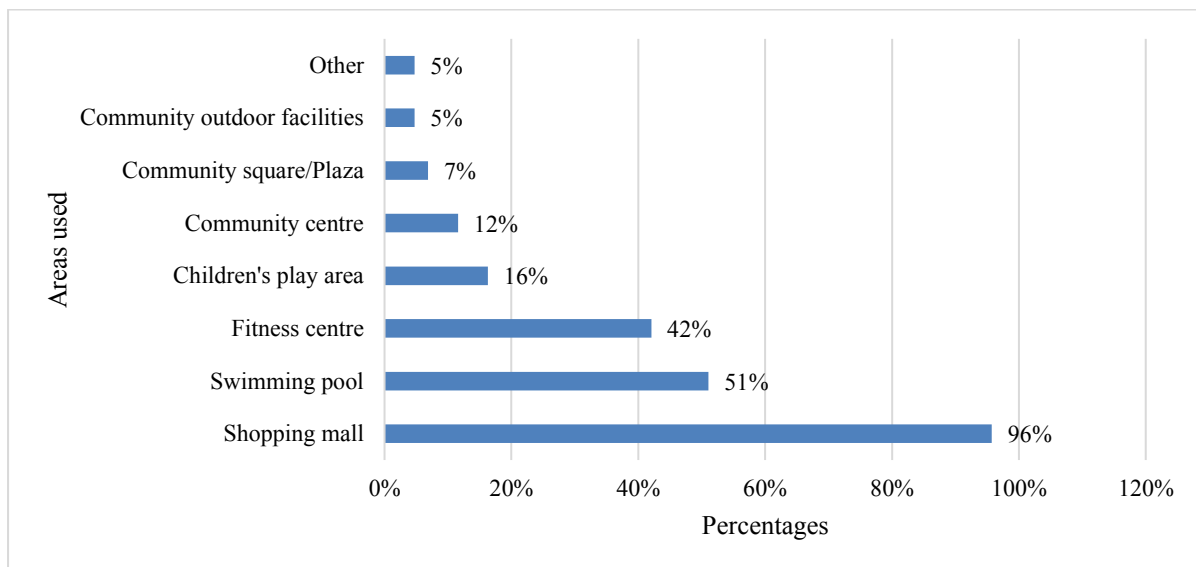


Neither the respondents nor their families intend to socialise with others (that is: ‘not likely’ (29.0%) or ‘not at all likely’ (27%)), (total: 56%) within their community. This seems to conflict with the answers given to Question 15 above where it was found that most participants (83%) indicated that they would participate in community activities. The difference between these results was not investigated. The reason for the low percentages for interaction and social life is that the community lacks outdoor spaces/squares. It is encouraging to compare this finding with that found by Gehl (2010). Gehl described the public space/ plaza as the focal point in city master planning and raised awareness by justifying that for public spaces to be successful, they need to combine both fixtures and activities (Chapter 5, S 5.2.4).

Q19: In a typical week, which of the following social activities spaces do you/your family use most often? (Check most 2 important boxes)

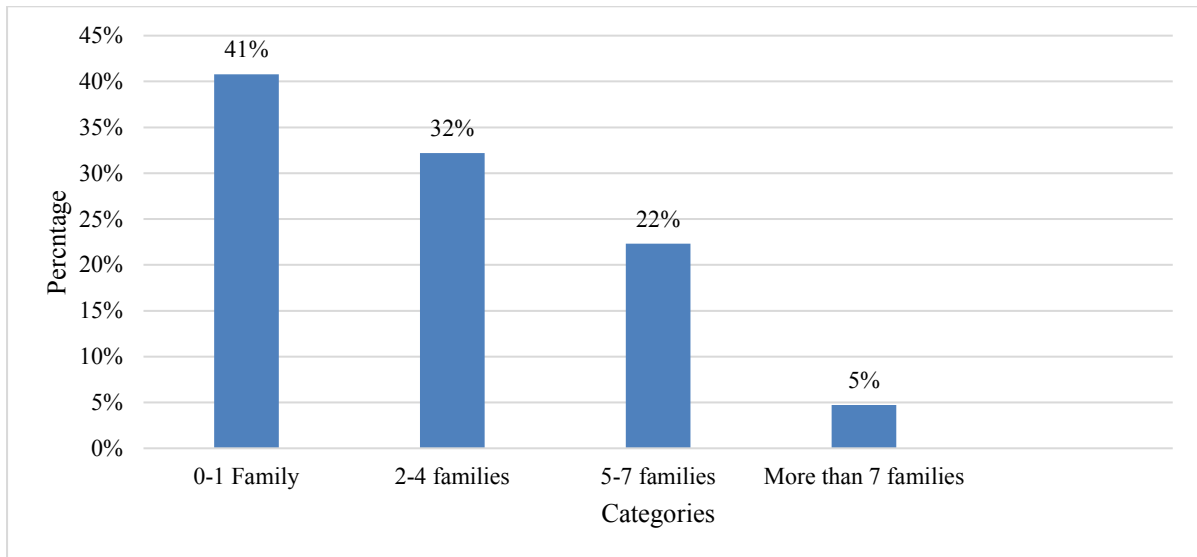


Q20: On a typical weekend/ holiday day, which of the following areas do you/ your family use most often? Please select the two most important areas.



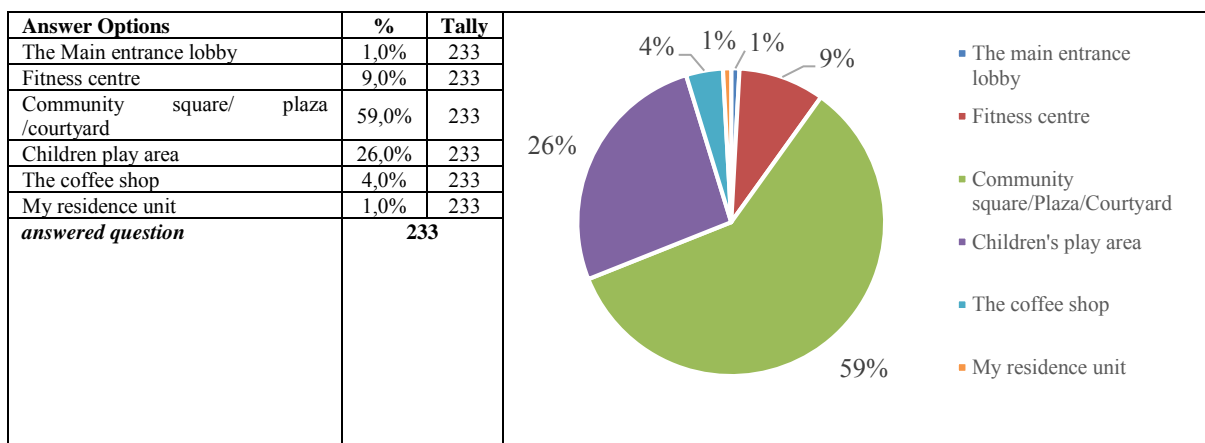
Combining the results of Questions 19 and 20, it was also found that the respondents in a typical week would not interact socially with the community; they would rather spend time with family members or alone in social activities like at the swimming pool (98.0%) or fitness centre (76.0%), and it was found that on typical weekends, the respondents or their family members spent most of the time in shopping malls (98.0%), followed by the swimming pool (51%) and the fitness centre (42%). The reason for this result is that the community lacks outdoor spaces for entertainment and family activities. These findings further support earlier residential districts studies by Al Zaabi et al. (2016) (Chapter 2, S 2.13) on family activities in relation to the outdoor spaces. Al Zaabi et al. (2016) suggested that the attraction of the large shopping malls that can be found in Dubai lies in the fact that there is a lack of retail and entertainment places within local communities.

Q21: About how many family friends do you currently socialise with within your community?



It was found that 41% of the family members and the respondents socialised with other 0-1 other families within the community, while 32% socialised with between 2 and 4 families. This implies that there is not a substantial amount of social interaction within the community. The findings are consistent with a research conducted in UK by Carmona et al. (2010), stating that contemporary urban planning needs to bring people together in their communities. The results show that there is not a substantial amount of social interaction within the ungated community, leading to the conclusion that a lack of open spaces in the community urban planning is a major factor in disconnecting people (Chapter 2, S 2.4.1; Chapter 5, S 5.2.2).

Q22: If you /or your family could use only one of the following social places in your community which one would you use?



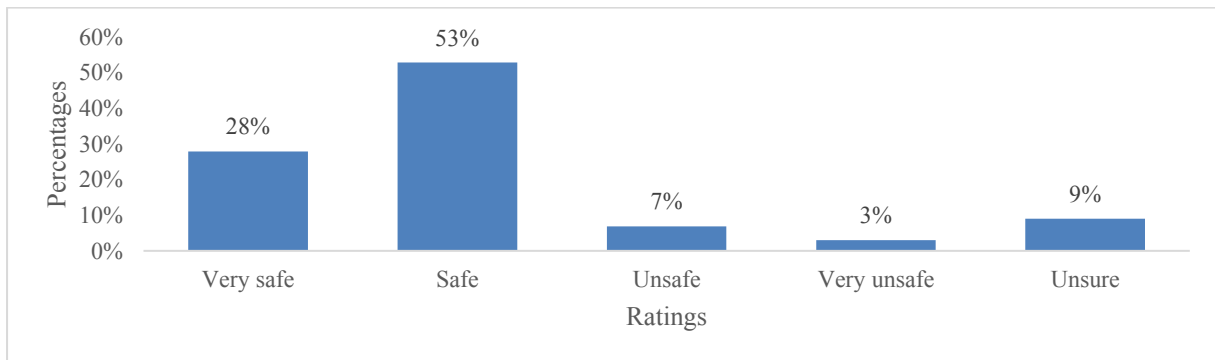
From the result of Q22, it is found that a community square/ plaza is a desirable place for people to socialise in. This finding supports previous urban planning studies on public squares

by Zucker (1970) (Chapter 2, S 2.2.3; S 2.5), Whyte (1980) (Chapter 2, S 2.2.2; 2.12.2) and Moughtin (2003) (Chapter 2, S 2.8.4). They all share same opinion that to develop a successful liveable environment, public spaces are an essential urban element as this is a space where people bond and socialise. It is, therefore, understandable a greater variety of functions and facilities in a public open space reflects its success (Moughtin, 2003).

### 6.3.1.5 Opinions about safety and security: Q23–28 (Appendix B)

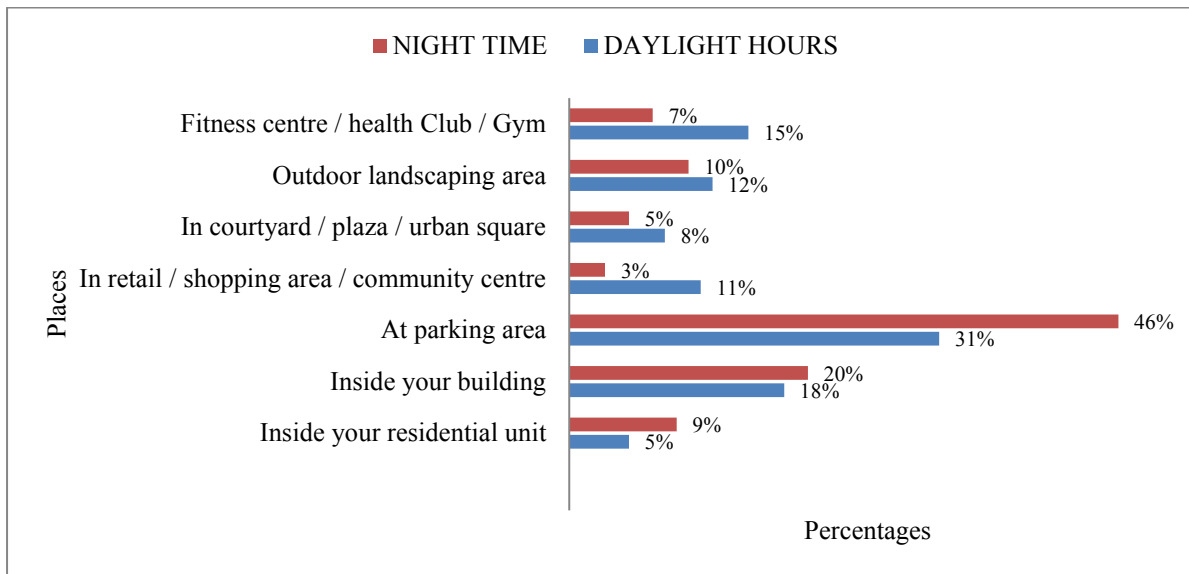
On issues of safety and security, the following questions were asked. The results are displayed in the graphs provided for each question.

Q23: How safe do you feel living in this community?



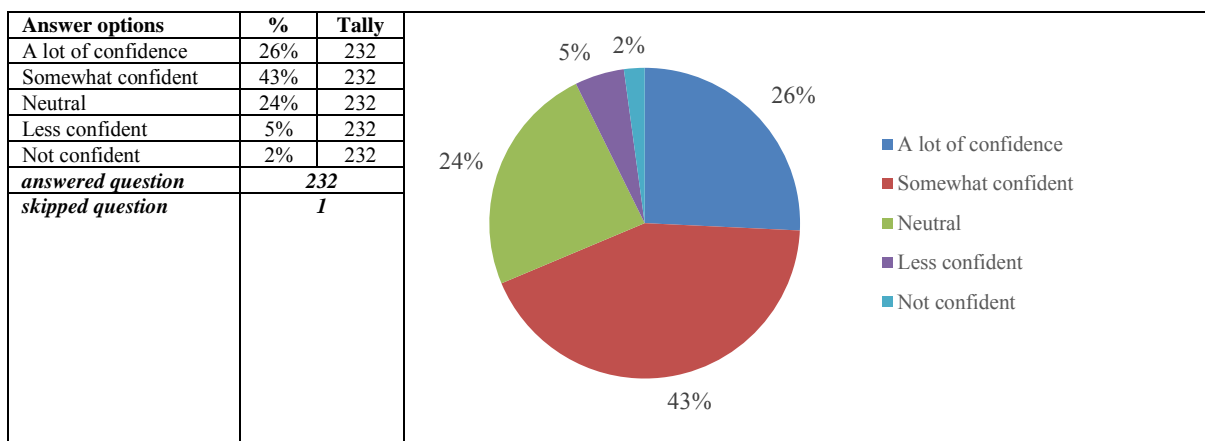
According to the responses gathered from the study, it can be understood that the 81.0% of the respondents felt “safe” or “very safe” living in this community. This finding contradicts with similar communities in different regions such as the Latin America and East Asia countries (Campbell, 2003, Chapter 4, S 4.3). From previous studies, Campbell explained that the level of safety in community correlates with the density of population. This is justified due to the high densities that bring environmental problems such as noise, traffic and even pedestrian congestion.

Q24: How safe do you feel in your residential community during the daylight hours and at night?



When the respondents were asked to rate the safety at different times of the day, 90-100% responded that they felt safe during both the day and the night, especially inside their residential unit with 46% being careful at night and 31% being cautious during daylight hours in the parking area. In accordance with the present result, previous research by the urban scholar Zucker (1970) (Chapter 2, S 2.5) demonstrated that parking spaces in the open residential districts tend to be isolated from people’s dwelling units which mean that felt somewhat exposed to danger during the walk from the parking are to their homes. This is supported and justified by Gehl (2007) in his book ‘Cities for People’ that a sense of place is created when open public space contributes to walkability and safety of movement.

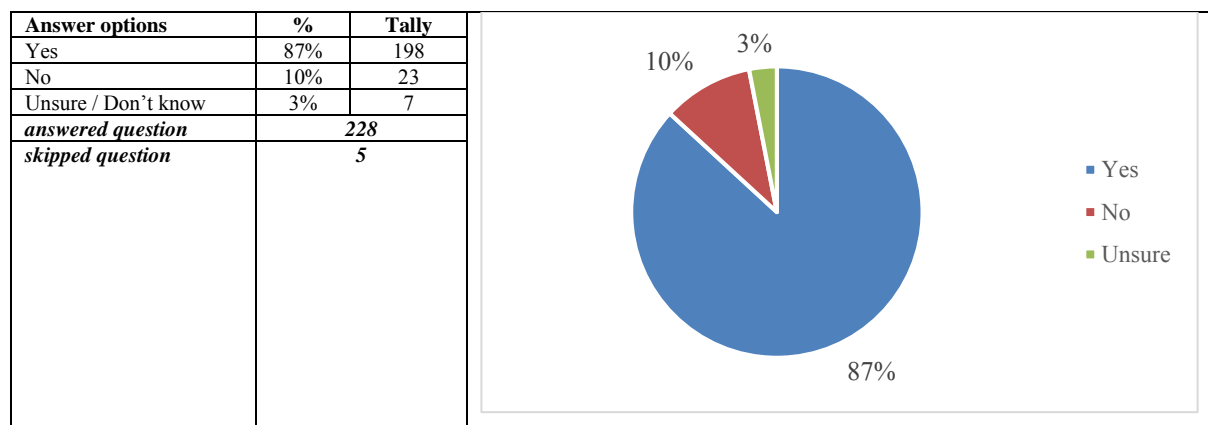
Q25: Overall, how much confidence do you have in the security performance at your community?





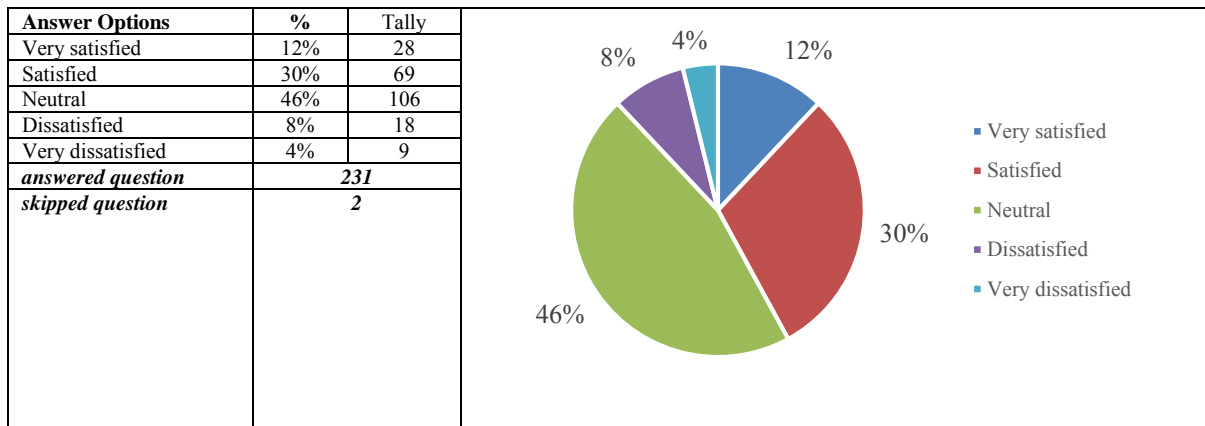
It can also be inferred that participants generally felt fairly confident (43.0%) to very confident (26%) in the security measures in place in the community, but this was in slight contrast to the feelings of safety indicated earlier. This finding is directly in line with urban study by Sitte (1899) (Chapter 2, S 2.2.2), stating that a city should be built to provide security and happiness for its inhabitants. To support his statement, Sitte proposed that networks of streets and buildings should allow for spaces where people can feel safe. As a result, he proposed the middle island in streets to enhance safety for pedestrians and regarded the junction of streets as a safe central plaza that needed to contribute to the confidence people would feel in being there.

Q26: Has anything happened to you or a member of your household within the last year that required police or security assistance?



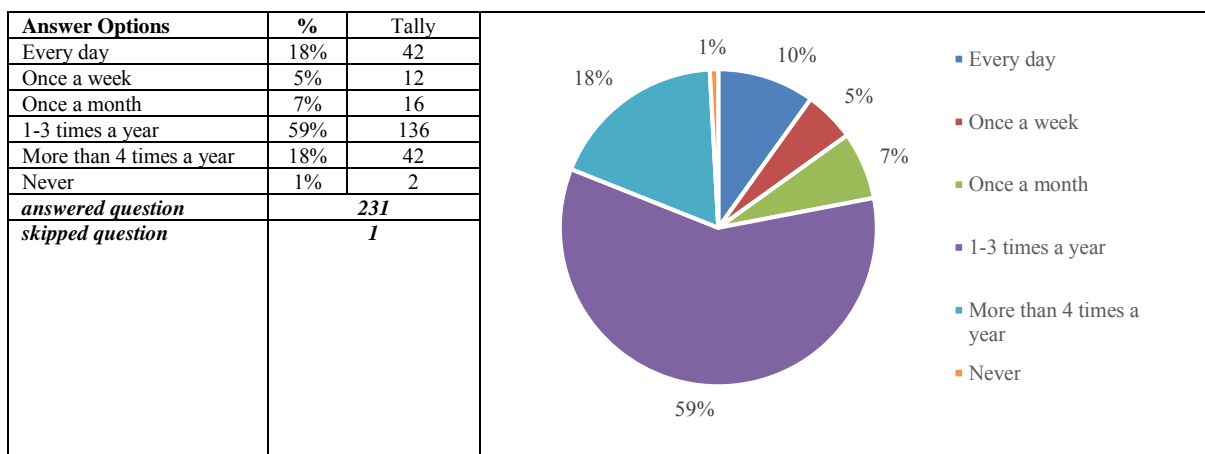
It was found from the gathered data that 87.0% of the respondents or their family members within the community had experienced incidents that required assistance from the police or security officers. The finding was not previously tested by other researchers or urban planners in the international literature, but it appeared as strong evidence that ungated communities are more exposed to security incidents than gated ones. The researcher concludes that the difference between gated and ungated communities in terms of security is clearly noticeable, as ungated communities are scattered dwellings that do not have access control which makes them more vulnerable to crime.

Q27: How satisfied are you with the professionalism of your community security team /department?



Regarding the professionalism of the security team in the community, the respondents were neutral, i.e. neither satisfied nor dissatisfied (46.0%). This finding is common and in line with statement by Banerjee (2001) that in un-gated communities where buildings are adjacent and connected by a network of roads, security is an important factor. Banerjee (2001) explained that lack of open spaces between buildings in un-gated community does not provide for safe walkability and requires security enforcement (Chapter 1, S 1.5).

Q28: Roughly, how often do you see accidents/unsafe activities in your community?

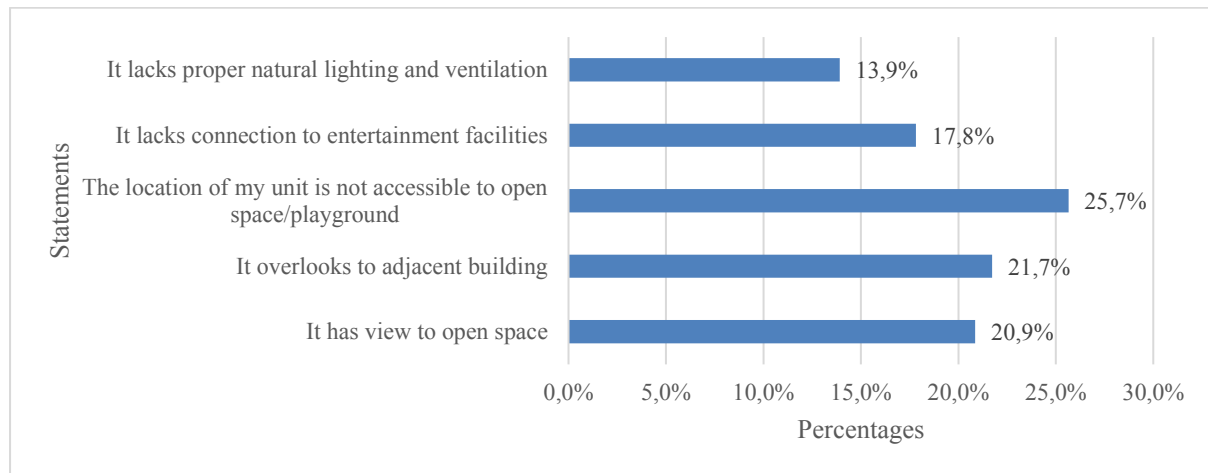


When survey respondents were asked how often they saw accidents/unsafe activities in their community, 59% mentioned that different incidents happen 1-3 times a year. So, it can be inferred that the level of security within the community is satisfactory. The results support the findings on Question 27.

### 6.3.1.6 Satisfaction ratings: Q29–39 (Appendix B)

Participants were also asked questions about factors within the community that created satisfaction or dissatisfaction for them as residents. The results are displayed in the graphs below.

Q29: Which of the following best describes the status of your current accommodation unit within your community?



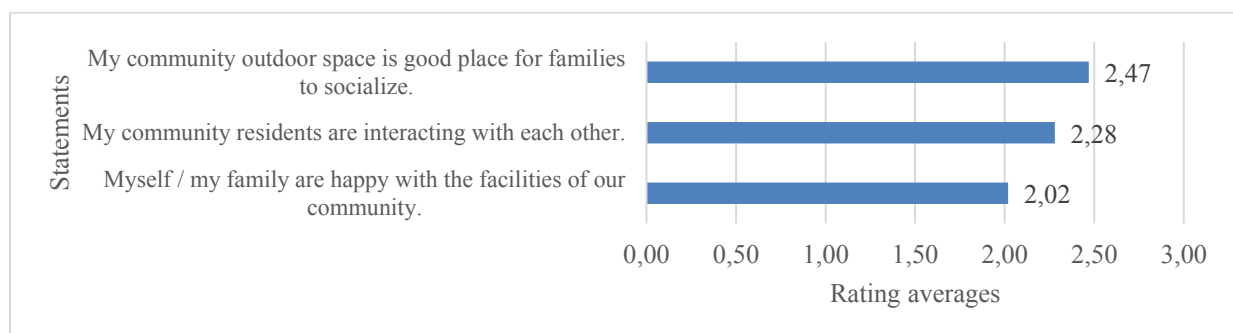
When participants were asked to describe the status of their current accommodation unit, many respondents (25.7%) stated that their homes were not accessible to an open space or playground. This finding indicates how essential it is to connect the outdoor space with the living unit. This supports the urban study by Gehl and Gemzoe (2004) (Chapter 8) who stated that the potential for developing a lively city lies in strengthening places for people to walk and bike safely and as well as to engage in social activities and cultural opportunities. This research adds to previous research by focusing on the differentiation between un-gated and gated communities which were not examined separately in previous urban research.

Q30: Here are some ideas to improve the community/neighbourhood planning that collected from a variety of residents and business owners. What do you think?



In order to understand people’s needs, survey respondents were asked to select their best ideas to improve their community. The most commonly requested idea was to improve retail facilities, rating 3.21. This survey finding corroborates the finding of research conducted by Hakim (1986) (Chapter 3, S 3.4.1; 3.6.4.2) when he described the importance of retail space in an ungated community and how this facility function as a souk, typically located beside residential buildings and a mosque. Hakim explains that it is the culture of people in the Middle-East regions to prefer to walk short distances to retail areas within a residential area than to drive. This was the idea behind the research charrette layout presented to participants (Chapter 5. S 5.6.2).

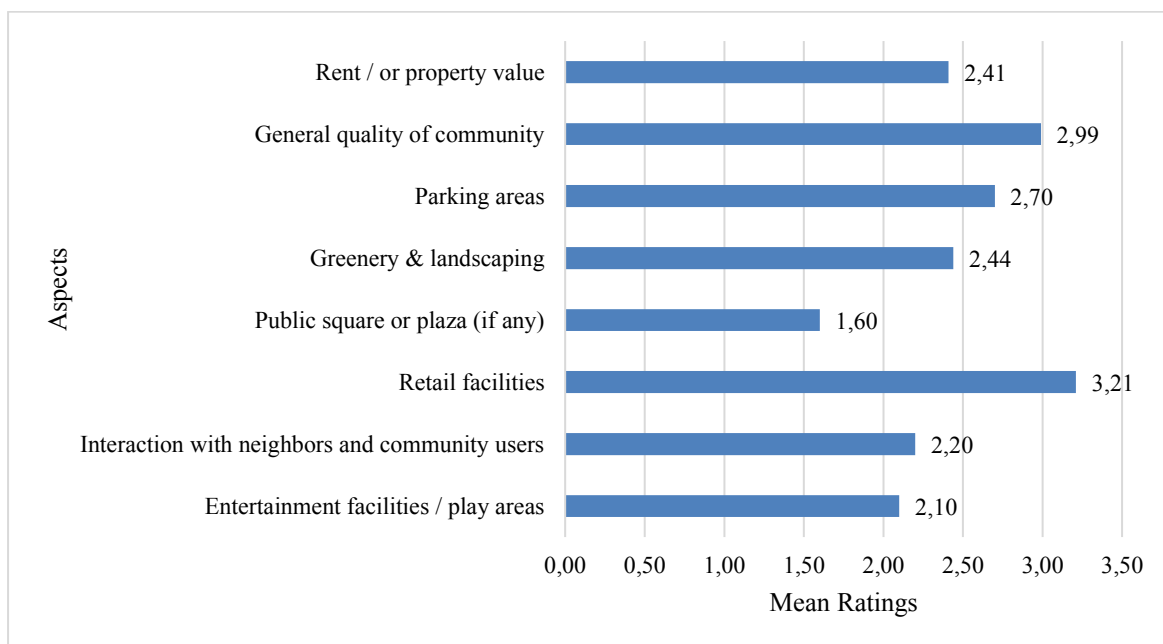
Q31: To what extent do you agree or disagree with following statements?



The survey respondents had different opinions about the facilities in their community. The statement that community outdoor space as a good place to socialise was rated 2.47/3.0,

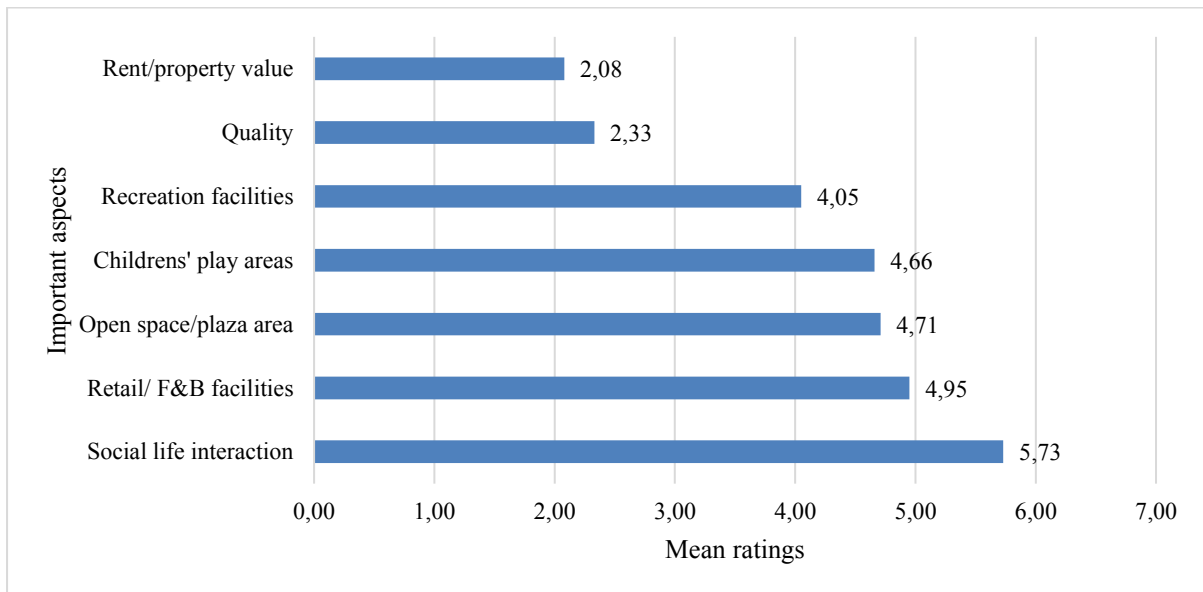
interaction between residents was rated 2.28/ 3.0, and satisfaction with the community facilities was rated 2.02/ 3.0. There are similarities between this survey finding and the urban planning studies of Tibbalds (2001) (Chapter 2, S 2.1) in research into improving the public environment in towns and cities. Tibbalds explains in several statements that good life comes from a conducive social and cultural environment. He outlined in his study people’s behavior and attitudes in different communities, where focus was laid on public spaces. Perhaps this is because urban public spaces are where people interact, communicate and learn to understand and accept others.

Q32: How satisfied are you with each of the following aspects of your living community?



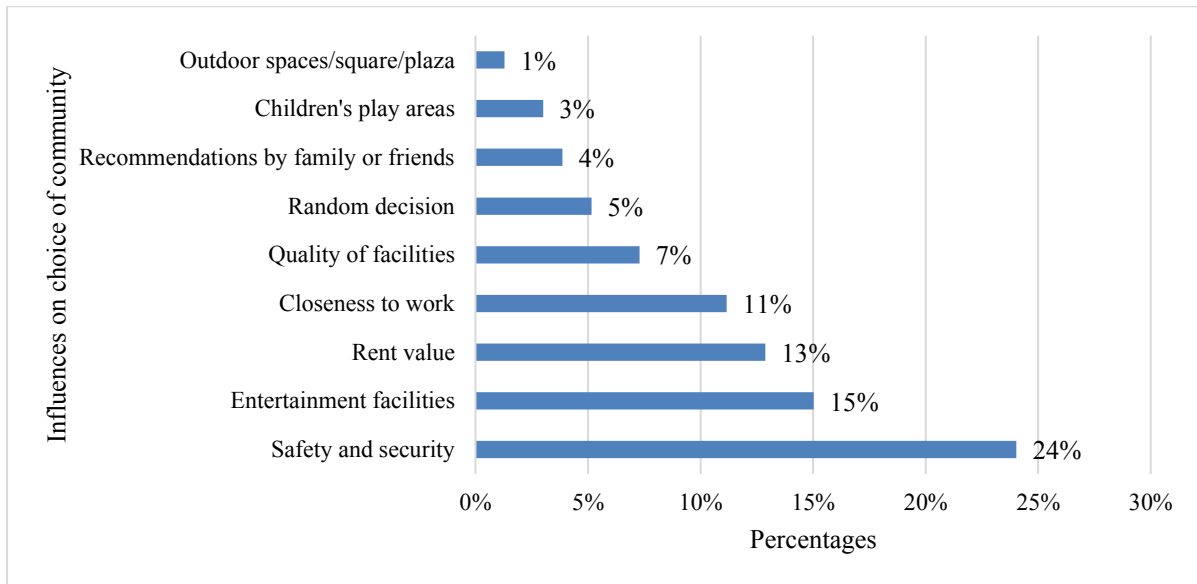
When respondents asked to rate their satisfaction on aspects in their living community, the ratings were as follows: retail facilities were highly rated at 3.21/3.5, general quality for community at 2.99/ 3.5, and parking area at 2.70/ 3.5. These findings are natural outcomes from ungated community with high density populations and correlate with urban studies by Gehl (2007) and Madanipour (2003) who noted that community planning is facing environmental challenges. Therefore, controls and design regulations need to be established to create sustainable communities.

Q33: Rank in order of importance, what is the most important thing your family look for in your community category?



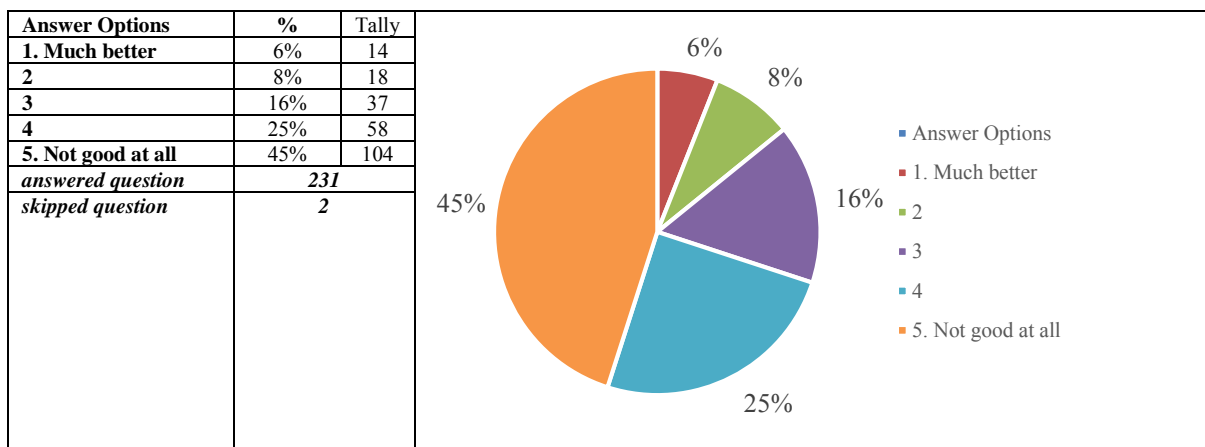
When the respondents were asked to rate the most important thing that their family looks in their community, the most repetitive responses were areas where social life interactions could take place (with 5.73 mean value). The mean values related to retail/F&B facilities (4.95); open space/plaza area (4.71); children’s play areas (4.66); and recreation facilities (4.05) could possibly be related to the need for social interaction, although this was not tested. These findings correlate with urban study by Gehl and Gemzoe (2004) (Chapter 8). They state that the potential for developing a sustainable city lies in integrating recreation and entertainment facilities that allow people to gather and socialise. Their argument relates to the observations of many public open spaces in Europe which are experiencing a deterioration in quality and safety.

Q34: What influenced you to live in your community?



The result of Q34 was an unanticipated finding and provides evidence that safety and security (24%) are the highest need for people living in ungated communities and had influenced the respondents to live in their current community. This links back to the previous section on safety and security (Section 6.3.1.3). This result matches earlier research by Eldemery (2010) and Steptoe & Shankar (2013) (Chapter 4, S 4.2)). These authors state in different studies that both social isolation and loneliness are associated with civic environmental decision-making and the role of open spaces in overcoming this. The researcher is of the opinion that the influences stated in Q34 are factors that decrease social isolation in newly developed communities.

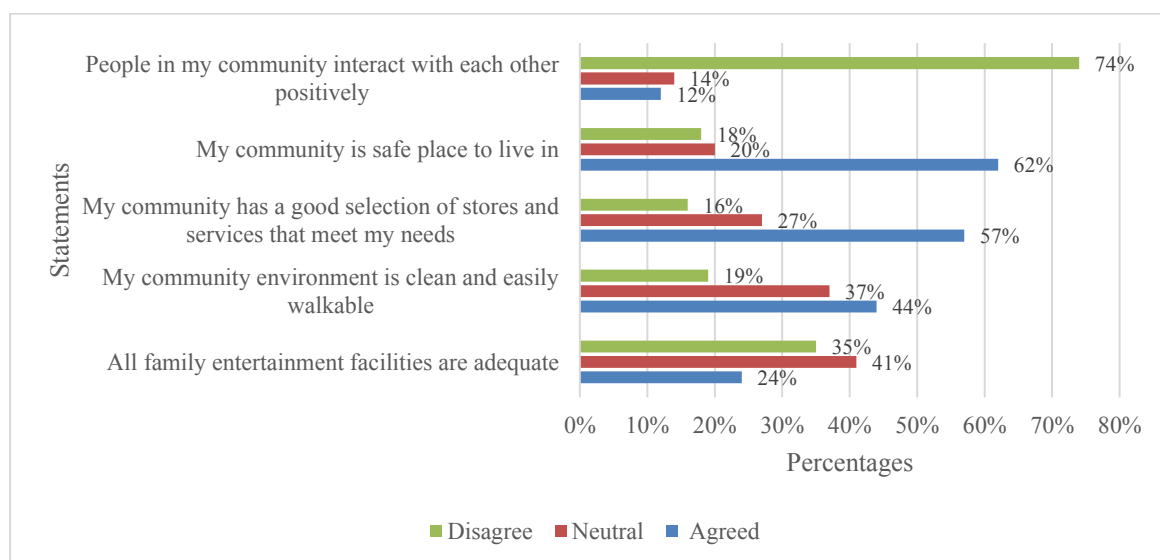
Q35: How does your community compare with other communities in terms of facilities and social activities?



It is also found that the 45% of the respondents were dissatisfied with the facilities and social activities provided in their community. When added to the next category 4 at 25%, it can be

seen that the majority of the community (70%) do not favorably compare their community's facilities and social interaction with other communities. The findings of Q35 are consistent with studies of Gibberd (1953) (Chapter 2, S 2.12.3) and Jacobs (1961) (Chapter 2, S 2.12.3) who highlighted that the approaches to city or community planning should provide for social activities and interaction rather than simply displaying a number of architectural elements. The statement of both authors justifies the researcher's objectives that a new approach to urban design to serve social life is to needed rather than prioritising architectural features and patterns.

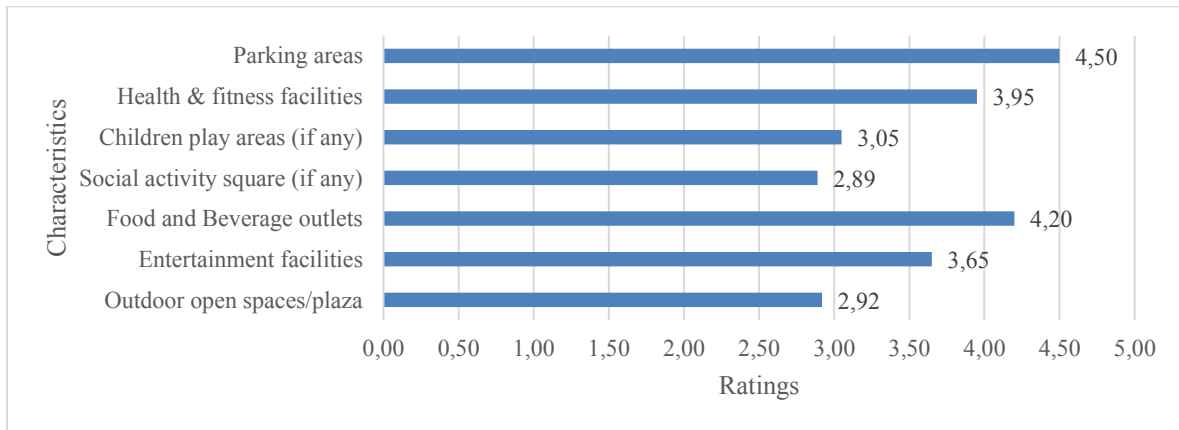
Q36: For each statement, please indicate whether you strongly agree, or strongly disagree with each statement:



When respondents were asked to indicate if they agree or disagree on certain conditions in their community, 74% of respondents disagreed that interaction with other residents in the community is positive. Moreover, 62% of respondents agree that the community was safe, followed by 57% of the respondents agreeing that their community had a good selection of stores. This finding accords with the researcher's field observations that took place in the research case studies (see chapter 5). The results corroborate urban planning research by Carmona et al. (2008) who state that public spaces are essentially socio-functional. This is also in line with Jacobs (1961) who stated that public open spaces, parks and plazas are containers of human activity and places for social life. The same kind of observation was a key element in the current research and is emphasised by Gehl (2007) in urban studies undertaken in Scandinavia.

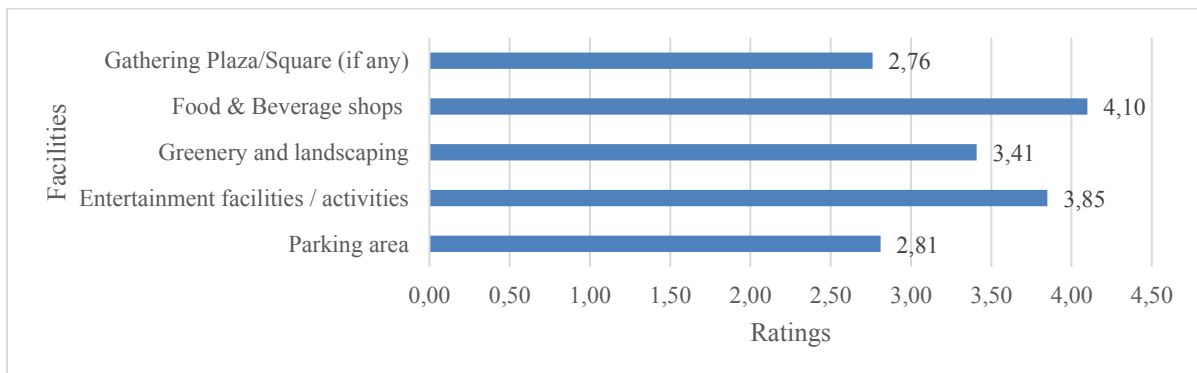


Q37: How would you rate each of the following characteristics of your community?



When respondents were asked to rate the characteristics of their community, parking areas were rated the highest (4.50-mean value) and the lowest is the social activity square (if any) rated (2.89-mean value). Moreover, most of the respondents rated “social activity square” (2.89-mean value) and outdoor open spaces/ plaza (2.92- mean value) as poor. This finding differs from research by Carmona et al. (2010) (Chapter 2, S 2.4.2) who emphasise that an ideal liveable community is not simply one that displays a group of specific characteristics; it is a comprehensive urban-planning concept, correlating buildings, roads, open spaces and merging adjacent districts. The concept referred to is a base from which to establish an urban design policy that regulates the master planning.

Q38: How satisfied are you with the facilities in your community?

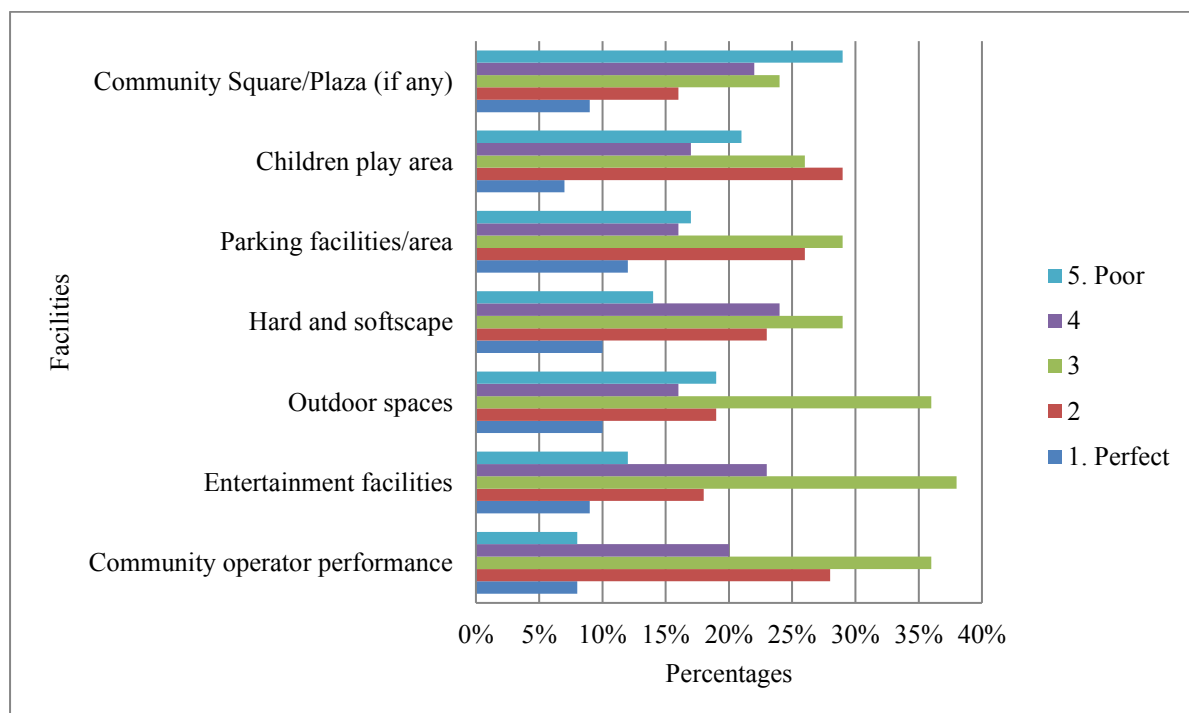


It was found that the food and beverage facilities of the community were rated as the most satisfactory factor (4.10-mean value), whereas the public square or plaza (if any) was rated as the least satisfactory factor (2.76-mean value) in the community.

The respondents also felt that they and their family would choose a community square/ plaza/ courtyard in their community (59.0%) if they had to utilise only one of these social places.

The satisfaction percentage of the current community respondents with the facilities resulted in poor for the “entertainment facilities/ activities” (3.85-Mean value) whereas “parking areas” resulted in fair with 2.81-Mean value. The findings have shown a triangular correlation between the public square as a gathering place, the food and beverage shops and the entertainment facilities for residents and community users. These findings, although they corroborate urban studies by Gehl (2007, Chapter 2, S 2.12.2) and Madanipour (2003, Chapter 2, S 2.1), contradict the results obtained from similar research by Forrest and Kearns (2001, Chapter 4, S 4.3) who envisage that social interactions can be threatening and oppositional and social cohesion in community with public square can result in some groups of people forming in opposition to others. The current research contradicts findings from previous urban studies, and asserts that proper positioning of public space, both accessible by residents and with good security can prevent unpleasant incidents.

Q39: This set of statements is designed to measure the effectiveness of your community facilities. Please rate the level of quality in each area.



It was found through the rating for the effectiveness in the current community facilities that the respondents felt that community square/ plaza (3.46-Mean value) and children’s play area (3.16-Mean value) were very poor.

From the data analysed thus far, the community lacks in outdoor spaces, community square/ plaza and children play area which makes it vulnerable. These findings agree with what

previous researchers concluded about the importance of the public square as the centre of activities (Madanipour, 2003) and (Gehl, 2007). Nevertheless, the survey findings are different from other urban studies as they define the differences between ungated and gated communities which were not identified in previous urban research.

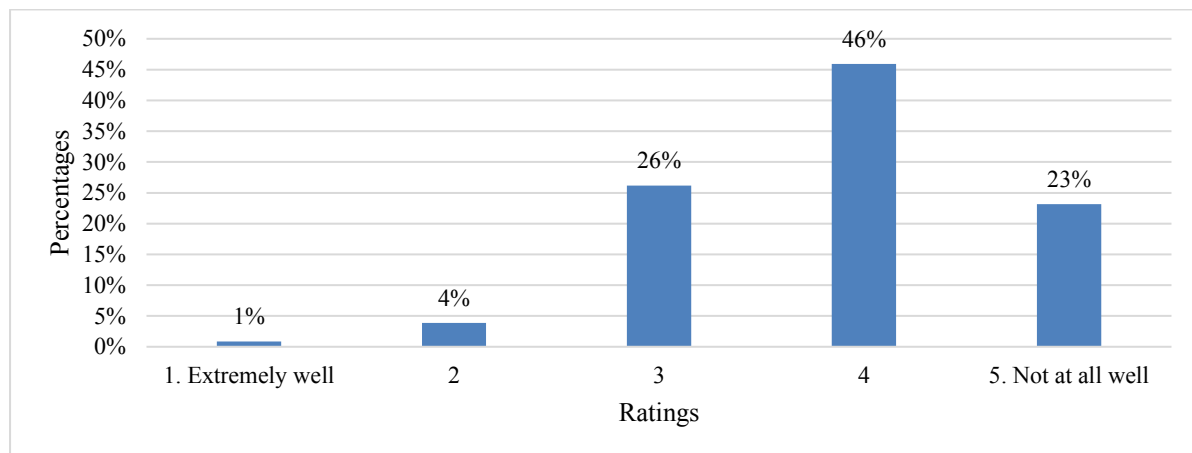
### 6.3.1.7 Opinions on innovation and planning: Q40–Q43 (Appendix B)

The research objective addressed in this section is:

- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.

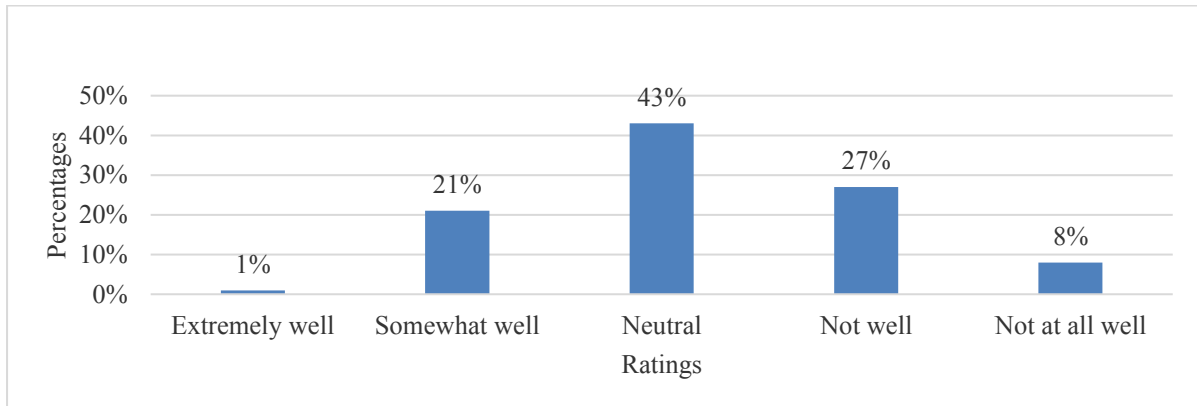
The next set of questions was aimed at getting input on planning and design of communities. The results are presented in the graphs below.

Q40: How well, if at all, does the word “INNOVATIVE” describe your community?



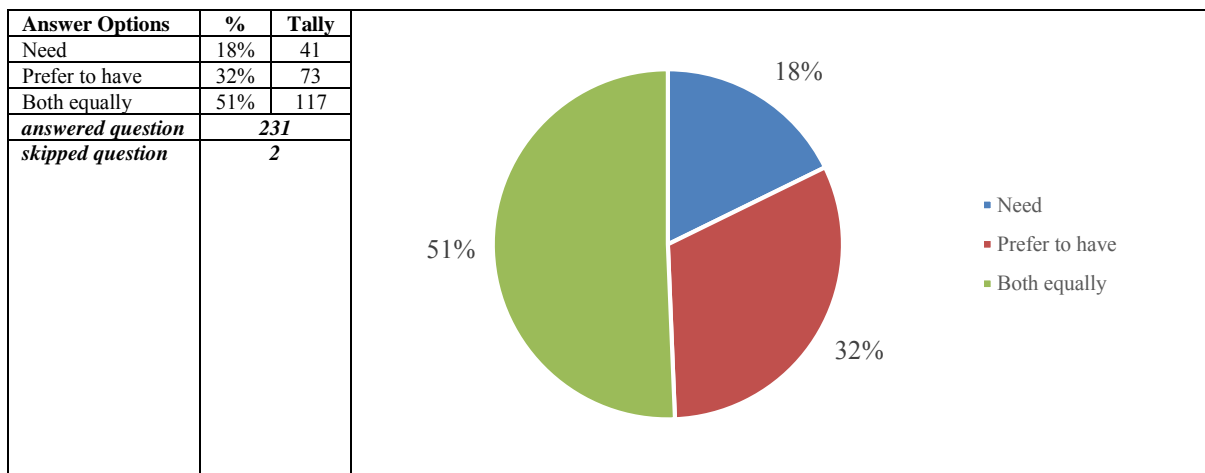
When respondents were asked to rate their community in terms of innovativeness, it was found that the respondents felt that their community lacked in the following criteria: innovativeness (46.0% dissatisfied) and planning (43.0% neutral). These findings reflect the conditions of the ungated communities where the survey was conducted. Linking these findings with the literature, Gehl (2007) stated that people feel that public squares need to enhance their well-being. His statement relates to research on providing innovative solutions in the public places. This relates to the next question on how respondents described the status of planning their communities.

Q41: How well, if at all, does the word “WELL PLANNED” describe your community master plan?



The respondents were asked to describe how well planned their community was. It was found that 43% rated their community planning as neutral, 27% chose not well and 8% of respondents selected not at all well. These findings reflect that majority of residents in ungated communities are not convinced about the value of the planning of their living place and envisage improvements to the master plan. The researcher is of the view that it is critical to continue to improve urban design and adapt the current master planning regulations accordingly (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11).

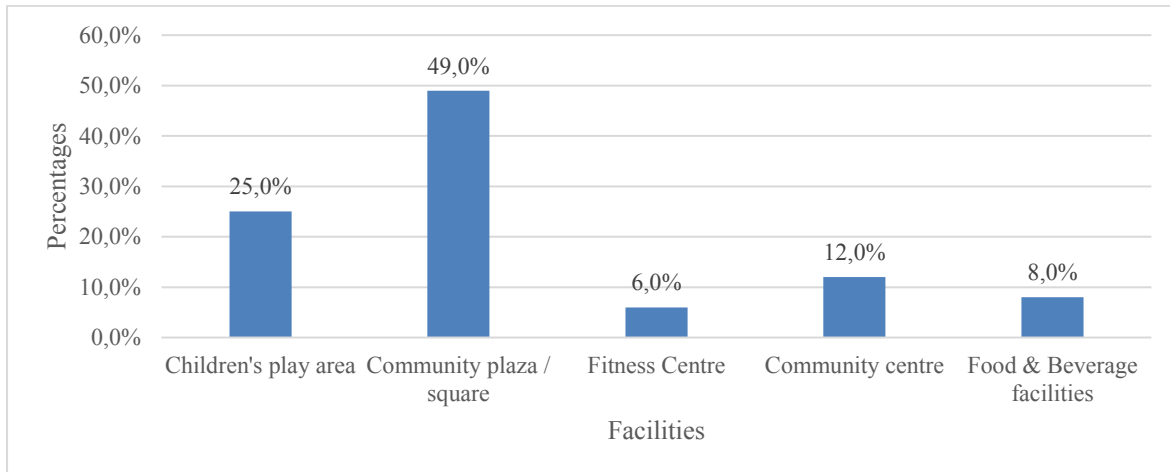
Q42: When you think about new community facilities, do you think of it as something people might NEED or as something people might prefer to have?



In testing people’s preferences for community facilities, it was found that 32% rated that facilities are preferred to have it, and (51%) rated both needed and preferred. The findings indicate that ungated communities in the UAE are densely-populated places which in need for more entertainment facilities which are lacking in their accommodation premises. These

finding correlate with research by Madanipour (2003, Chapter 2, S 2.1) stating that people need a variety of community facilities space that allow them to meet and interact. He was referring to the open public spaces in communities that lack entertainment.

Q43: When you are considering new facilities in this community, what are the top two things you would like to see?



When the respondents were asked about new ideas that would improve the current community status, they expressed that they were in need of public square/ plaza with 3.57-mean value as opposed to other factors such as: need outdoor recreation facilities (3.46-mean value); need better security assistance (3.01-mean value); need more F&B outlets (2.98-mean value); need a library zone (2.51-mean value); and isolated parking areas/ zones (2.21-mean value). Contrary to the results obtained from Q43, Forrest and Kearns (2001) (Chapter 4, S 4.3) envisage that social interactions can be threatening and oppositional and social cohesion in community with public square can sometimes result in conflict between groups of people. Their statement was based on urban studies that high-density populations with a lack security and safety.

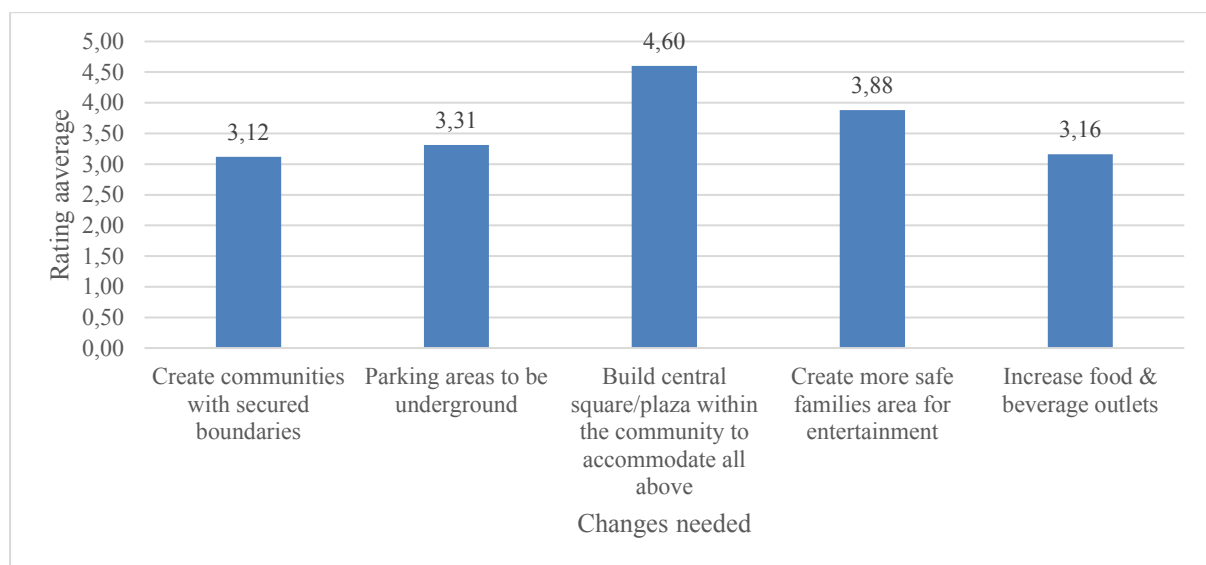
### 6.3.1.8 Recommendations for innovation and planning: Q44–Q48 (Appendix B)

The research objective addressed in this section is:

- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE (Objective 5).

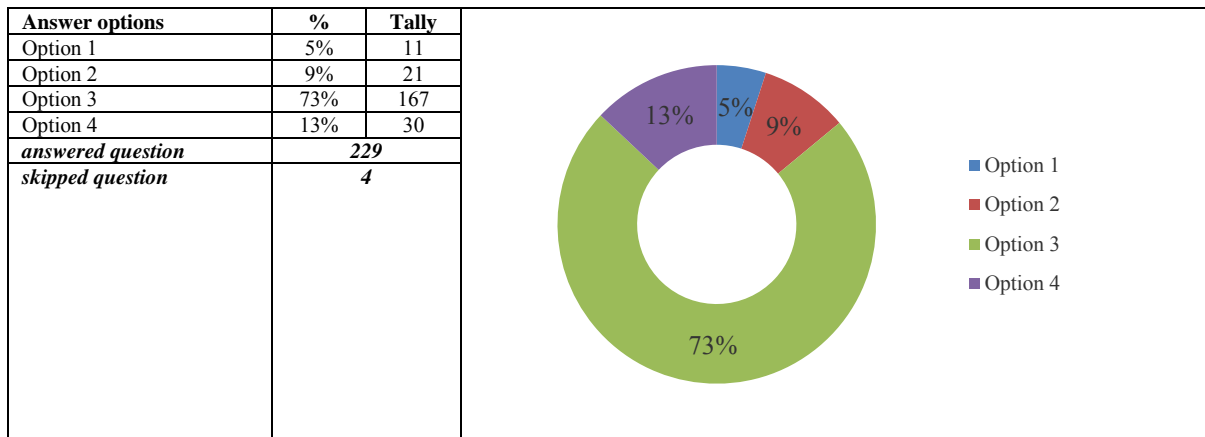
The following questions were designed to get the participants' recommendations for improvement. The results are presented in the graphs below.

Q44: In your opinion, what changes would the developers /authorities have to make for your community to give it a higher quality?

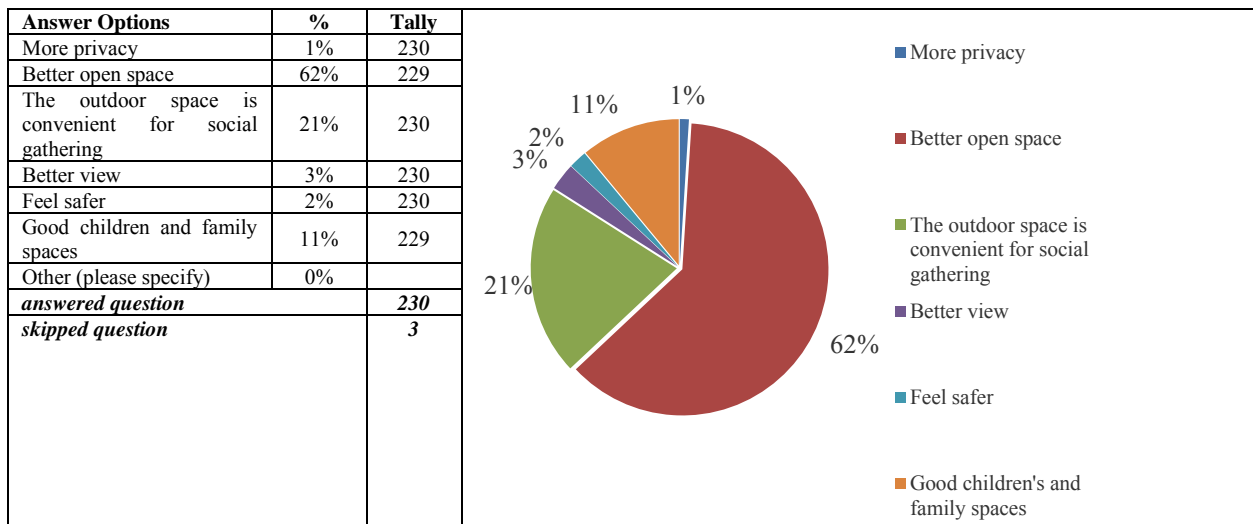


From the analysis., the respondents also wanted their community developers to include a central square/ plaza within the community to increase the quality more (with a mean value of 4.60). From the above analysis, it is clear that the current community lacks socialisation areas. Specifically relating to developing higher quality community, and contrary to the findings of Q44, Conway (2000) (Chapter 3, S 3.3) argues that social cohesion and interaction correlate with the social activities available in the community rather than open spaces for gathering. His argument was that urban planners that public open space cannot bring social life if it is functionally limited to an empty paved area.

Q45: Looking at the Charrette diagram, if you were given the choice of a community structure, what would be your preferred option?

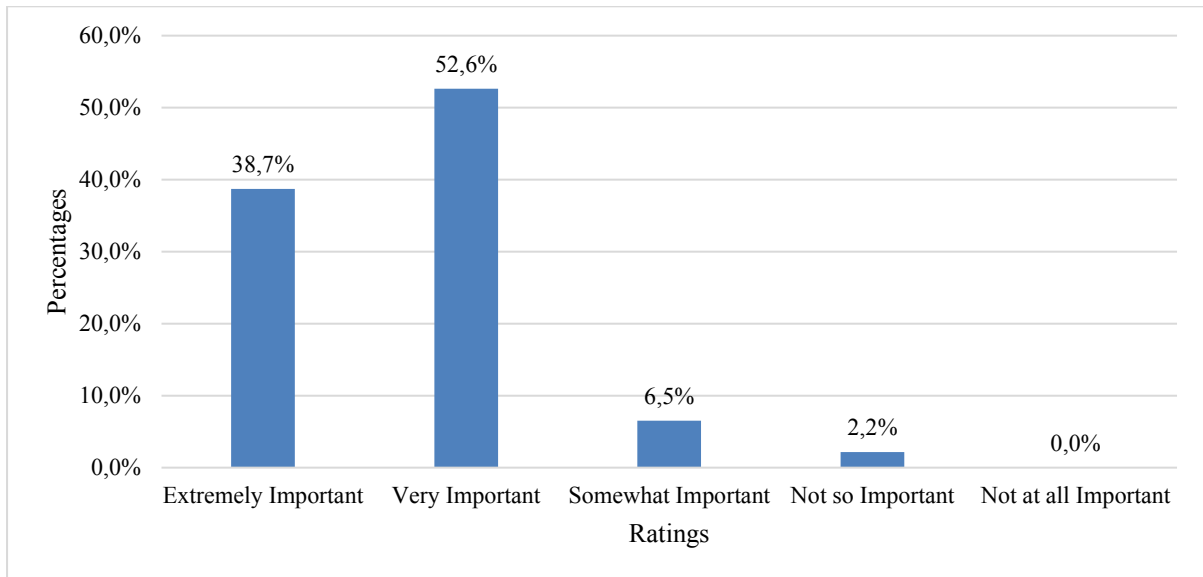


Q46: Indicate the main reason for selecting your preferred option.



It is inferred from the analysis of Q45 & Q46 is that 73% of the respondents chose option 3 (gathering plaza/ square for socialising) as their preferable community to live in, and it was found that the reason behind the chosen option would be the better open space (62.0%). This supports the findings by Gehl (2010) (Chapter 5, S 5.2.4) who points out that walkability and easy accessibility to community through an open space regardless of the space typology is an indication of successful liveable community. The researcher is of the view that urban public squares have been the subject of urban studies that the efforts of many urban actors and stakeholders are required to achieve a better social and cultural environment.

Q47: How important is it for the government to develop better liveable communities in UAE?

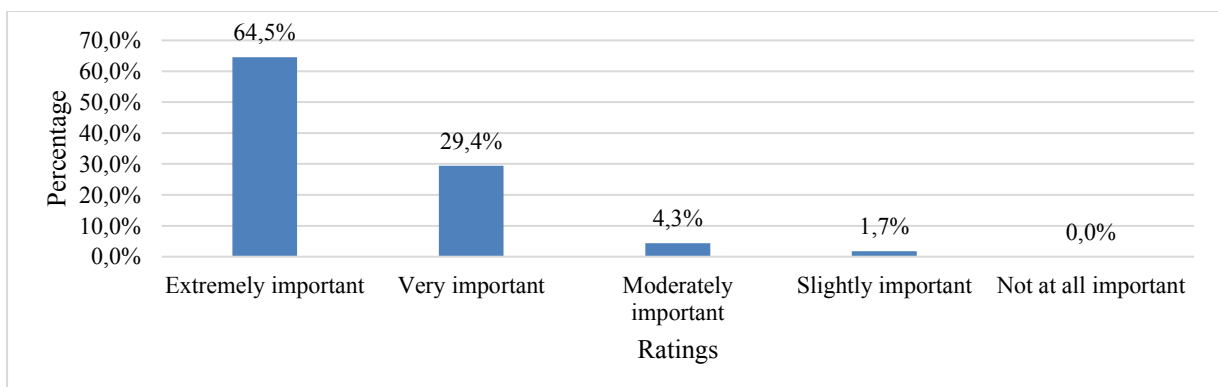


As per the next set of analysis, it is inferred that the respondents feel that it is very important the government should develop better livable communities in UAE with 52.6% and extremely important (38.7%). In line with these findings, Bukhash (2012) (Chapter 3, S 3.7.1) stresses the need for smart liveable communities in the UAE without losing the identity of architectural heritage. Bukhash’s statement is a vital point for the future development of UAE cities. This research is partially in line with the idea of bringing back the old architectural identity into the development of new UAE cities (see Chapter 3).

#### 6.3.1.9 Opinions on the importance of the current research: Q48 (Appendix B)

To validate the undertaking of this study, participants were asked to indicate whether it was important or not.

Q48: How important do you think this research is for future communities?





According to the gathered data, it can be inferred that most of the respondents (64.5%) feel that the current research is essential for future communities. If this percentage is added to those who selected “very important”, namely, 29,4%, it can be concluded that a significant 93,9% of participants feel that the research is important. Therefore, the results should be considered by the planning and regulatory authorities. Research by Carmona et al. (2016) (Chapter 2, S 2.9; S 2.11) concluded that more urban planning studies with adequate concentration on public open spaces and squares must be considered by urban planning decision-makers. Issues such as improving the urban design system, involving people and community residents in sharing opinions in the master planning process were prime topics in their research.

### **6.3.2 Group 2: Gated Community with Square/ Plaza**

#### 6.3.2.1 Descriptive data analysis: Q1–5 (Appendix B)

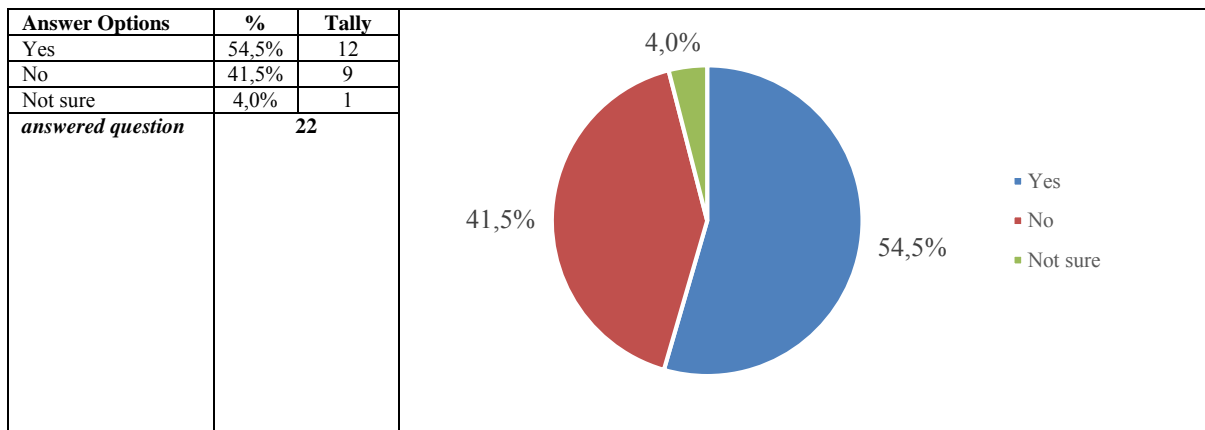
The Group 2 respondents (22 in number) as discussed earlier are the gated community users. As per the gathered data, most of the respondents are male (82.5%) which is somewhat similar to group 1 and more men took part in the research than women. The respondents (29.8%) were between 25 and 34 years of age and while 30.5% were 45 to 54 years of age. Married respondents were recorded as 77.3%. The selected respondents had either 1 or 2 children (50.0%). Most of the respondents (68.2%) lived in dwelling units (individual buildings) and 47.0% of them had been living in the current community for between 4-7 years.

#### 6.3.2.2 Opinions on the inclusion of a public square/plaza: Q6–11 (Appendix B)

The following analysis address the objective:

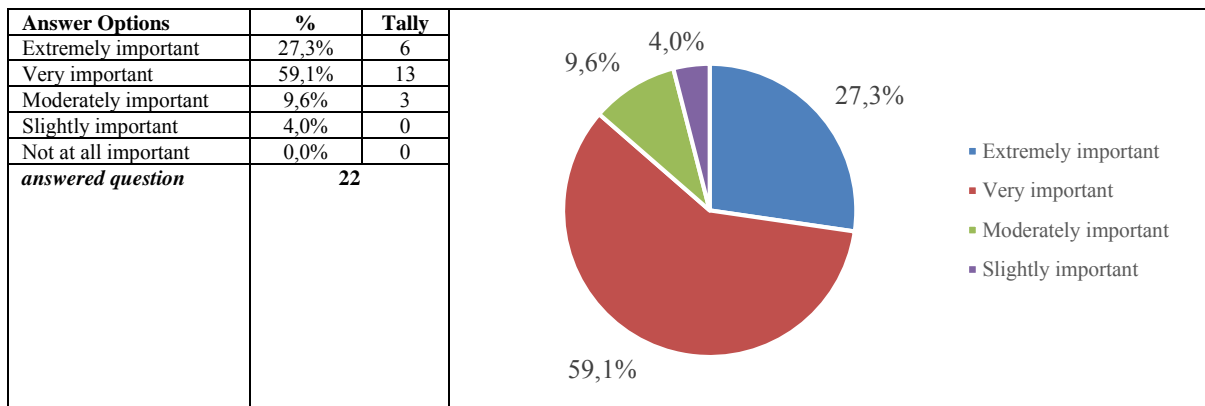
- To investigate people’s opinions of and preferences for urban squares and establish an understanding of users’ needs and requirements.

Q6: Have you previously lived in a community with a square/ plaza?

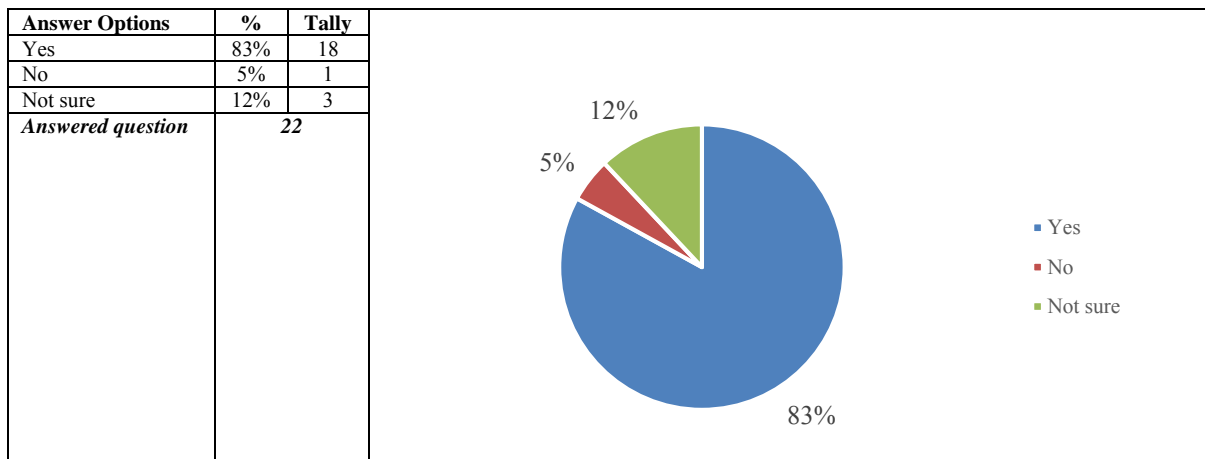


From the analysis, it is also inferred that the respondents had previous experience with living in an area with a square/ plaza (54.5%). The majority of respondents that were interviewed in two gated communities in Dubai (see chapter 5) were from European countries. The researcher concludes from this result that any residents moving to a gated community must have experienced the value of an urban square/ plaza in the community. These findings agree with the findings of other urban planning studies by Krier (1991, Chapter 2, S 2.3) and Ching (1996, Chapter 2, S 2.7.3). They both classified different typologies of squares and plazas and described the influence of architectural characteristics on people.

Q7: How important do you think having a square/ plaza within your community?

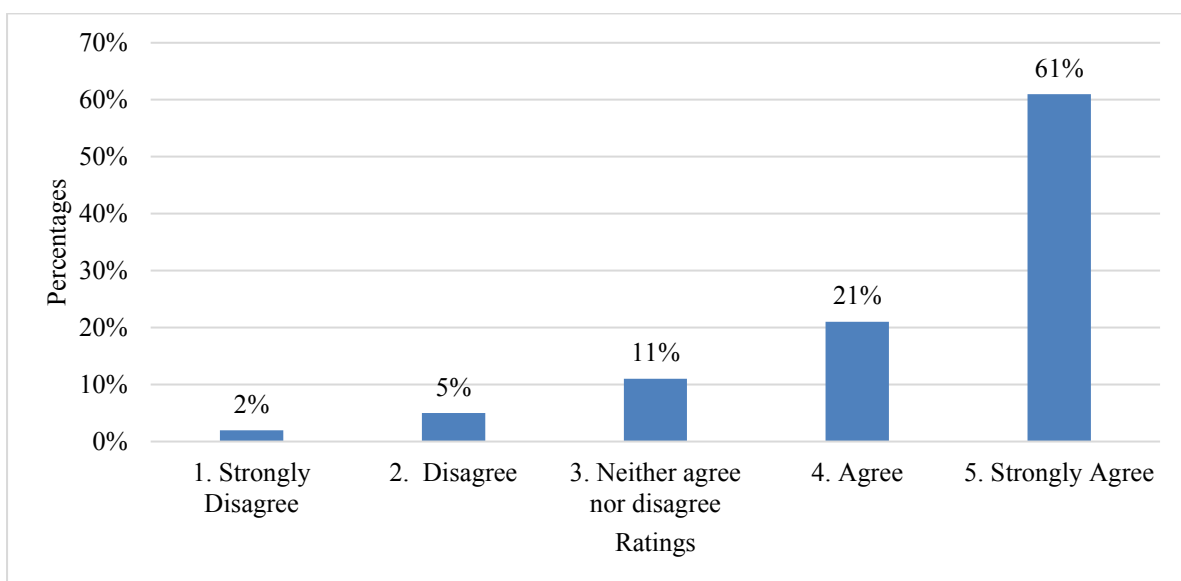


Q8: Do you feel the square/ plaza enhances your social living conditions?



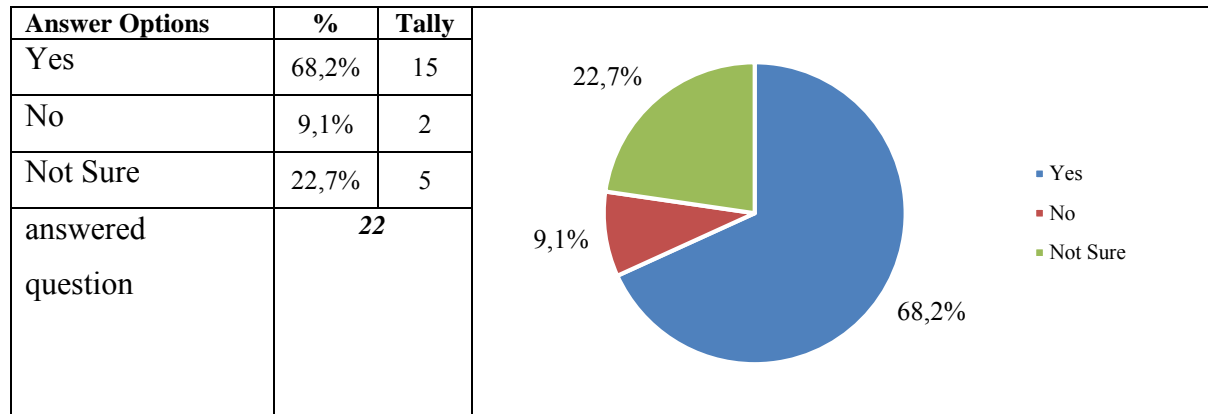
Survey respondents were asked two direct questions Q7 and Q 8 about their opinion on having a square in their community and how this space enhance social living conditions. The majority of the respondents (59.1%) expressed that having a square/ plaza within their community is very important, and were sure (83%) about that it enhances their lives. This finding corroborates the urban studies conducted by Krier (2003, (Chapter 2, S 2.3) and Gehl (2007, Chapter 2, S 2.12.2; Chapter 5, S. 5.2.2) in UK and Copenhagen. The most significant indication from the findings when compared to other scholars is that it focuses on residential gated communities where the public square is part of the compound, which will make the place more safe and secure.

Q9: To what extent do you agree or disagree that an urban square is needed for your community?



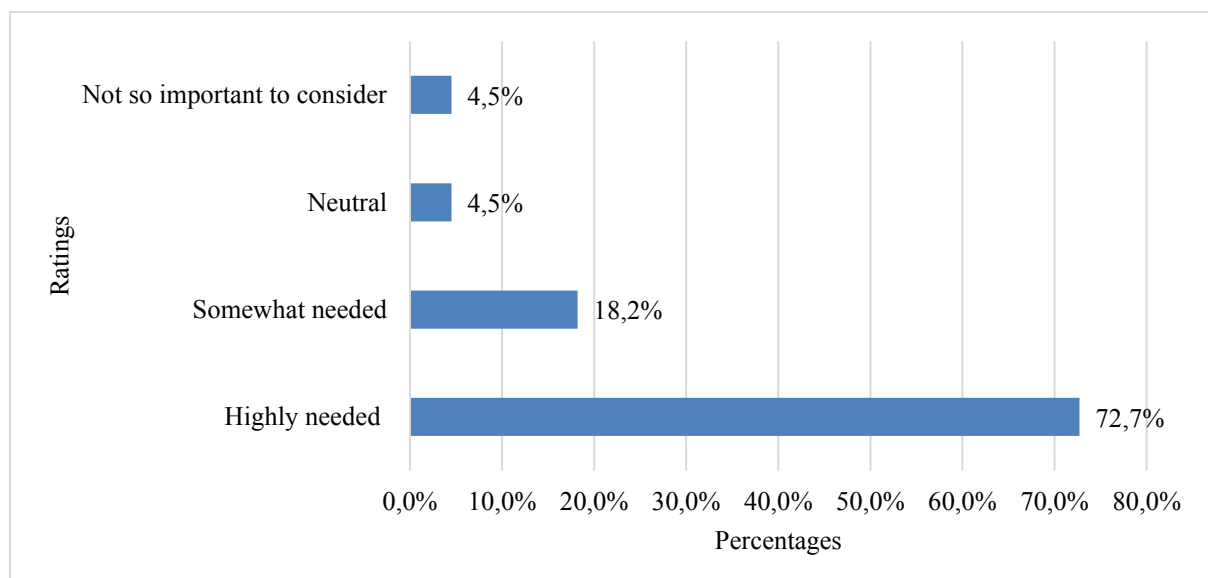
Following the results of Q7 and Q8, survey respondents agreed and strongly agreed (82%) that urban square is needed for their community. The finding correlates with the results of previous questions (Q7 & Q8) and indicates the need for such urban space that raises the level of happiness and well-being.

Q10: Would you like to keep living in your current community?



As per the current facilities and social interactions within the community, the respondents (68.2%) expressed that they would continue to live in the current community. The possible explanation for this finding in the researcher’s opinion is that the lack of adequate open spaces and squares in the new developed communities and districts in the UAE discourage people from moving away from a place where they are comfortable (Ezzeddine & Al Hajj, 2014).

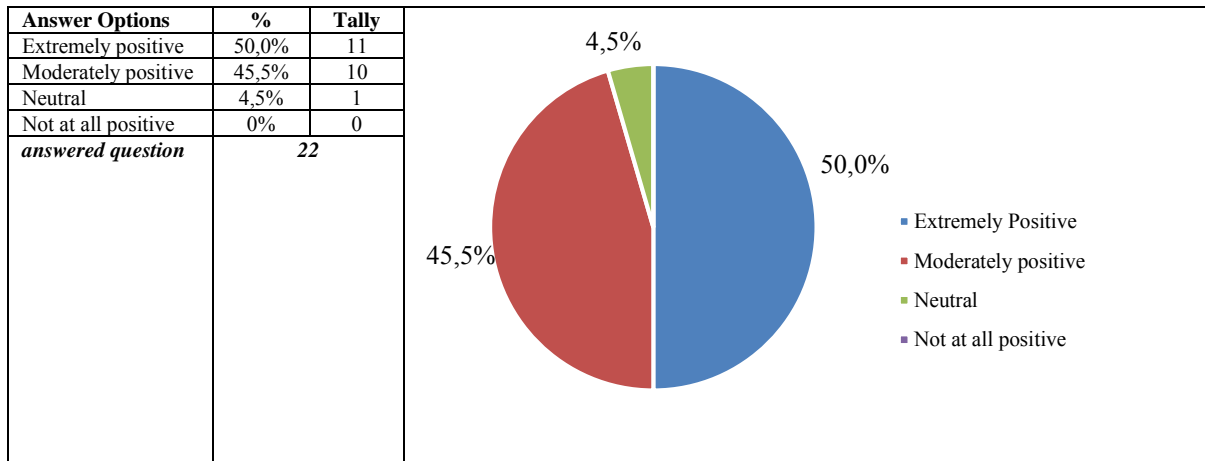
Q11: How do you consider the square within the community? Is it a place that is:



It was also found that most of the respondents (72.7%) considered that the square within their community was highly preferred or needed by the users/ residents. This finding explains the

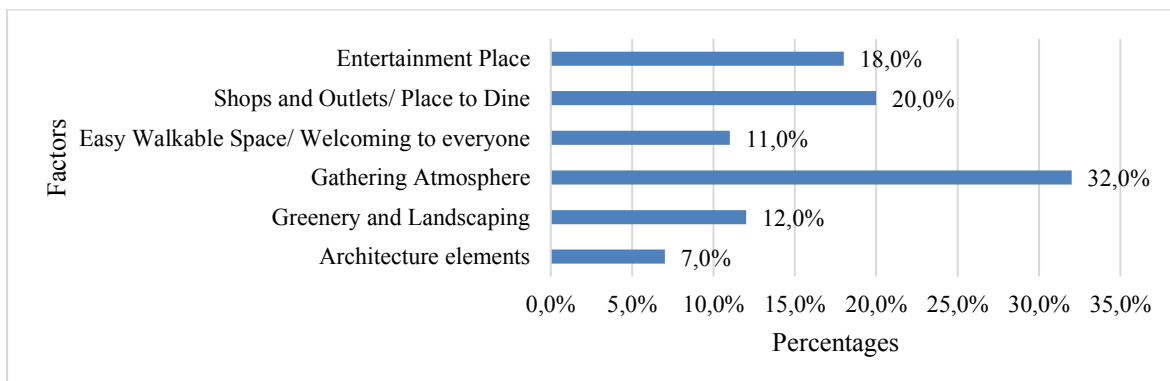
relatively good correlation between the urban square and the level of social interaction between residents. The researcher found certain contradictions with Madanipour's research which found that the level of interaction varies from public space to another, relating this point to the different ethnicities and cultures of people.

Q12: How positive do feel about living in a community with Square/ Plaza?



The respondent's family members or the respondents themselves living within the gated community square/ plaza were extremely positive about the liveability of the area (50.0%). Although, this result differs from published research of Hill (2014, Chapter 2, S 2.7.2.3) and Moughtin (2003, Chapter 2, S 2.8.4), it is consistent with studies by Gehl (2007, Chapter 2, S. 2.7.2.1). Moughtin states that urban square is the most important urban space in developing sustainable cities. By contrast, other urban scholars emphasise that the urban square is a place framed by buildings and an area designed to give access to the buildings rather than the space. The researcher argues that public square is a space that should merge with the surrounded buildings as an essential feature of community life.

Q13: What do you like best about the square?



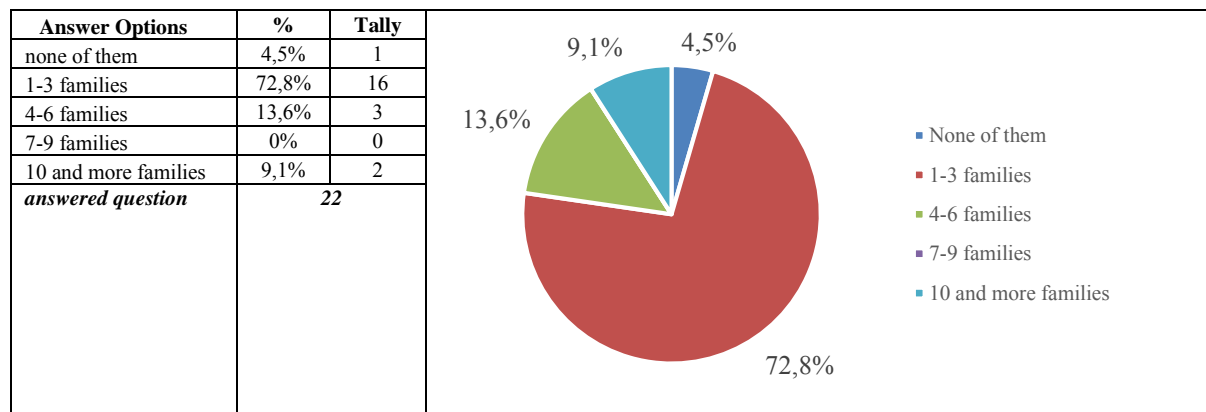
When asked what they like best about square in their community, respondents expressed that architectural elements (7.0%), greenery and landscaping (12.0%), gathering atmosphere (32.0%), easy walkable space/ welcoming to everyone (11.0%), shops and outlets/ places to dine (20.0%) and entertainment place (18.0%) in their square attracted them (as facilities). This is due to the availability of a public square within the community. The explanation behind these findings, mainly the gathering atmosphere (32.0%) is that people’s interaction and gathering exist mainly in an open space where family activities take place. These findings are in line with the urban study on squares by Moughtin (2003) who stated that activities in a square are essential for its vitality and its visual attractiveness. The researcher agrees that the design and form of square should be proportionate to the number of residents or occupants in and around the square.

### 6.3.2.3 Opinions on social interaction: Q14–18 (Appendix B)

The analysis below addresses the following research objective:

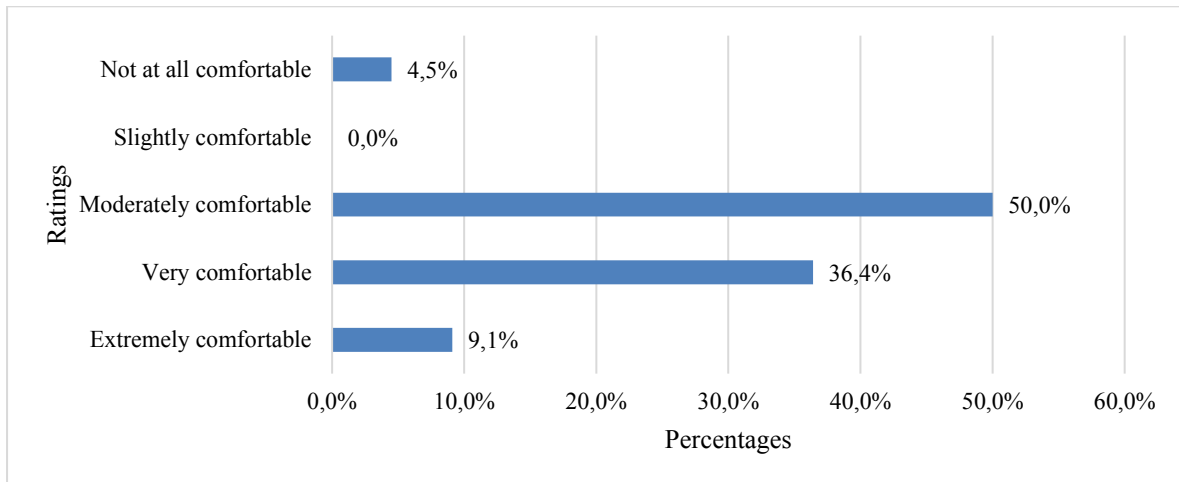
- To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.

Q14: How many of your neighbours/ families do you know in your community?



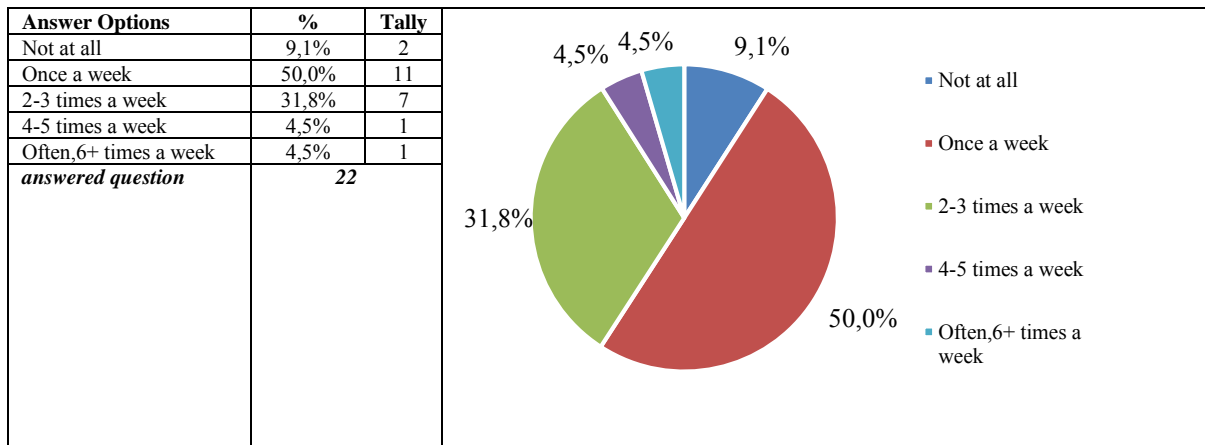
When the respondents were asked about how many neighbours or families they knew within their community, the responses were that 72.8% of the respondents knew 1-3 families. This finding is an evidence that the square place increases the level of social interaction between neighbours and families in gated community (Ezzeddine & Al Haj, 2014, Chapter 2, S 2.11).

Q15: How comfortable are you living with your neighbours?

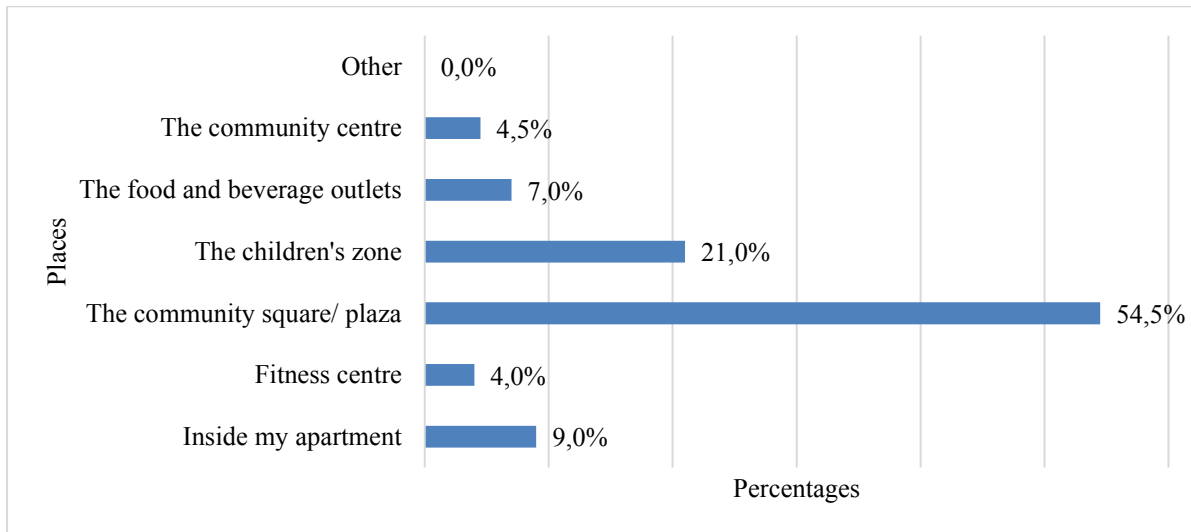


In terms of the comfortableness of living within the community, 50.0% of the respondents were moderately comfortable. The intention of the researcher in presenting Q15 to the respondents was to test the relationship between people’s level of comfort and the impact of the square on their living environment. The findings of Q15 are compared with the results Q16 and Q17 below.

Q16: How often do you spend time with your neighbours within your community?

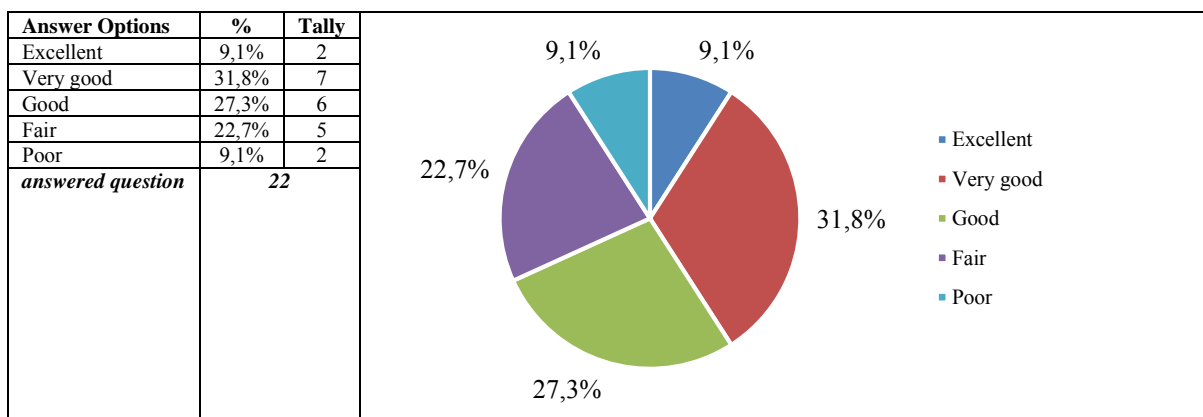


Q17: Where within your community you regularly meet and interact with your neighbours?



Combining Q16 and Q17 results as both linked, it was found that only half (50.0%) of the respondents spent time with their community neighbours once a week. A deeper analysis found that the respondents regularly met and interacted with their neighbours in the following facilities: 9.0% of the respondents inside their apartments; 4.0% in fitness centre; 54.5% in community square/ plaza; 21.0% in children zone; 7.0% in food and beverage; and 4.5% in the community centre. From the above analysis, it is clear that the respondents and their families spend more time at the square/ plaza more than other facilities. This finding was previously observed and recorded by Massam and Everitt (2004, Chapter 2, S 2.5). They justified their findings by describing square as a central place that served a number of related functions.

Q18: How would you rate the social interaction between your family members and other neighbours?



It was found that over 70% of the respondent/ family members have positive social interactions with their neighbours (that is: excellent: 9.1%; very good: 31.8%; good: 27.3% and fair 22.7%);

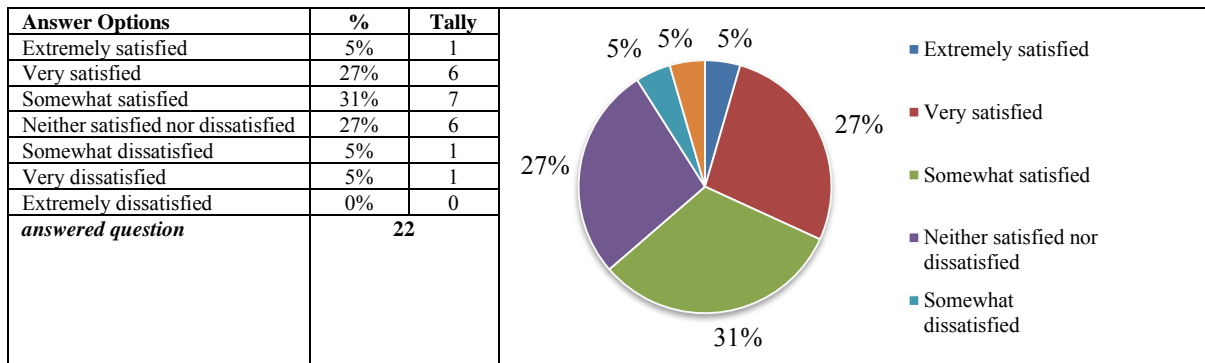


the rest 9.1% as poor). This finding provides more support and strong evidence that a public square is a place that increases the level of social gathering and family interaction with neighbours in a gated community (Harun et al. 2014, Chapter 4, S 4.8.2; Ezzeddine and Al Haj, 2014, Chapter 2, S 2.11; Chapter 3, S. 3.6.1).

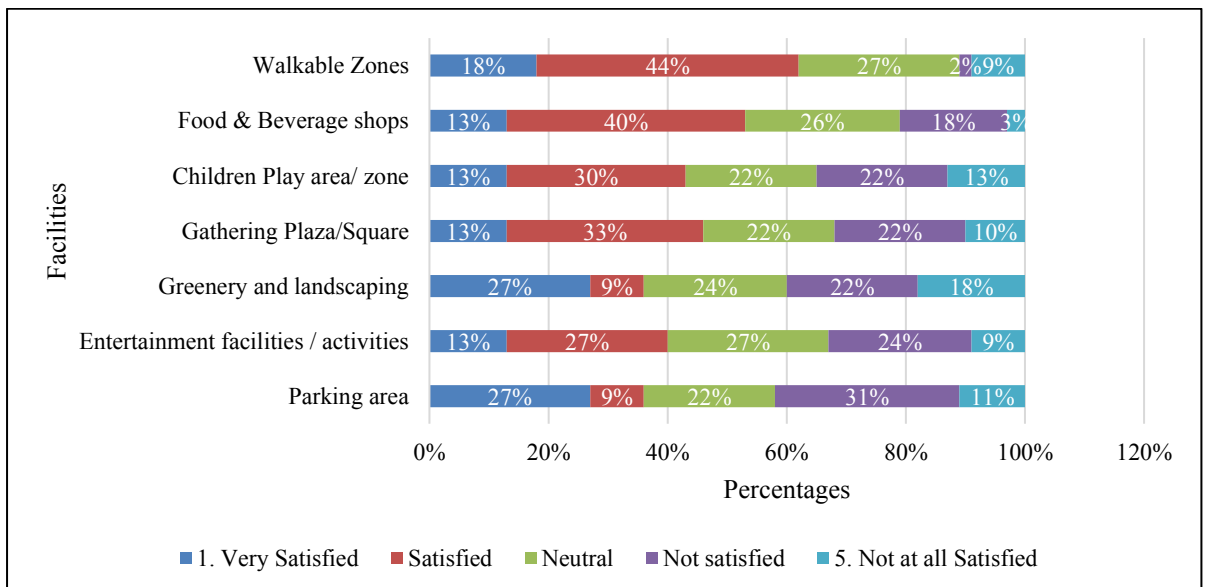
#### 6.3.2.4 Satisfaction ratings: Q19–23 (Appendix B)

Participants were also asked questions about factors within the community that created satisfaction or dissatisfaction for them as residents. The results are displayed in the graphs below.

Q19: Overall, are you satisfied, dissatisfied, or neither satisfied nor dissatisfied with the appearance of your community square?

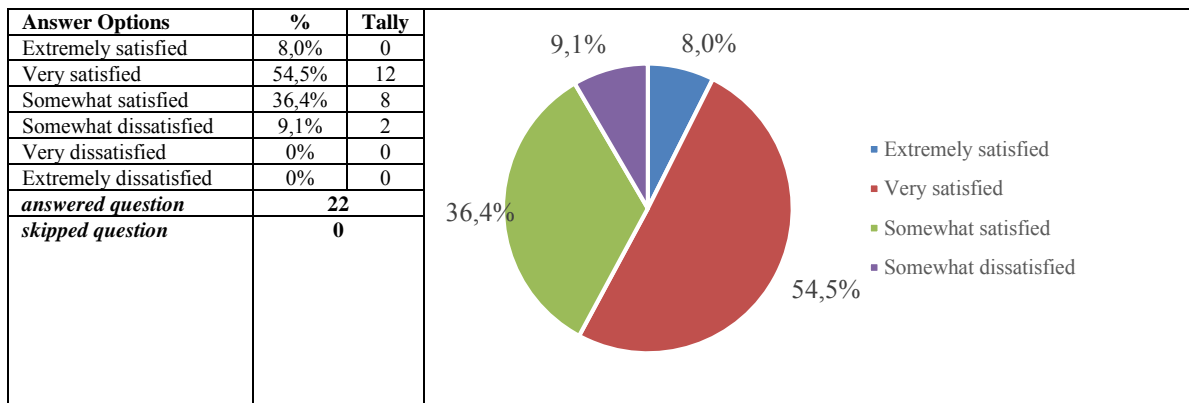


Q20: What is the rate of your satisfaction percentage with facilities in your community residence place?

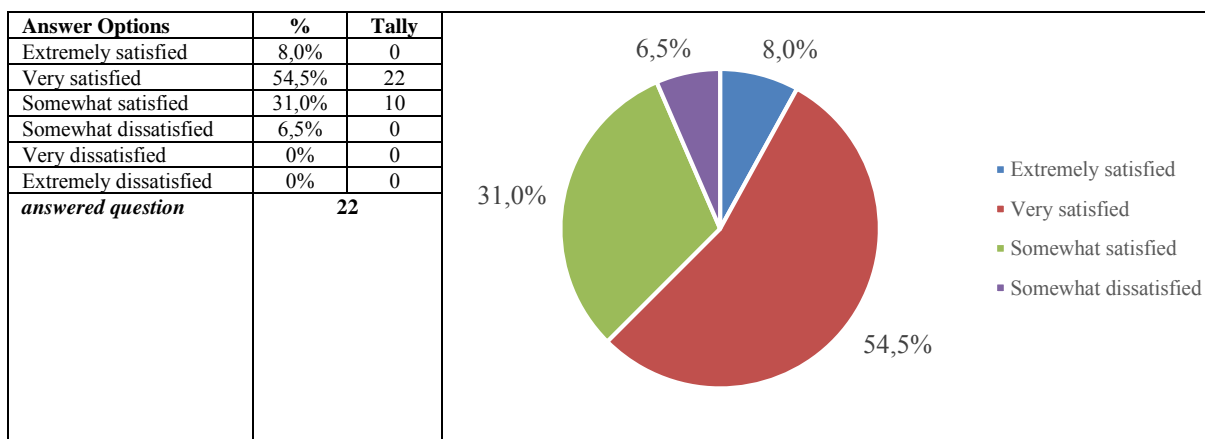


The combined results of Q19 and Q20 show that the mean value in terms of satisfaction with regard to their community facilities, were the following: parking area (31.0% not satisfied); entertainment facilities/ activities (27.0% satisfied and 27.0% neutral); greenery and landscaping (27.0% very satisfied); gathering plaza/ square (33.0% satisfied); children’s play area zone (30% satisfied); food and beverage shops (40.0% satisfied); and walkable zones (44.0% satisfied). These findings show that the plaza/ square is the third most important element in contributing to satisfaction after walkable zones and food and beverage shops as expressed in a similar urban study by Gehl (2007, Chapter 2, S. 2.12.2; Chapter 5, S 5.2.2). The unexpected combination of these findings provides clarity that the two case study communities, (UPMD and (DMW) representing group 2 are more commercial places for people to dine and entertain rather than a place for family interaction. The researcher therefore argues that to have an effective liveable environment, the inclusion of an urban public square is a priority that should serve the residents and users rather than the needs of the authorities or developers.

Q21: Overall, are you satisfied, if at all, with the appearance of your community square/ plaza?

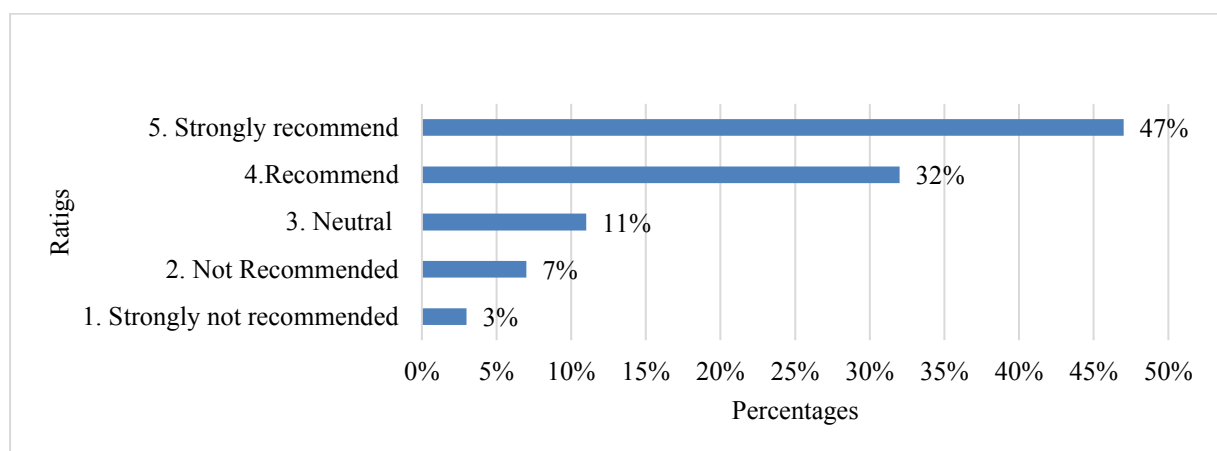


Q22: Overall, how satisfied are you with the level of comfort at the square/ plaza?



The results from both Q21 & Q 22 confirm the association between satisfaction and comfort in the community. Most of the respondents (54.5%) are very satisfied with the appearance of their community square/ plaza and the level of comfort at the square/ plaza in their community, which means that more than 71.0% of respondents in total are satisfied and felt that the square/plaza greatly enhanced their social living conditions. These findings are in line with urban design academic research on public and private spaces in UK cities conducted by Madanipour (2003, Chapter 2, S 2.1). Madanipour describes public spaces in UK as rich spaces that combine public life with buildings and streets as one urban unit.

Q23: To what extent would you recommend this community to a friend or colleague?



Most participants said they would recommend (32.0%) and strongly recommend (47.0%) the current community over other community squares/ plazas to their friends and colleagues. However, this result has not previously been described by urban design scholars, but some authors (Gehl, 2007, Chapter2, S 2.12.2; Moughtin, 2003, Chapter 2, S 2.8.4)) speculated that community with public open space is an attractive drawcard for people moving to a new residence. Moreover, these findings provide good support and strong evidence for the researcher’s arguments that people want to live in a place with urban square a place. The question is: Can people afford to pay?

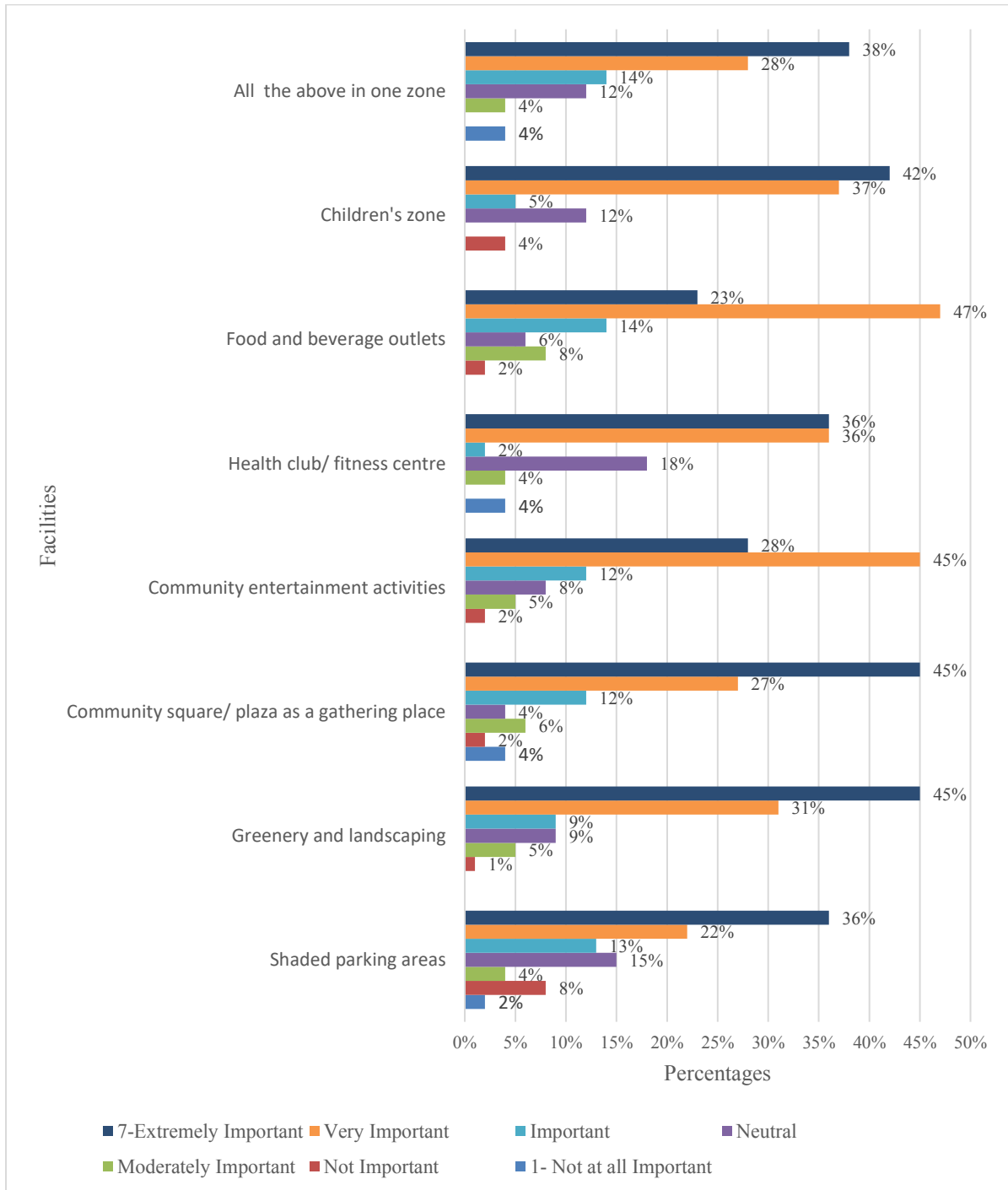
#### 6.3.2.5 Recommendations for innovation and planning: Q24–Q25 (Appendix B)

The research objective addressed in this section is:

- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE

The question focused on what the residents regard as the most important facilities in community.

Q24: What do you consider as the most important facilities in a community?

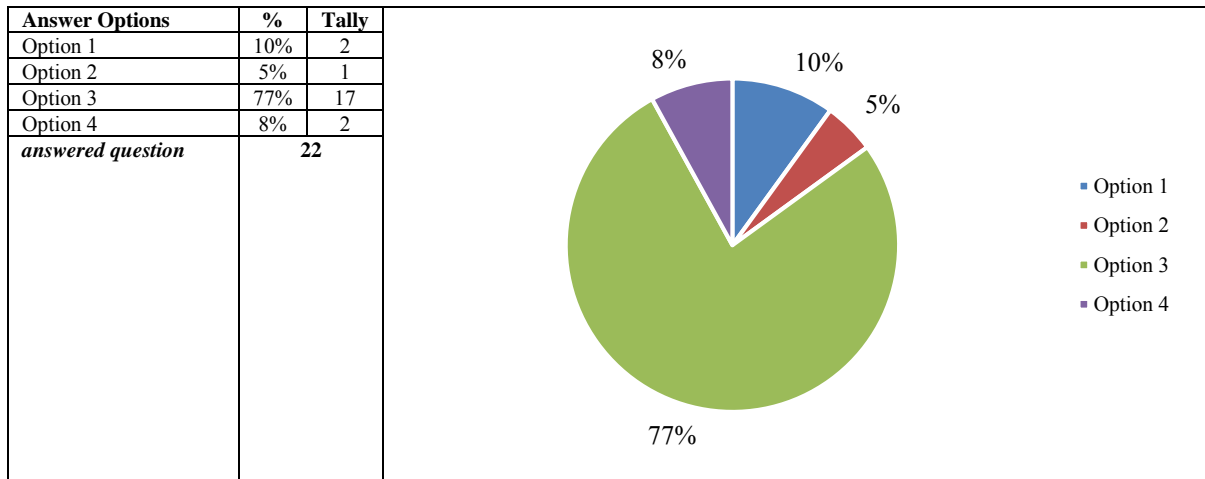


It is also inferred that on a 7-point rating scale, the respondents consider the following community facilities as important factors in day-to-day life: shaded parking areas (36.0% extremely important); greenery and landscaping (45.0% extremely important); community square/ plaza as gathering place (45.0% extremely important); community entertainment

activities (45.0% important); health club/ fitness centre (36.0% as both extremely important and important); food and beverage outlets (47.0% important); children zone (42.0% extremely important); and having all the above in one zone (38.0% extremely important). Although, these results differ from previous published studies by Van Melik (2008, Chapter 2, S 2.2.4.5) in her analysis of different Dutch public squares, they are consistent with those of studies conducted by Lennard and Lennard (2008, Chapter 2, S 2.2.1) and Gehl (2007, Chapter 2, S 2.12.2) who emphasised that a good square is one that provides residents with the freedom to engage in diverse activities and to meet and socialise with new people. Moreover, the researcher argues that sociability in the square cannot exist without shared activities and events that make for a meaningful and enjoyable social life. It is an important message to urban planners to visualise the urban public square as a place where life happens, not simply as an area for transient movement.

The following question was designed to get the participants’ opinion on their preferred community layout. The results are presented in the graph below.

Q25: If you were to recommend to your friends/ relatives a community to live in, what would be your preferred option (on the Charrette chart)?



When the respondents were asked to select a community which they would recommend to their friends/ relatives, the majority (77.0%) of the respondents selected the ‘option 3’ community on the Charrette chart. When comparing the findings of Q25 with a study by Gehl (2010, Chapter 5, S 5.2.4), he pointed out that walkability and easy accessibility to community through an open space regardless of the space typology is an indication of successful liveable community. The researcher agrees that the findings of this research clearly address how vital urban public squares are to residents and community users. Moreover, the findings present new

evidence that was not previously found by previous or present planners and scholars in the urban planning sectors. The last finding is the fundamental point of this research which is that an urban square is not simply wasted space for landscaping and plantation, but provides a space that people want to be associated with and connected to.

It is clear that the gated community residents are satisfied with the facilities provided and they would recommend the community to their friends and colleagues and also would like to stay longer in the same community, which proves that their liveability is good when compared with the un-gated community. Moreover, it can be inferred that the respondents are satisfied with recommending their community to others, unlike the un-gated community respondents. It, therefore, appears that the availability of a public square enriched the social life of and interaction between the residents.

### 6.3.3 Group 3: Retailers and Shop Keepers

#### 6.3.3.1 Descriptive data analysis: Q1–2 (Appendix B)

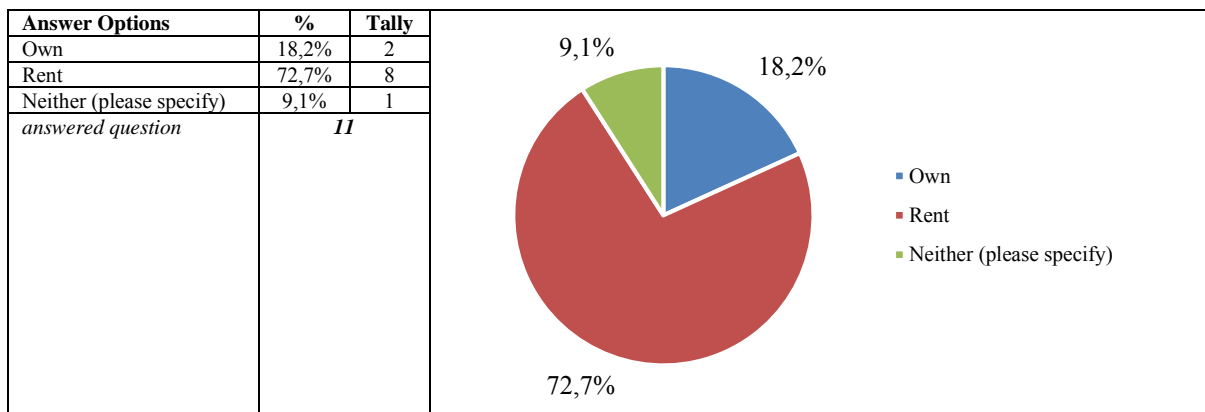
The group 3 respondents are the 11 retailers and shopkeepers from different types of retail business (food and beverage, coffee shops , clothing and electronics) who participated. About (91%)of the respondents have been in their line of business for several years. On a typical day, 54.5% of the respondents spend about 8 hours there.

#### 6.3.3.2 Preferences of retailers for places to trade: Q3–5 (Appendix B)

The research objective addressed in the sections below is:

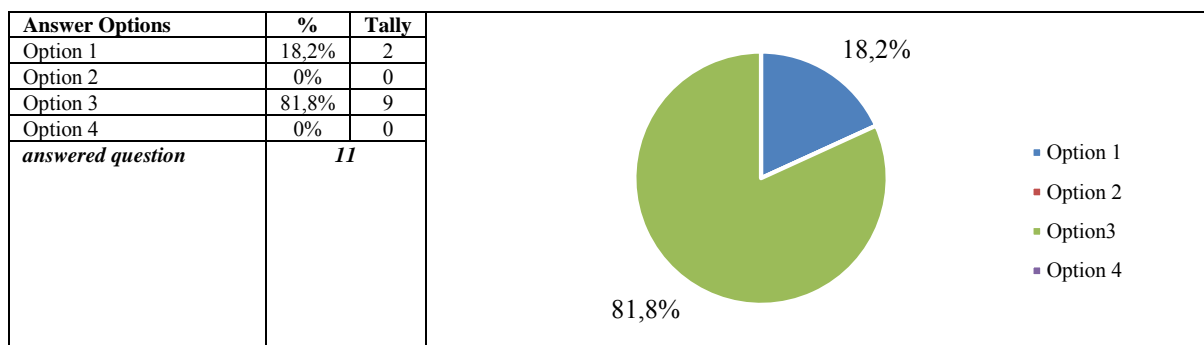
- To investigate people’s opinions of and preferences for urban squares and establish an understanding of users’ needs and requirements.

Q3: Do you rent or own your store?



It was found that the majority of the respondents (72.7%) rent their stores while 18.2% of the respondents own the stores and the rest (9.1%) of the respondents were investors. These findings show that the majority of outlets are rented rather than owned. This high ratio of rented premises appeared more in the ungated communities as they are mostly non-freehold zones. In contrast, the shops / outlets in gated communities with public squares such as the two case studies (UPMD) and (DMW) tended to be owned by the retailers. This finding confirms that public square is a more attractive place for retailers to own outlets (see case studies in chapter 5). Previous observation by Jacobs (1961) indicates that residential dwellings or commercial properties above retail outlets in public square provide eyes on the space. He emphasises that at street level, cafes and small shops generate an increased presence of people that connect with shopkeepers, waiters and vendors in the public realm. Other researchers, Lennard and Lennard (2008, Chapter 2, S 2.4.2), presented in their book ‘Genius of the European square’ the idea that the shop / house is the most prevalent building type around small squares in Europe forming a communal living room. The researcher supports this analogy in previous urban research by describing the city without a square is like the house without a living room (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11).

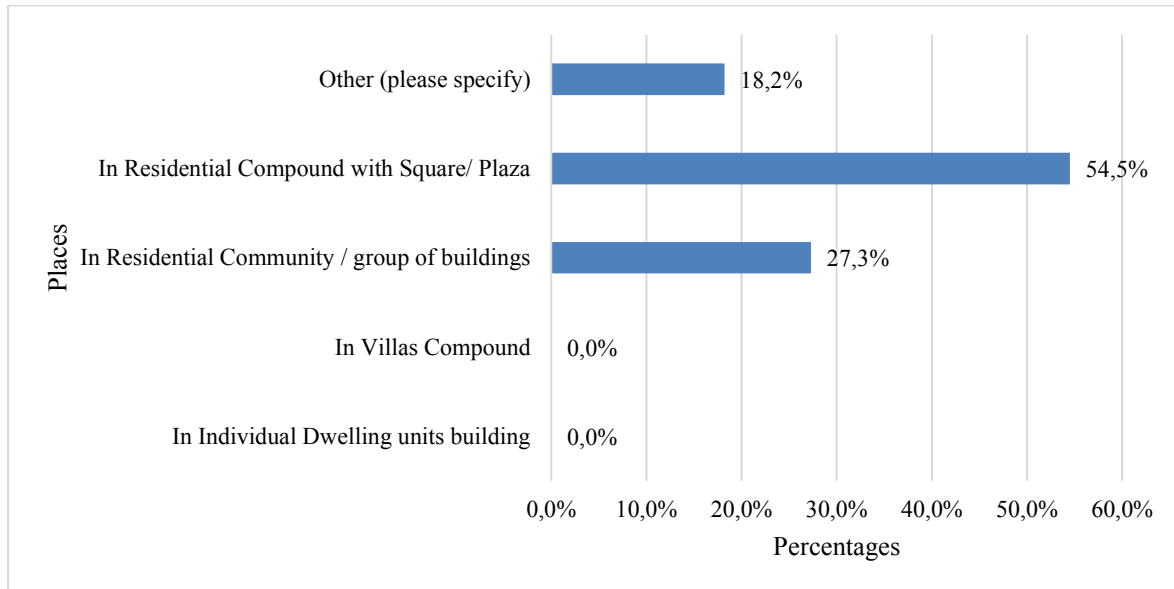
Q4: If you were given the choice to open a trade business in a community, what would be your preferred option on the Charrette Chart?



When the respondents were asked to choose where they would prefer to locate their businesses, according to the Charrette tool, 81,8% selected No 3. This finding with high ratio of selection to the community with public square confirms the importance of this space to the retailers for running their commercial business and trading. Previous research on old urban squares (al sahat), being the social and commercial link with people by (Boussaa, 2003, Chapter 3, S 3.7.1) supports this result. Moreover, this finding is a fundamental point in this research which is that a retail front-shop in an urban square is like a stage in a theatre seen by all spectators. Option

3 in the Charrette tool layout presented by the researcher is an appropriate choice for shopkeepers as it equalises the value of all shops.

Q5: If you were given the choice, where do you most prefer to open a business branch?



When the respondents were asked about the place where they would prefer to open a business branch, 54.5% of the respondents said: “In residential compound with square/ plaza” and 27.3% of the respondents said: “In residential community/ group of buildings”. The remaining respondents expressed that they would prefer to establish their branch of business in ‘other’ places (18.2%); however, none of the respondents chose individual dwelling unit buildings and villas compounds. However, this finding has not been previously described by urban planning scholars such as Gehl (2007, Chapter 2, S 2.7.2.1), Carmona et al. (2010, Chapter 2, S 2.4.2) and Madanipour (2003, Chapter 2, S 2.1), as they focused more on the form of public spaces and their accessibility.

#### 6.3.3.3 Success factors for business: Q6–19 (Appendix B)

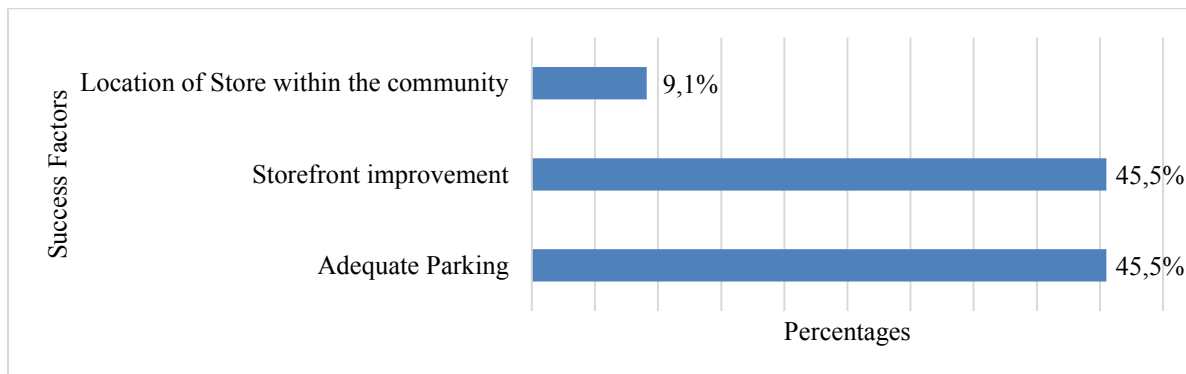
The research objective addressed in this section is

- To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.

Questions were focused on traders’ opinions about business success factors and elements within the community structures that would enhance their businesses.

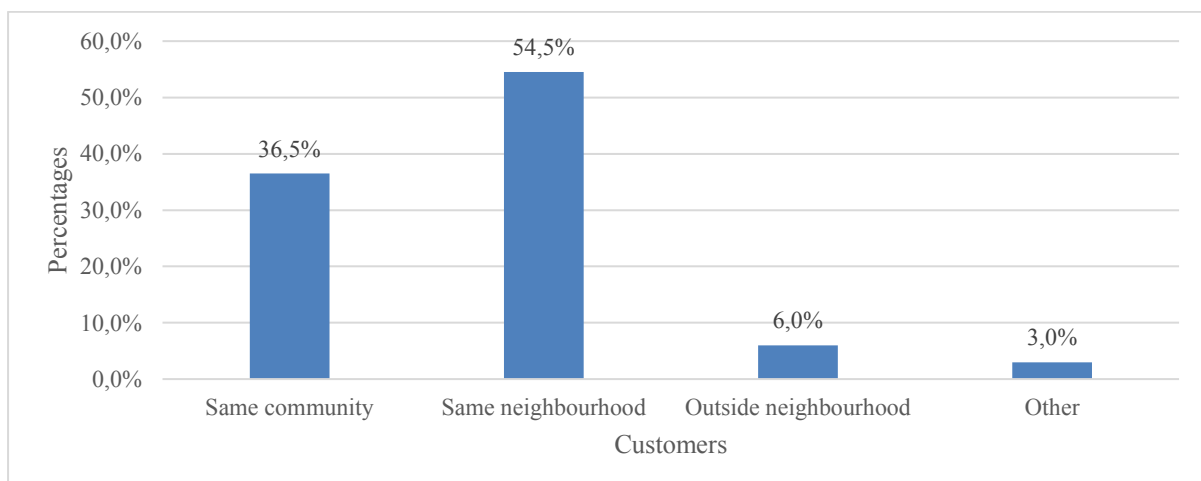


Q6: What would make your business more successful in your area?



When the respondents were asked to select the factor that would make their business more successful in their area, they chose: “Location of the store within their community (45.5%)” and “customers’ easy access to store (45.5%)” whereas the rest of the factors gained little or no value, such as adequate parking (9.1%); storefront improvement (0%), more security (0%), and others (0%). This finding corroborates the intensive research undertaken by Lennard and Lennard (2008, Chapter 2, S 2.2.1; S 2.2.4.2, S 2.3) in their studies on European squares and the importance of arcaded shops and outlets in their surroundings. The extensive fieldwork observation and records in the European squares by Lennard and Lennard (2008) evaluated the quality of urban squares in terms of their retail setting and typology. However, this result has not previously been described in contemporary urban studies as more attention was given to the characteristics of public squares and similar open spaces.

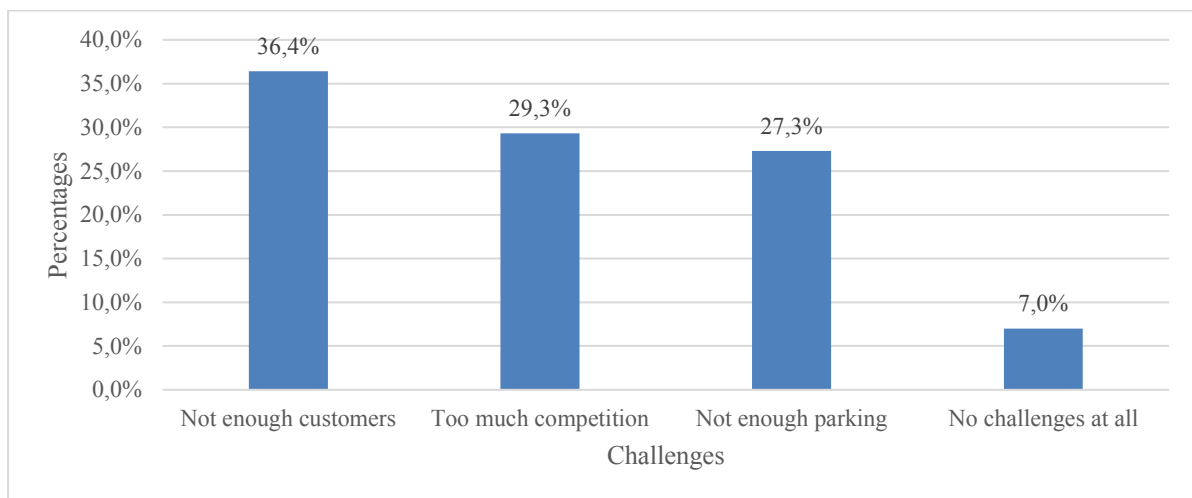
Q7: Where do most of your customers live?



It was found that 54.5% of the respondents indicated that most of their customers lived in the same neighbourhood, 36.5% of the respondents stated that their customers lived in the same community; 6% said that most of their customers lived outside the neighbourhood, while the

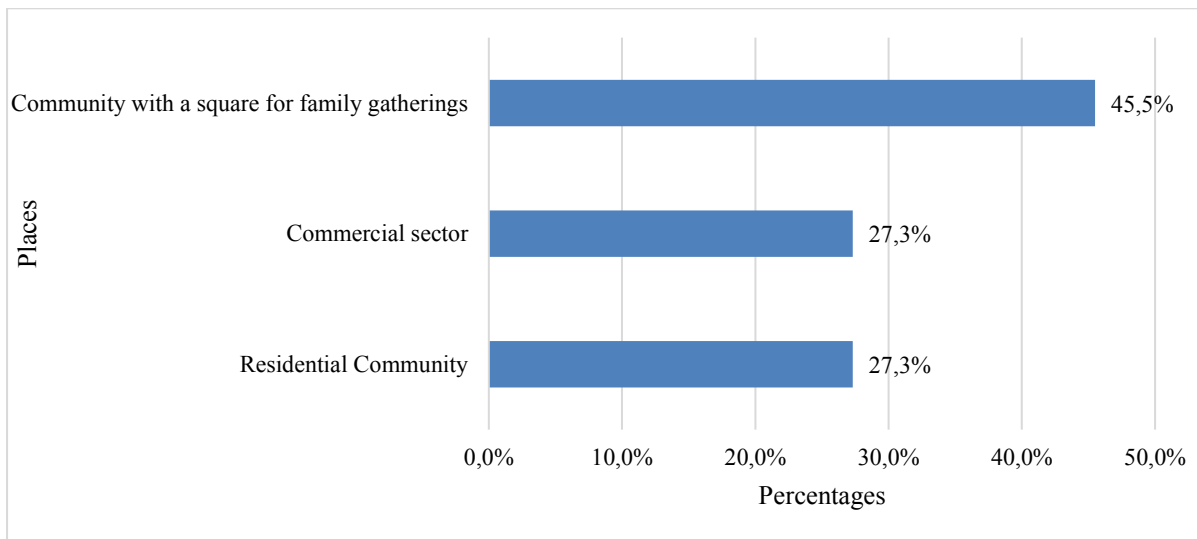
remaining 3% selected “other” from the given factors. Thus, from the above statements, it is clear that the retailers and the shopkeepers have more customers in the same neighbourhood where their business is located. Moreover, this finding explains the relatively good relation between the retail/ shop location and the residential areas. This result is consistent with research by Moughtin (2003, Chapter 2, S 2.8.4) in his description of the commercial square and was tested by the researcher in the case studies where it was found that customers of retail outlets came largely from the residential units connected to the public square (see chapter 5).

Q8: What is the biggest challenge of running a business in your area?



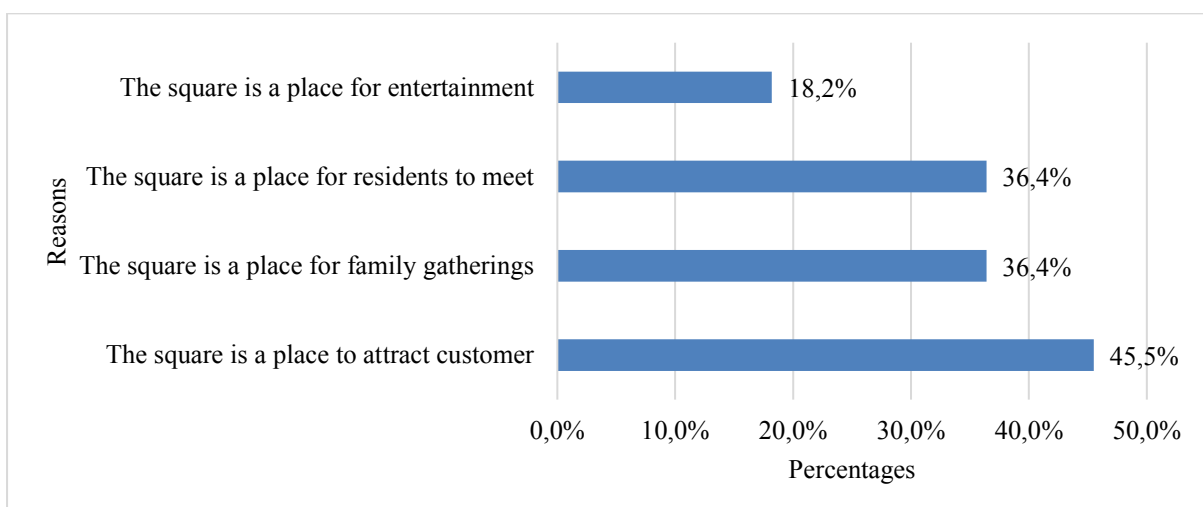
When the respondents were asked to choose the biggest challenge they faced in running a business in their area, 36.4% said that there were not enough customers; 29.3% of the respondents said that too much competition was the biggest challenge; 27.3% of the respondents chose insufficient parking, and 7% opted for no challenges at all. However, these findings differ from some published studies by Krier (2003, Chapter 2, S 2.7.2.3) and Madanipour (2003, Chapter 2, S 2.1), describing the impact of parking areas and road networks on people’s movement and interaction. In addition, the challenge of not having adequate parking at the shops areas was an essential urban concept by Gehl (2010, Chapter 5, S. 5.2.2) by presenting the city and its communities as places for walkability by recommending sealing the parking lots in isolated zones. The researcher argues that an urban square that successfully attracts the public is isolated from parking and roads traffic, allowing for the smooth flow of pedestrian traffic instead.

Q9: Where do you most anticipate making a higher profit in your trade?



The most anticipated higher profits in the respondents' line of trade as per their perceptions were as follows: a community with families/ gathering square (45.5%), a residential community (27.3%) and a commercial sector (27.3%). Thus, having a community square/ plaza would generate higher profits for the retailers and the shopkeepers. These results explain those observed in surveys conducted by Lennard and Lennard (2008, Chapter 2, S 2.3; S 2.4.2) in different public squares in Europe in particularly Spain and Italy. Moreover, the researcher argues that public square is an abandoned place that kills social interaction if not linked with shops and dinning outlets.

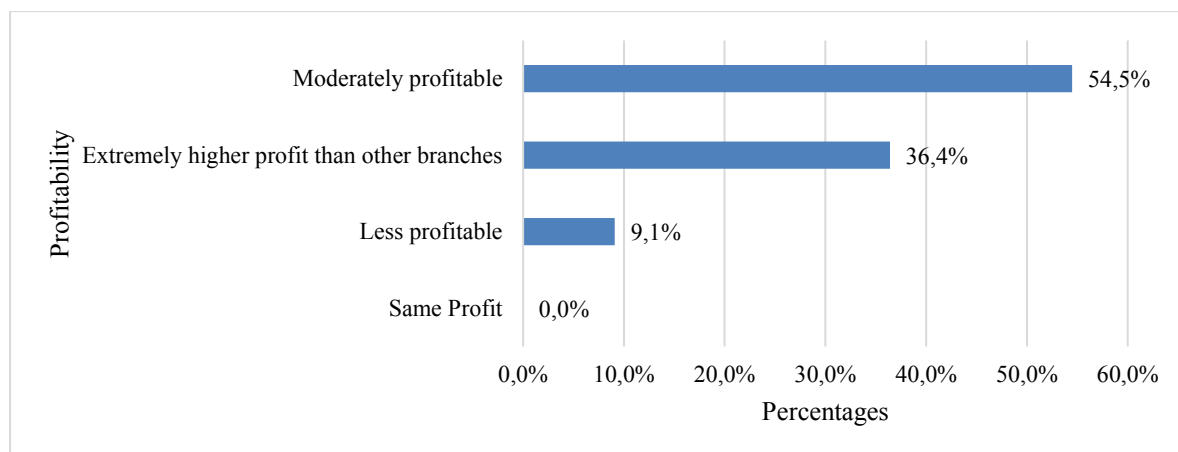
Q10: Indicate the most two important reasons, why you find a community with a square/ plaza is a good place to run your business in?



To support the above statement when the respondents were asked to indicate the most two important reasons why a square/ plaza was a good place to run their business in, 45.5% stated

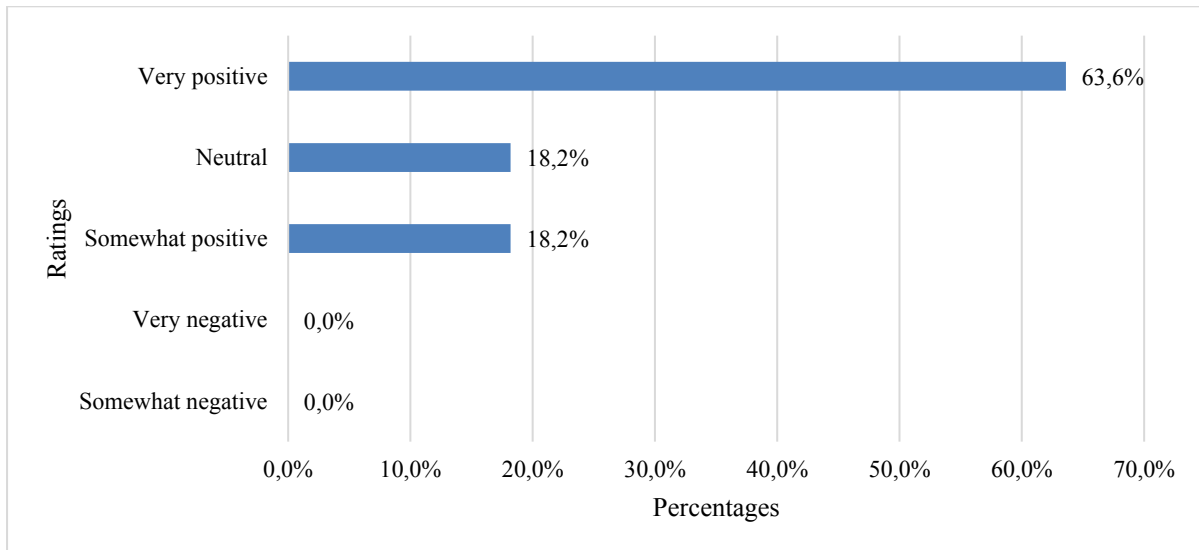
that the square was a place to attract customers; 36.4% said that a place for families gathering would be beneficial, 36.4% said the square was a place for residents to meet while 18,2% said that square was a place for entertainment. No respondents chose the ‘square is a safe place’ as a factor since it was not a factor in running their businesses. Although, these findings have similarities with urban planning studies by Gehl (2010, Chapter 5, S. 5.2), Carmona et al. (2008, 2016, Chapter 2, S 2.11) and Van Melik (2008, Chapter 2, S 2.4) on social life within public squares and how it correlates with retail activity, the researcher envisages that a variety of retails and food and beverage outlets is a prime characteristic in making the public square a successful gathering place.

Q11: How profitable is your business in a community with a square compared to other branches?



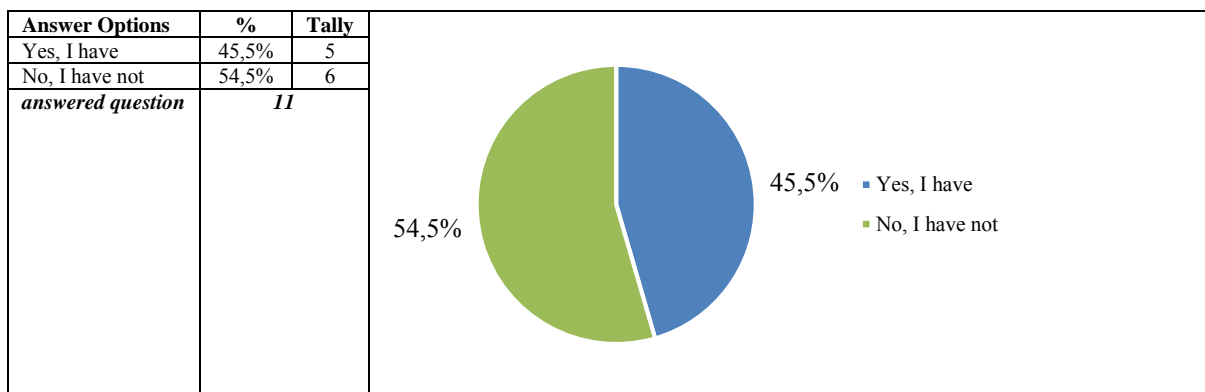
When the respondents were asked to what extent a community square contributed to the profitability of their business when compared with their branches, 54.5% of the respondents expressed that it was moderately profitable, whereas 36.4% expressed that it contributed greatly to higher profit and just 9.1% of the respondents expressed that the business was less profitable. Thus, it is clear that a community square is a suitable place for a profitable business for the retailers and shopkeepers. This result has not previously been described by published studies in community with urban public square such as Gehl (2010, Chapter 5, S 5.2.4) and Madanipour (2003, Chapter 2, S 2.1) and Mitchell (2003, Chapter 2, S 2.5). However, research on commercial and retail studies highlighted the importance of retail space being on or adjacent to public open spaces. Their research presents the retail space as a point of connection between people and where they live.

Q12: What is your first reaction to having a business branch in a residential community?



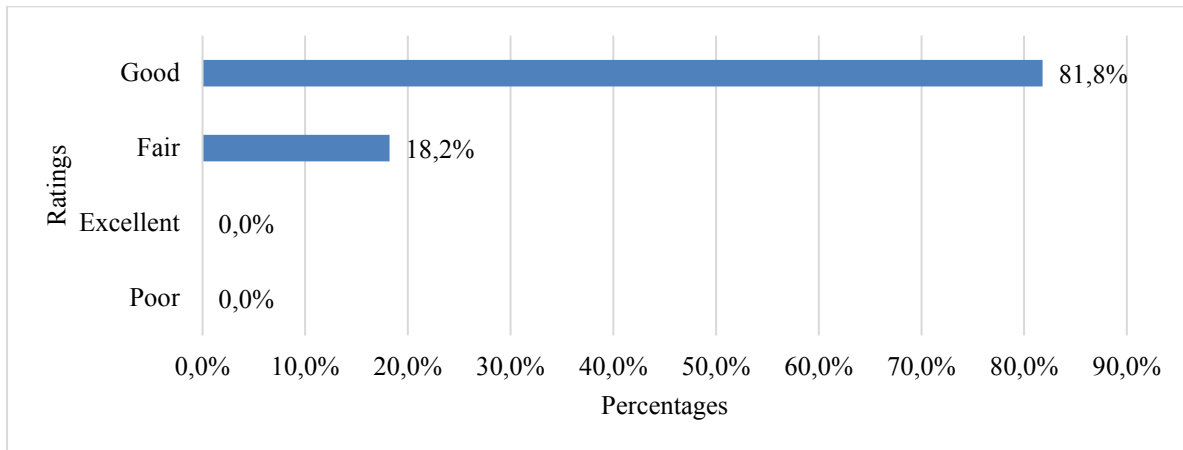
The first reaction of 63.6% of the respondents was very positive with regard to having a business branch in a residential community. This result may be explained by the fact that residential district involves less competition to retail business when comparable with commercial and offices districts. Moreover, this finding is also largely descriptive and discussions on the retail on public spaces is limited to academic literature and seldom do publications on public square retail go beyond descriptive (Madanipour, 2003, Chapter 2, S 2.1).

Q13: Have you ever opened any branch of your business in a community with a square/ plaza?



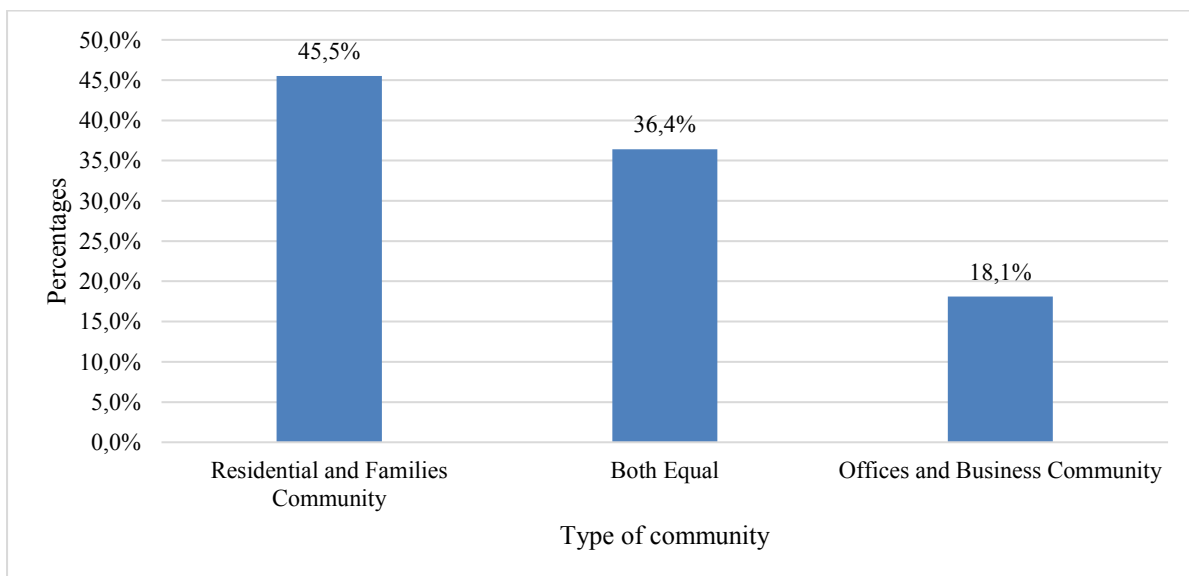
The survey respondents (54.5%) stated that they had not opened any other branches of their business in a community without a square/ plaza. This finding clearly shows that communities in the UAE lack public open spaces for retailers to invest in. This is in line of what reported by Hakim (1986, Chapter 3, S 3.4.1) in his research about *Al sahat* in the Arab Islamic old communities.

Q14: How would you describe security in your business area?



Security was one of the researcher’s concerns in the survey. Most of the respondents (81.8%) expressed that the security and safety in their business area was good. The result indicates a high percentage for ungated communities, but it is better in gated communities as described under Group 7 of this chapter.

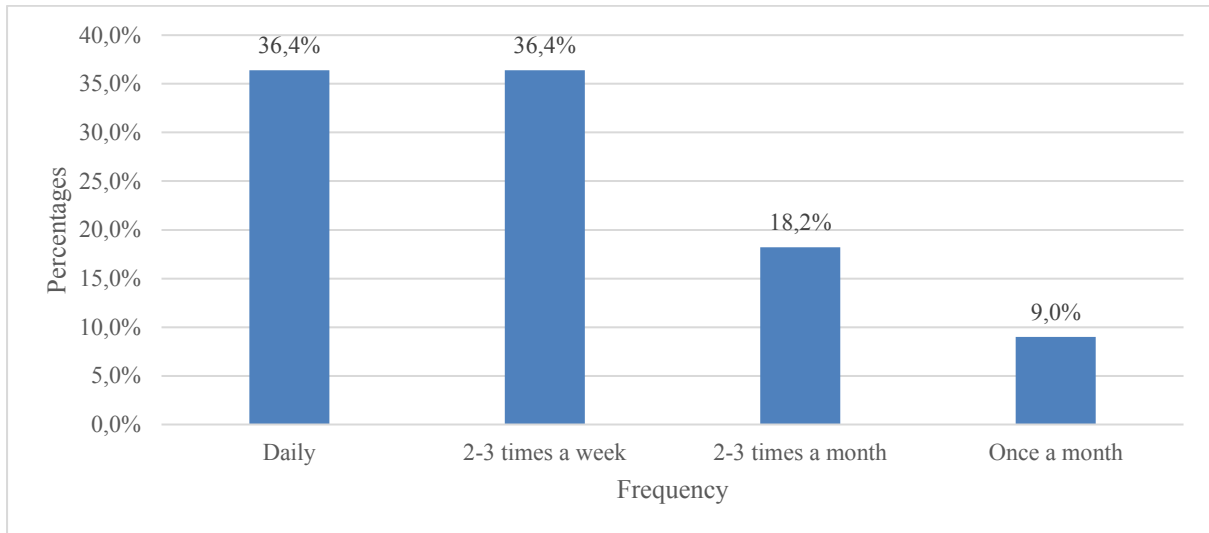
Q15: Indicate which type of community you feel will give you a higher degree of success/ profit if you open a business branch in?



When retail respondents were asked how to relate their business with the type of its location/ community, 45.5% of the respondents expressed that “the residential and family’s community” was what they felt would give them a higher rate of success/ profit than if they opened a business branch in an office or business community (18.1%). However, 36.4% of the respondents expressed that both communities equally gave them a good profit. Although, these findings contradict with many urban planning and retail specialists, Van Melik (2008, Chapter

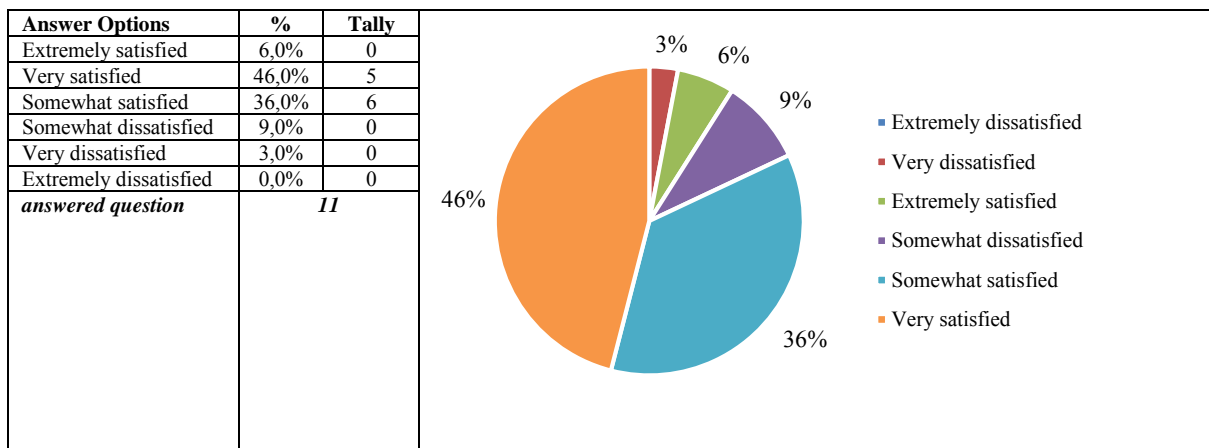
2, S 2.4; S 2.7.2.4) in her research on the Dutch squares expressed the relationship between the successful retail business and its location, mainly in the retail square concept. In the researcher's view, Van Melik's findings need further investigation, although they correspond with other empirical studies by Ezzeddine and Al Hajj (2014, Chapter 2, S 2.11).

Q16: How often do your customers come in?



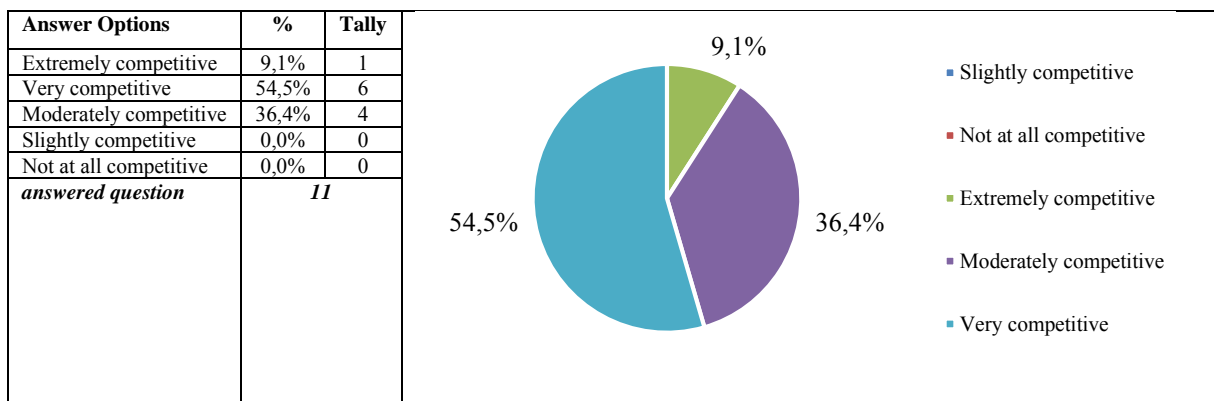
In order to test the interaction between the retail business and the customers periodically, it was found from the study that the customers of the respondents walked into their shop or outlets daily (36.4%) or at least 2-3 times a week (36.4%). These findings go beyond previous studies and provide new understanding of retail business in public open spaces, as they as present results linked to various open public spaces with different retail businesses in UAE communities. Other urban studies on public spaces have shown a variety of different results limited to shopping malls and open market areas (Gehl & Gemzoe, 2004, Chapter 8, S 8.3).

Q17: Overall, how satisfied are you with the location of your business?



In testing the level of satisfaction about the location of the retail business in the different communities, the survey results indicate that shop keepers were reasonably satisfied (46% + 36% = 82%) with the location of their business. These findings were verified by the researcher and his architects team (see focus group in chapter 5) and can be concluded that retailers are willing to pay high rent or price to their outlets when they fall in prime location. This is in line with research by Van Melik (2008, Chapter 2, S 2.4; S 2.7.2.4) clarifying impact of retail location on trading revenue in city centre versus public open spaces. The researcher argues that public squares cannot be sacrificed parking areas near to the retail outlets which would negatively impact on social gathering and entertainment.

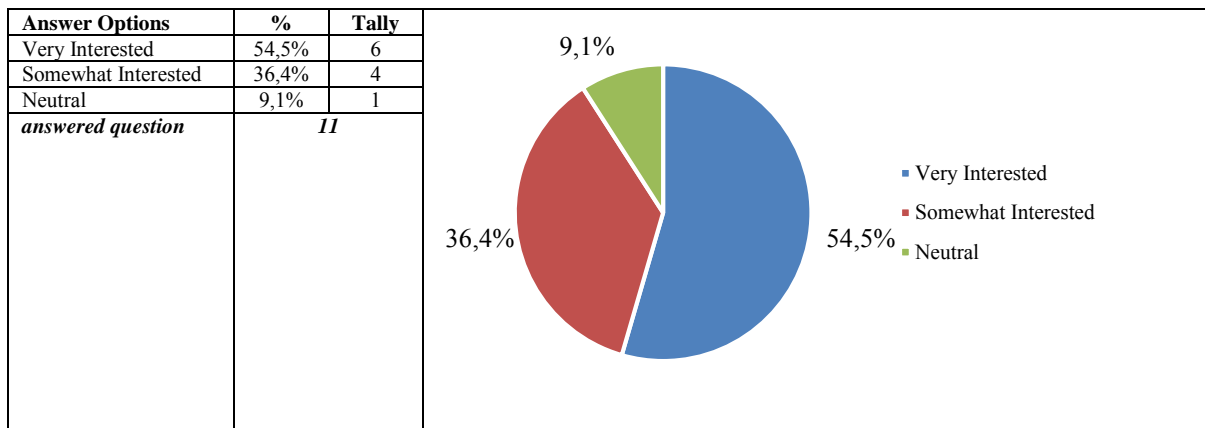
Q18: How competitive is the market for your target customer?



Due to the location and the target customers' preferences, the respondents felt that their market was very competitive (54.5%). This finding supports the results obtained from Q17 and doubtlessly confirm retail business competition in correlation with shop type and location (Madanipour, 2003, Chapter 2, S 2.1; Van Melik, 2008, Chapter 2, S 2.4; S 2.7.2.4). In general, this research emphasises awareness that neglecting public spaces can partially be attributed to market forces and retail business demands.



Q19: Please rate your interest in opening a business branch in a residential community.



However, (54.5%) of the respondents were interested in opening business branches in residential communities with a public square/ plaza. Although, this survey finding is similar to the findings of previous studies (Manadipour, 2003, Chapter 2, S 2.1; Gehl, 2007, Chapter 2, S 2.7.2.1; Chapter 5, S. 5.2.2), it differs on where the retail business branch located in the community. However, this research cautions urban planning actors that increasing the gross floor area of retail space will turn the space into business hub and jeopardise social life.

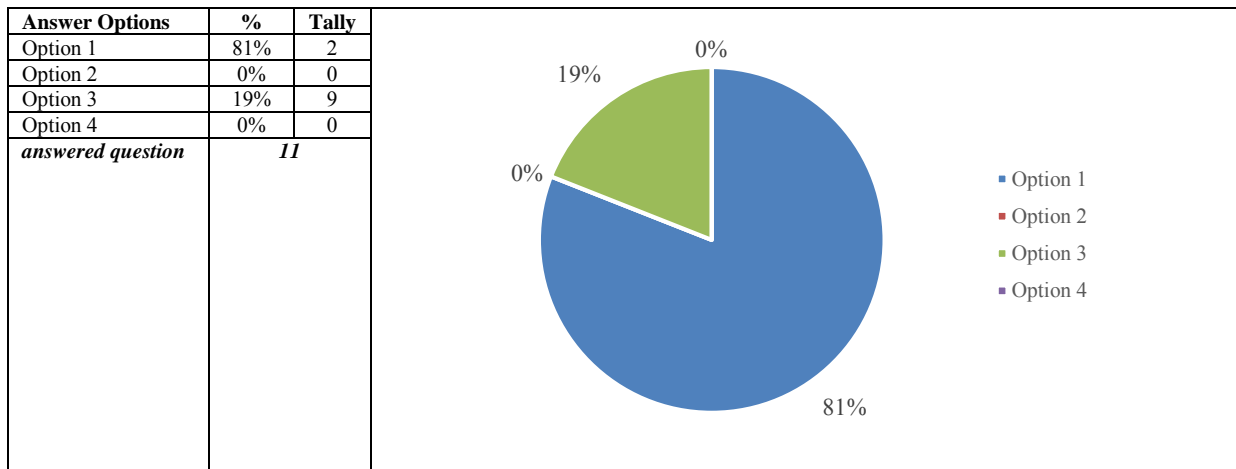
#### 6.3.3.4 Recommendations for innovation and planning: Q20 (Appendix B)

The research objective addressed in this section is:

- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE

The following question was designed to get the participants' opinion on their preferred community layout. The results are presented in the graph below.

Q20: If you were given the choice to open a business in a community, what would be your preferred option (on the Charrette chart)?



When the respondents were asked to choose an option for opening a new business in a community, the majority (n = 9; 81.8%) of them chose option 3 from the Charrette drawing. This finding shows that the success of retail business can be profitable in communities with an urban public square that is overlooked by storefronts (Van Melik, 2008, Chapter 2, S 2.4; S 2.7.2.4). Thus, it is clear from the analysis that the respondents are very interested in opening a new business in a community plaza/ square where their profit would be higher rather than in an office or business community. It is therefore inferred that it is profitable to run a business in a community with a square/ plaza. Discussion on this graph was presented under groups 1 & 2.

#### 6.4.1 Group 4: Architects, Landscape Architects and Urban Planners

##### 6.4.1.1 Descriptive data analysis: Q1–4 (Appendix B)

The group 4 respondents were the architects, landscape architects and urban planners, with a sample size of 138. This number of professionals and urban design actors was obtained from both, the Society of Engineers (SOE) in UAE and the researcher’s personal profession contacts. The majority of the respondents were men (81.2%). When the respondents’ current job descriptions were analysed from the data gathered it was found that 29.70% were principal urban planners, senior architects made up 15.2%; junior architects comprised 12.3%; junior urban planners 10.9%, project architects 10.1%, senior urban planners 8.7%, other jobs 8.0% and principal architects 5.1%. These findings are in line with Madanipour (1996a, Chapter 2, S 2.10.2) and Carmona et al. (2008, Chapter 2, S 2.9) that urban design and community master planning is the province of planners, architects or landscape architects. This statement is aimed

at correcting the misunderstanding of many urban design actors and professions that architecture can be segregated from the urban planning framework. The research is of the opinion that the knowledge and expertise of the architect is as essential as the professional skills of the planner.

Less than half, 45.7% of the respondents, had work experience of between 11 and 15 years. It was also found that the majority of the respondents had worked exclusively in UAE (59.4%) with 11- 15 years of experience.

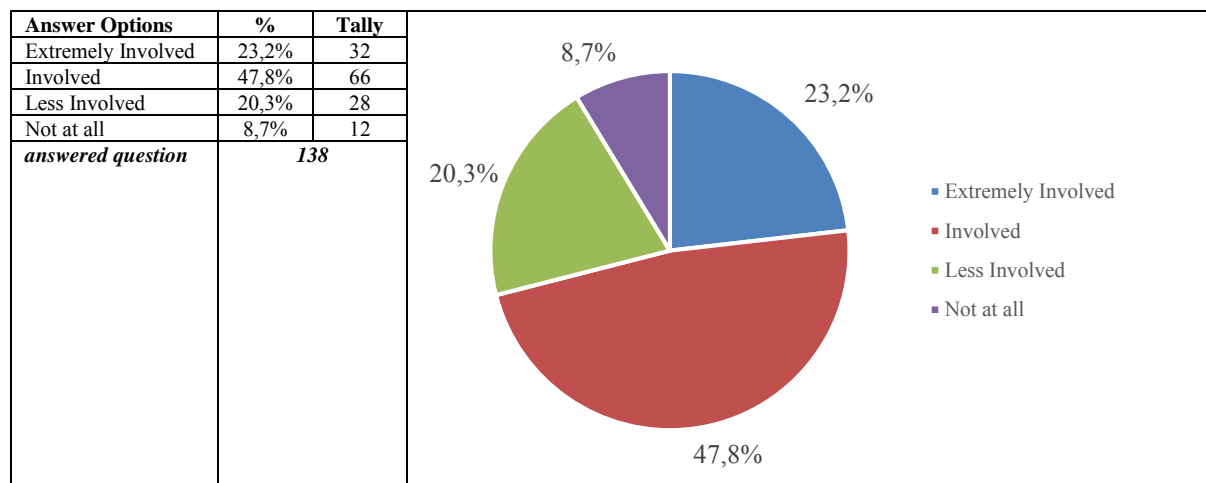
#### 6.4.1.2 Influence on strategy and policies: Q5–16 (Appendix B)

This section addresses the following research objectives:

- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

The questions were aimed at finding out to what extent practitioners had any influence over the policies that guide community development.

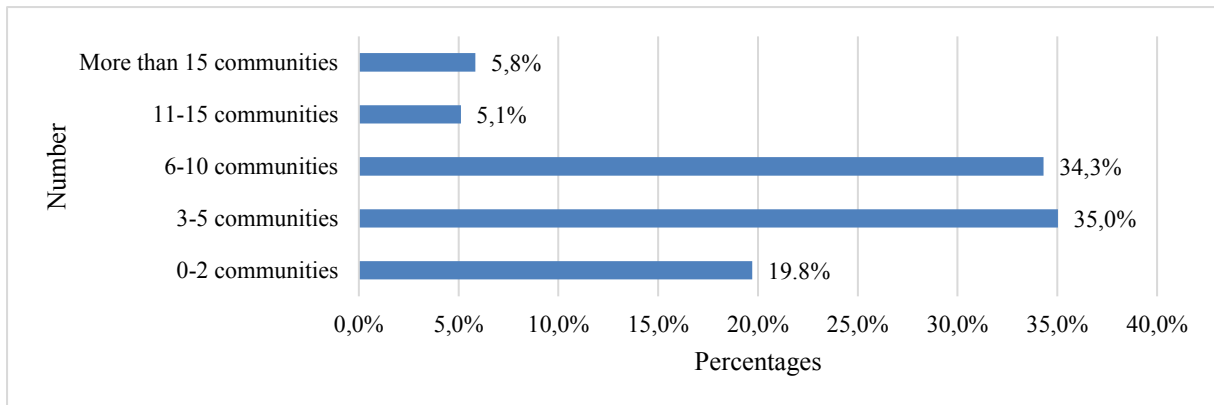
Q5: How involved are you in designing and developing residential communities?



It was found that 47.8% of the respondents in this group were involved in designing and developing residential communities; while 23.2% were extremely involved, 20.3% were less involved, and 8.7% were not at all involved in designing or developing residential communities. As stated in other urban studies, this ratio may not reflect the level of how those professionals are trained in community design and master planning (Gosling & Maitland, 1984,

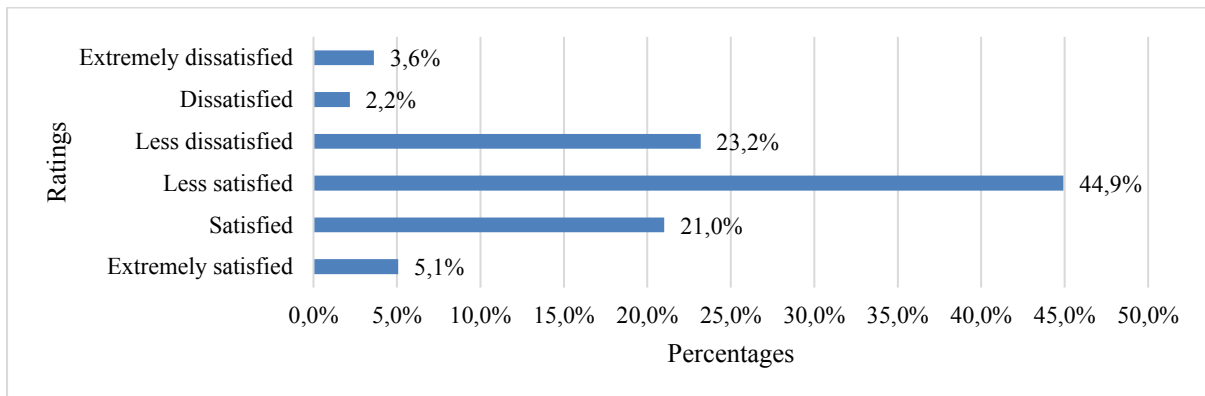
Chapter 2, S 2.10.1. S 2.10.3). The researcher asserts that the results obtained from Q5 are not precise and require further investigation, as the lack of involvement by urban planning practitioners is almost 29% of the respondents which is high ratio in the UAE. It is difficult to understand how they are not involved since most current urban development in Dubai involves community development.

Q6: In terms of design, about how many residential communities have you been involved in?



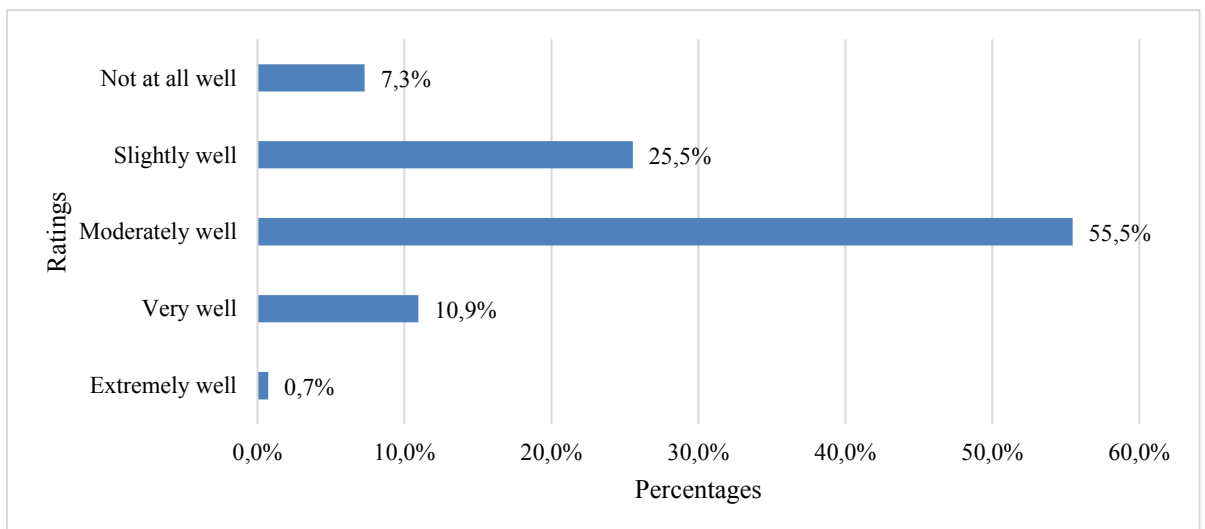
To assess the number of communities designed by the selected professions, it was clear that 35.0% of the respondents had experience in terms of designing for about 3-5 residential communities while 34.3% had experience in their line of work in 6-10 residential communities. This finding correlates with the analysis by the researcher that found that more than 35 communities were designed and developed in Dubai between 2000 and 2015 (Chapter 3, Figure 3.11). Contrary to expectations, those findings were different from findings in urban studies developed in UK by Carmona et al. (2008, Chapter 2, S 2.15.1) which stated that urban design has been recognised as an essential practice by existing built-environment actors. Their statement relates more to the recognition that the urban design process needs to be controlled by the central government. Therefore, urban design has recently been incorporated into the planning remit to a greater extent than previously.

Q7: Overall, how satisfied are you with the urban planning process of UAE communities / cities?



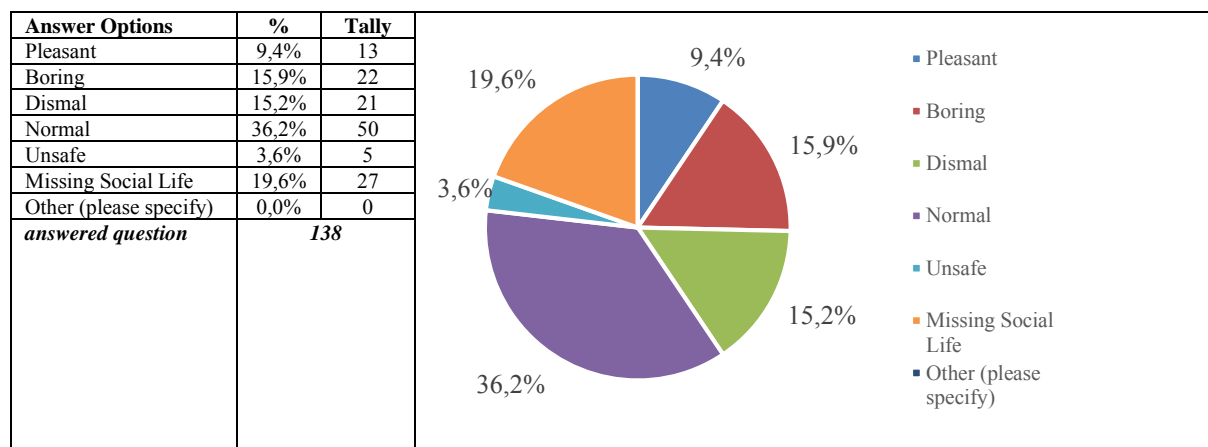
When the respondents asked to rate their satisfaction on the urban planning process that guides their profession, 44.9% expressed that they were not satisfied with the urban planning of UAE cities/ communities. The finding doubtlessly impacts the quality of developing quality master planning for new communities in the UAE. Accordingly, the finding is consistent with urban studies and planning studies by Gosling & Maitland (1984, Chapter 2, S 2.10.3), Carmona et al. (2008, Chapter 2, S 2.10.2; S 2.11; S 2.15) and Madanipour (1996a, Chapter 2, S 2.10.2) who define urban design broadly preparing comprehensive planning studies that satisfy people’s living needs. Moreover, the urban planning process needs to merge architectural design and planning with social life needs. The essence of the above findings is that urban planning requires a consideration of global and local contexts.

Q8: How well, if at all, does the word "WELL PLANNED" describe the urban planning of UAE residential communities?



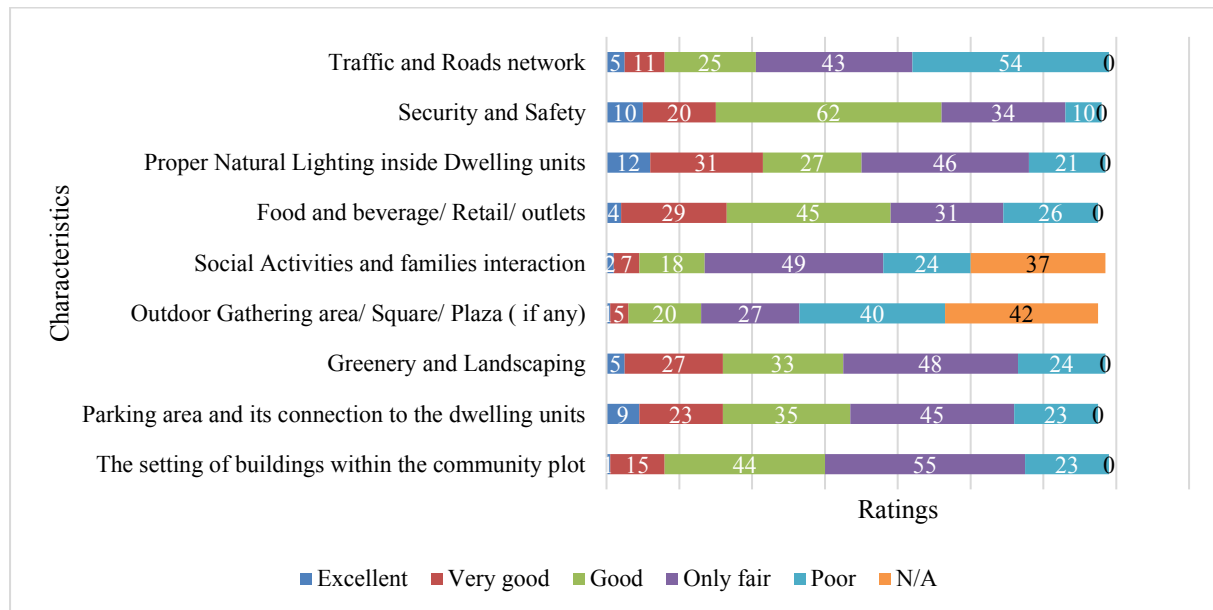
The majority of the respondents (55.5%) expressed that urban planning of UAE in residential communities was quite well planned but required improvement. This finding is an indication that the urban planning process requires new updated regulations and directive design guidelines (see Chapter 8). Illsley et al. (2010, Chapter 2, S 2.11; Chapter 5, S 5.2.4) and Ali and Armstrong (2012, Chapter 2, S 2.11) expressed in their urban planning research that corrective efforts in the planning process are needed to improve the overall quality of urban development. This statement emphasises that urban planning should be done in conjunction with people whose lives would be impacted by these decisions. This research highlights the importance of involving people in decisions that improve social life in new communities.

Q9: In general, how do you describe the social environment of the existing communities in UAE?



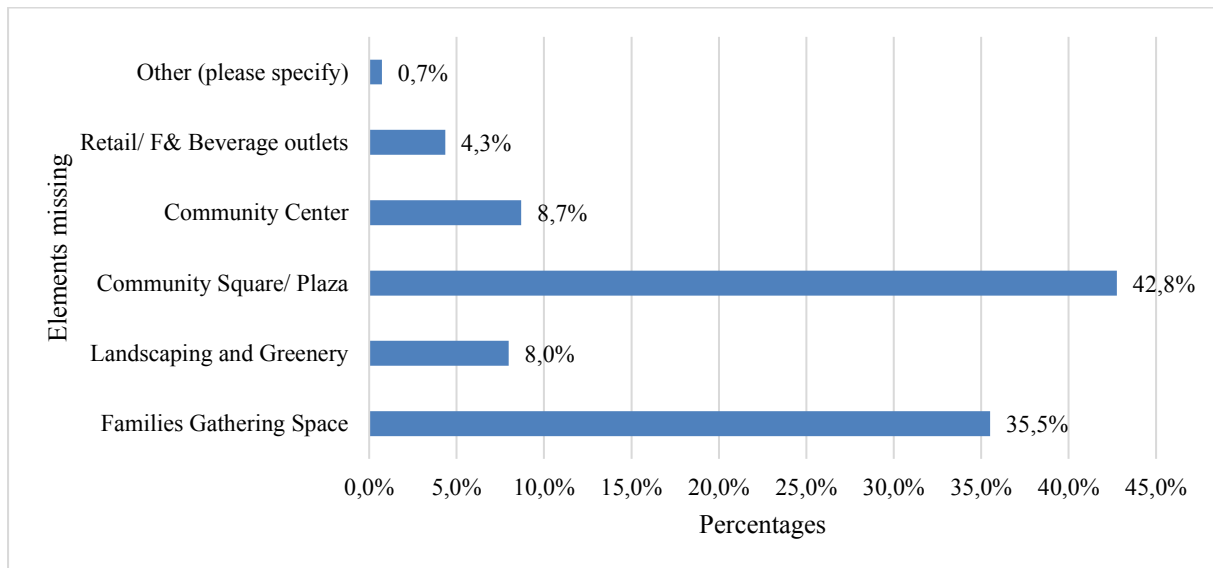
In evaluating the experience and the impact of the social environment in the existing UAE communities, it was found that 6.2% of the respondents described the social environment as normal, whereas 19.6% described it as missing social life, 15.9% as boring, 15.2% as dismal, 9.4% as pleasant and 3.6% as unsafe. These different rating findings corroborate the ideas of Alexander et al. (1977, Chapter 1, S 1.5; Chapter 2, S 2.12.2) and Whyte (1980, Chapter 2, S 2.12.2) that urban design is not limited to visual-artistic tradition, but incorporates social usage that includes the way people occupy and utilise the space. This clarifies that social space is a core part of the public realm and pedestrian movement needs to be integrated into the space so as not to interrupt social interaction and entertainment.

Q10: In general, how would you rate each of the following characteristics of most UAE residential communities?



The following statements were rated by the respondents and analysed in order to know the best characteristic features of the current UAE residential communities: the setting of buildings within the community plot (39.9% rated this as only fair and 31.9% as good); parking area and its connection to the dwelling units (33.3% as only fair); greenery and landscaping (35.0% as only fair); outdoor gathering area/ square/ plaza (if any) (29.6% as poor); social activities and families interaction (35.8% as only fair); food and beverage/ retail/ outlets (33.3%) as good; proper natural lighting inside dwelling units (33.6% as only fair); security and safety (45.6% as good) and traffic and roads network (39.1% as poor). These findings differ somewhat from other research results for urban planning scholars (Gehl, 2007, Chapter 2, S 2.12.2), but agree with the social dimension of urban design that influences patterns of human activity and social life (Carmona et al., 2008, Chapter 2, S 2.10.1). In connection with the above statements, this research emphasises the relationship between human activities in the space and its surroundings (see Chapter 4).

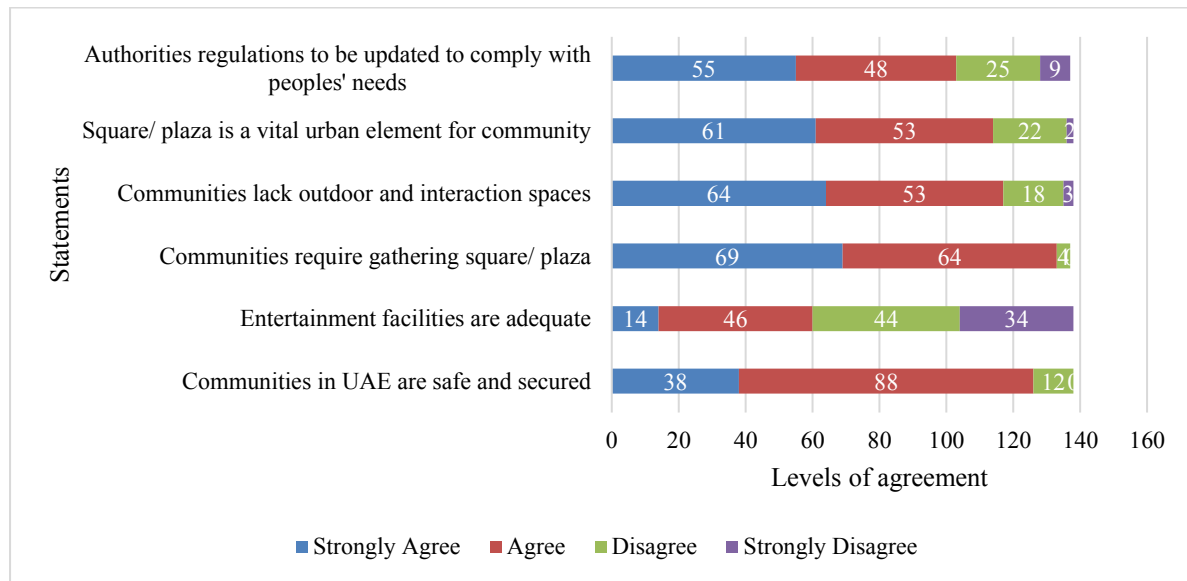
Q11: In your opinion, what are the two (2) most missing urban elements in the existing communities of UAE?



From the data gathered from group 2 and group 3, it was clear that the square/ plaza within a community was what made the community residential the best choice; hence when the same question was asked of the current group of respondents as what is their opinion about the two urban elements most missing in the existing communities of UAE, the same responses were given: 42.8% said that community square/ plaza areas and 35.5% said that family gathering places were lacking. Overall these findings are in accordance with urban design studies by Tibbalds (2001, Chapter 2, S 2.1) who was in charge in developing ten urban design principles for public open spaces, and McGlynn (1993, Chapter 6, S 6.1) who focused on seven key issues in making places responsive and efficient. The analysis extracted from previous studies is that urban designers need to be aware of what urban elements, patterns and functions are required to create a strong bond between people and their living space.



Q12: Please indicate whether you strongly agree, agree, disagree, or strongly disagree with each statement:



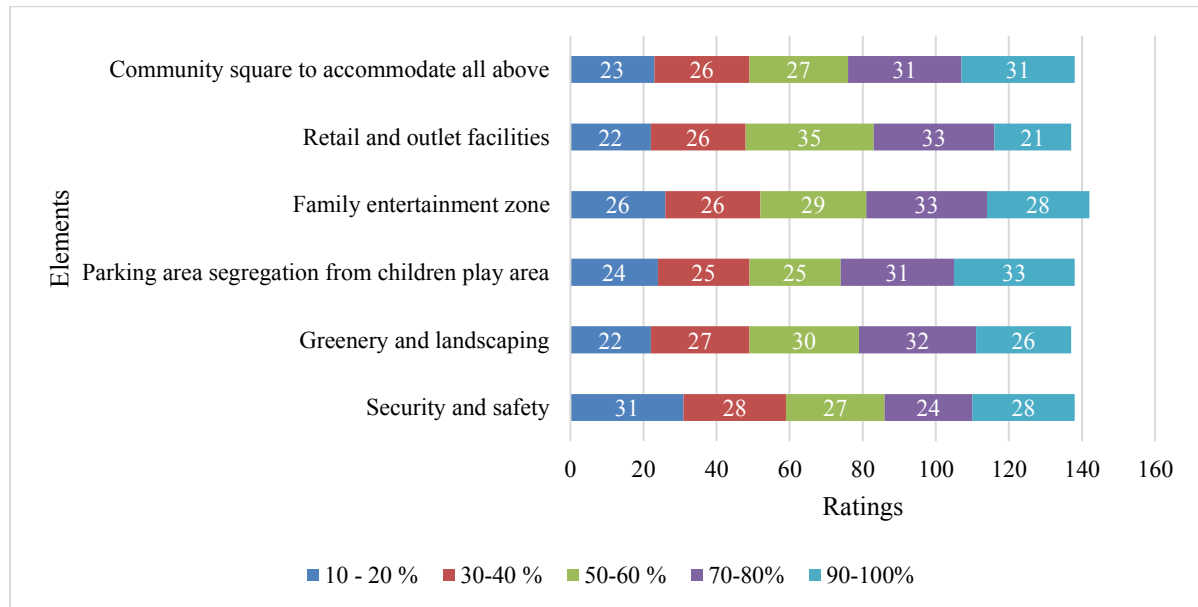
When the respondents were asked to express their level of acceptance of the existing characteristics of UAE community residential areas, it was found that:

- Communities in UAE are safe and secure (63.8% as strongly agree and 46.7% as agree);
- Communities require a gathering square/ plaza (50.4% as agree and 27.5% as strongly agree);
- Communities lack outdoor and interaction spaces (46.4% as agree and 38.4% as strongly agree);
- A square/ plaza is a vital urban element for community (44.2% as agree and 38.4% as strongly agree);
- Authorities' regulations should be updated in order to comply with peoples' needs (40.1% as agree and 35.0% as strongly agree);
- In terms of entertainment, 33.3% agreed and 31.9% disagreed that facilities were adequate.

The results in this section reflect outcomes from practical experience by various professionals in UAE. However, these findings differ from previous published urban design research by planning scholars. Furthermore, it is important to mention the discussion by Gehl (2007, Chapter 2, S 2.7.2.1; S2.12.2; Chapter 5, S 5.2.2) on how the urban public square / space supports interaction and provide opportunities for varying degrees of engagement in communities of different cultures. Gehl emphasised that squares are a central attraction for communities and are not only places to bring economic rewards but also to offer people a

comfortable space to gather and socialise. This research explains the urban public square as the beating heart of a city that truly fosters urban sustainability.

Q13: In your opinion, to what extent is each element needed in new residential communities needed in UAE?

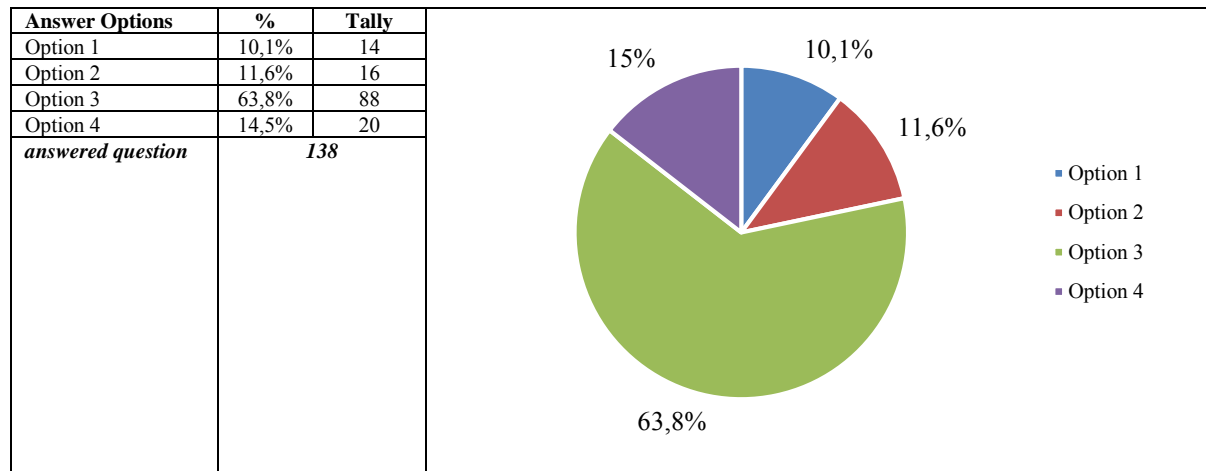


The respondents felt the following facilities of residential communities were needed in new communities of UAE:

- Security and safety–22.5% (10-20%);
- Greenery and landscaping–23.4% (70-80%);
- Parking area segregation from children play area–23.9% (90-100%);
- Family entertainment zone–23.2% (70-80%);
- Retail and outlet facilities–25.5% (50-60%);
- Community square to accommodate all above–22.5% (70-80% and 90-100%).

When comparing these findings with previous studies, it must be pointed out that this research focused in-depth on the urban public square as a space integrated into the overall master plan for a developed community from the concept design stage. Other urban design studies, for example by Whyte (1980, Chapter 2, S 2.2.2), indicate that the most social places for people to entertain should usually possessed a good location, that the streets should be part of the social space and that people need places where they can sit and communicate. Whyte explains that, if urban squares can evolve from simply being a space for traffic and trade, into spaces that enhance social life, they will be both enrich and transform cities.

Q14: If you were given the choice to design a community for a client, what would be your preferred option (on the Charrette chart)?



When the respondents were asked to indicate their choice if they were to be given the opportunity to design a community for a client, most of the respondents (63.8%) chose option 3 from the Charrette drawing (see chapter 5).

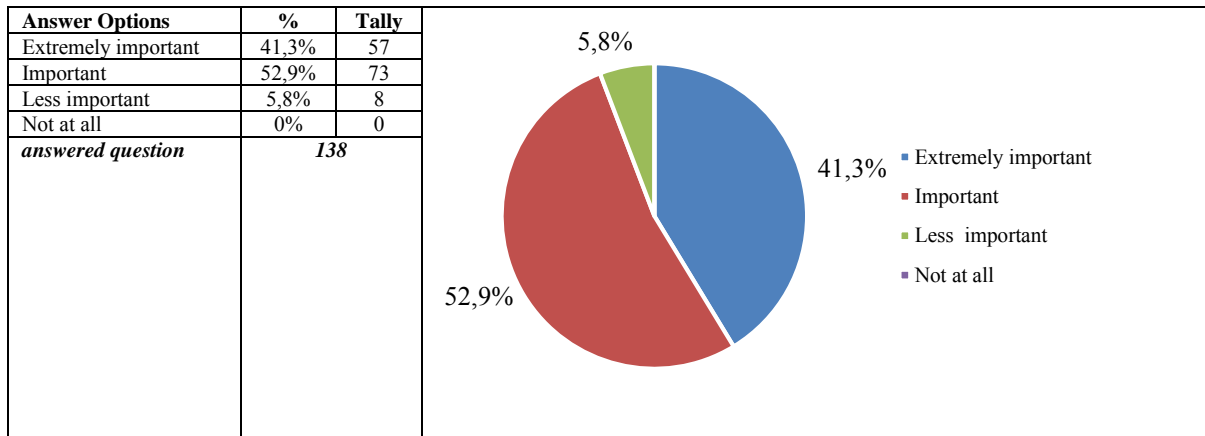
This compares with the findings of Q14 with a study by Gehl (2010, Chapter 5, S 5.2.4), who pointed out that walkability and easy accessibility to community through an open space regardless of the space typology is an indication of successful liveable community. The findings of the current research clearly address how vital urban public squares are to residents and community users. Moreover, the opinions of experienced UAE urban design professionals correlate with previous studies conducted by Madanipour (2003, Chapter 2, S 2.1) and Carmona et al. (2008, Chapter 2, S 2.9; S 2.10.1; S 2.11). The finding provides substantial evidence that an urban square is not a wasted place with limited functionality or a place left over for landscape gardening, but it is where people wish to be found and connected with.

Q15: Please indicate the reason for choosing your preferred option of question # 14?

When the respondents were asked to justify the reason for choosing option 3 from the Charrette chart presented by the researcher, all agreed that the central public square in the community would provide an ideal social and entertainment environment for the families and children and a pleasant outdoor space for residents. This finding was not highlighted in previous research, but similar urban design studies were conducted by interviewing people on their feedback about using public squares in Europe and USA (Gehl, 2007, Chapter 5, S 5.2.2; Whyte, 1980, Chapter 2, S 2.12.2;). Those studies identified five primary needs that people seek to find in public squares, such as discovery, comfort, relaxation, passive engagement and active engagement.

The researcher is of the view that the consideration of the urban public square requires the share efforts of many urban actors and stakeholders to achieve a better social and cultural environment.

Q16: How important is a square/ plaza as an urban element for future communities in UAE?



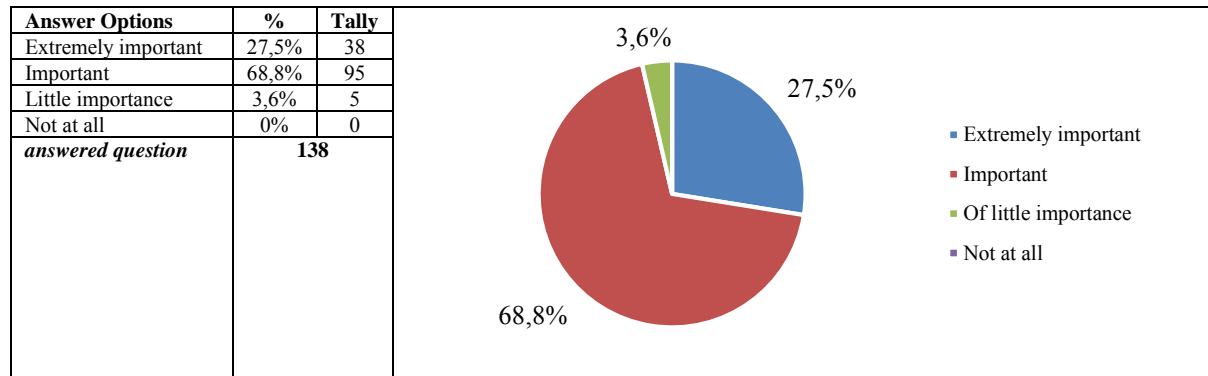
It is clear from the analysis that 52.9% of the respondents felt that it was important to consider a square/ plaza as a vital urban element for future residential communities in UAE. This finding is fundamental to initiatives by urban design actors and community developer players in the UAE to consider new policy that provides for the needs of both public and private sectors (Campbell & Fainstein, 2003, Chapter 4, S 4.6) and (Carmona, 2016, Chapter 2, S 2.9). Although the urban public square is not included in the urban design guidelines, the researcher argues that appropriate planning policy and principles of quality urban design products lies in meeting the requirements of the people who will live in the newly designed communities (see Chapter 8). Moreover, this research adds to what other urban scholars have stated, demonstrating that urban public squares are indicators of the liveability and sustainability of communities if comprehensive urban design system is developed with people’s needs as the top priority.

Thus, it can be inferred from this group that architects, landscape architects and urban planners are interested in considering the inclusion of public squares/plazas with entertainment facilities in their community designs. Developers should add this into to their property designs as this will add value to the community and increase selling and renting revenue. As an architect and urban planner, the researcher stresses that urban planners should adapt their design methods and themes so that people and community residents will be satisfied and enjoy living in the community.

### 6.4.1.3 Opinions on the importance of the current research: Q17 (Appendix B)

To validate the undertaking of this study, participants were asked to indicate whether it was important or not.

Q17: In your opinion, how significant this research is, for UAE future developed communities?



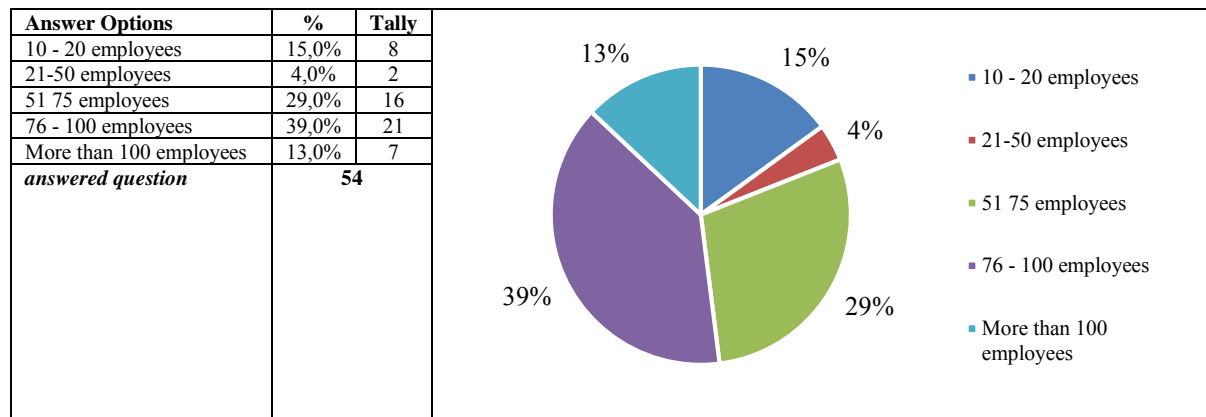
From the study, 68.8% of the respondents expressed that the current research is important for UAE’s future developed communities. The findings from this section provide evidence which corroborate what was concluded by Carmona et al. (2008, Chapter 2, S 2.15) that urban designers must consider urban public spaces, enhance the sense of place in their urban studies and avoid overstating the importance of architecture at the expense of creating urban places where people can socialise. Group 4 survey results enhance the understanding of the importance of a public square as a fundamental urban element in urban master planning, and how these urban components act both as nodes and connectors of the urban fabric.

## 6.4.2 Group 5: Property Developers and Private Sector investors

### 6.4.2.1 Descriptive data analysis: Q1-3 (Appendix B)

The group 5 respondents as discussed earlier in this chapter were the property developers and private sector investors, where the sample size was 54. As per the results from the analysis of Questions 1 and 2, it can be inferred that 65% of property developers have an average of 6-10 years’ experience in property development and private sector investment (see Appendix B: Survey Questions- Category B).

Q3: How many employees does your organisation have?



In terms of employees, 39.0% had between 76-100 employees in each of their organisation. Other respondents had between 10-20 employees (15.0%), 21-50 employees (4.0%), 51-75 employees (29.0%) and more than 100 employees (13.0%). This finding indicates the large number of property developers and the staff that influence the market and urban planning practice in the UAE. The result leads to a consideration of how property developers control planning decisions in the urban design process that will not serve people’s needs. Moreover, these results seem to be consistent with studies by Shihab (2001, Chapter 5, S 5.6.6.3.2) and the Ministry of Foreign Affairs (2013, Chapter 1, S 1.5.1) who presented property developers as “people who see themselves as urban designers create and do, resulting from the decisions and actions of those who don’t see themselves as urban designers”. The researcher regards property developers as financiers that provide funding for the consultation and services of authorities and urban planning professions. This is where more control should to be exercised over the developer’s requirements in order to serve people more than focusing on profits. It should be ‘give and take’ solution to satisfy all stakeholders including people who live and work in the communities.

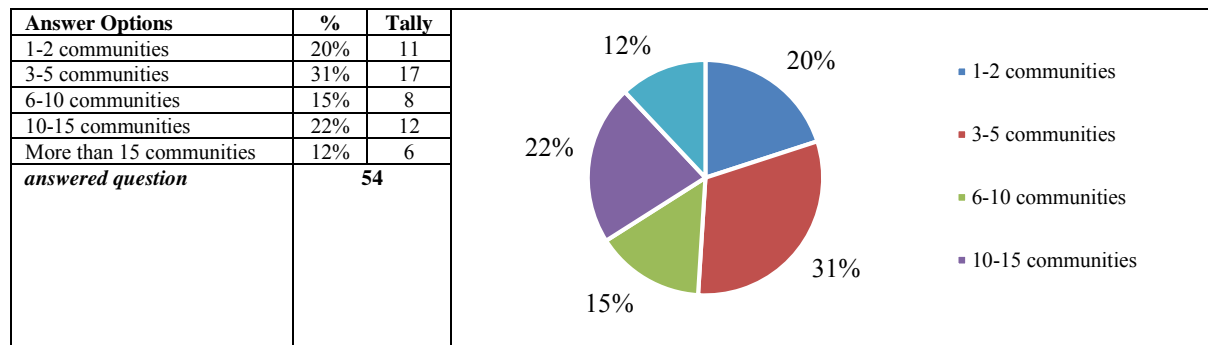
6.4.2.2 Influence on strategy and policies: Q4–18 (Appendix B)

This section addresses the following research objectives:

- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

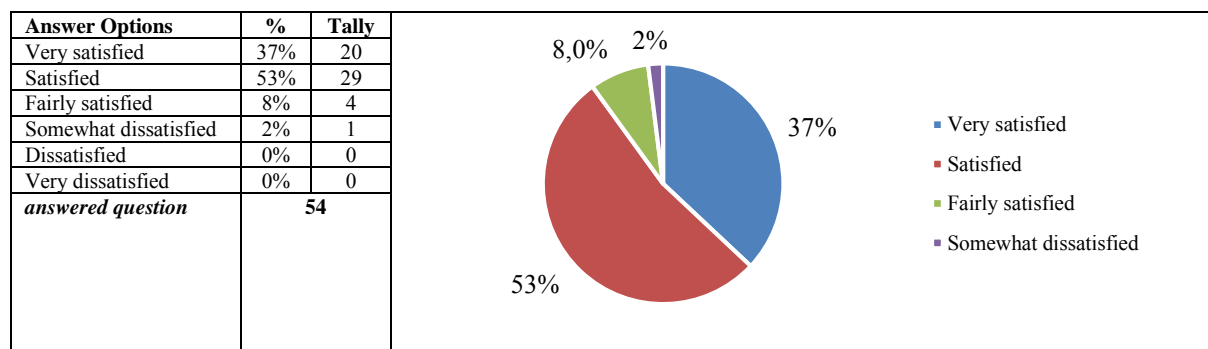
The questions were aimed at finding out to what extent developers and investors had any influence over the policies that guide community development.

Q4: How many residential communities have you developed in UAE?



From the above analysis, it is clear that the developers had considerable manpower and with such manpower and experience: 31.0% of the respondents had developed 3-5 residential communities. This finding was unexpected as it indicates that there may be an oversupply of residential developments in the UAE in comparison to population. Carmona et al. (2008, Chapter 2, S 2.9; S 2.10.3, S 2.11, S 2.15) explain that developers, entrepreneurs and their financial backers are powerful actors in urban decision-making and often act as surrogates for the people. This research adds to previous studies and highlights the phenomenon of the rapid community development in the UAE that has taken place over the last three decades without urban planning control over the attributes that serve people with the aim of enhancing social life, in particularly the ungated community developments.

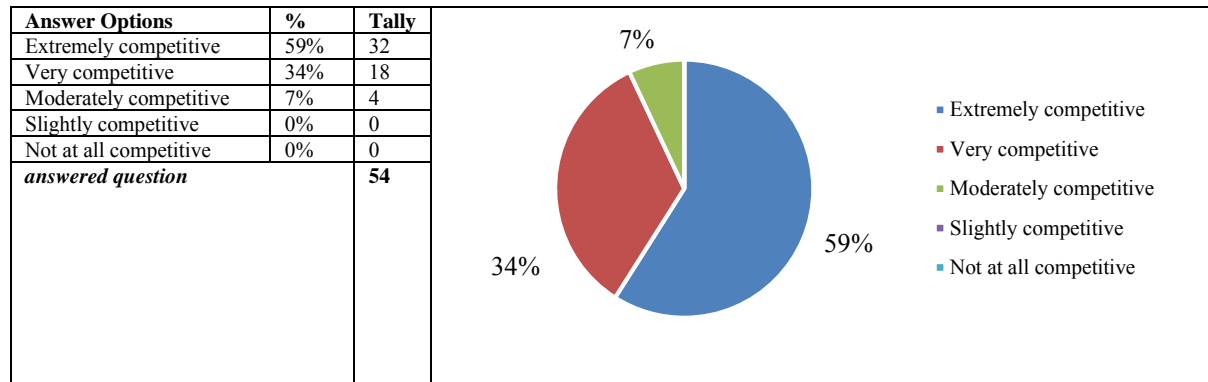
Q5: Please rate your satisfaction with your developed properties?



Most of the respondents (53.0%) were satisfied with their developed properties while 33.0% of the respondents also said that they were very satisfied with the developed residential communities in UAE. This finding is expected from the property developers as they are the key actors in funding developments and have a major impact on decision-making and planning requirements that may not necessarily serve the needs of the people. This result is in line with conclusion by Sugiyama and Thompson (2007, S 8.6) that urban design decisions are not limited to actions by property developers only, but rely on the collaboration of a multitude of

parties that have varying interests and a role to play in the urban planning process, including central and local government, business and local community, investors, users and occupiers. The researcher highlights that domination of developers in controlling funds for developing communities however they please must be controlled and regulated by government agencies who must ensure that the design process of community development projects first and foremost takes people’s needs into consideration.

Q6: How competitive is the market for your target customer?

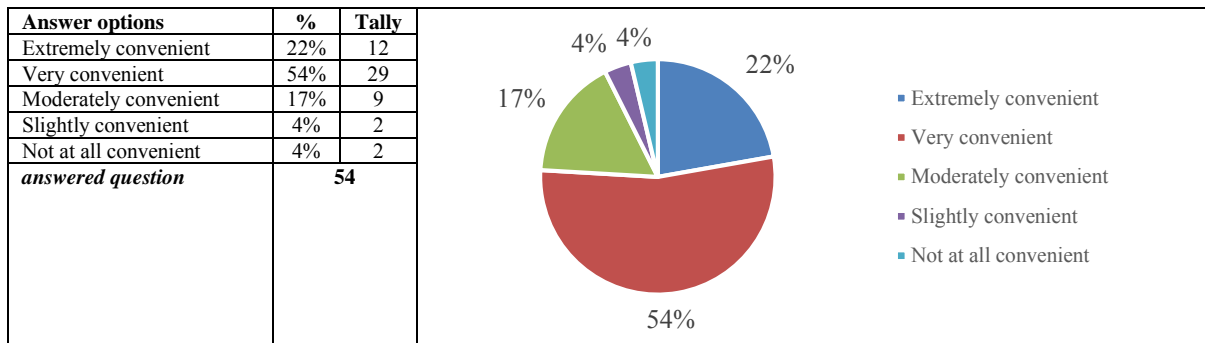


Most of the respondents (59.0%) said that the property developing market was extremely competitive. This finding demonstrates a substantial increase in the number of developing communities, which will negatively impact people’s living environment if communities lack public spaces. To control this increase, local authorities and planning institutions have a key role to play in regulating the urban design process and supporting other urban planning agencies involved in developing new communities and districts (Smith & Wishnie, 2000, Chapter 3, S 3.7.4). Commenting on the results obtained from Q6, the researcher finds that the reason for the intense competition between developers relates to the flexibility in the urban design system that allows developers to persuade the authorities to make exceptions that help to increase their property revenues.

The responses to the other questions were as follows:

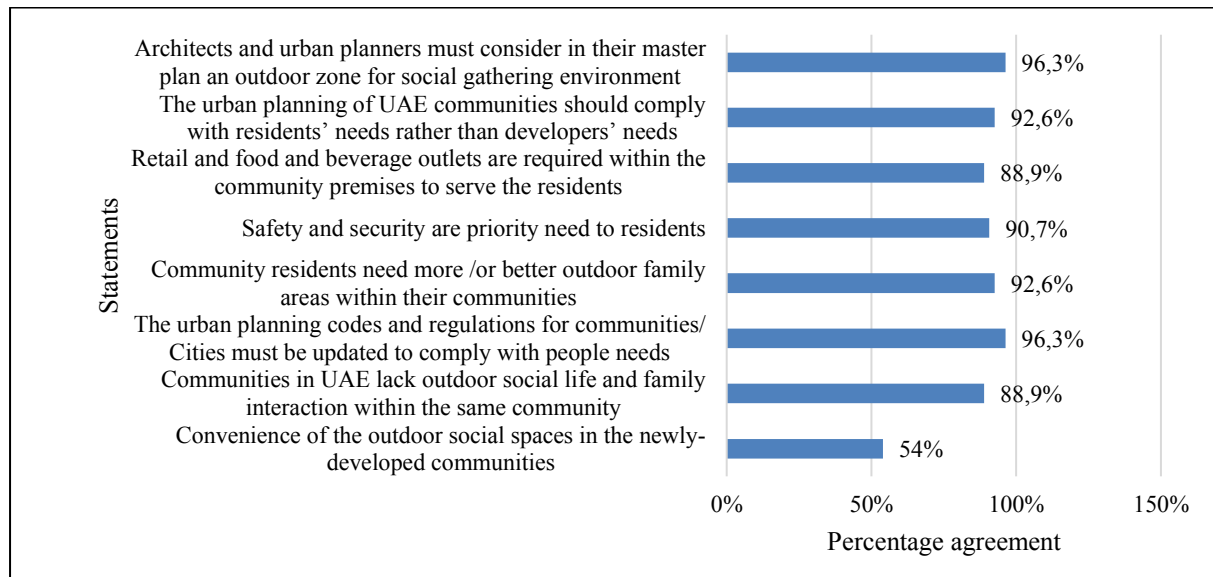


Q7: In your opinion, how convenient are the outdoor social spaces in the newly-developed communities?



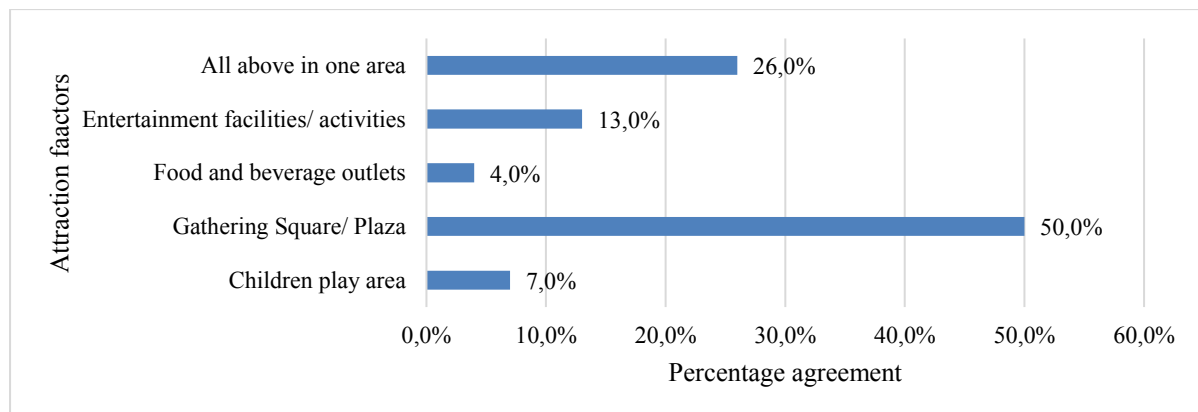
Most of respondents from both, property developers and investors (54% + 22% = 76%) felt that outdoor social space is very or extremely convenient in new developed communities. This finding is unexpected and at the same time confusing to the researcher, as his practical experience shows high resistance from developers and investors to including urban spaces for outdoor social activity in their new developments. The developers' justification is that this space can instead be utilised for extra sellable dwelling units that generate extra income. While it is obvious that developers would prefer to maximise the leasable area to achieve the most profit, research indicates that people feel comfortable living in a place that provides an environment that includes facilities for leisure and social entertainment (Alexander et al. 1977, Chapter 1, S 1.5; Chapter 2, S 2.12.2). Although this finding differs from research by Carmona et al. (2010) (Chapter 2, S 2.4.2) who emphasised that ideal liveable community is not limited to a group of characteristics, it is a comprehensive urban-planning concept that takes buildings, roads, open spaces and merging adjacent districts into consideration. The concept is a base on which to establish urban design policy that regulates the master planning.

Q8: Now, here below some statements. For each, please tell me whether you strongly agree, or strongly disagree with each statement:



The rate of agreement on most of the statements about community urban planning by the developers and investors was above 90%. This is evidence that enhancing our understanding that the creation of good urban environment and an attractive outdoor space is not just the prerogative of professional specialists (Carmona et al., 2008, Chapter 2, S 2.9; S 2.10.3).

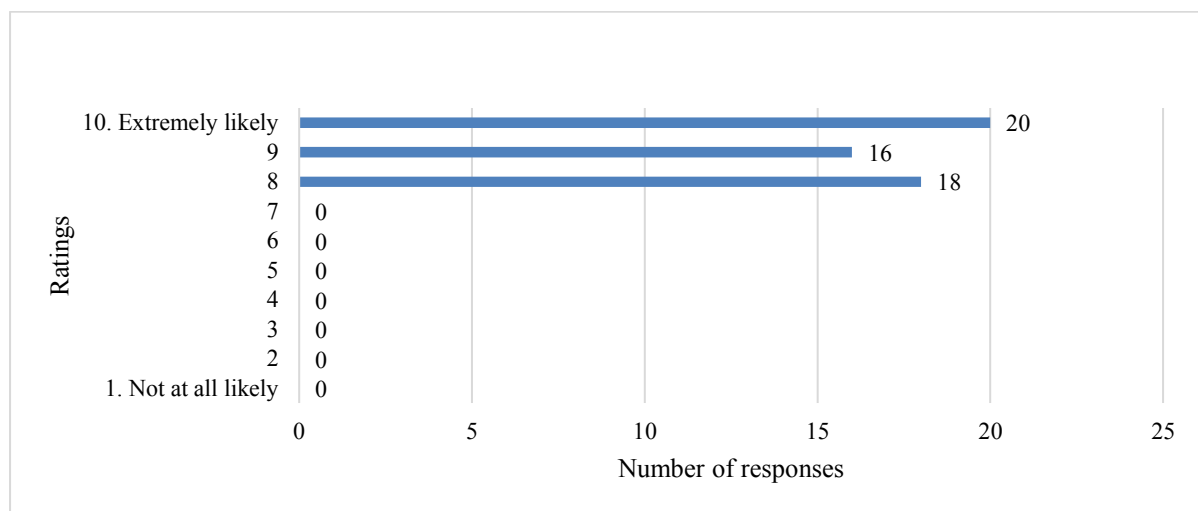
Q9: In your opinion, what would make the residential community a place of life to people / residents?



Similar to other community respondents, the developers felt that a gathering square/ plaza was what would definitely make the residential community an attractive place for the residents (50.0%) when compared with other facilities. The result is significant and shows promise for our urban design future, but at the same time is limited by lack of support from the developers and investors that are seeking to profit from sales of residential units rather than building a social environment. In line with other urban studies by Gehl (2010, Chapter 5, S 5.2.4),

Madanipour (2003, Chapter 2, S 2.1) and Carmona et al. (2010, Chapter 2, S 2.4.2), this finding reveals that a key issue in contemporary urban design and master planning is for developers to prioritise urban public square in their new developments and accommodate entertainment facilities for all families. This research suggests that urban planning regulations need to be adapted or updated to control and regulate the master planning process, in order to bring satisfaction to all stakeholders and urban actors, without sacrificing people's demands and their lifestyles.

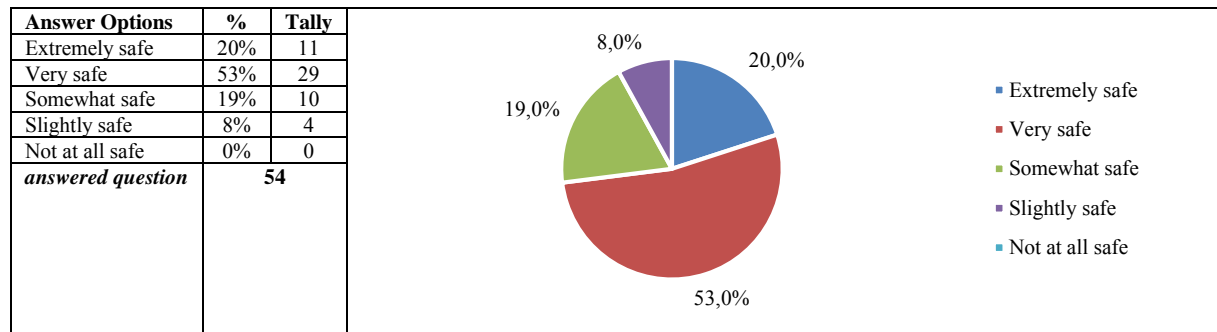
Q10: How likely is that you conduct "Community consultation " before the design stage of your newly-developed community?



In the researcher's view, community consultation is an essential process in planning. The results show that, before the design stage, only 37.0% (n=20) of the developers would consult with the community on a new development. This result correlates with other findings that show current urban design processes lack community consultation. Moreover, the finding corroborates the findings of a previous study by McGlynn (1993, S 6.1), clarifying that residents and the general public are the end-consumers of the product of the developers and are important stakeholders who need to be involved in community development that directly affects them. Therefore, the contribution of their opinions and input on development is vital and may actively affect the quality of the community development (Carmona et al., 2008, Chapter 2, S 2.9). Adding to previous statements by others, this research calls for gradual urban transformation in urban development and redevelopment of several existing communities in the UAE, in order to enhance sustainability and to assist people to improve their quality of life and help them to adapt to physical changes. The researcher's believes that gradual

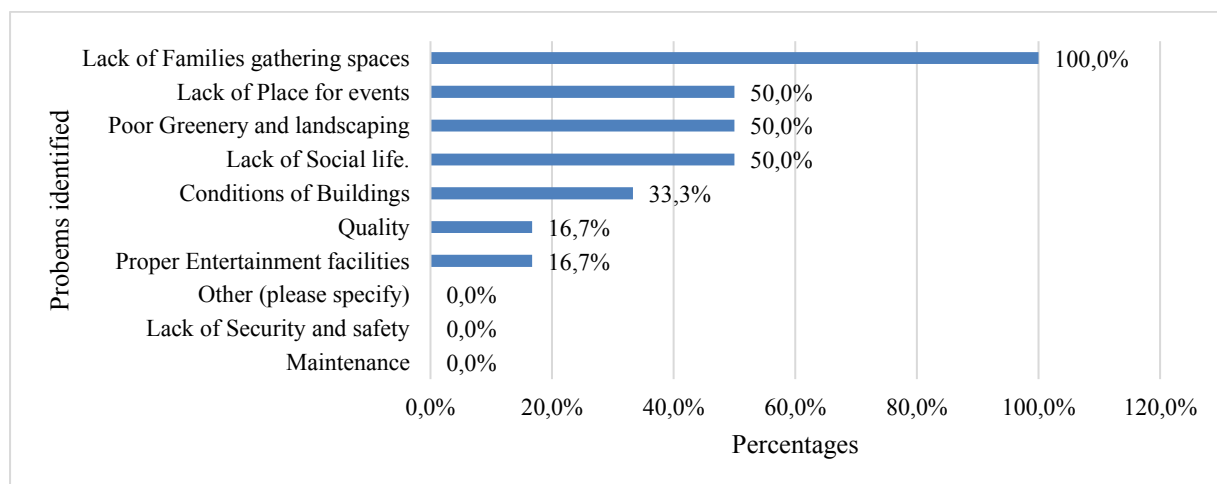
transformation allows for greater flexibility in the design process and facilitates behavioural and attitudinal changes through public participation, involvement and positive experience.

Q11: How safe do you feel are the communities in UAE?



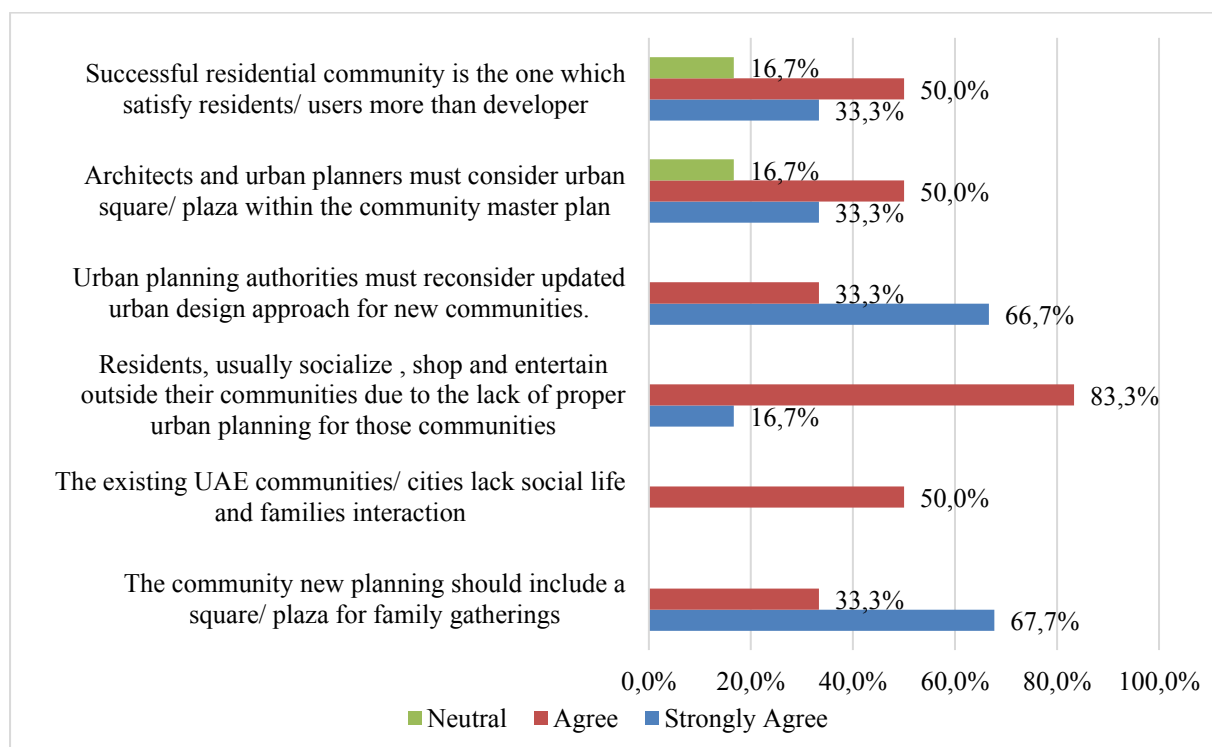
Most respondents (53.0%) felt it was very safe living in the communities in UAE. This finding contradicts other findings in urban research on similar communities in different regions. Massam and Everitt (2004, Chapter 2, S 2.5) investigated the safety in one of the Mexican cities and correlated the safety with the density of the population around the public open space/ square. Similar research was conducted by (Cooper-Marcus & Francis, 1998, Chapter 2, S 2.2.1). This is justified due to the high densities that bring environmental problems such as noise, traffic and pedestrian congestion. More debate on previous statements by other scholars is that safety and security in communities are impacted by the overall security system in the country. Contrary to previous studies, the researcher found that safety and security in all community typologies in the UAE are of a high level, and are controlled by the people themselves, and that religion, culture and social customs play an essential role in this.

Q12: Indicate the three (3) biggest problems, if any in UAE developed residential communities?



When the respondents were asked to choose the three biggest problems that existed in the UAE developed residential communities, 100.0% of the respondents chose lack of family gathering spaces, 50.0% of the respondents chose lack of social life, and 50.0% of the respondents felt that the lack of a place for events, poor greenery and landscaping were problems. The three problem findings are correlated with the lack of outdoor family and events places in the developed communities. These results agree with urban planning studies by Tibbalds (2001, Chapter 2, S 2.1) and Carmona et al. (2008, Chapter 2, S 2.9), emphasising the importance of integrating urban open spaces between buildings for allowing sunlight penetration and encouraging outdoor activities and family gatherings and enhancing the social environment. Following the previous statement, this research envisages that measures can be implemented to evaluate the level of success of an urban environment in terms of the number of people in an urban space and the level of social interaction.

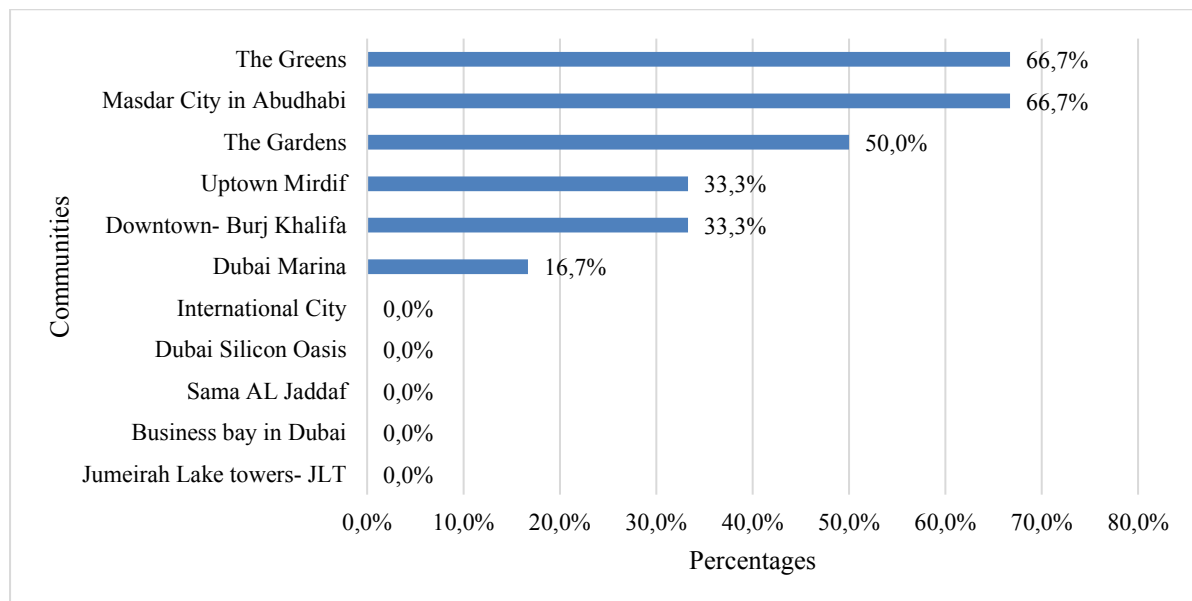
Q13: To what extent do you agree with the following statements?



The survey respondents were asked to give their opinions on the level to which they agreed on the statements in Q13. It is worth highlighting two main findings, namely, that 88,3% of the respondents agreed and strongly agreed that architects and urban planners must consider including urban squares in community development master plans, while there was 100% agreement that an updated design approach is needed for new communities. In accordance with these results, previous urban studies (Gehl, 2007, Chapter 5, S 5.2.2.; Madanipour, 2003,

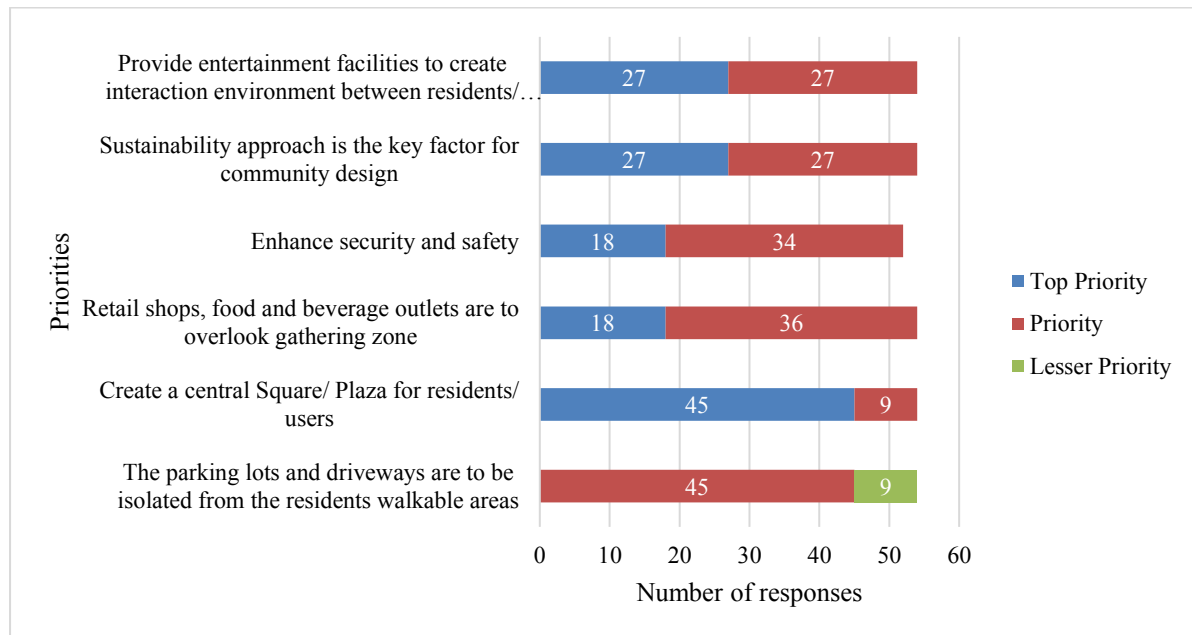
Chapter2, S 2.1; Carmona et al., 2008, Chapter 2, S 2.9) demonstrated the need for a greater focus on public space and outdoor places. Gehl’s research was more focused on investigating the existing status of public places, and the current research agrees that that what a sustainable community needs is a combination of attractive and functional spaces that people use rather than simply moving through them.

Q14: In your opinion, which of the following communities are the most livable places? Select the best three (3) communities.



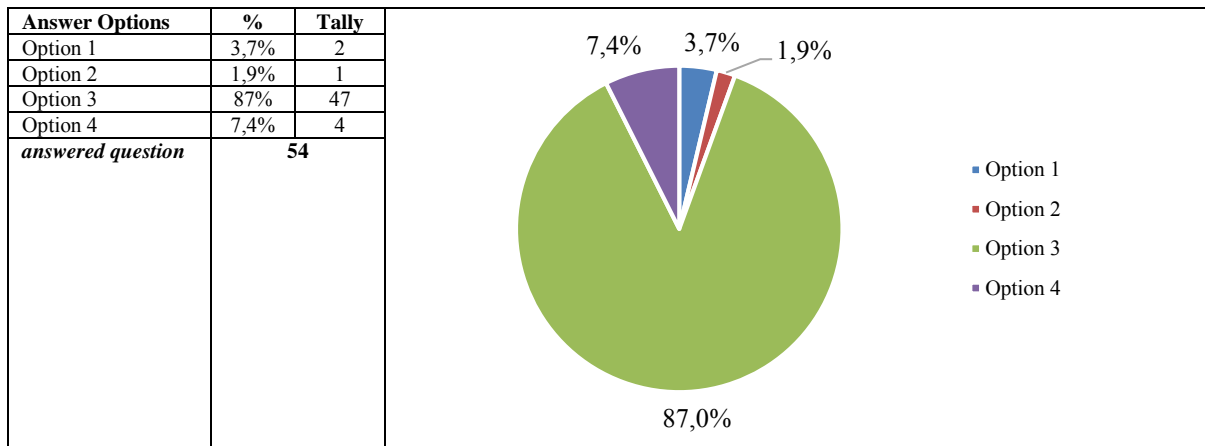
The analysis also showed that the following three places best represented a livable place in meeting user needs: Masdar city in Abudhabi (66.7%), The Greens (66.7%) and The Gardens (50.0%); whereas other places like Dubai Marina (16.7%), Uptown Mirdif (33.3%), Downtown Burj Khalifa (33.3%) earned little interest from the respondents. Other communities like Jumeirah Lake Towers (0.0%), Business Bay in Dubai (0.0%), Sama Al Jaddaf (0.0%), Dubai Silicon Oasis (0.0%) and International City (0.0%) were not rated as liveable places in terms of meeting user needs. The reason for selecting the three highly-rated communities was the availability of outdoor public spaces and squares that connect dwelling units and provide an environment that allowed for social gathering. These findings support other research that found the relationship between people and their environment cannot be regarded as sustainable without having public spaces and outdoor gathering places for social interaction (Bramley & Power, 2009. Chapter 7, S 7.3.1; Burton, 2000, Chapter 7, S 7.3.3). In the researcher’s opinion, the previous studies by others were mostly academic and not sufficiently evidence-based to present what has been empirically tested in this research.

Q15: If, as a developer, you decided to design and develop a new residential community, what would be your top priority?



The respondents' top priority when deciding to design and develop a new residential community would be to create a central square/ plaza for residents/ users (83.3%), and said that the parking lots and driveways ought to be isolated (83.3%). The need for retail shops and food and beverage outlets overlooking the gathering zone was rated at 66.7%; enhanced security and safety at 65.4%; sustainability approach as a key factor for community design at 50.0%, and providing entertainment facilities to create interaction environment between residents/ users at 50.0%. The results of Q15 are very interesting and presented suggestions of people on priorities they would like to have in their community. Creating a central square/ plaza for residents and users was an important highly-rated factor in this research. This finding differs from other published research in urban design and master planning by (Gehl, 2007, Chapter 2, S 2.7.2.1, S 2.12.2; Madanipour, 2003, Chapter 2, S 2.1), that studied the general conditions of many existing public spaces and squares in Europe rather than setting new urban regulations that encourage the transformation of these spaces in new developments. However, the researcher agrees that other studies are consistent with the common understanding of the importance of public spaces.

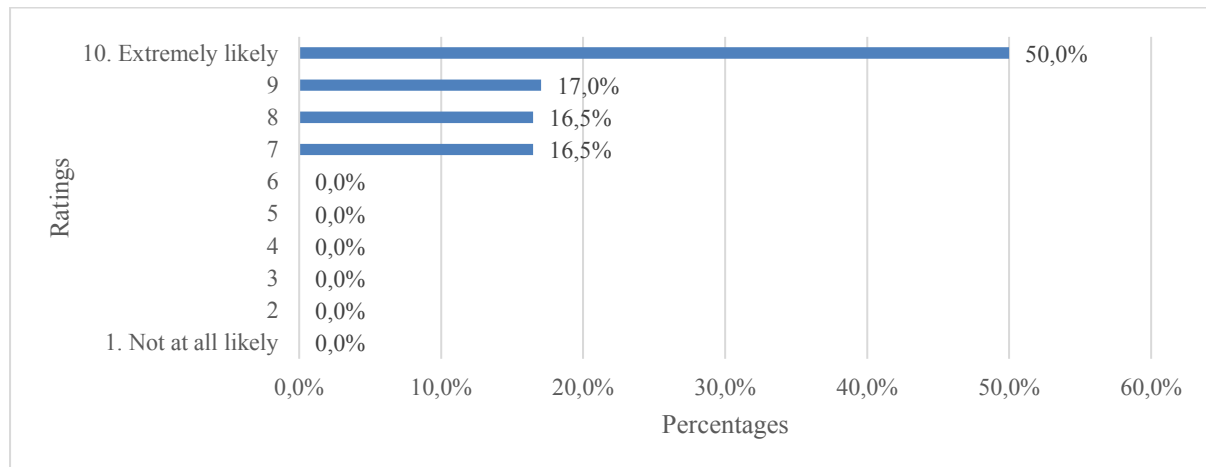
Q16: If you were given the choice to develop a community to your client, what would be your preferred option on the Charrette chart?



When the respondents were asked to choose the option that they would develop in a community for their clients, the majority of the respondents (87.0%) said that they would go with option 3 of the Charrette diagram. The findings of Q16 are in line with other research conducted by several authors (Gehl, 1987, Chapter 2, S 2.2.2), Carmona et al. (2008, Chapter 2, S 2.10.3) and Van Melik (2008, Chapter 2, S 2.2.4.5), who pointed out that walkability and easy accessibility to community through an open space regardless of the space typology, is an indication of successful liveable community. The researcher therefore agrees on the basis of the findings of this research that urban public squares are vital to residents and community users. Moreover, the richness of the survey findings was not previously covered by previous or present planners and scholars in the urban planning sectors. This is related to more focus of other urban scholars on general communities without proper segregation between ungated and gated communities and the different nature of life and liveability, which is the core topic of this research.



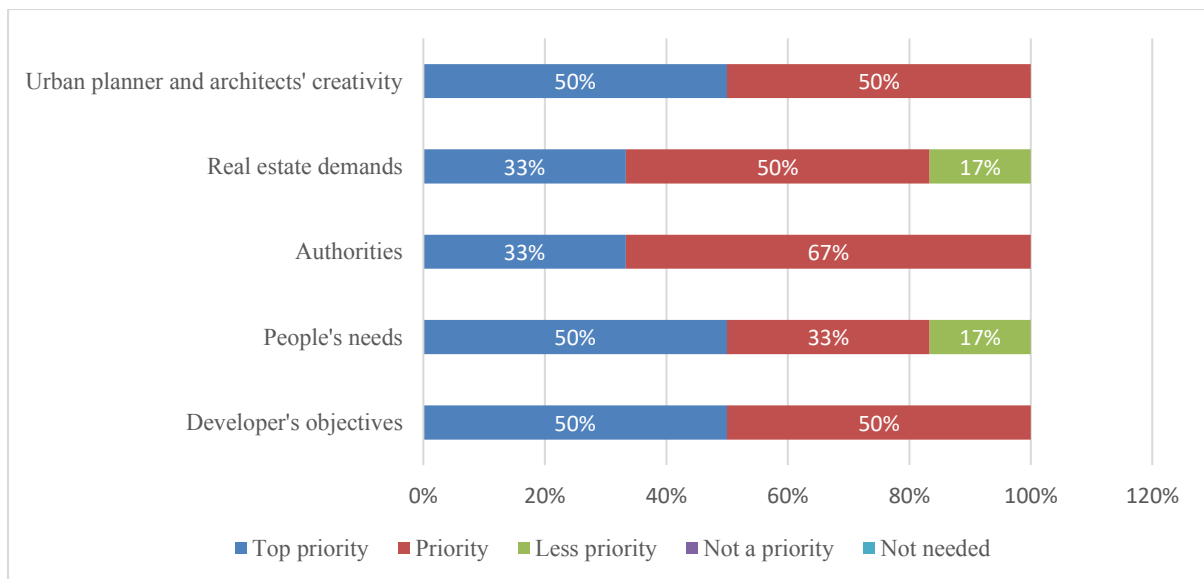
Q17: How likely is it that you recommend sharing different stakeholders' opinions in community/ city planning?



Respondents (n=27, 50.0%) recommended sharing the different stakeholders' opinions in community/ city planning. The result (50%) obtained from the developers and investors is disappointing to the researcher and indicates hesitance from them to involve other stakeholders in the urban design process (refer to the eight groups in Chapter 5). However, this finding aligns with urban planning researchers (Cowan 2001, Chapter2, S 2.10.2, Lynch, 1981, Chapter 2, S 2.10.3) that highlights that the city or community master plan must be developed in consultation or collaboration with local stakeholders including urban design actors. In the researcher's opinion, there is a clear indication of how difficult it is to get all stakeholders and developers together at the same time for master plan consultations and further monitoring outcomes through regular guideline audits of the built environment. This research presents a revised conceptual framework for urban planning in UAE that involves community occupants in the urban design process and development permissions (see Chapter 8) which is a new element in the framework.

Q18: How strongly do you agree with the following statements?

Answer Options	Top priority	Priority	Less Priority	Not a Priority	Not needed	Rating Average	Tally
The community urban planning should be based on developer objectives	27	27	0	0	0	1,50	54
The community urban planning should be based on people s' needs	27	18	9	0	0	1,67	54
The community urban planning should be based on authorities' requirements/ regulations	18	36	0	0	0	1,67	54
The community urban planning should be based on real estate demands	18	27	9	0	0	1,83	54
The community urban planning should be based on urban planners' and architects' creativity.	27	27	0	0	0	1,50	54
<b>answered question</b>							<b>54</b>



The survey of group 5 included this last question to gauge how strongly respondents agreed on several statements as explained in the graph above. The key finding from the above analysis is that urban planners and architects' creativity, people's needs and developer's objectives are the main considerations in urban planning. The researcher agrees that these needs should form the foundation of community urban design and planning. The essence of this vision correlates with what the conclusions of Imperial (1999) and Sairina and Kumpulainen (2006) (Chapter 4, S 4.10.2) that urban planning requires consideration of the needs of all stakeholders by urban planning actors in collaboration with local authorities.

This research therefore asserts that the communication between property developers and the government agencies when purchasing the land needs to be transparent and must mandate the provision of public spaces within new communities with during the preparation of master plan concept, this is to ensure that all community components are set to serve in empowering social activities and entertain them.

### 6.4.3 Group 6: Real Estate Agents

#### 6.4.3.1 Descriptive data analysis: Q1–2 (Appendix B)

The group 6 respondents as mentioned earlier comprised 48 real estate agents. These agents are key players that act on behalf of developers and investors (group 5) for arranging the selling, renting or managing their properties. Most of the respondents of group 6 (59.0%) had been real estate agents in UAE for about seven years; 35.0% of the respondents had experience of about 3-6 years, and the rest (6.0%) had experience of between 6 months and 2 years. According to

46.0% of the respondents, their target customers were a “mix of all type of customers” such as individuals, companies, developers and authorities. (Refer to the list of real estate agents in Appendix B).

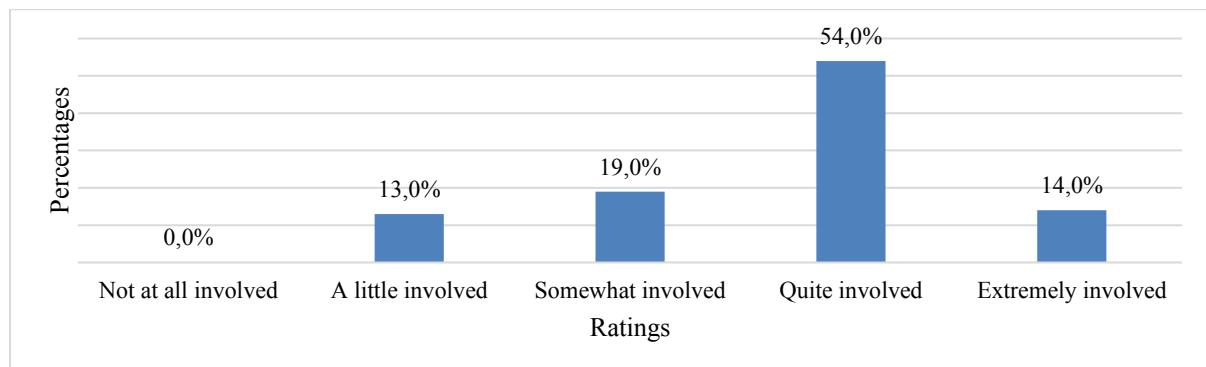
#### 6.4.3.2 Influence on strategy and policies: Q3–12 (Appendix B)

This section addresses the following research objectives:

- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

The questions were aimed at finding out the opinions of retail estate agents about the communities where they sell properties and to determine to what extent they had any influence over the policies that guide community development.

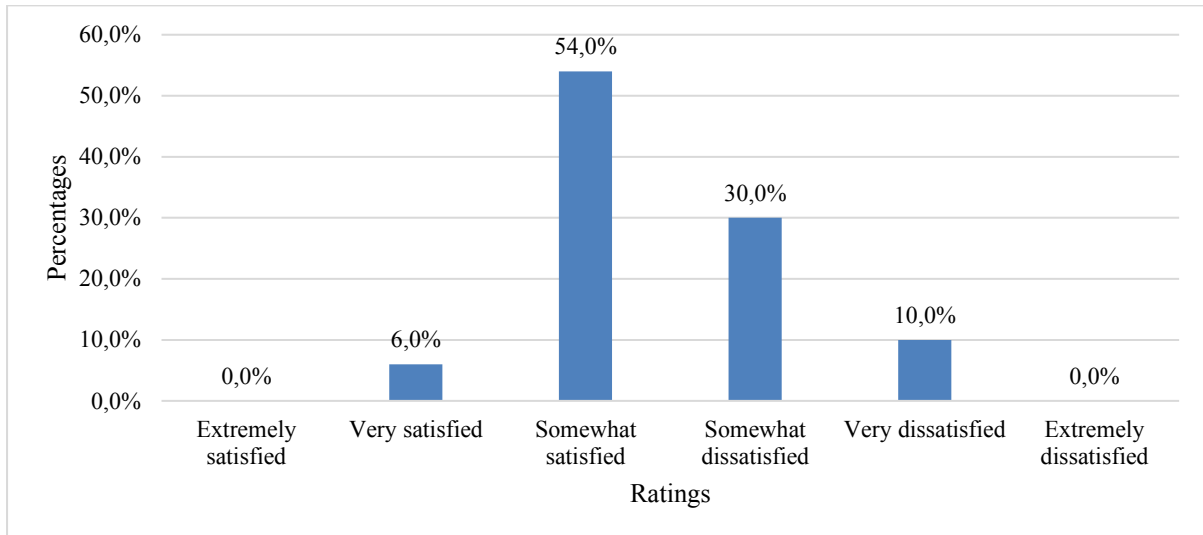
Q3: How involved have you been in marketing residential community properties?



Just over half (54.0%) of the respondents were quite involved in marketing residential community properties while another 14,0% were extremely involved. The results prove that the residential properties marketers are keen to be involved in selling units in high quality gated communities (group 2) with public spaces as places for families. This result also accords with other academic urban studies by Low (2000) and Rochon (2003) (Chapter 2, S 2.5) that found that open public space is as essential as the community buildings that surround them. In contrast with previous research and from experience in the coordination of property marketing with many real estate agents, the researcher found that those agents are directing developers and investors to increase the area for retail outlets in their new premises in order to earn higher profits. This was the aim of including option 3 in the Charrette tool layout (see Chapter 5),

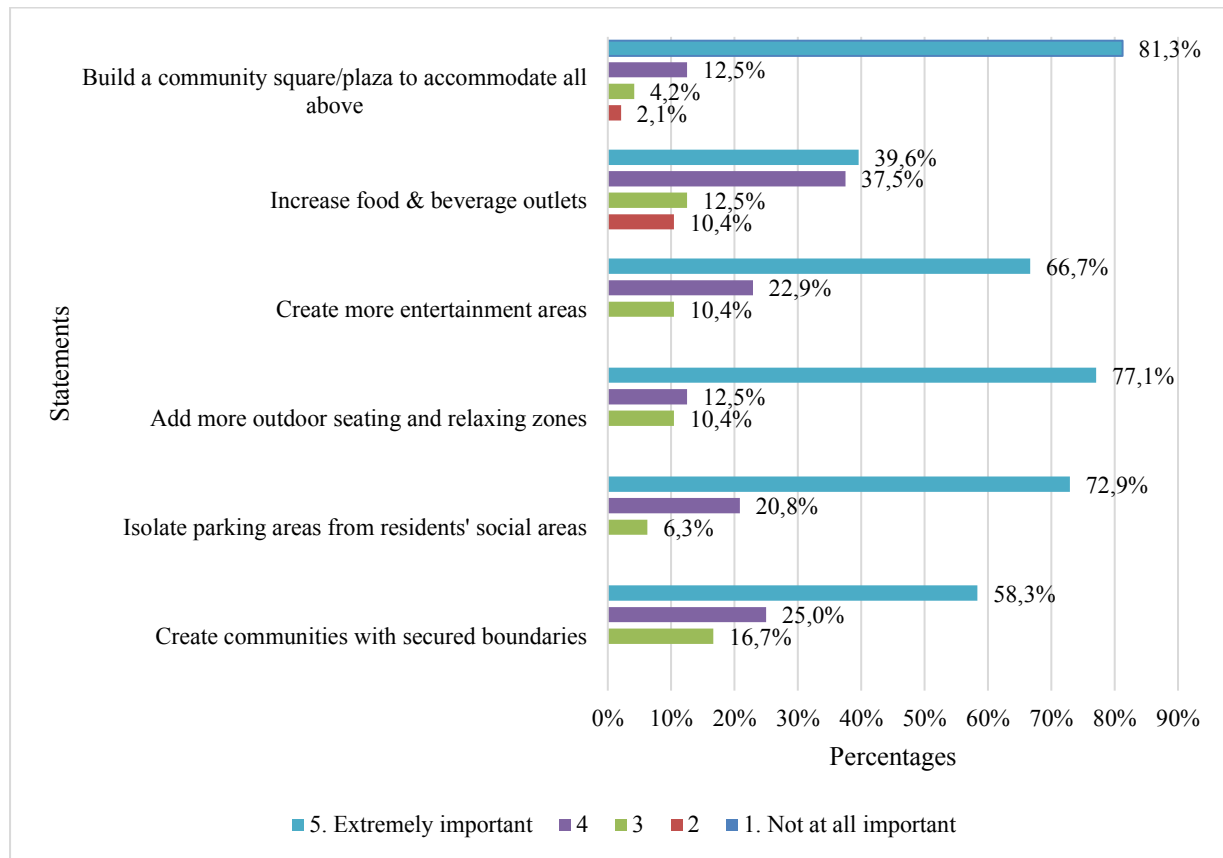
where the researcher framed the public square to accommodate retail outlets overlooked by the residential space.

Q4: Overall, how satisfied are you with the urban planning of UAE communities?



When the respondents were asked about the satisfaction level with the urban planning of UAE communities, it was found that 54.0% of the respondents are somewhat satisfied and (6%) very satisfied. This result reflects the satisfaction of real estate agents in the marketing of developing residential communities. The researcher found that although the role of real estate agents in community master planning process is minimal, their involvement in consultation with other urban design players and sharing their inputs is vital to achieve better quality development. Moreover, this finding concurs with other urban planning studies (Cleary, 1999; Mitchell, 2003) (Chapter 2, S 2.5) that highlight how different urban actors including real estate marketers can change the way master planning is done. The researcher notes that in previous studies, on many occasions, real estate agents were the consultants that provided information to developers and investors on the market demands and what should be included in community designs by architects and urban planners. Accordingly, the researcher added this group as one of the core stakeholders in the research.

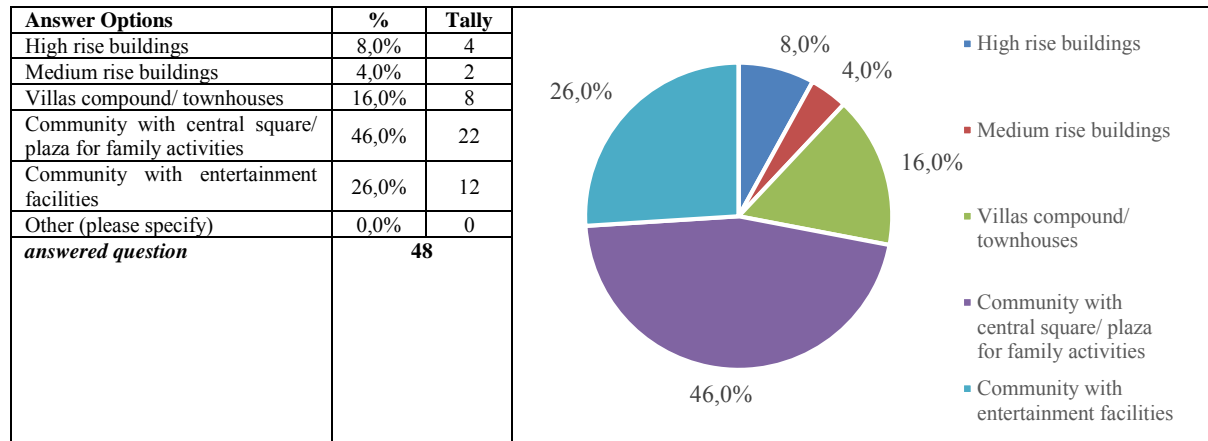
Q5: In your opinion, rate the changes that the developers /authorities would make to improve the liveable atmosphere for residential communities?



As far as security and safety were concerned, most respondents (58.3%) expressed that it is extremely important to create communities with secure boundaries. As far as other characteristics and facilities of social areas are concerned: 72.9% of the respondents said that it is was extremely important to cater for parking areas; 77.1% of the respondents expressed that it was extremely important to add more outdoor seating and relaxing zones; 66.7% of the respondents stated that it was extremely important to create more entertainment areas; and 39.6% of the respondents expressed that it was extremely important to increase food and beverage outlets. The majority of the respondents (81.3%) stated that it was extremely important to build a community square / plaza to accommodate all the above-mentioned facilities. These findings from the survey are significant and relating to place-making activities in public squares (Buchanan, 1988, Chapter 2, S 2.12.3) emphasising that social life is not possible in any community without creating activities and facilities that for entertainment, interaction and socialising. Moreover, in reviewing the findings and correlating them with the literature, no similar data was found in other studies although similarities were found in the urban design contexts described in relation to open public places (Al Waer, 2014, Chapter 3, S

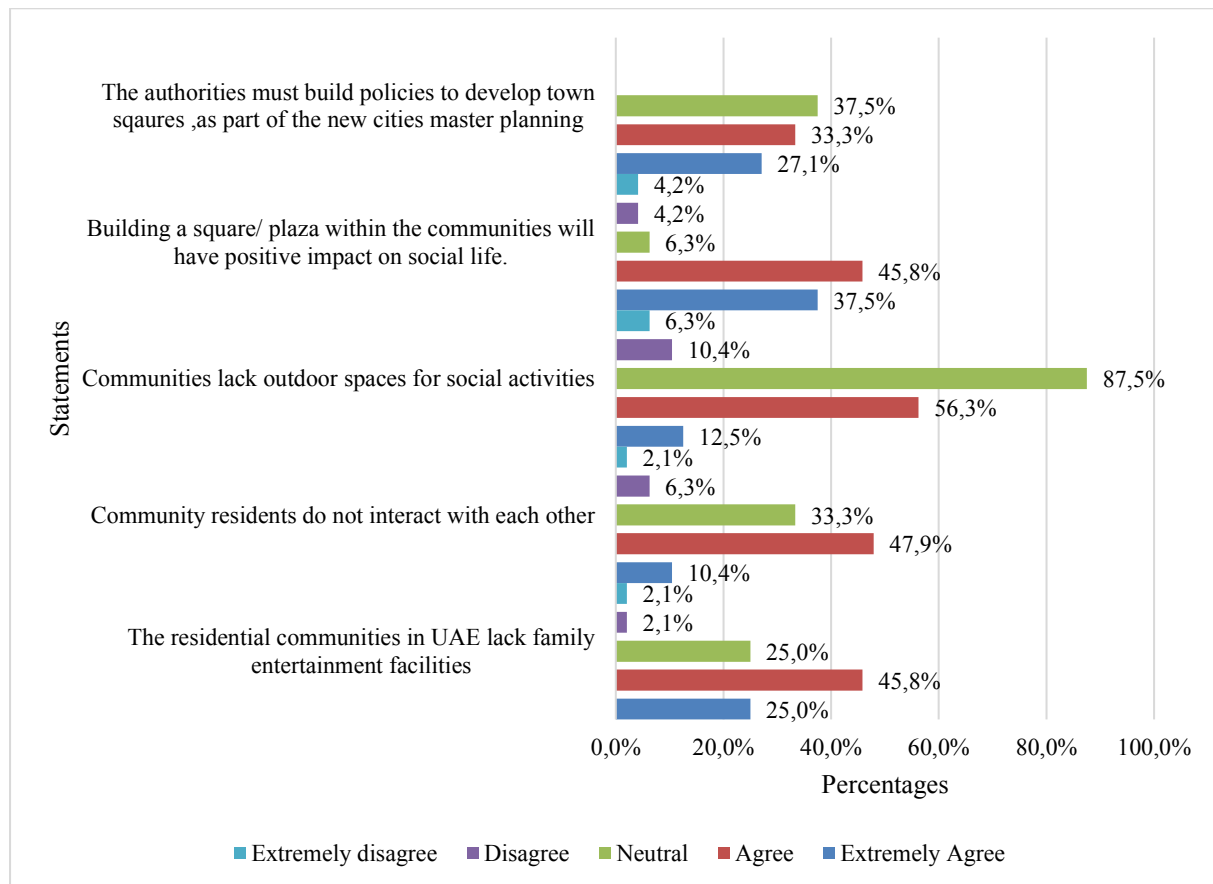
3.3; Carmona 2016) (Chapter 2, S 2.9). In support of the contents of this research, both these urban scholars raised concerns on the current urban design system used in the UK and suggested ways of developing better planning strategies and design policies by involving all urban actors and stakeholders including community residents.

Q6: In your opinion, which type of community you would consider best?



From the data analysis, it is inferred that about 46.0% of the respondents felt that the community with a central square/ plaza for families’ activities was the community they would consider best for their target customers. Other factors such as a community with entertainment facilities (26.0%), villas compound/ townhouses (16.0%), high rise building (8.0%) and medium rise buildings (4.0%) were less needed. These findings are unexpected and do not support previous research and urban studies in defining best type of community (Madanipour, 1996b, Chapter 2, S 2.10.2). The highly rated option of ‘community with central public square’ reflects peoples’ needs. Moreover, previous studies by McGlynn (1993, Chapter 6, S 6.1) and PPS (2000, Chapter 2, S 2.5) have not examined conditions and factors associated with residential well-being and safety in different types of communities or focused on the spatial and social environment that would encourage new residents to move in. The researcher concludes from the results of Q6 that this is strong evidence for urban planning actors and decision-makers of the direction that should be considered in community master planning, which indicates that a community with an urban square is the preference of the majority of stakeholders (residents and retailers).

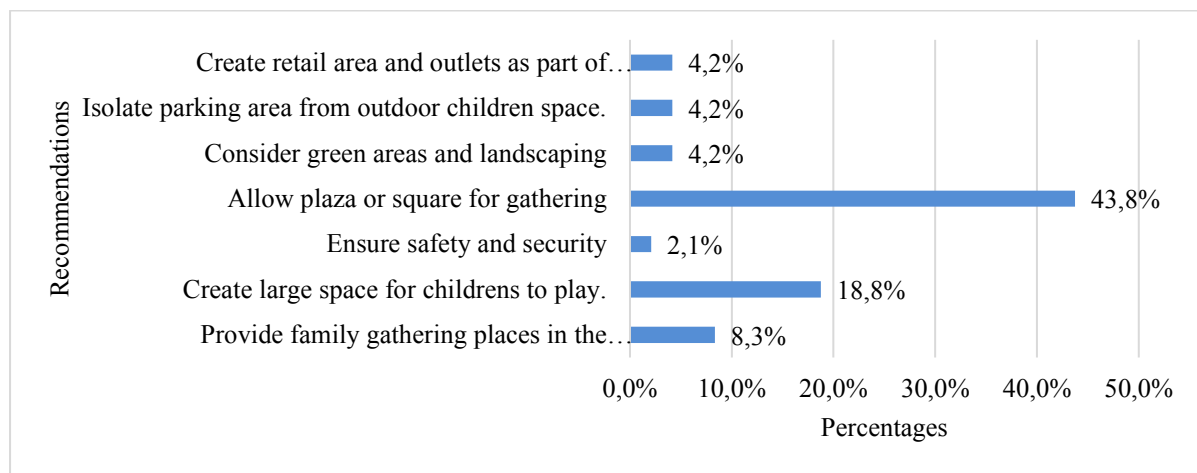
Q7: To what extent do you agree or disagree with following statements?



As far as the UAE communities are concerned, 45.8% of the respondents stated that the UAE residential communities lack in family entertainment facilities when compared with other facilities. In terms of “the interaction level of the residents with their neighbours/ each other”, 47.9% said that the community residents do not interact with each other. Most of the respondents (56.3%) agreed that the outdoor space in the residential communities for social activities was the main drawback that could result in residents moving away, in turn resulting in less profit for the sellers while 46.8% of the respondents agreed that building a square/ plaza within the communities would definitely have positive impact on social life. From the above analysis, it is clear that a square/ plaza in a community will create a stronger impact on the social life of the residents. According to 38.3% of the respondents, the authorities must include public squares in their plans to develop new cities. These findings address the primary social and spatial factors that have impact on the living environment in residential communities. Moreover, the most obvious finding to emerge from this result is that residential communities, apart from a few gated ones in UAE, lack outdoor open spaces for social interaction with others. In reviewing the literature, no data was found that correlates with this survey’s results, as the previous researchers presented views from different cultural and geographical perspectives. As

an example, PPS (2000, Chapter 2, S 2.5) and UN-Habitat (2015, Chapter 2, S 2.15) provide a general understanding that the link between urban development and public space is critical and needs to be understood in each context to obviate unimproved and unmanaged open spaces. The researcher expands on the previous understanding that the link between urban development and public space is crucial, and merging urban public spaces in development plans without exception is the solution.

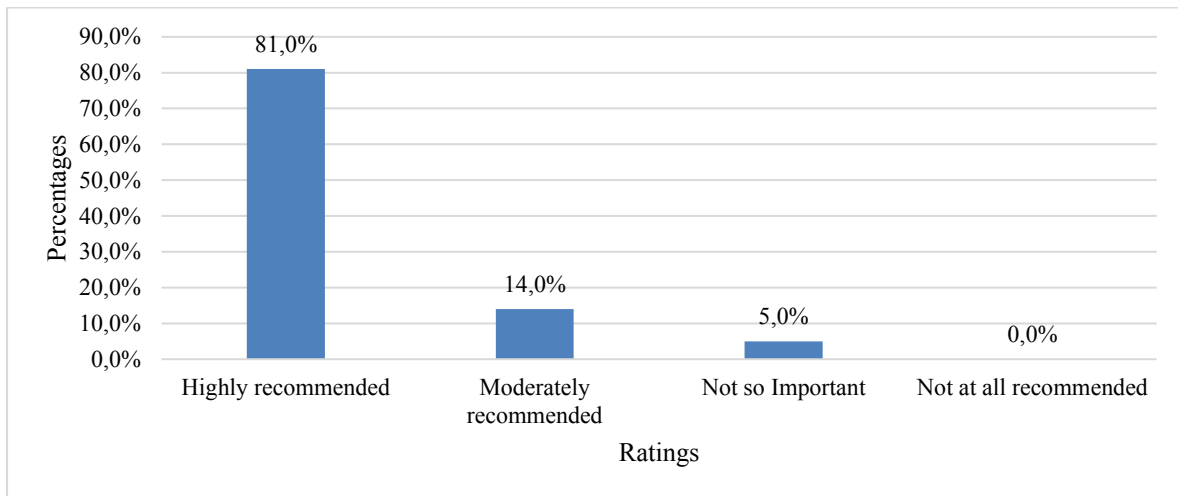
Q8: What recommendations would you make to architects/ urban planners to improve when designing new communities?



When the respondents were asked to share their opinion about what would they recommend to architects/ urban planners when designing new communities, 51.2% of the respondents felt that allowing a plaza or gathering square in a community would be their first priority for the designers, whereas other criteria gained fewer responses: provide a family gathering place in the community (9.8%); create ample space for children to play (22.0%); ensure safety and security (2.4%), consider green areas and landscaping (4.9%), isolate parking areas from outdoor children spaces (4.9%) and create retail areas and outlets as part of a community centre or gathering place (4.9%). Again, the results on Q8 were unexpected, mainly the most highly-rated recommendation that the plaza/ public square should be included in the urban design process for a better liveable environment. The second major finding was recommending creation of space for children to play which strongly correlates with the first finding. Despite the fact that many urban scholars and academic researchers emphasise the importance of public space (Carmona et al., 2008; PPS, 2000; UN-Habitat, 2015) (Chapter 2, S 2.15.1), there was no demand to mandate the inclusion of public spaces and squares in the urban master planning in their studies. The researcher argues that, by re-establishing the urban public square as a mandatory urban element in the fabric of developing communities, his research has succeeded.

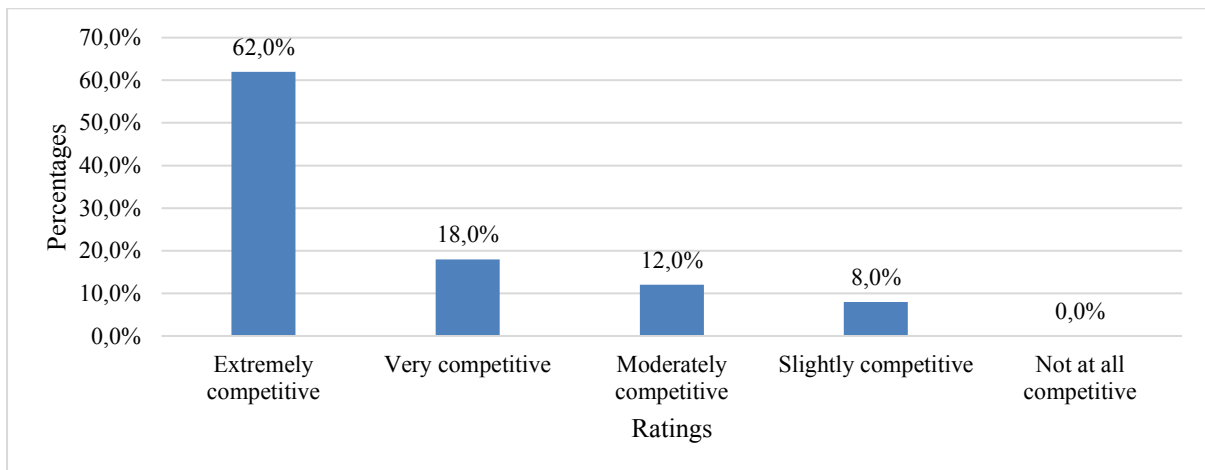


Q9: To what extent would you recommend to architects and urban planners to integrate a square/ plaza in their new community planning?



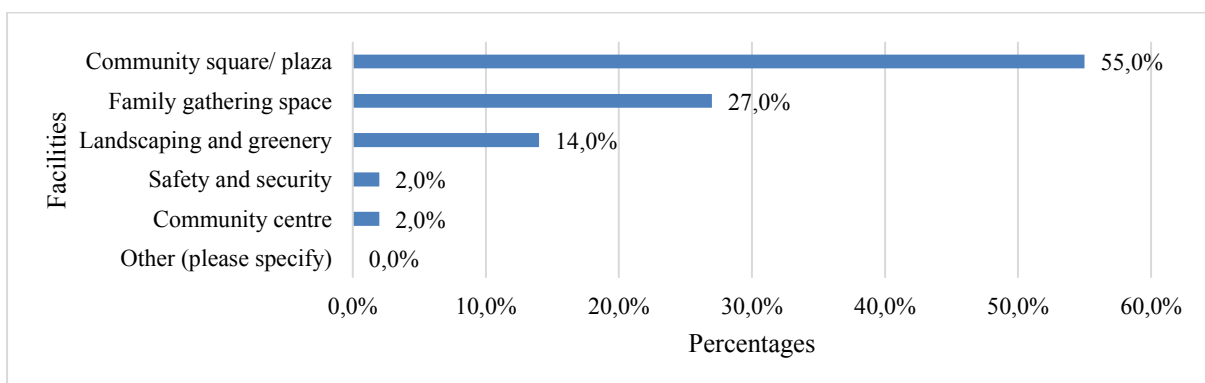
In order to understand whether real-estate agents are in line with the researchers' objectives with regard to new urban development in UAE communities, survey respondents were asked for their opinion on whether urban designers should integrate a square/ plaza in their designs. Most respondents (81.0%) highly recommended the integration of a square / plaza in new community planning. This result supports both findings of Q8 & Q9 and shows a strong correlation with peoples' perception on the importance of living in a community with public open space that can sustain a better social and spatial environment (Sugiyama & Thompson, 2007, Chapter 8, S 8.6). These findings go beyond previous urban studies, showing that as cities expand and more communities develop, the necessary of public squares/ plazas must be secured, and the haphazard uncontrolled urban design studies must cease and be regulated by decision-makers in the urban planning industry (Carmona et al., 2010, Chapter 5, S 5.2.2; UN-Habitat, 2015, Chapter 2, S 2.15). The researcher argues that UAE urban development process and the actors involved are more prone to focus on development alone rather than create places that contribute to people's quality of life.

Q10: How competitive is the market for your typical client / customer?



The question directly addresses the question of competition in the market between various clients/ customers. The market for the respondents for their typical clients or customers is extremely competitive (62.0%) in today’s real estate business. This high rating reflects the reality in the UAE cities, in particular Dubai, and calls for effective action from all urban planning actors (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11) on close consultation to provide what people need in their community rather than confining the development to what satisfies investors and developers. In a study in England, a survey found that the major motivation for residential property purchasers was that property in a gated community with appropriate family entertainment open space would maintain its value, and that such types of community would always be in high demand (Low, 2000, Chapter 2, S 2.5; Mehan, 2016, Chapter 7, S 7.2.2). Although previous studies in UK focused on the importance of public spaces in newly developed cities, this research has shown that it is essential to make the provision of public spaces and squares mandatory in new communities. This will be detailed in Chapter 8.

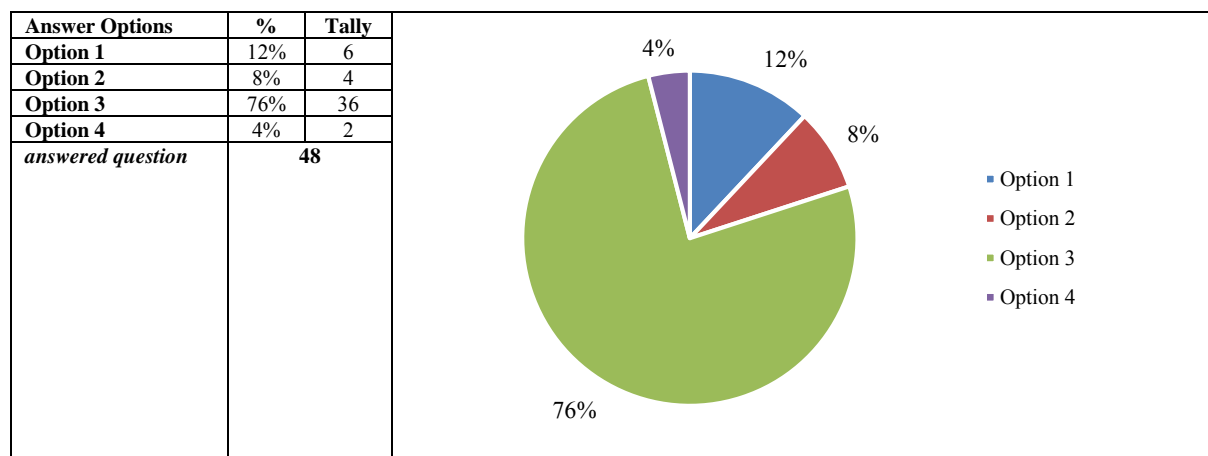
Q11: In your opinion, what are the most missing urban elements in the existing communities of UAE?



The “community square/ plaza” is the most missing urban element in the existing communities of UAE (55.0%) compared with other elements like family gathering space, landscaping and greenery, community centre and safety and security.

Thus, it can be inferred that a social gathering area is the most desirable characteristic when a new community is being designed, if a community is developed without a social gathering place, it will limit the agencies in attracting their typical clients and have a negative impact on social life of the residents which in turn would result in less profit for the real estate business. Although most respondents rated the community square/ plaza as the most missing urban element in existing communities, the researcher and his survey team found that most of those respondents were not residing in gated communities. However, the survey sample included enough diversity to place the need for a public square in an appropriate context. These findings differ considerably from samples in international urban studies, but generally contribute to the international literature on public space by elucidating the importance of the redevelopment process of public open spaces in the UAE (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11, Chapter 3, S 3.6.1). Ezzeddine and A Hajj stated that their empirical research on open spaces in different community typologies in the UAE showed how people want to be connected to public outdoor places, mainly during leisure time, and how boring it is to limit their entertainment to shopping malls.

Q12: If you were given the choice to recommend to your clients a community to live in, what would be your preferred option on the Charrette chart?



When the respondents were asked to choose the best option for their clients, 76.0% of them selected option 3 (see chapter 5). This compares with a study by Gehl (2010, Chapter 5, S 5.2.4), who pointed out that walkability and easy accessibility to community through an open

space regardless of the space typology is an indication of successful liveable community. The researcher agrees that the findings of this research clearly address how vital urban public squares are to residents and community users. Moreover, the findings extracted from urban design studies conducted in UAE communities correlate with previous research (Madanipour, 2003, Chapter 2, S 2.1; Carmona et al. 2008, Chapter 2, S 2.9) and present one of the key urban principles that cities and towns should include universally accessible public spaces.

## **6.5 CATEGORY C**

Category C is the final category under discussion in the chapter, and it encompasses two different groups. In this category, the respondents were given a set of questions, and the analysis of their responses is provided below in order to provide a better perception of the people from “Civil service agents” of group 7 and “Officials and Decision-makers” of group 8.

### **6.5.1 Group 7: Civil Service Agents**

#### **6.5.1.1 Descriptive data analysis: Q1–3 (Appendix B)**

The group 7 respondents are the civil service agents representing police officers and security representatives, with a sample size of 36. Most of the respondents are between 25 and 34 years (55.5%) and 35 and 44 years (36.1%). When the respondents’ occupations were analysed, it was found that 41.6% were police officers, 30.6% were senior police officers, 11.2% were security inspectors, 8.3% were guard house men and the rest 8.3% were watchmen.

Of the respondents, 44.5% had been serving the community in the same occupation for five or more years. Although, group 7 is not an essential actor in urban planning and design issues for developing communities, the researcher intentionally added this group to the survey process to obtain information about their behaviours, attitudes, incidents and occupants’ interaction. Moreover, civil services agent representatives are empowered not only to deter crime, but also to curb public disturbances by mischievous teenagers and strangers that potentially restrict people’s freedom, (PPS, 2000, Chapter 2, S 2.5; UN-Habitat, 2015, Chapter 2, S 2.15).

#### **6.5.1.2 Influence on strategy and policies: Q4–15 (Appendix B)**

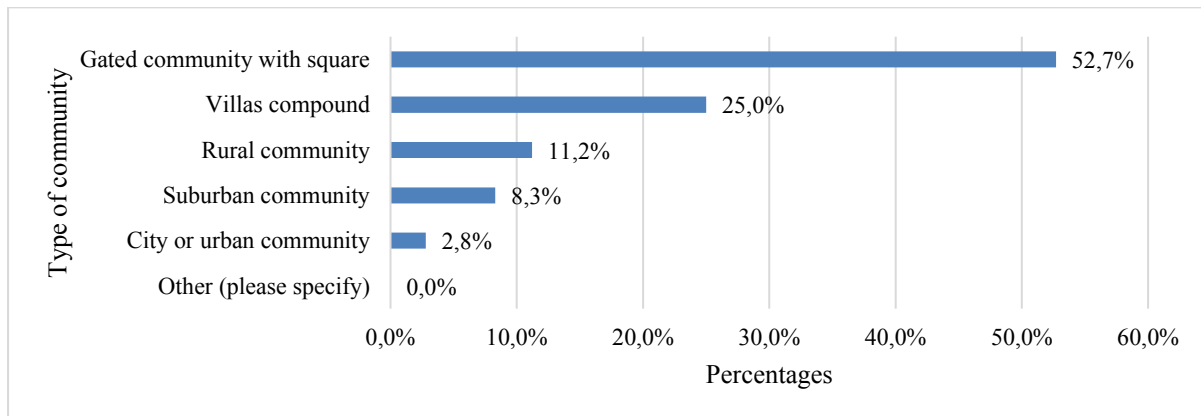
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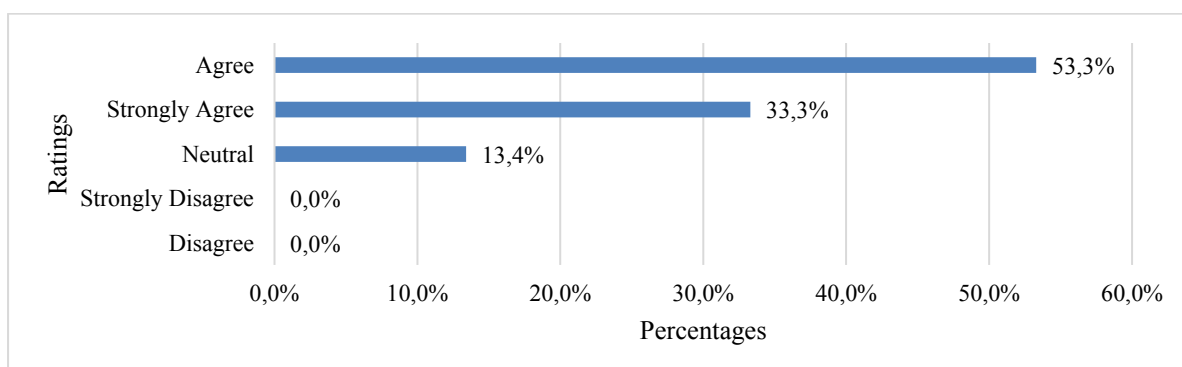
The questions were aimed at finding out to what extent security representatives had any influence over the policies that guide community development. This section also relates to the questions on safety and security in Section 6.3.1.3.

Q4: In what type of community is less security required?



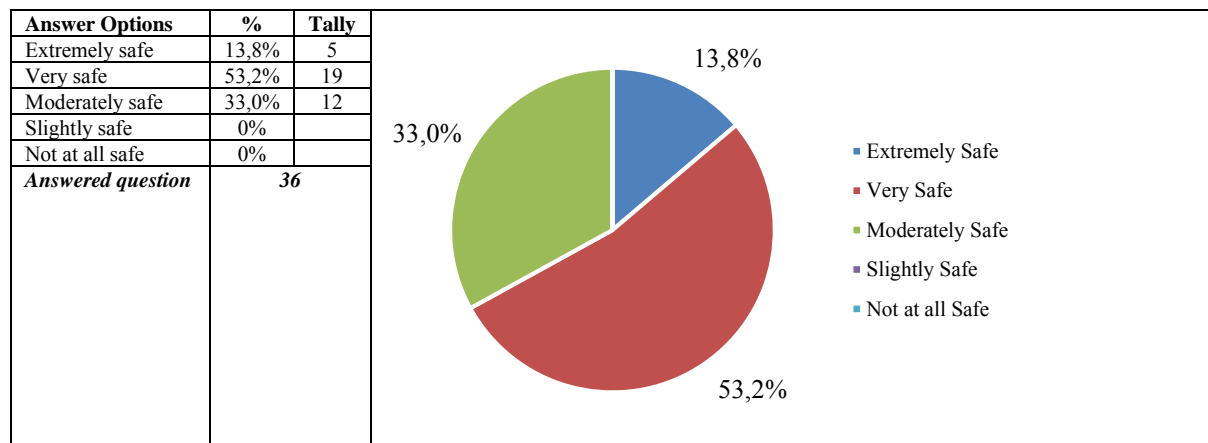
The respondents expressed that a “gated community that has a square/ plaza in it” requires less security (52,7%) than other communities like villas compound (25.0%); rural community (11.2%); city or urban community (2.8%) and suburban community (8.3%). The results of the survey show that prestigious gated communities are places that require less security, due to their segregation from the public zones and main roads. These findings are in line with security and safety studies that describe gated communities as places that differ from other places that boast extensive recreational amenities. The motivation for enclosing such communities is to project their image, protect their investment and control the housing values (UN-Habitat, 2015, Chapter 2, S 2.15).

Q5: To what extent do you agree that police and security agent must share opinions with decision-makers in developing communities?



In order to maintain a secure community most of the respondents agree (53.3%) and strongly agree (33.3%) that the police officers and security agents must share their opinions with the decision-makers in developing a community. These findings are important as they were not considered in previous urban studies or academic research. The researcher envisages that allowing police and security agents to share their opinion in developing communities is a sensitive issue and requires building a partnership between people and those agents. Moreover, a degree of trust and respect between the community occupants and the security agents is needed to enhance social interaction and communication. In international literature, urban public space in communities tends to be regarded as space that requires constant police monitoring. Secured public space is characterised by measures to generate safety, such as the installation of Closed-Circuit Television (CCTV). Between direct and indirect security methods, Van Melik (2008, Chapter 7, S 7.2.3) and Whyte (1980, Chapter 2, S 2.2.2) emphasise that electronic means of monitoring public space is insufficient and more supervision attendance by security and police agent representatives is needed. The researcher’s analysis from the literature above is that installation of safety and security devices cannot be decided by the security agents or community residents without consulting with urban design decision-makers and professionals.

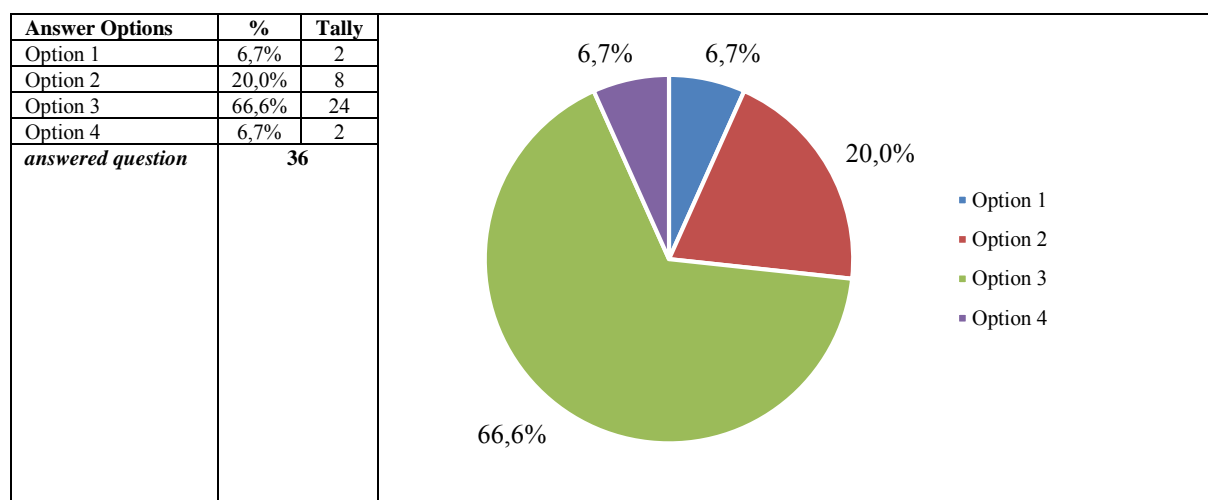
Q6: In your opinion, how safe do people feel in their communities?



By testing the safety level in different type of residential communities as raised in the previous questions, the researcher asked Q6 to assess the relationship between the level of safety and the community type. Moreover, the researcher understood from the security agent representatives that community policing is not mandatory and is yet to be adopted in the urban design policy. The respondents’ opinion on the current residents’ safety in their community was very safe (53.2%) and (33.0%) moderately safe. This finding contradicts with similar urban

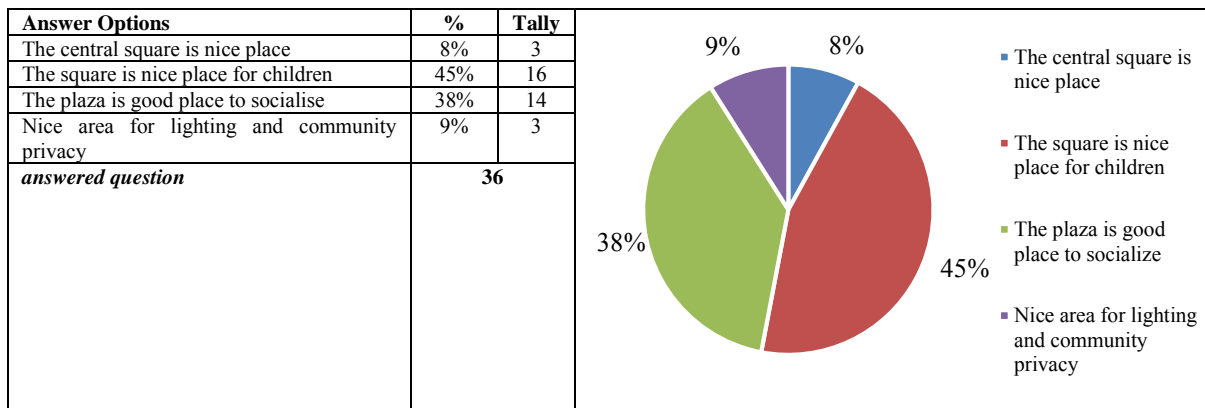
planning studies that exposed public squares as an unsafe place where theft and crime are expected (Stephoe & Shankar, 2013, Chapter 4, S 4.2). This is justified due to the high densities that bring environmental problems such as noise, traffic and even pedestrian congestion (Van Melik, 2008, Chapter 2, S 2.2.4.5). In addition, researchers in safety and security in previous studies explained that in order for community security and policing be truly successful it needs to be a reality in practice, not just endorsed in principal (Matthew & Hammil, 2009, Chapter 4, S. 4.2).

Q7: If you were given the choice to select the safest and most-secure residential community model, which option of the layouts on the Charrette chart would you select?



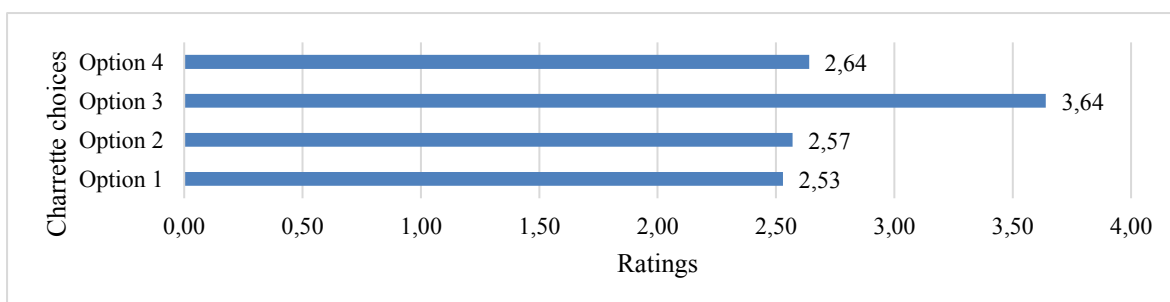
The charrette layout (see chapter 5) was presented to interviewees to find out the best community layout for optimum security monitoring. When the survey respondents were asked to choose the best place for the residents in terms of safety and security, 66.6% of the respondents opted for option 3. The most highly-rated option is the one with central public square/ plaza, which made the researcher keen to know the reason behind their preference. However, this question theme and the charrette layout were not previously used by urban planners as a survey method to test peoples’ preferences. The method was limited to form the basis of a plan that reflected all viewpoints (Todd & Lindsey, 2016, Chapter 5, S 5.6.2).

Q8: Would you describe the reason for choosing your preferred option of Q7?



The respondents gave the following reasons for choosing Option 3 on the Charrette chart: the square is a nice place for children (45%); the plaza is a good place to socialise (38.0%); the central square is a nice place to live in (8.0%) and a good area for lighting and community privacy (9.0%). Hence it is clearly inferred from the above statements that a community with a square is safe and a good place to socialise with neighbours and even the children can have fun. The findings observed from this survey question indicate that the central public square with its surrounding buildings (option 3) functions as a walled, gated community which provides a secure environment to the residents and retail users, and allows social interaction between families. Contrary to these findings, a number of urban planning scholars and academic researchers on gated communities argued that public spaces within this type of communities have the potential to decrease the unity within the urban society and leads to special fragmentation (Jacobs, 1961, Chapter 12, S 2.12.3; Newman & Jennings, 2008, Chapter 3, S 3.7.2).

Q9: Which is the best option for security and safety?

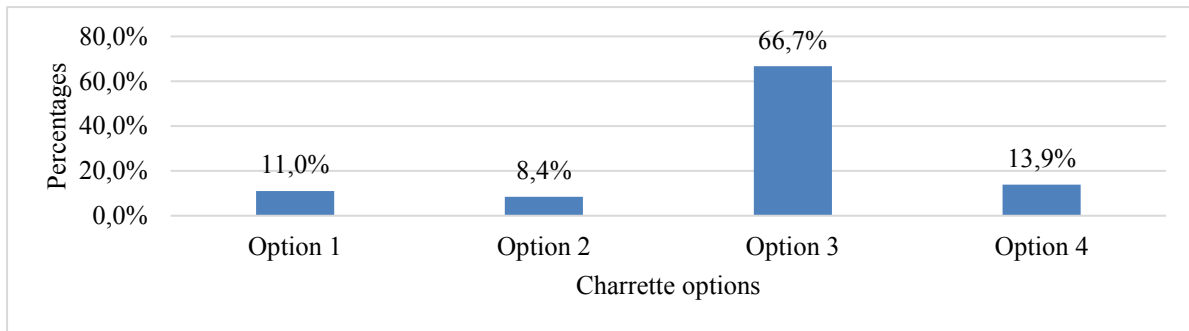


When the respondents were asked to rate the degree of security and safety offered to the residents of different communities, most respondents selected option 3. From the above data analysis, it is clear that the option 3 community is considered best safe and secure for the residents. These findings support the results of Q7 an Q8 and confirm that the selected option



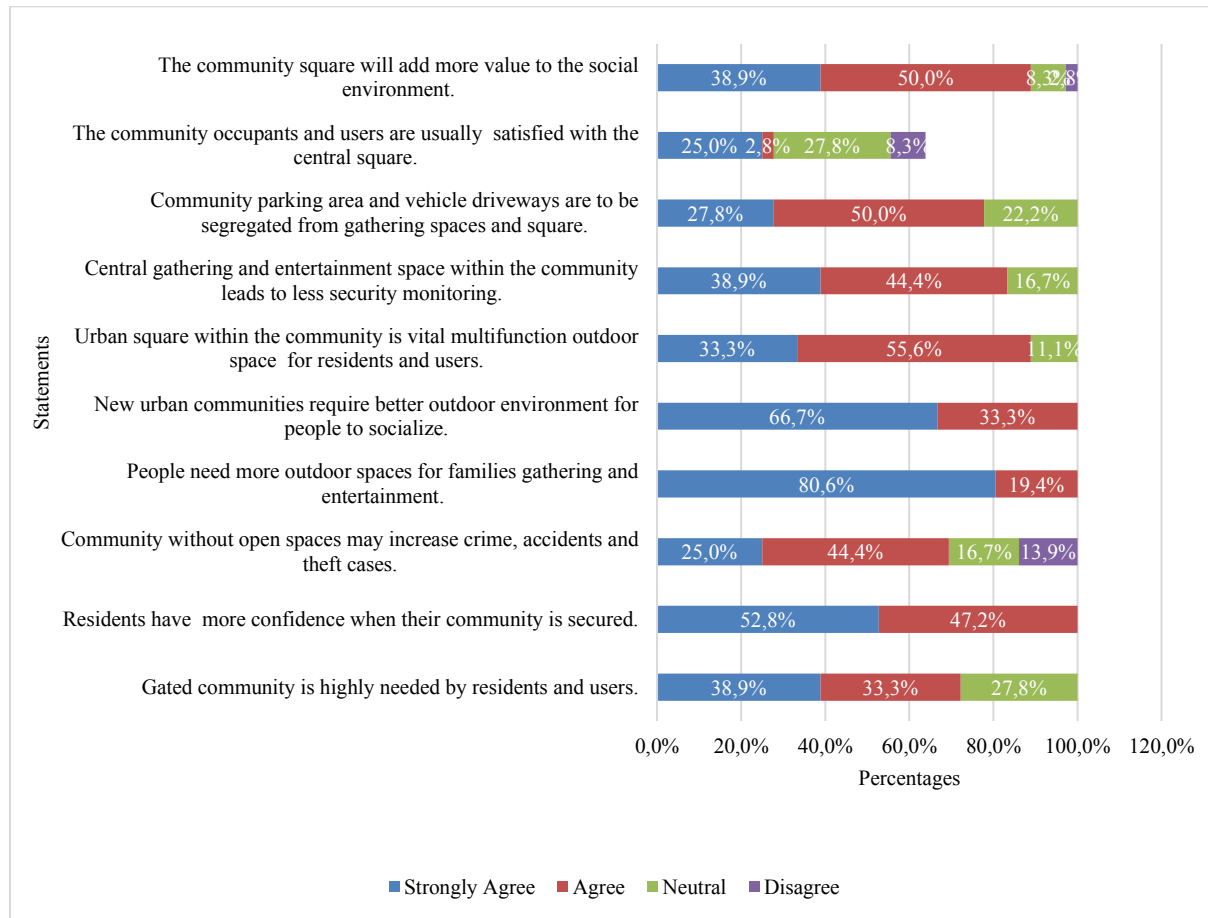
will require less security monitoring. As a contradiction to the findings, the reviewed literature and studies of other urban planners focused on gated communities as places of segregation and urban fragmentation between people, and highlighted security as one of the main features in all communities (Gehl, 2010, Chapter 5, S 5.2.4; Low, 2000, Chapter 2, S 2.5).

Q10: Which option of the above you expect less need for security monitoring and CCTV cameras?



To find out more about communities' safety and security needs, the respondents were asked to choose one community that would need less security monitoring and CCTV cameras. Option 3 type of community (66.7%) was chosen as the one that would need less security and safety measures. It is clear that the gated community is preferable as it needs less security. The findings show that the main reason for selecting option 3 is that the central square would be the place where most people would gather, socialise and entertain. The number of CCTV points would be reduced, and it would be easier to monitor all the occupants. Many urban planning publications on public spaces emphasised these spaces as places of fear which require various methods to counteract this perception (Sullivan, Kuo & DePoorter, 2004, Chapter 1, S 1.5). Moreover, the researcher emphasises that most of residents in UAE gated communities have reservations about urban spaces where CCTV systems are installed, which is totally contrary to the culture in the West regions (Lofland, 1998, Chapter 7, S 7.2.3).

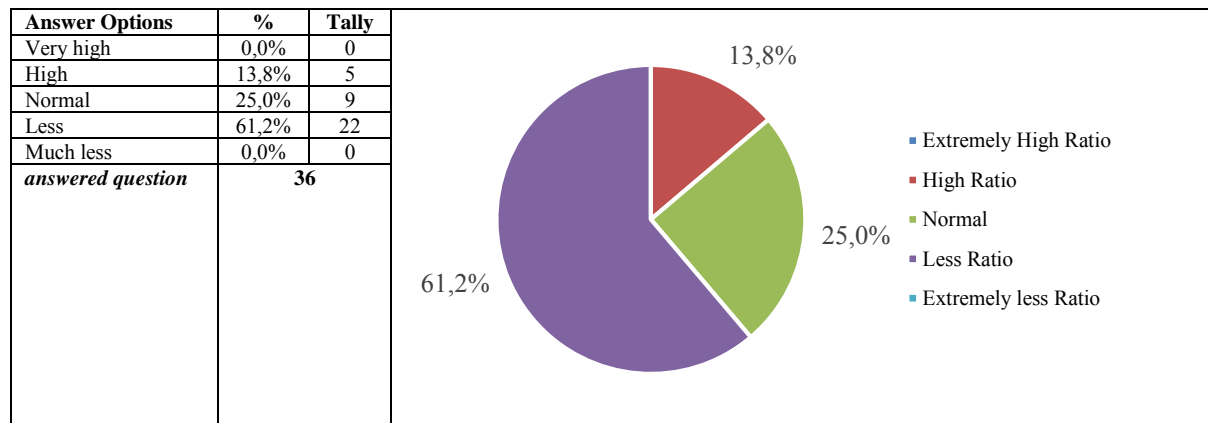
Q11: Police and security officers' responses to how they feel about the communities they serve.



The respondents were asked to express their satisfaction levels with the community that was served by them. In this regard, 52.8% of the respondents strongly agreed that they had confidence in their community being secure; 44.4% of the respondents agreed that community without open spaces might increase crime, accidents and theft; 80.6% of the respondents strongly agreed that people needed more outdoor spaces for family gatherings and entertainment; 66.7% of the respondents strongly agreed that new urban communities required a better outdoor environment for people to socialise; 55.6% of the respondents agreed that urban squares within the community provided a vital, multifunctional, outdoor space for residents and users; 44.4% of the respondents agreed that central gathering and entertainment space within the community would lead to less security monitoring; 50.0% of the respondents agreed that community parking areas and vehicle driveways should be segregated from gathering spaces and square; 38.9% of the respondents agreed that the community occupants and users were usually satisfied with the central square; 50.0% of the respondents agreed that the community square would add more value to the social environment. From the above analysis, it can be inferred that outdoor spaces would pave the way for more crime if they were

scattered within the masterplan but if the security was tight, the residents would feel safe. The findings of Q11 established that security provisions and measures in public spaces for residential communities play a key role in attracting people to move in. Moreover, there is a need to engage safety and security agents in the operation of community in order to decrease possible crime or theft incidents and encourage families to gather for entertainment. By reviewing the previous findings and linking them with the literature of previous urban research and academic studies in the West, there are many different social and physical issues, which clearly play an important role in developing communities with appropriate public square enclosures and gated communities. In line with the findings extracted from this research survey, many urban scholars such as Gehl (2007, Chapter 2, S 2.7.2.1), Madanipour (2003, Chapter 2, S 2.1) and Carmona et al. (2008, Chapter 2, S 2.10.1) emphasise that open public spaces/squares in different types of communities are an essential urban element to fit the people's demands who are searching for high security, quality liveable places and social environment.

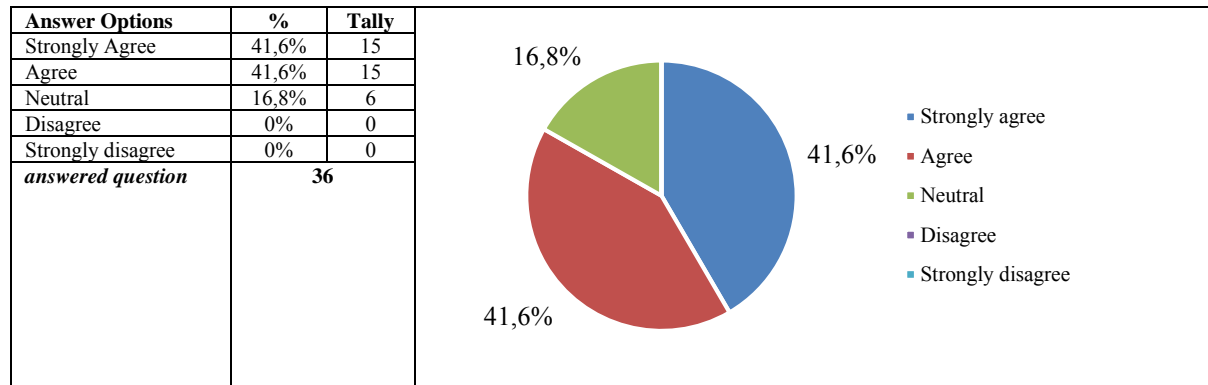
Q12: What is the ratio of accidents in community with square compared to other urban communities?



In order to compare safety and ratio of accidents in community with a square compared to other urban communities, survey respondents were given 5 choices. The data show that 61.2% of the respondents believed that there were fewer accidents in a community with a square compared to other urban communities. The finding of Q12 is correlated with results obtained from Q10 and Q10, where security and police agent representatives stated that communities with a central urban square (option 3 of the charrette layout), in their opinion are the most secure places and require less security monitoring. Although, the public squares in the West relate more to cities and districts and are rarely found in gated communities, urban scholars and academic researchers describe the square as an urban place that allows for pedestrianisation, security and

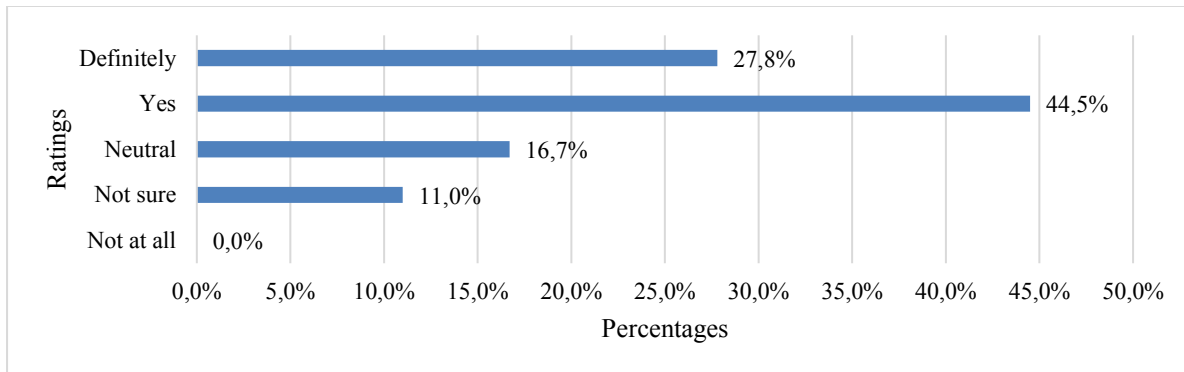
safety for residents and other end-users and is a fundamental issue for creating liveable communities (Cooper-Marcus & Francis, 1998, Chapter 2, S 2.2.1; Gehl, 2010, Chapter 5, S 5.2.4). Moreover, protection of women and children from crime and traffic is the most important factor encouraging residents and community occupants to use the space (Gehl, 1987, Chapter 2, S 2.3).

Q13: To what extent do you agree that a community square should be part of the UAE urban planning policy?



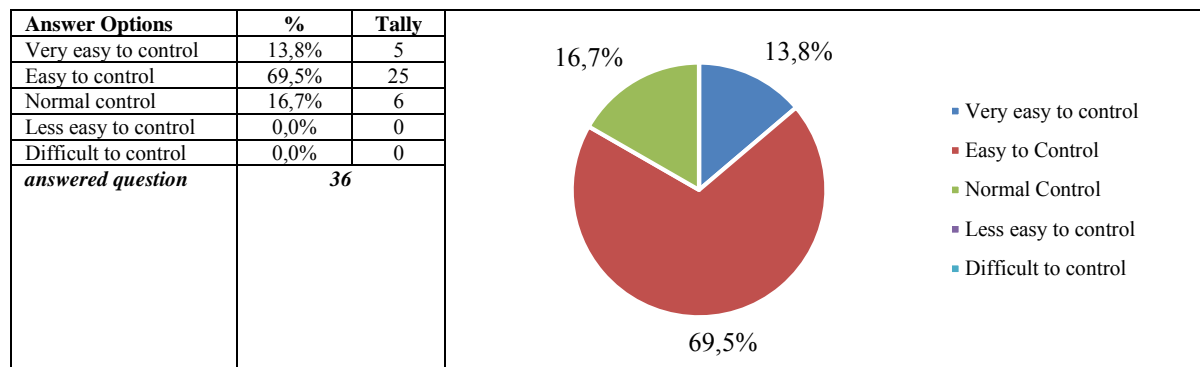
The survey asked the respondents a fundamental question (Q13) which is linked with objective 5 of this research and correlates with formulating urban planning policy in the UAE. The data show that 41.6% of the respondents strongly agreed and 41.6% agreed that the community square in UAE should be part of the urban planning policy. That means that more than 82% of the civil servant agents recommended that a public square should be included in community planning policies and none of them disagreed. These findings present the importance of involving police and security agents to share their opinions with urban planning actors and decision-makers in establishing a new urban planning policy that serves to provide urban public squares in new developed communities in the UAE (Bukhash, 2012, Chapter 4, S 4.12). In a similar urban study in the UK, and in line with the findings of Q13, providing urban public square is a process of collaboration of all stakeholders and urban actors, and a strategic vision of public spaces must be shared between urban planning institutions, urban professions and residents along with more visible connections to other urban planning policy frameworks (Carmona et al., 2008, Chapter 2, C 2.11; S 2.15.1).

Q14: To what extent do you think that residents enjoy living in a community with square?



The survey also included an open-ended question attempted to get an idea if people enjoy living in a community with public square. When the respondents were asked to express the extent to which communities would like to live in a community with a square, 44.5% of the respondents said that they would like to live in community square while 27,8% said that communities would definitely prefer living in a community with a square. The findings are an important record that residents in gated community are doubtlessly enjoying the liveable open space in their community as witnessed by the security and police agents. Moreover, people in communities that lack public spaces (group 1) can be seen unsecured, unsociable and in need of entertainment. Referring to the literature and previous urban planning publications, it is obvious that urban planning agenda are focusing on the transformative change of cities (UN-Habitat, 2015, Chapter 2, S 2.15) which include public spaces planning and urban design regulations, with diminishing attention to the public space that should be mandated in the master plan and the urban planning policy, in particular, squares and plazas. Moreover, contrary to this research findings, some urban studies reported that gated communities have far greater ramifications, leading to disproportionate and more intense consumption of public space, increasing polarisation, privatisation and segmentation of urban space (UN- Habitat, 2015, Chapter 2, S 2.15).

Q15: To what extent do you think that a community with an urban square can be easily secured and monitored?



The final question in this survey regarded to assessment of how easy urban public square can be secured and monitored. The result is interesting, as 69.5% of the respondents expressed that a community with an urban square can be easily secured and monitored which in turn is easy to control. Thus, a community with an urban square is a safer place to live in. The finding instigated the researcher to propose an urban safety and security policy as an additional component that needs to be integrated in the current urban planning framework in UAE. This proposal by the researcher contradicts urban planning decisions and new law made by officials in different high-density regions which found that open public spaces in some gated communities have led to growing crime and security concerns (Massam & Everitt, 2004, Chapter 2, S 2.5; UN- Habitat, 2015, Chapter 2, S 2.15).

### 6.5.2 Group 8: Officials and Decision-Makers

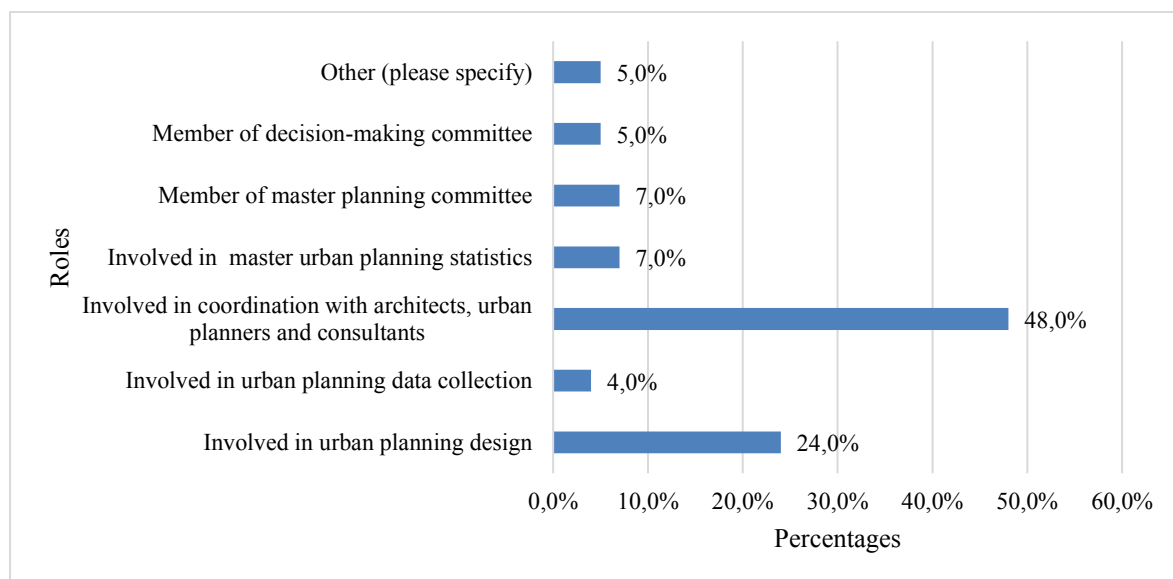
#### 6.5.2.1 Descriptive data analysis: Q1–5 (Appendix B)

The last group in the category is group 8. The respondents comprised 42 officials and decision-makers. This group is very important in this survey as its representatives are closely involved with officials in the creation of an urban planning policy that reflects a positive future for the development of communities and cities in the UAE (Carmona et al, 2008, Chapter 2, S 2.9; Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11; Chapter 7, S 7.2.4). The majority of the respondents were men (86.0%). The respondents belonged to the following organisations: Abu Dhabi Municipality- Planning Department (4.8%), Dubai Municipality- Planning Department (4.8%), Dubai Municipality- Buildings Permit department (4.8%), TECOM (9.5%), TARAKHEES (4.8%), Nakheel Engineering department (11.9%), Jafza (4.8%), EMAAR (11.9%), Sharjah Municipality- Planning Department (2.4%), Dubai Silicon Oasis- DSO Authority (2.4%), RERA-Real estate regulatory agency (7.1%), Dubai Civil Aviation (4.8%),

Dubai Civil Defence (4.8%), Dubai Multi-commodities Centre-DMCC (4.8%), Dubai Properties (4.8%), Nshama (2.4%), DEWA-Dubai Electricity and Water Authority (4.8%) and SEWA- Sharjah Electricity and Water Authority (4.8%).

Most of the respondents (55.6%) had been with their organisations for more than 3 years. Among the respondents surveyed, 66.0% were in senior position in their organisations. Furthermore, most of the respondents (76.0%) were architects, while 15.0% were urban planners, 5.0% were civil engineers, 2.0% were mechanical engineers and 2.0% were real estate regulators. The findings of questions Q1 to Q5 represent several authorities involved in the urbanisation of many zones in both Emirates, Abu Dhabi and Dubai. Moreover, most of respondents in this survey have a role in providing planning and technical information to inform policy and provide guidance for changes and revisions to the current urban design policy (AUPC, 2016, Chapter 8, S 8.5).

Q6: What is your role in the urban development process?



The survey asked respondents about their role in the urban development process. The data show that 48.0% of the respondents indicated that their role in the urban development process involved coordination with architects, urban planners and consultants. Contrary to this finding, Carmona et al. (2008, Chapter 2, S 2.9) stated that the role of urban planning process actors should not be limited to technical reviews and issuance of permissions, but also to give advice on the pros and cons of the current planning studies and share with decision-makers new methods of establishing goals for future development (Price & Tsouros, 1996, Chapter 8, S 8.1).

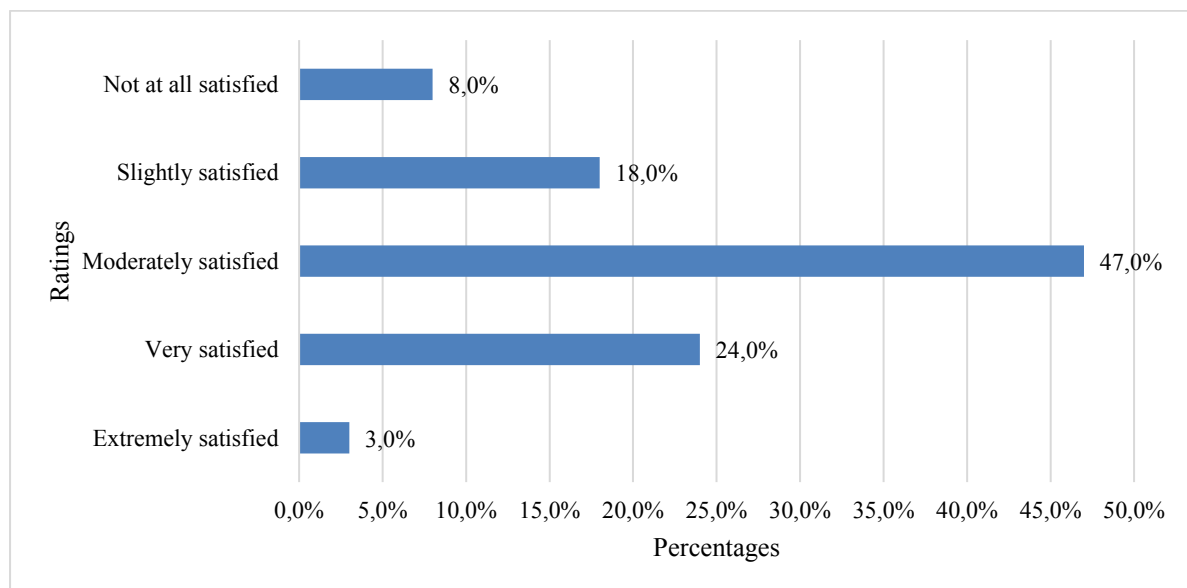
### 6.5.2.2 Influence on strategy and policies: Q7–11 (Appendix B)

This section addresses the following research objectives:

- To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.
- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

The questions were aimed at finding out to what extent officials and decision-makers understood community needs and wants and to determine their opinions about current urban planning and design.

Q7: Overall, how satisfied are you with urban planning of UAE communities/ cities?

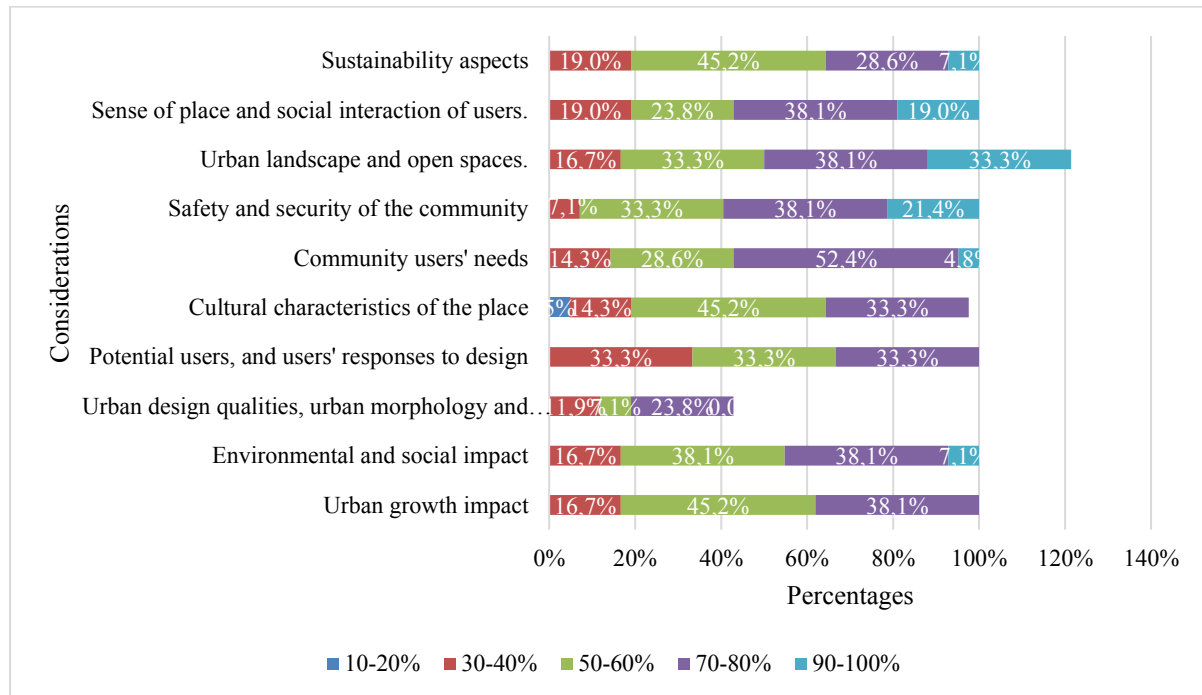


One of the important questions by the researcher was about the satisfaction of officials and decision-makers with the urban planning of UAE communities/ cities. In this regard, 47.0% of the respondents replied that they were moderately satisfied and 24.0% responded that they were very satisfied. Only 8.0% were not satisfied with the planning. The researcher finds that this is not a positive indication that the urban planning process and its outcomes are on an ideal track (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11). These findings agree with some urban planning research in UK. Carmona et al. (2008, Chapter 2, S 2.11) presented the role of urban planning reviewers and technical team in the authorities as facilitators and advisors on how to improve the design and define guidelines and urban planning regulations that allow for the



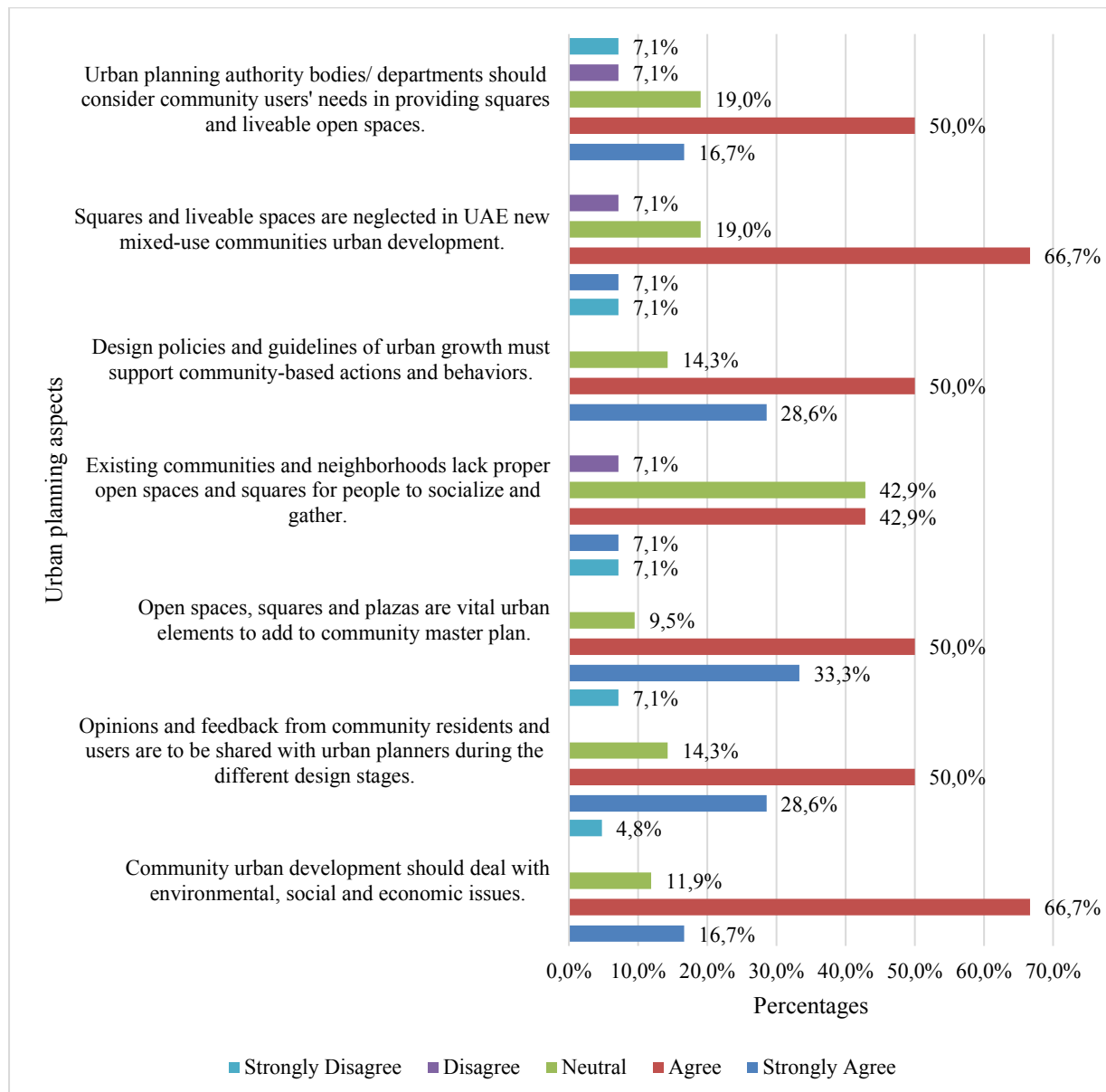
inclusion of urban public spaces in newly developed cities (Plan Abu Dhabi, 2030, 2017, Chapter 8, S 8.2).

Q8: Which of the following do you consider when a community master plan is designed / developed?



When the respondents were asked to rate what they consider important in community design and master planning, data show that urban growth impact most of these factors are considered to some degree although there was minimal consideration of cultural characteristics (5%), while at the top end sustainability, community users' needs and urban and social impact were mentioned as being considered between 90 and 100% of the time. In addition, 33.3% of respondents considered that urban landscape and open spaces must be considered in the master planning of new communities, followed by a 19.0% rating for the need to create a sense of place and social interaction for users. The findings of Q8 have not been presented in previous studies as detailed by the researcher. Some urban planning scholars place more emphasis on regulating guidelines that mandate adding public squares and open spaces in the master plan process. However, the findings from Q8 cannot be implemented without the awareness and understanding of decision-makers that urban planning policy must be transformed (Carmona et al., 2008, Chapter 2, S 2.9; Gehl & Gemzoe, 2004, Chapter 8, S 8.3).

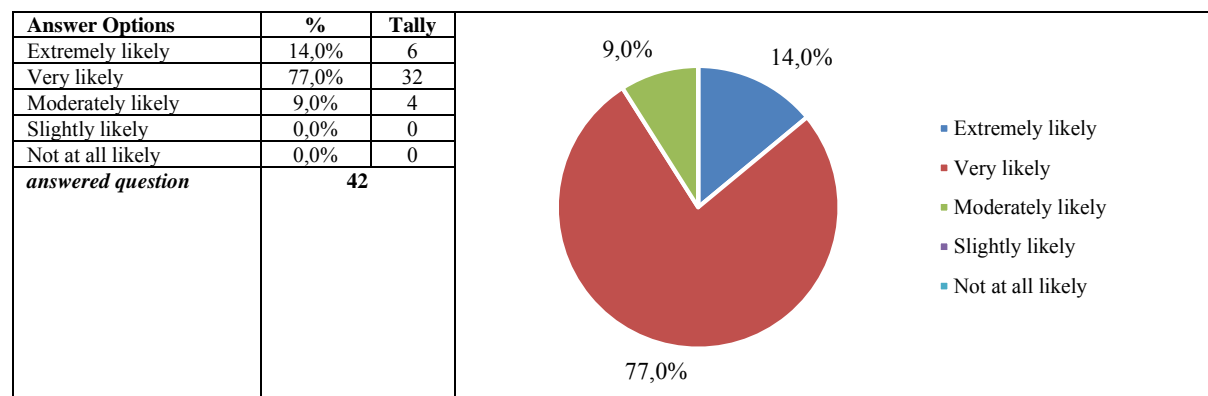
Q9: Overall, to what extent do you agree /or disagree on the following urban planning aspects?



In order to understand whether respondents agreed or disagreed on some urban planning aspects, survey respondents were asked to rate seven statements. The data show that 66.7% of the respondents agreed that community urban development should deal with environmental, social and economic issues; 50.0% of the respondents agreed that opinions and feedback from community residents and users should be shared with urban planners during the different design stages; 50.0% of the respondents agreed that open spaces, squares and plazas are vital urban elements to add to community master plan; 42.9% of the respondents agreed and were neutral (42.9%) that existing communities and neighbourhoods lacked proper open spaces and squares for people to socialise and gather; 50.0% of the respondents agreed that design policies and guidelines for urban growth must support community-based actions and behaviours; 66.7% of

the respondents agreed that squares and liveable spaces are neglected in UAE new mixed-use communities urban development, and 50.0% of the respondents agreed that urban planning authority bodies/ departments consider community users' needs in providing squares and livable open spaces. The findings from Q9 paint a picture of what UAE communities lack, what urban planning authorities should consider in the urban design process, and how decision-makers need to formulate an urban planning policy that serves to improve regulations that allow public open spaces in the cities and communities of UAE (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11). Although the findings featured different approaches proposed by the researcher, some urban planning studies highlighted similar aspects presented in Q9. These finding correlate with what Carmona et al. (2008, Chapter 2, S 2.9) emphasise that any proposals or implementation in urban design controls and regulations need clarity with regard to intended feedback and outcomes, otherwise the urban planning process including regulations and policy will operate in a vacuum. Moreover, urban design practitioners and professions operating around and inside the public sector, must have deep dialogues and more planning concentration on improving the urban design guidelines that mandate the open spaces and urban squares in the master planning system. Furthermore, more impact and power to take place on developers and investors for persuading them of the benefits of investing on good urban design that attract people to invest (Low, 2000, Chapter 2, S 2.5).

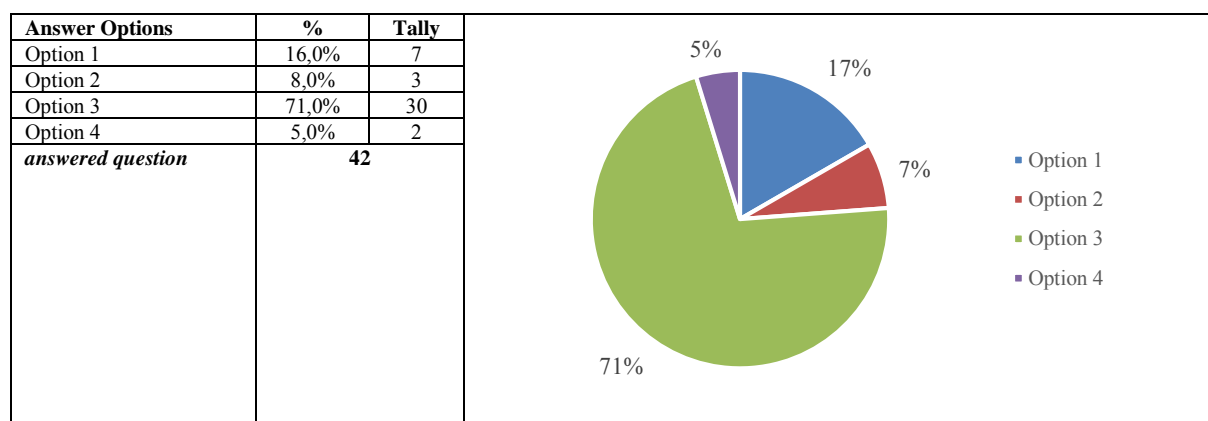
Q10: How likely are you to recommend a change to the urban planning regulations/ criteria?



Finally, when the respondents were asked if they would recommend about changes towards the urban planning regulations/ criteria, the majority (77.0%) of the respondents stated that they would ‘very likely’ recommend a change. The findings are an important indication that the urban planning practitioners and actors in the urban planning institutions are keen (77% + 14%) on implementing changes to the urban planning design regulations. The researcher envisages that the urban design regulations could be put into a new framework and an updated urban

planning policy could be established by collaboration of many urban actors including people, developers and investors. Urban planning scholars such as Campbell (2003, Chapter 4, S 2.4) and Carmona et al. (2008, Chapter 2, S 2.9) state that although well-articulated and well-conceived urban planning policies should demonstrate a key means for the public sector to direct and influence urban design policy, this influence is limited. More arguments must be raised for higher quality urban planning and urban design in the master planning industry (Carmona et al., 2008, Chapter 2, S 2.11; S 2.15).

Q11: If you were given the choice to review and permit a community master plan what would be your preferred option on the Charrette chart?



Similar to other groups, most of the respondents (71.0%) preferred option 3 as their choice to review and permit a community master plan. The researcher finds that the urban planning actors and practitioners in the UAE authorities are very aware of what communities and cities lack in providing people with a better life, but urban design regulations must be reformulated and updated to assist urban professions to provide better liveable community designs that meet people’s needs rather than simply lining the pockets of developers (Ezzeddine & Al Hajj, 2014, Chapter 1, S 1.6; Chapter 2, S 2.11). When comparing the findings presented from the previous survey questions with a similar investigation by Gehl (2010, Chapter 5, S 5.2.4), it was found that urban squares that encourage walkability and provide easy accessibility to the community through these spaces regardless of their typology, is an indication of successful liveable community. The findings of the current research clearly address how vital urban public squares are to residents and community users. Moreover, the findings extracted from urban design professionals in UAE communities correlate with previous research conducted by Madanipour (2003, Chapter 2, S 2.1) and Carmona et al. (2008, Chapter 2, S 2.15).

Thus, it can be inferred from the analysis that, the group 8 respondents in accordance with the other group members feel that option 3 would be the better community for the residents. Though there are some differences in choosing the factors that affect the community residents and their social interaction, it is apparent that open spaces or play areas are the most important aspects to allow for socialising along with a square/plaza within the community.

## **6.6 THE RESEARCHER'S EMPIRICAL DESIGN STUDY (RESIDENTIAL COMMUNITY RESORT IN FUJAIRAH)**

A profitable and feasible project is the fundamental aim of any property developer prior to the marketing and promotion process. The past fifteen years have seen increasingly rapid property development and substantial competition between developers, each trying to promote the most attractive facilities in their developments. However, this rapid development has had a serious effect on the final product delivered to the end-user. Recent evidence and the market survey conducted by the researcher showed that people are attracted to investing in properties that include family open spaces and entertainment facilities. This section discusses an empirical design prepared by the researcher for a residential community resort in the Emirate of Fujairah (Khorfakan City) in the UAE. The researcher, being an architect, was appointed by a property developer to design a 420-unit resort with varying dwelling typologies such as (studio, one bedroom, two bedrooms, three bedrooms and penthouses).

The U-shaped design of the seven-block development (A, B, C, D, E, F & G) as shown in Figure 6.2 forms a central open space/plaza on the top of the complex podium. The project developer's intention was to develop a feasible low-cost project with minimum outdoor facilities. As per the developer's marketing plan, the project launch target date in the market was the beginning of 2018 with no consideration of any postponement. Therefore, the project was launched to the market without considering the central space as a family gathering place, with a limited outdoor landscaped zone. During the final design stage, however, the researcher encouraged the developer to include a central family plaza in the u-shape space as a focal family entertainment zone.

### **Stage 1: Project Launch (January and February 2018)**

This section presents the first stage of launching the resort complex to the market in January and February 2018. The researcher's argument and discussion with the developer was that launching the project in an early stage prior to finalising the outdoor spaces, mainly the central

plaza would have a negative impact on the sales targets as planned by the developer. In addition, launching the project limiting the outdoor spaces to a landscaped area without taking account of the need for an outdoor zone for families would weaken the attraction of buyers to invest in the complex and would also reduce the sales revenue. Figure 6.2 indicates the outdoor plaza as walkable landscaped areas without family activity zones. Moreover, the month of January 2018 indicates that only 67 units out of 420 were sold representing 16% of the total expected sellable area.



Figure 6.2: Stage 1 layout – Limited outdoor area to landscaping without family entertainment facilities

The typology of the sold units was mainly limited to studios and one-bedroom units. January's sales reflect a lack of buyers' interest in investing in the complex due to unavailability of family gathering and social entertainment facilities. February's sales were slow and the target of 20% of the total sellable area was not reached. This relates to the main reason highlighted during the period of January which, in the view of the researcher, affirmed that the community had no open plaza or family outdoor facilities. The sales during the two months of January and February led to a discussion between the researcher and the developer on how to enhance the design in order to increase the sales in the short term. The researcher suggested reconsidering the design by including spaces for outdoor activities within the property. In the view of the results, the researcher suggested that the developer should include more family entertainment facilities and create a social environment within the complex. The following section discusses the launch of stage 2 and includes the sales for March and April 2018 after including and

inserting the central plaza in the U-shape setting of the seven dwelling units blocks as illustrated in Figure 6.3.

**Stage 2: Project Launch (March and April 2018)**

This section presents the results achieved after the re-launch of the revised project layout proposed by the researcher which comprised a central family gathering and entertainment plaza that included three zones (a family gathering place, children’s play zone and swimming pool deck) as shown in Figure 6.3.



Figure 6.3: Stage 2 layout – The residential development includes outdoor family entertainment facilities

Table 6.2 below shows the sales per unit type over four months between January and April 2018.

Table 6.2: Data collected from the developer indicating the selling ratios over four months

Dwelling Details			Project Launch without family Plaza		Project Re-Launch with Family Plaza	
Dwelling unit Type	No.	Type %	Units sold January 2018	Units sold February 2018	Units sold March 2018	Units sold April 2018
Studio	85	20,50	24 units	32 units	48 units	77 units
1 Bedroom	220	52,50	32 units	38 units	145 units	195 units
2 Bedroom	75	18,00	9 units	11 unit	47 units	65 units
3 Bedroom	35	8	2 units	3 units	18 units	31 units
Penthouse	5	1	Nil	Nil	2 Units	4 Units
<b>Total</b>	<b>420</b>	<b>100</b>	<b>67 units = 16 %</b>	<b>84 units = 20 %</b>	<b>260 units = 62%</b>	<b>372 units = 88 %</b>

Contrary to expectations and as per the marketing data collected from the developer, the ratio of sales increased to 62% at the end of March and escalated to 88% at the end of April (see Table 6.2 and Figure 6.4).

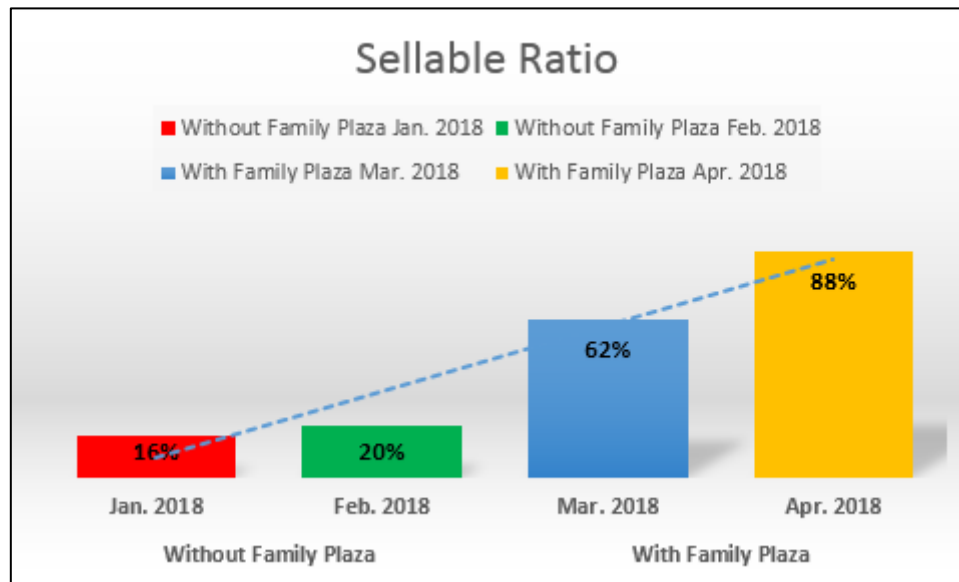


Figure 6.4: Percentage of sales over four months

The findings of this case study support the author's research that the outdoor public spaces are an element that attracts investment by the community. Moreover, the findings provide evidence of the following:

1. The property buyers, mainly the families, are in favour of investing in a liveable place where all entertainment and social facilities are available. The central family plaza was the core element in increasing the sales revenue.
2. The central plaza is a secure and a safe place that can house the entertainment facilities and can be easily observed from the dwelling units.
3. A variety of entertainment facilities are positioned in one area under the control of parents and the operator.
4. The outdoor family area for social interaction and entertainment within any residential complex increases the selling rate and increases the rate of return of revenue to developers.



## **6.7 TRIANGULATION OF RESULTS**

### **6.7.1 Comparison of Results between Group 1 (Un-Gated Community) and Group 2 (Gated Community with Central Urban Square)**

#### 6.7.1.1 Similarities:

A few similarities can be extracted from the results obtained from the two different communities of group 1 & group 2:

- The results clearly indicated that people are moderately satisfied with their place of residence with the exception that residents of group 2 are willing to stay longer due to the availability of central urban square and other entertainment outdoor facilities.
- Residents and community users in both groups chose to live in a community with a central public square when they were given the choice to select their most suitable place to live. Residents in both groups agreed that the central square is a convenient zone for social gathering.
- Both groups respondents with more than 80% rating believe that the UAE urban planning institutions should develop better living communities that include urban public squares and an outdoor area for family gatherings and social interaction.
- According to the gathered data, more than 90% of the respondents in both groups feel that this research is essential for UAE future community development.

#### 6.7.1.2 Differences

- People living in group 2 community were mostly families and rated a high percentage of interaction and communication with neighbours and families. Group 1 respondents stated that communication with neighbours and other families was minimal due to the lack of open space for families to meet. A high percentage of group 1 residents (96%) spend their time in shopping malls at the weekend and holidays.
- Group 2 residents expressed more satisfaction than group 1 in term of the security and safety in their community rating it at more than 85%, while a 53% satisfaction rate was given by group 1 residents.
- Group 2 residents intended to stay for a long period in their gated community, and they as recommended that their friends and colleagues should move to a gated community with

central public square. Group 1 residents said that they did not intend staying very long in their current ungated community.

- Group 1 residents expressed dissatisfaction with the appearance of their community and its surrounding, while a high rate of satisfaction (64%) was reported by group 2 residents which was related to the availability of a central urban square for their gathering and entertainment purposes.

### **6.7.2 Comparison of Opinions on Groups 1 and 2 from Group 3 (Retailers and Shop Keepers)**

Group 3 data analysis presents two different opinions from retailers who run their business in either the group 1 or group 2 community. Most retailers in group 2 community reported their preference to own their shops rather than renting them. Moreover, 81.8% of retailers reported their preference to have their storefront shops located around a central public square area, as this raised their profits due to constant gathering of residents, visitors and community users. Security and safety of shops within gated community with a central square (group 2) reported a higher degree of success and profits compared to shops within the ungated community (group 1). Furthermore, retailers who had shopfronts such as food and beverage outlets overlooking the central square reported higher rate of walk-in customers compared to a shopfront in a more secluded location such as an arcade or corridor.

### **6.7.3 Results from Groups 4, 5, 6, 7 and 8**

It can be concluded from the findings that the key urban planning profession players such as architects, urban designers and landscape architects are all in agreement with the researcher that any new city or town development aiming to achieve sustainable community and liveable environment must include an outdoor public square that links residents and families. Officials saw potential in the idea of including public squares in new developments

The key players in groups 5 and 6 are developers, investors and real estate agents. Despite the fact that the two groups were found by the researcher to be hesitant about including urban public squares in their new proposed developments, the researcher's findings provided convincing evidence of the vital role an urban square can play in building liveable, healthy communities.

In terms of the Charette drawing, all groups (1-8) overwhelmingly selected Option 3 as their preferred layout, namely a framed-buildings setting with a central urban square theme. Finally,

the changes to the Khorfakan City development proved to confirm the preference of investors and buyers for Option 3.

## **6.8 SUMMARY OF FINDINGS**

The aims and the purposes of conducting the survey were to investigate and measure the impact of open spaces on the social interaction and social cohesion; to identify opportunities and barriers residents face in contributing to social cohesion and community development; to determine what factors influence accessibility to local facilities and services and how these impacts on social interaction and social cohesion. The data have shown that implementing changes in their existing community zone would enhance their quality of life. Hence, in order to examine the perceptions and thoughts of the residents in communities under study, towards a better urban model for developing a sustainable community, the surveys proved to be effective and thus should produce a firm foundation for future community development and economic development.

A ‘social gathering area’ within the community square/ plaza will generally lead to the residents within the community interacting and spending time with neighbours and family members. A children’s play area is generally not found in many existing communities since the plans involve more of designing indoor facilities rather than concentrating on outdoor facilities. When safety and security are concerned, the community residents are safer and secured within community gates. Hence, they are satisfied with the provided facilities and services. Overall a community with plaza/ square offers its residents a healthy environment (Chapter 3, S 3.3; Chapter 4, S 4.8.1), a prosperous economy (Chapter 3, S 3.3; Chapter 4, S4.8.1) and social well-being (Chapter 4; S 4.2. 4.5; 4.8.1), so, in the future, the communities should be planned and designed with these facilities to ensure sustainable growth.

However, the new and improved urban models also need to create green cities in their plans and designs. The facilities in a sustainable community such as transportation, infrastructure, planning and designing, quality of life, renewable energy and resources have been introduced into green cities; thus, developers and architects should aim at designing green cities to ensure sustainable community of the residents but with more open spaces, green and landscaping, children’s play area and other outdoor facilities.

## 6.9 CHAPTER SUMMARY

This chapter used quantitative analysis to analyse the data gathered from the questionnaires distributed to eight groups of people.

From the study and the gathered data (quantitative and qualitative), it can be concluded that the urban square/ plaza is one of the most essential and fundamental forms of public places (Myers, 2011). It was found that urban squares impact the lives of the people in cities of UAE. The people residing in a community with an urban square/ plaza feel that their lives are safe and the communities are attractive when compared to other communities. Due to changes in the economic, social and cultural structures, cities in the UAE have gradually changed from traditional community spaces to modern, westernised urban squares/ plazas (Krantzberg, 2006).

The key findings were: a) the main drawback is considered to be the children's play area and social gathering place within the community, b) Option 3 (as designed by researcher through the Charrette technique) is the best strategy for developing and planning an ideal public square for UAE cities for achieving environmental sustainability, c) safety and security are considered as better in a community with a public square/ plaza. The landscape, trees and softscapes do not provide much of an attraction, whereas parking areas and plazas within communities are appreciated. To achieve environmentally sustainable development (Chapter 1, S 1.2; Chapter 3, S 3.7.4; Chapter 4), the developers and architects along with the Government could implement strategies like LEED, BREEAM (such as Estidama guidelines) for UAE city public square/ plazas by improving policies, regulations and legislation (Chapter 3, s 3.6.3); d) the properties and attributes of public square that enhance physical, social and integration between urban residents were found to be safety and security, parking zones, walkable areas, fitness centres, food and beverage outlets, plazas within the community and social gathering arenas (Chapter 2, s 2.2.2; S2.4; Chapter 4, S 4.2; 4.4; 4.5; 4.6; 4.7)

Thus, the public square/ plaza needs to be included in community facilities to create a sustainable community (Nakheel, 2007). An urban square is a healthy environment, provides for social well-being and a prosperous environment. Formulating a policy which would strengthen the quality of environmental sustainability of a community would enhance the lives of the residents and their cultural, social and economic infrastructure (Lundholm & Richard, 2005). Thus, it can be concluded that the urban square/ plaza should be included in plans and

designs in order for the community residents to lead a healthy, safe and comfortable life. The next chapter presents a synthesis of the research findings.

**CHAPTER 7:  
SYNTHESIS OF THE KEY RESEARCH FINDINGS**

**7.1 INTRODUCTION**

This chapter synthesises the findings of the study. The example of Dubai and its public open spaces, particularly the public square, has illustrated the problem of the negative impact of removing public squares from city neighbourhoods and the lack of interaction between groups of community occupants and users. In this chapter, the aim of the discussion is to link the data collected from the literature review and documents as secondary data with the primary data from the empirical fieldwork gathered by means of direct observation, document analysis, charrette technique, questionnaires, structured interviews, and focus group interviews. Furthermore, this chapter discusses how the research objectives and the research questions established in Chapter 1 are answered. Based on the findings, overall conclusions are drawn, and a set of urban planning policy guidelines and recommendations on including public squares in master planning procedures in the UAE are provided. Furthermore, the findings are verified as indicated in Figure 7.1 below:

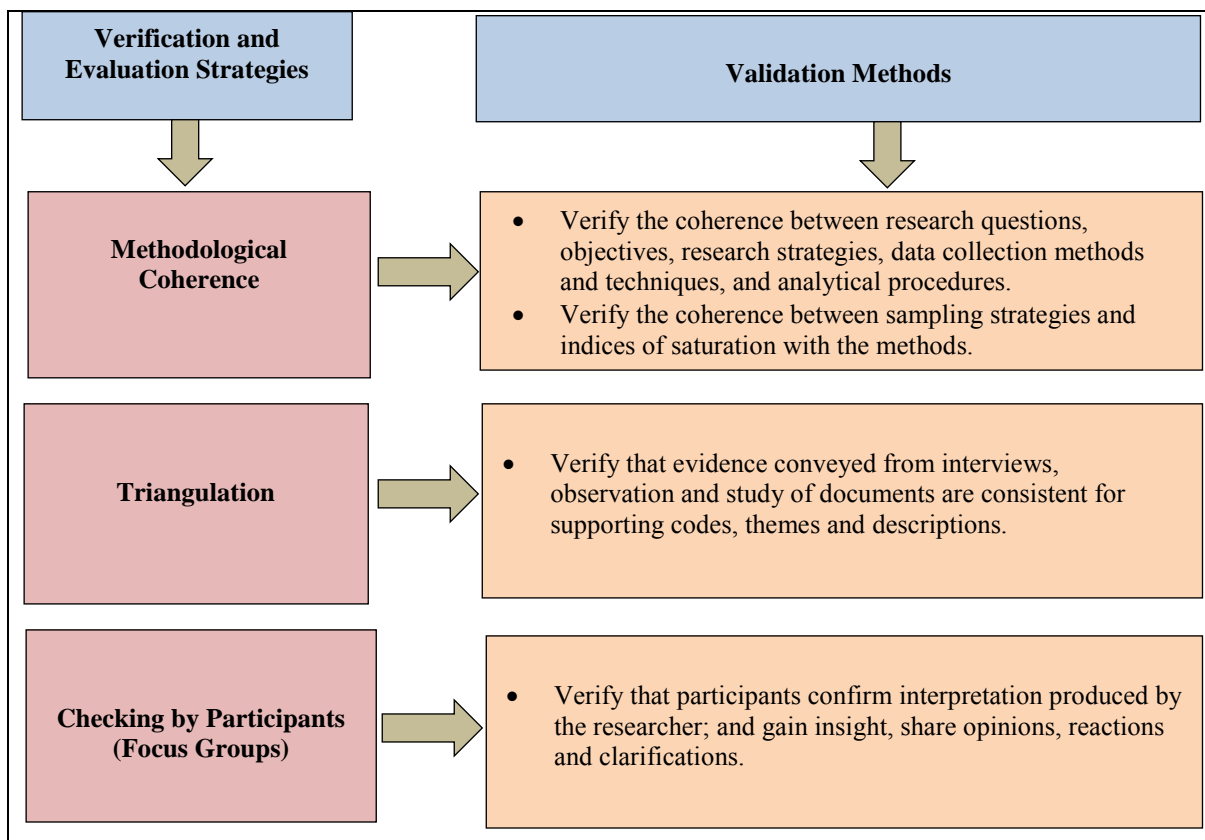


Figure 7.1: Verification and evaluation for validation of findings

Source: (Researcher's own)

## **7.2 DISCUSSION OF KEY FINDINGS OF THE RESEARCH**

The rationale of this research started with the statement that urban public squares in the urban planning process in the UAE are neglected and overlooked. From that point, the central question emerged: “How can planning and urban design policies be formulated to incorporate urban public squares in the new, sustainable UAE cities?”

The objectives of the research were to:

- To review historical, social, and spatial values of public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares.
- To investigate people’s opinions of and preferences for urban squares and establish an understanding of users’ needs and requirements.
- To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents.
- To identify a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

Section 7.2.1 returns to the discussion of understanding the public square in the urban planning system which was presented in Chapter 4, and extends it to consider the problem of isolating the urban public square from the urban planning system in the UAE in further detail. Section 7.2.2 considers the role of the public square in reshaping urban growth and reflects upon the social interaction that the public square promotes between the community occupants. Section 7.2.3 reflects on the properties and attributes of public squares and how they influence everyday life. Section 7.2.4 looks at the disappearance of public squares from the current urban planning strategy and considers the square as a new component of the urban planning process. Finally, section 7.2.5 suggests a new, structured planning policy that includes public participation in the urban design process and supports incorporating the public square into the master plans for cities.

### **7.2.1 The Special Understanding of Public Square in the Urban Planning System**

This section addresses the following research objective:

*To review historical, social and spatial values of public squares in the UAE cities. This is mainly to trace the roots of the current phenomenon and to record the transformation of public squares.*

This research aimed to determine if there was a holistic understanding of the open public space in general and the public square specifically. The theory and literature on the outdoor urban environment, specifically the phenomenon of urban public squares, was detailed in Chapter 2. Many urban scholars found this urban element essential, yet it is limited to specific locations and cultures. The history in different eras showed the public square as the core of life where social values thrive.

Moreover, most urban studies and research have addressed the public square as the heart of the city connected to a royal place or governmental district with restricted access (Takyi & Seidel, 2017). The researcher argues that public square must be connected to places where people live, work and interact. The literature review highlighted the work of Gehl (1987; Chapter 2, S 2.2.2), Carmona et al. (2008) and Carmona (2016) (Chapter 2, S 2.9) who were found to be the most rigorous urban planners as their research highlighted and covered many attributes of the urban public space. Nevertheless, many gaps were addressed, specifically how to merge this concept into the urban planning process. In chapter 8, the researcher presents a new urban planning process framework that highlights the physical environmental attributes of urban public squares that enhance the liveable conditions of communities.

Furthermore, this research suggested that there are major topics that should be studied when taking into consideration public squares in city planning. Overall, the public square should encompass the social, physical, economic, environmental and political attributes of the community. Researchers such as Sairina and Kumpulainen (2006) and Carmona et al. (2008, Chapter 2, S 2.9) highlight the importance of involving the community in the urban planning process. The researcher partially supports the position of Carmona of approaching the participation of the public with extreme caution. The researcher argues that, despite the importance of consulting with the public about the urban planning process, controlled procedures should be used to collect opinions of different groups. For example, the researcher found from many interviewed developers and real estate agents that, in their view, the public square is a waste of space in community master planning, whereas the findings of this research from all the other stakeholders show the opposite, which indicates that those agents have their



own personal interests at heart, which would actually negatively impact urban design and planning systems.

Chapter 6 results and outcomes have been discussed in this section.

### **7.2.2 Public Square in Reshaping Urban Growth**

This section addresses the following research objective:

*To investigate people's opinions on and preferences for the urban square phenomenon and establish an understanding of users' needs and requirements.*

This section is linked and correlated with the results from Group 1 and Group 2 as discussed in Chapter 6 which investigated the perceptions and needs of peoples who reside in both gated and un-gated communities. This investigation indicated the level of connection between the residents and their community. It indicated a relationship with a liveable environment when a public square was part of the space. The four factors that highlighted the importance of public square in the urban planning system were: 1) face-to-face social interaction; 2) relaxation, leisure and entertainment activities; 3) high level of satisfaction on safety and security; 4) shopping and a variety of retail facilities and outlets.

This research concludes that social life cannot be built without face-to-face interaction. Interaction cannot be developed without a place that provides for friendly dialogue (Mehan, 2016) such as a public square where people can gather and mingle. Urban planning scholars such as Carmona (2016) and Marshall (2016) and identified in their studies the public square as a place where people can entertain and relax by themselves, or with their friends and families. Quality of outdoor space, entertainment facilities, and social activities influence successful social interaction (Gehl, 1987). Moreover, the researcher stresses that the comprehensive meaning of quality includes two attributes: firstly, the physical appearance of public square facilities that directly connect and interact with people the space, such as quality of infrastructure, aesthetics of the space, soft and hardscaping, and architectural features and colours; secondly, supporting operational systems, such as maintenance, security, cleanliness, and facility management that do not directly involve the community.

Other urban studies found that public square is mostly used during the daytime, while this research has revealed from the findings collected from two case studies in Dubai (Uptown Mirdif and Dubai Marina Walk), that relaxation, leisure and entertainment activities take place

into the late evening, considering that public squares are provided with spotlights, seating around water features and greenery, and hard, paved surfaces for walking, and cycling and skateboarding. Furthermore, an urban square provides a breathing space for high-density communities. However, the researcher stresses that public squares can be dead space in the absence of safety and security which leads to fear. Moreover, in public square, the level of business and investment vary depending on whether the urban square is badly or well-planned.

It is important to determine what kind of urbanism will best serve millions of people who live in the world's cities. What is evident to the researcher is that modern architecture is characterised by skyscrapers, and critical community assets such as civic institutions such as schools and mixed-use complexes end up looking like citadels. This trend has damaged the fabric of the cities and diminishes the quality of social life.

### **7.2.3 Public Square Properties and Attributes**

This section addresses the following research objective:

*To determine the properties and attributes of public squares that would enhance physical and social integration between functional and urban residents.*

So far in this research, the open public space, particularly the square and plaza, has been identified as the heartbeat of the city if it is properly designed and planned to meet peoples' needs, expectations, current trends and demands. Noteworthy is the variety of uses and functions of public squares. The researcher identified UPSs that vary in terms of their attributes according to social, cultural, and technological conditions, but the roles of open spaces are neglected in historical documents and under-investigated compared to other architectural features (Stanley et al., 2012).

In spite of the fact that UPSs in different areas in the world differ dramatically in their social, ecological and symbolic roles, they are cultural products which have been developed to represent political ideologies and complex social dynamics. Urban squares in residential districts and neighbourhood play a vital role in people's social lives and represent junctures of politics between top-down and bottom-up interests on multiple levels (Mitchell, 2003). In the researcher's view, UPSs are not only for building social and economic life, but have also provided a place for the demonstration of the political will of citizens. Tiananmen Square in China, Tahrir Square in Cairo and the Green Square in Tripoli are squares that have witnessed mass protests and political contestation. Such political events promote credence for the

incorporation of public squares in modern cities (Lofland, 1998). However, it appears to the researcher that the lack of public open spaces, civic areas, and squares in modern cities in many Middle-Eastern and African cities is intentionally meant to stifle the exercise of political expression by communities. Thus, the researcher emphasises the importance of the UPS in sociopolitical life, and posits that they are an essential component of modern urban design.

#### **7.2.4 Public Square within the Urban Planning Strategy**

This section addresses the following research objective:

*To identify a strategy for developing and planning vital liveable urban squares for the cities of the UAE to achieve environmental sustainability.*

The role that urban public square can play in socioeconomic interaction and in creating a healthy, liveable environment for everyday life is diminishing in many Middle-Eastern countries and, in particular, Arabian cities. Thus, the modern city is characterised by networks of infrastructure, architectural landmarks of towers and artwork rather than serving the needs of people and building social bridges to connect them. This, in turn, creates isolation and fragility in the societal fabric. Such is the case of modern UAE cities that incorporate hundreds of high-rise buildings surrounded by motorways with little consideration for green spaces. An exacerbating feature is the compact, high-density residential communities developed with insufficient open public spaces. A remedy for this flimsy urban-design approach is to implement a strategy that mandates architects and urban planners to include a UPS in the master planning design of a community or city (Ezzeddine & Al Hajj, 2014).

Many urban studies conducted by urban scholars such as Carmona (2016), Gehl (1987, Chapter 2, S 2.2.2), and Madanipour (1996a; 1996b; 2010 Chapter 2, S 2.10.2) stress the vital role that UPSs play in community life and social interaction, but, in the researcher's view, their studies do not address the need to enforce inclusion of public squares and open social spaces in the urban planning strategy and design guidelines for districts and neighbourhoods. Furthermore, the researcher, being an architect and urban planner 28 years of experience in urban and architectural developments in the UAE, maintains that strategies and regulations must be articulated by the municipalities and government planning departments, in order to improve and build strong communities. The researcher's observation is that more attention needs to be given by urban planning officials to asking people to share their opinions and needs in developing liveable communities. Participation of people and the public in designing future

sustainable communities is neglected. The research findings, mainly from the survey conducted during the fieldwork undertaken for this dissertation, have revealed this neglect. Legeby (2012) states that the social structure of communities tends to change every 15-20 years. Therefore, the researcher argues that the urban planning system must allow for developments that keep people connected to their communities, and for adjustments to the new social conditions and demands.

### **7.2.5 Restructure Planning Policy to support the Inclusion of a Public Square in Urban Planning Design**

Finally, this section addresses the following research objective:

*To develop a policy and recommendations to support authorities in setting planning guidelines related to the planning and urban design of urban public squares in the UAE cities.*

It is linked to the findings in Chapter 6 on Group 8: Officials and Decision-makers. The UAE urban planning framework is currently dealt with by regulations and rules extracted from the Western system. Many planning models such as that proposed by Carmona et al. (2008) and Sairina and Kumpulainen (2006, Chapter 4, S 4.10.2) highlight the importance of community involvement in the urban planning process of the public space development. The researcher supports this position but argues that participation should be controlled by a specific programme that collects opinions from different groups.

While this research concentrated on case studies in Dubai, the observations and data collected are likely to bear similarities to many districts and communities across the UAE. The previous section highlighted the point that the people and community occupants have the best understanding of their needs and demands for their living places. The essential factor to stress in this section is that in developing a concept for an open public space, the planning agenda associated with urban planning policy needs to be identified. In order to develop, enhance, and manage public spaces in any community, a comprehensive approach requires both “top-down” and “bottom-up” policy.

The role of this policy is to add peoples’ participation as a new component of the planning policy which is totally missing from the current structured urban planning process in the UAE. The researcher argues that community developers, operators and facility management agents must connect with residents and occupants to provide insights into how their community facilities and premises function, and to understand what improvements can be made. Thus, a

partnership between local institutions, planning authorities and neighbourhood groups can be the foundation of the future success of open public space projects in community planning. This research stresses the importance of involving people in decision-making on developing sustainable communities from start to finish. The critical point in this section is to highlight how important it is to build and improve communication between the people and local planning authorities.

### **7.3 DISCUSSION OF URBAN PLANNING ATTRIBUTES**

This section addresses the following objectives of the study:

- To identify a strategy for developing and planning environmentally-sustainable urban squares for the cities of the UAE.
- To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities.

This research highlights that urban development or urban renewal for implementing sustainability in any developed country is an important component in creating well-being in communities. When local authorities and governments officials build an interest in understanding how well urban planning processes and systems perform they can act to promote liveable environments that bring satisfaction to residents, visitors and users of these communities.

Moreover, urban planning officials and decision-makers must understand the different levels of satisfaction of community residents and users, namely, wellbeing, desires, services, activities, social interaction and cohesion. Enhancing social interaction and cohesion is facilitated by creating gathering spaces, neighbouring and emotional connections between people.

Most new urban planning studies on developing communities have focused on satisfying developers and property owners' needs with less attention paid to people's needs and living demands. The researcher found this to be a significant gap in knowledge on urban studies for many developed communities.

Key findings and information resulted from the researcher's tailored survey with its main focus on social interaction and social cohesion in many high-density areas. The survey in the case studies, focus groups and structured interviews presented in this chapter, can inform local authorities,

urban planning decision makers, developers, real estate agents and urban planners on how to facilitate social cohesion and interaction.

### **7.3.1 The Social Sustainability Concept**

For the last three decades, the social sustainability concept in the West has been developed to enhance social interaction and cohesion with the aim of developing sustainable communities. This concept influenced urban planning decisions of public policy-makers due to its correlation with the concept of economic and environmental sustainability. Many urban scholars consider social sustainability to be a complex concept (Dempsey & Jenks, 2005, Chapter4, S4.6; Dempsey et al., 2009). Bramley and Power (2009) argue that social sustainability is not only a dimension to individual quality of life but also to the collective functioning of people.

According to Barron and Gauntlett (2002: 11), social sustainability is a comprehensive measure to link individuals with other people with whom they come into contact on a daily basis, such as neighbours and shopkeepers. The researcher stresses the importance of more focus by decision-makers on social sustainability for UAE communities to provide a healthy social life for people with enriched social interaction and cohesion. Moreover, more attention to social sustainability encourages the recognition of diversity and equitability that provide a quality social life.

While many urban planning scholars focus on social sustainability as a concept that creates an environment for social and cohesion interaction, other scholars see that as a threat, as social interaction can result in the formation of exclusive groups of people in opposition to others (Forrest & Kearns 2001). The researcher argues that the case in the UAE is different, and decision-makers have the objective of building cohesive communities with social interaction and not places for political dialogue or conflict.

Furthermore, this research reflects many social sustainability components that support the development of a liveable community framework which includes:

- Safety, health and inclusivity;
- Cultural identity and vibrancy;
- Democratic participation and social engagement;
- A resilient and dynamic local economy.
- A sustainable environment.

Reflecting on the above components, the researcher envisages that the strategic plan and urban policy framework is to be established to build a vibrant local community, ensure diversity in the population, reduce socio-economic inequality, and facilitate access to social and democratic participation and involvement in planning decisions.

The researcher envisages that urban public squares are important places for communities, but must be considered within the social context, as residents and users have social ties that extend beyond their living district or neighbourhood.

### **7.3.2 The Community Social Interaction and Cohesion**

Designing a survey for the aim of collecting information on community life cannot be successful without knowing what information required to design this survey (Talen, 2000).

According to Talen (2000), the term ‘community’ in the planning practice is misapplied, and planners have not presented a well thought of their use to this term. She argues that the social aspects of any particular urban area have two dimensions: a) “level of interaction and neighbouring”, and b) “psychological sense of people”. She explains that level of interaction and neighbouring is measured by the different levels of social connection between people, individuals or groups, as well the nature of interaction which can be cooperative or oppositional.

Human life cannot be built in any community without social interaction between people (Forrest & Kearns, 2001). Research by Dempsey, Bramley, Power and Brown (2009) shows that people in a community with positive social interaction and relationships have a 60% greater degree of happiness and healthy conditions in comparison to people without such social interaction. Moreover, research on the psychological sense of community focuses on measuring the affective components of neighbourhood social life including shared social gatherings, emotional and cooperative connections, place attachment, influence and sense of place (Talen, 1999).

### **7.3.3 Urban Development Consolidation in the UAE**

More than 4 million citizens and expatriates are concentrated in four large cities in UAE, namely the capital, Abu Dhabi, Dubai, Sharjah and Ajman. The current urban development system of these cities aims to sustainable urban planning as the ideal approach to developing

growing new urban areas and catering for an increasing population and numbers of small households-

During the researcher's survey and the interview meetings conducted with urban planners and decision-makers in the urban sector in the Emirates of Abu Dhabi and Dubai, a new urban planning vision was revealed that the urban development strategy is to provide over 500 000 new dwellings in existing and new urban areas over the next 10 years. In many areas in both Emirates, urban consolidation has taken place through the urban development of medium- and high-density communities such as Dubai Marina district, Jumeirah lake towers (JLT), and Dubai Business Bay district. The researcher raises concerns that the new urban planning strategy will need to highly consider provisions for open public spaces, mainly urban public squares that connect people and create social interaction and cohesion.

This research reflects the relationship between social sustainability and residential density of any community or city. Recent urban studies reveal that compact cities with a variety of open public spaces and squares are more socially and economically sustainable than low-density cities (Bramley & Power 2009). Compact cities typically provide people with easy access to services and reduce levels of social inequity and segregation (Burton, 2000). The survey findings of this research affirm that gated communities with public squares and open spaces increase people's social interaction and vitality, and improve safety if supported with passive surveillance. However, many of these social benefits of high-density communities remain unclear and unproven in the urban planning literature. According to Foord (2010:50), urban policy development and its implementation are facing obstacles due to the poor understanding of high-density mixed-use communities. He states: "Despite the widespread policy agenda supporting mixed-use, there is insufficient evidence to establish conclusively its positive impact of mixed use on urban vitality, utility use or social cohesion".

It has been envisaged by many urban scholars that compact urban development forms cannot be rated as sustainable if they are not acceptable to people for appropriate living, work, social interaction and entertainment (Bramley & Power, 2009). Contrary to this opinion, the researcher believes that availability of public spaces and urban squares as part of the community urban fabric is essential to increasing levels of social interaction regardless of the high density of population and compact urban forms.



### **7.3.4 Findings and Implications**

The survey findings present an image of many developed communities with a high proportion of residents and users who desire more social connection and interaction with others in the same community. Many respondents shared that they had difficulty in finding out what opportunities were available in their community that would help them to interact and socialise with others.

The survey also highlighted that a small proportion of people in their community are given the opportunity to interact or become actively engaged in improving their community. This was mainly in two gated-communities in Dubai, Uptown Mirdiff and Dubai Marina Walk. Yet, indications from the survey are that some people are facing constraints in social interaction and participation due to their lower incomes and language barriers.

The survey findings revealed that open public spaces, such as squares, parks and plazas are lacking in the newly-developed communities in the UAE. Moreover, the urban planning regulations and planning system in UAE have not yet been amended to make public squares and plazas, which are vital in facilitating social interaction, an obligatory element of urban design.

The findings from the survey and the case studies indicated that public squares with various outlets such as cafés, restaurants, and local shops are important locations for social interaction, and provide opportunities to meet and develop relationships. This suggests that mixed-use retail development in urban public squares encourages positive social interaction.

One of the interesting findings is that family members feel more secure and safe when their dwelling units are located adjacent to a square or plaza which allows for easy walkability and safe access for children to play and entertain. The survey results-suggest that people's houses with direct connection to open spaces and public squares encourage social interaction between residents.

There is also an important finding from this survey relating to place-making activities in the gated communities with public squares, where survey respondents felt more attached to their district and neighbourhood compared to residents living in un-gated communities.

Another important survey finding is that many respondents stated that residential areas that lack open spaces are likely to be deserted and lose their place identity and turn to be a place of flux.

## **7.4 CHAPTER SUMMARY**

This chapter presented a discussion of key findings of the research and addressed the research objectives. The research aimed to determine if there was a holistic understanding of the open public space in general and the role of the public square specifically. Urban studies and literature over many years have indicated that the public square is an essential element of urban design and needs to be incorporated as a key element in urban planning taking into account the social, physical, economic, environmental and political attributes of the community. It has also been shown that community participation in the urban planning process is essential. Exponential urban growth was experienced worldwide in the latter half of the 20<sup>th</sup> century and continues in the 21<sup>st</sup> century. This has led to an erosion of community values and social interaction which could be tempered by the inclusion of public squares for entertainment, relaxation and social activities with friends and families. All the findings point towards the value of having a public square for building a satisfactory social, economic and political life, and creating a healthy, liveable environment for everyday life. The main finding is that the urban planning policies of the UAE need to be redefined to include public squares and that all stakeholders should be able to give their input into new urban projects and what they regard as important structural elements, such as the inclusion of open public squares.

**CHAPTER 8:**  
**THE PLACE OF PUBLIC SQUARES IN THE URBAN PLANNING DESIGN**  
**POLICY**

**8.1 INTRODUCTION**

This chapter highlights the deficiencies in urban planning policy in the UAE: in order to build sustainable cities that take into account the well-being of communities, the authorities must implement initiatives and use a range of strategic approaches in the development of public squares (Price & Tsouros, 1996). It then proceeds to explaining the principles of the new strategy proposed by the researcher to overcome these deficiencies.

**8.2 THE CURRENT URBAN PLANNING PROCESS IN THE UAE**

This section highlights the current urban planning practice and technical mechanisms undertaken by the Abu Dhabi Urban Planning Council (UPC) in processing master plans for a community and/ or neighbourhood in the UAE for achieving their vision to provide attractive liveable places that preserve the UAE's unique culture and environment (Plan Abu Dhabi 2030, 2017). The AUPC is the agency responsible for the physical planning and the authority's procedures pursuing sustainability, infrastructure capacity, community planning and quality of life through the creation of plans, regulation, guidelines and development review. Figure 8.3 identifies the process flowchart which is divided to three consecutive steps: (a) development review; (b) planning status; and (c) the process stage to obtain the permissions and approvals. The flowchart overleaf (Figure 8.1) clearly details the process from the application submission until the planning approval permit is obtained. The stages of the urban planning process are detailed as:

- Stage 1 is the developed master plan, starting from the review of the concept design prepared by the architect/ or urban planner till the detailed master plan and its approval.
- Stage 2 is the planning process that includes the submission of all required documents to the various departments for obtaining the Development Control Regulations (DCR) approval.
- Finally, stage 3 is the process for issuing all certificates from the different departments prior to releasing the final master plan approval and the execution permissions.

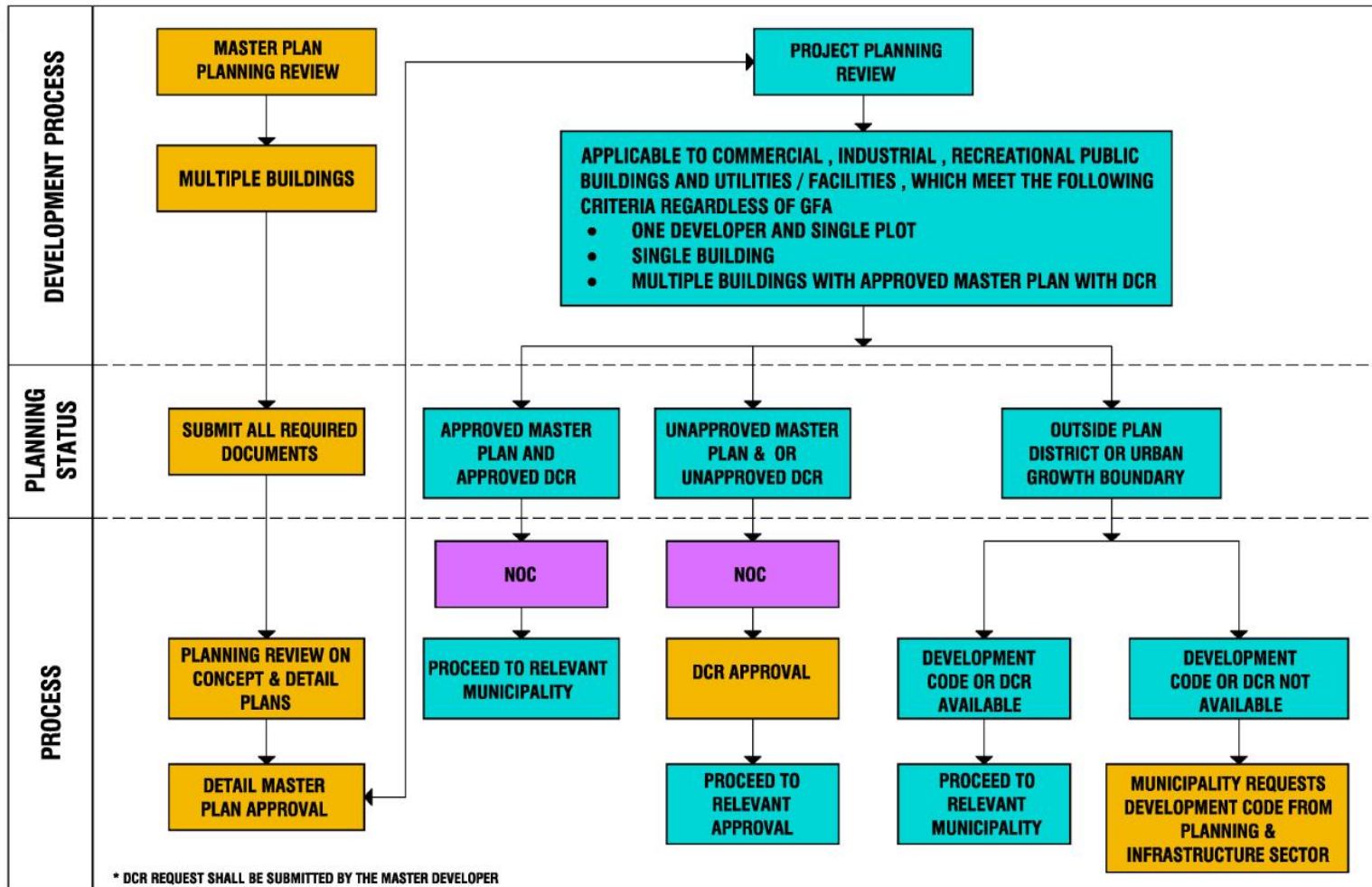


Figure 8.1: Current master plan/ project planning approval stages–Abu Dhabi, UAE  
 (Source: Adapted from AUPC, 2016)

The flowchart clearly indicates that the planning process for the design, review and the approval to develop a community completely neglects the participation of people and community users in sharing their needs and perceptions for their community development. The flowchart limits the planning process activities to the technical attributes only between the authority and the master planner. The researcher argues that this urban planning practice is constantly generating identical communities that lack the activities and outdoor entertainment spaces needed for residents and users.

### **8.3 DEFICIENCIES IN URBAN PLANNING POLICY IN THE UAE**

The UAE cities do not have the luxury of an adequate number and variety of public squares either in private areas or public municipality zones (Ezzeddine & Al Hajj, 2014, Chapter 2, S 2.11; Chapter 3, S 3.6.1). The current UPS network is limited and not properly planned for social gatherings and entertainment. In total, two urban public squares in Dubai were considered as part of the UPS classification:

- The circular-shaped Uptown Midriff public square with a total area of approximate 10,000 m<sup>2</sup> located in a private ownership community named Uptown Mirdiff, but at the same time accessible to the public.
- The elliptical-shaped Jumeirah Beach Residence (JBR) at the Walk coastal strip of the Dubai Marina with a total area of 4,500 m<sup>2</sup>.

However, an aspect that requires consideration is that public squares can actually provide areas or zones for a range of activities, such as sport, relaxation and conservation. In addition, best practice, trends, issues analysis and leisure planning principles and guidelines have not been used in the UPS for city and community master plans. In fact, there is no formal framework by which provision and distribution can be evaluated.

The unplanned provision and distribution of open public squares for casual recreational use at the local level are most evident in the development of residential land (Gehl & Gemzoe, 2004). UPS provision based on a wise city planning policy should bear in mind the complexity involved in providing an optimal mixture of where public spaces should be located, the quality and purpose thereof, and changing patterns of use in terms of sport, recreation and leisure (Javadi, 2016, Chapter 4, S 4.3).

The somewhat arbitrary approach to land subdivision by private developers further hampers the ability of local government authorities to put strategic plans in place for the provision of open public spaces, although the federal government in UAE has tended to grant local citizens

land for development for the purpose of including public areas such as plaza or square. The municipality should then provide supporting infrastructure and facilities. Recently, many developers have not complied with the planning regulations and have partially developed UPSs prior to the residential land being sold. This haphazard nature of residential land development practices has resulted in ad hoc provision, random distribution and inadequate development of infrastructure and facilities in UPSs in the UAE cities. A new strategy is thus needed to bring coherence into the planning process. The strategy model principles are discussed in the next section.

## **8.4 THE STRATEGY MODEL PRINCIPLES**

A set of guiding principles has been used to prepare the strategy proposed in the current research to help to establish the vision and develop the classification criteria. These principles provide a framework for the assessment and classification of future UPS initiatives. The principles are discussed in the next section.

### **8.4.1 New UPS Strategy Principles**

During his 25 years of urban planning experience, the researcher as an urban planner has drawn on a set of guiding principles to be used in the preparation of a coherent UPS strategy by architects, urban planners and planning decision-makers to design, build, operate, and maintain the city UPSs. These principles will also guide future assessment, classification and implementation of the strategy:

- **Sustainability:** Sustainability requires considering the current and future needs of the community, the environment and the economy in providing and maintaining UPS as part of the city and its related communities. Sustainability principally involves ensuring appropriate use and protection of the space, including the best use of greenery, the protection of natural habitats, preserving open spaces for future generations, and efficient use of public assets (Riffat, Powell & Aydin, 2016).
- **Access and availability:** Public squares of different sizes and for various uses should be accessible to all community residents (Whyte, 1980, Chapter 2, S 2.2.2, 2.12.2). Access and transport modes and routes are essential considerations in planning open spaces.
- **Equity:** The distribution of public open squares, in terms of number, condition, protection and access to spaces across the city should be equitable so that the whole the community benefits. The strategy must also consider intergenerational equity and ensure that

sustainability and preservation for future generations (Campbell, 2003; Chapter 4, S 4.4; 4.6).

- **Quality and enjoyment:** The provision of quality UPS for the enjoyment of the city's residents is both a strategic and operational objective. Each decision must take into account the creation of good quality open spaces that will provide for safe and enjoyable use by people (Parks, 2002).
- **Financial responsibility:** The city must be accountable and responsible for how it uses public funds and assets. The cost of provision and continual upkeep must be addressed responsibly, equitably and sustainably, in the most cost-effective and efficient manner possible (Wellman & Spiller, 2012) in order to achieve the strategic objectives.
- **Flexibility:** Implementation must be sensitive to community needs and changing priorities (Margules & Pressey, 2000). The strategy should be revisited on a regular basis to address contingencies or changes; for example, trends in recreation. Therefore, some flexibility must be built into the strategic plan which will permit consideration of varying circumstances, environments, needs and aspirations of all communities.
- **Diversity:** To provide a varied range of UPSs across the city.
- **Partnerships:** To recognise the need for partnerships between different stakeholders to achieve the objectives of the urban design strategy and the need to support the city in the provision of multi-use UPSs (PPS, 2010).
- **Culture and heritage:** To recognise the local cultural and heritage factors in the development of UPSs.
- **Operation and management:** To ensure effective and efficient operation and management of UPSs within the city and to instil an ethos of continuous improvement in processes and planning (Rydin, Bleahu, Davies, Dávila, Friel, De Grandis, Groce, Hallal, Hamilton, Howden-Chapman & Lai, 2012).
- **Sport and recreation:** To understand that public open space in the city provides essential leisure, sport and recreational opportunities.
- **Community health and well-being:** To recognise the benefits that UPSs provide for community health such as the enhancement of social interaction within communities (Duhl & Sanchez, 1999).
- **Efficient use of resources:** To recognise the need to manage natural and community resources sustainably and to apply best practice principles in doing so.
- **Community engagement:** To encourage community input and buy-in through ongoing communication and consultation.

#### **8.4.2 New UPS Hierarchy and Role**

This section highlights the researcher's new classification system which is to be developed to identify the different types of UPSs within the city better, and that enables the supply of various public open spaces across the city and within specific areas in terms of role, size, siting, number and catchment area.

Seven (7) different categories are proposed by the researcher:

- Local urban square within private development such as courtyard type, indoor plazas, square or atrium space within residential or commercial buildings;
- Community public square;
- District open space;
- Regional open space;
- Natural conservation areas;
- Special purpose open space; and
- Residual land.

The development of these categories is based on the researcher's visits to current best practice examples for public squares in Spain and Italy, the involvement in master planning by more than 25 communities in the UAE and the coordination with the decision-makers in urban planning departments. A hierarchy provides for a range of public squares to be provided within any given area, with each space playing a different role and serving different numbers of people (catchment population). The researcher argues that people within the city need access to a variety of public squares and plazas, as no single space can meet all the needs of a community. A hierarchy of public squares is based on size, location and distribution—from small public squares in close proximity to the community so that they meet the daily/weekly needs of a neighbourhood to more extensive spaces that can collectively meet shared needs and functions of the people (Pawlikowska, 2014).

To establish this hierarchy, the researcher has identified different characteristics of local, community, district and regional public squares. These four different spaces are intended to cater for communities of different sizes and recognise the relationship between the size of a space and its capacity to serve a certain number of people and/or functions. The hierarchy is based on the principles of sustainability, accessibility, choice, equity and quality. The primary role of each of the types of public open spaces has been identified, and criteria for the optimum



size, service area, location, timing of use and facilities have also been defined: these are known as the classification criteria.

## **8.5 THE REMEDIAL URBAN PLANNING PROCESS IN UAE**

The researcher designed a new urban planning process mechanism and components which comprise three technical stages/ areas:

- The first stage is the Master Planning Committee (MPC) which is responsible for reviewing the proposed master plan prepared by the urban planner or the consultant (Figure 8.4). The purpose of the proposed restructured flowchart of Figure 8.4 is to guide urban actors on the necessities of engaging community people and users that are represented by a community, social-services agent and their role in the urban planning process and the implementation of public open spaces and all similar typologies such as plazas, parks, waterfronts and arenas in the new developed community/ city (AUPC, 2016). This committee should assess the size and location of the public open space within the community as per the anticipated population.
- The second stage which follows the master plan approval is the review of the different facilities and services within the community to make sure how the buildings/ premises are related to the open public square. The technical reviewers of the second stage are different departments such as landscape design, urban planners and architects, structural engineers and electromechanical engineers.
- The third stage is the feedback from community users on the facilities and the open spaces which are required to be part of the community. The feedback will be forwarded from the community operators to the urban planning council on annual time. The purpose of collecting feedback from the community end-users is to build a series of lessons learnt for the decision makers to add to the guidelines of the urban planning policy.

Furthermore, in restructuring the UPC flowchart by the researcher (Figure 8.4), provision for a clear process of implementation of public open spaces is provided using direct guideline statements and a clear flowchart of procedures. The result anticipated by the researcher is a practical design manual that serves a tool to develop world-class, public open spaces and squares.

**POLICY AND ASSOCIATED GUIDANCE FOR NEW COMMUNITY PUBLIC SQUARE DEVELOPMENT**

This process flowchart is a standard procedure to be used in planning for new communities and for the redevelopment of existing communities.

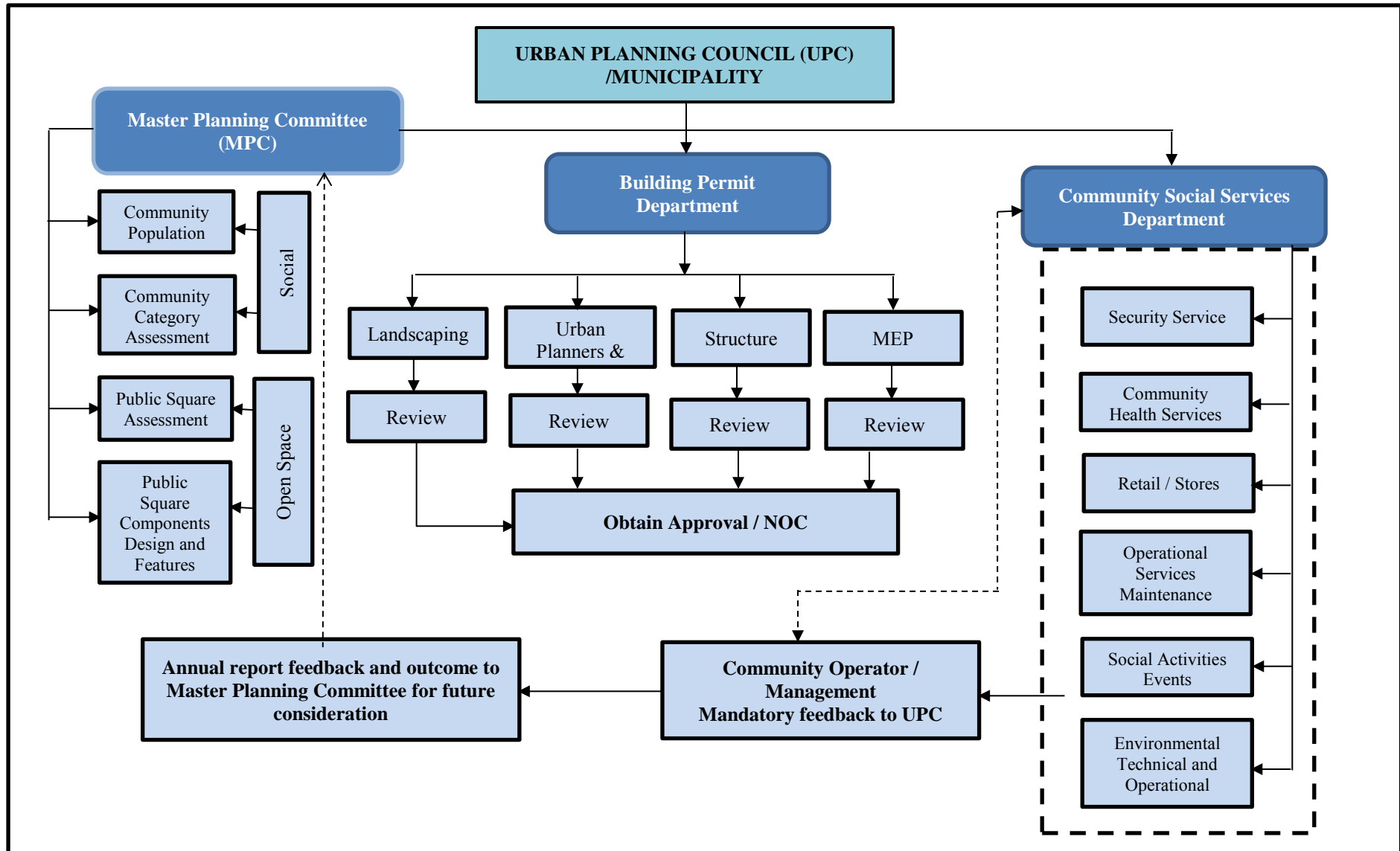


Figure 8.2: Restructured/ redesigned components of urban planning process Source: (Researcher's own)

## 8.6 IMPLEMENTATION MECHANISMS

This section indicates the mechanisms that can provide social and health benefits of any public open space community environment for the residents and users (Figure 8.3). Therefore, the mechanisms designed by the researcher are very useful for exploring the physical environmental attributes of urban public squares (UPS) that are desperately needed for creating healthy community and city. Figure 8.3 highlights three potential mechanisms for discovering the environmental attributes of UPS, namely outdoor entertainment and physical activities, interaction and bonding with nature, and social interaction (Sugiyama & Thompson, 2007).

- The first mechanism is the outdoor entertainment activities that are associated with the health benefits such as preventing depression, enhancing physical attributes, and at the same time playing a significant role in forming a bridge that constantly links people with their outdoor environment spaces. Moreover, UPS are vital to enhancing the mobility of elderly people and promote substantial benefits to people with disability (PPS, 2010).
- The second mechanism, namely bonding and interaction with nature, reduces stress, enhances health and promotes the well-being of the community (Maller, Townsend, Pryor, Brown & St Leger, 2006).
- The third mechanism, social interaction, is a key mechanism underlying the relationship between different environmental interventions and people's social health; social interaction helps to reduce the risk of depressive symptoms and enhance the sense of value, identity attachment, as well as safety from crime (Stephoe & Shankar, 2013, Chapter 4, S 4.2)). According to Findlay (2003), the UPS is the place to reduce social isolation and provide informal contact between residents, neighbours and community users.

Finally, these three mechanisms identify the social cognitive and support, neighbourhood safety, and ease of access that are associated with the physical activity of people of different ages.

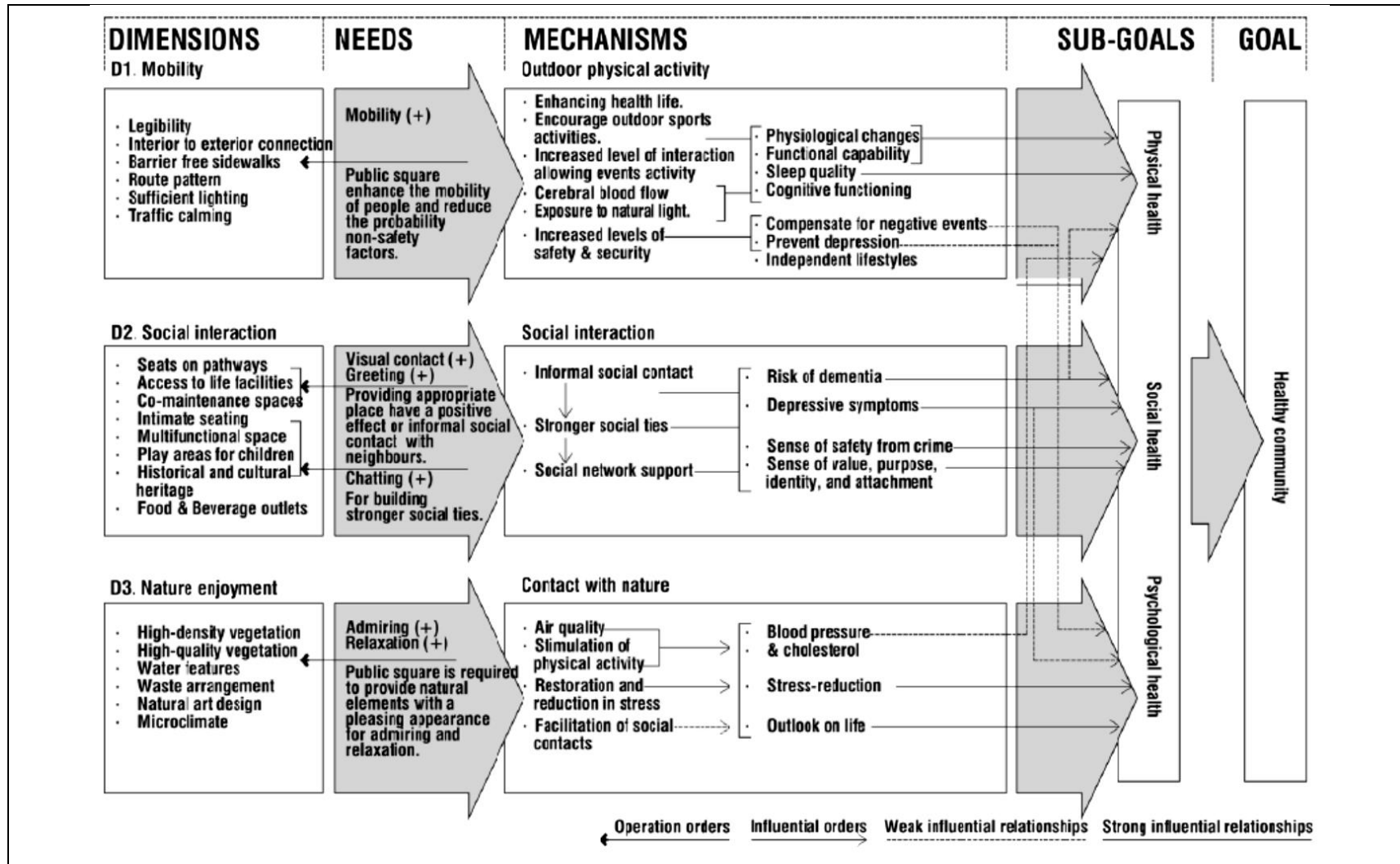


Figure 8.3: Mechanisms of the physical environmental attributes of urban public squares

Source: (adapted from Zhu et al., 2017)

## 8.7 URBAN DESIGN POLICY OBJECTIVES

This section directly addresses the following objective:

- To develop a conceptual framework which identifies the key theories and design approaches for developing urban open squares that are responsive to user preferences and needs.

It also answers the following research question:

- RQ.6: What are the most appropriate urban planning strategies and recommendations that can be adopted to achieve building public squares in the UAE cities?

The researcher, as an architect and urban planner, envisages that, to build a successful urban design policy, nine main principles need to be incorporated to give expression to how the city's spatial vision is implemented:

- Principle 1: To create integrated, accessible places, neighbourhoods and liveable communities, and to ensure that urban design development for any city contributes positively to the urban structure of the city such as the space organisation, functions and activities and the infrastructure within the settlement. The urban structure is a vital enabling tool across all measures of development. It gives character to places, allows for flexible future expansion, and tends to be permanent after implementation. It is essential that urban structure is implemented appropriately in order to secure a quality urban environment and make provision for easy, individual construction development; for example, by considering the provision of utility services early in the design process and laying out new cluster community facilities along the urban structure routes (cf. 7.2.2; 7.2.3; 7.2.4, 7.2.5). Otherwise, it will be hard and may be impossible to rectify any development based on errors (Taylor, 1994).
- Principle 2: To ensure that development contributes to improved quality of public spaces. The quality of the public realm is determined by how well the public space is designed, built, managed and operationally maintained as well as by the quality of the interface of surrounding buildings with the public realm, therefore the researcher considers the following parameters crucial to designing the public space:
  - Open space must always be created intentionally by the urban planner and scaled proportionally and configured to suit the functions for which it is planned. The open

space should be set out in a geometrical way to meet standard dimensions required for active recreations. It should never be residual or left-over space used in a haphazard way (cf. 6.3.1.9: Q44; 6.4.1.2: Q8, Q9, Q10, Q11; 6.4.2.2; 6.5.1.2; 6.5.2.2.)

- Public open space should be associated with urban planning councils and planning authorities, public institutions, community facilities, and connection to good infrastructure (cf. 6.3.1.9: Q44, Q45, Q47; 6.3.2.5; 6.3.3.4; 6.4.1.2: Q8, Q9, Q12; 6.4.2.2: Q8, Q9, Q15, Q17, Q18; 6.4.3.2: Q5 - Q7).
  - Architects should target efficiency in their design by positioning the buildings and the dwelling units to overlook the public open space and achieve a positive interface between the community people and the open space (cf. 6.4.1.2, Q12; Q13; Q14; 6.4.3.2: Q8, Q9).
  - Design and detail: public spaces must be robust and durable with low maintenance, hard and soft landscaping. Post-implementation maintenance and management should be considered throughout the design stage process (cf. 6.4.3.2: Q11; Q12).
- Principle 3: To ensure that urban planning development contributes to the creation of safe and secure communities. Urban design developments should employ environmental design principles to create conditions through which levels of safety are increased, the risk of vandalism is addressed, violent and criminal activities are hard to commit, and perpetrators of crime are easier to identify. This will ensure that people are exposed to a reduced risk of crime and violence and that their perceptions of fear and the crime are reduced. Therefore, the design proposal by architects and urban planners should optimise visual connections and increase passive surveillance of the public space by creating routes that have simple, straightforward geometries, providing a mix of complementary land uses wherever possible, and creating a simple design that does not create obstacle spots and entrapment spaces (cf. 6.3.1.5: Q18 - Q23; 6.3.3.3: Q14; 6.4.4.2: Q11; 6.5.1.2: Q4-Q6; Q9).
  - Principle 4: In order to achieve quality urbanisation and create vibrant living places where people gather and socialise, urban planning policy is to ensure that open public spaces such as public squares and plazas are provided with entertainment amenities and recreation opportunities with easy access for people and services. Therefore, spatial connections between new and existing neighbourhoods should be provided to allow for ease of movement for pedestrians and goods transport facilities. Moreover, non-motorised transport facilities when developments are likely to attract public must be considered.

Avoidance of physical barriers to pedestrians and cyclists need to be carefully considered and implemented (cf. 6.3.1.6: Q25, Q27-Q34; 6.3.2.4: Q20, Q24).

- Principle 5: To promote catalytic and positive urban development with intensity, adaptability and diversity that create conditions to attract people and ensure variety and choice and allow change over time. Additionally, to ensure that during the design stage, new urban design development meets the needs of current and future generations by allowing provision for public outdoor spaces, safe access to amenities and entertainment facilities (cf. 6.3.1.9: Q44; 6.3.2.5: Q24-Q25; 6.3.3.4: Q20; 6.4.1.2: Q11-Q13, Q16; 6.4.2.2: Q7-Q9; 6.4.3.2: Q5-Q9; 6.5.2.2: Q8-Q9).
- Principle 6: To ensure positive interface and enclosure between the buildings and the open public square. The appropriate scale and grouping of the buildings surrounding the public square will create a quality public environment. Buildings, urban blocks, and street orientation should recognise the historical patterns and heritage architecture which create a pleasant environment.
- Principle 7: To ensure that urban design focuses on the relationship between the built forms and the natural environment to ensure that the proposed developments respond positively to the natural features. The design process should ensure the continuity of the open public spaces and urban squares in such a way that they sustain connections between people and the natural environment (cf. 6.3.1.7: Q35-Q39; 6.3.2.2: Q6-11; 6.4.1.2: Q11, Q13; 6.4.2.2: Q9, Q13, Q15; 6.4.3.2, Q7-Q8; 6.5.2.2, Q8-Q9).
- Principle 8: To ensure that urban development respects the heritage identity of the city and its neighbourhoods (cf. 3.4.1; 3.4.2). Because city identity and character such as cultural practices and historical memories are vital factors in a quality urban environment, urban designers and architects need to acknowledge, respect and enhance those factors during the early stages of design and city urban planning (Tress & Fry, 2005).
- Principle 9: To ensure that urban development recognises and responds appropriately to city informality, as informality is a complex and inseparable part of urban society which has particular implications for urban design and urban development. This objective seeks to improve the living conditions in poor environments and support liveability strategies through investment in public open spaces by creating outdoor public squares and plazas

within communities, by recognising and responding proactively to informality within the public environment.

## **8.8 IMPLEMENTATION OF THE MODEL**

### **8.8.1 Implementation of UPS**

The implementation of urban design for developing land or property cannot be accomplished without urban planning policy that drives and assists urban planners to gain a deeper understanding and deliver quality master planning and liveable urban environments (Carmona et al., 2008). The urban design policy plays a benchmark role in leading urban planning actors in shaping communities and cities that attract people to live in. The formulation and the implementation of successful urban planning policy have a profound effect on achieving the desired development goals and objectives for cities. First of all, it is essential to create the necessary awareness among people and community users that their involvement and participation in the process of developing their communities is a priority. Everything needs to be articulated in the best possible manner to ensure that the upcoming developments contribute directly to the present urban structures by creating a suitable environment for living (Fazal, 2008).

This chapter proposes a UPS model that can be integrated into the current urban planning design guidelines. The strategy of including public squares in the new urban planning process provides a framework to guide the provision and development of public squares and plazas within cities. The researcher stresses that the UPS strategy principles and the new model should be tested in a real-life trial, and reviewed to ensure that the provisional standards are appropriate and can be practically achieved. The results and feedback from the community will form an essential component of the action plan to be presented to the council for adoption and future implementation.

The UPS model will, in time, need to be applied to all UPSs across the city. Thus, implementation plans should be developed for each community to assist with strategic planning and the preparation of annual capital and operational budgets. The city can use the UPS strategy principles and model immediately to address current requirements for replacement and renewal works and to address requests for UPS provision, upgrades, and the development of infrastructure and facilities.



Several simultaneous actions are needed to support the implementation of the strategy. These could include the development of an integrated framework for strategic and financial planning; the drafting of guidelines for developers; the preparation of policies for management of operations and resources; development of strategic alliances with key external agencies; and implementation of an effective asset management system.

Input from communities and external agencies will be incorporated appropriately into the strategy prior to endorsement being obtained from Council. A detailed implementation action plan, including short-, medium- and long-term actions must then be developed to ensure that the objectives of the UPS strategy are realised.

### **8.8.2 Community Vibrancy**

UPS planning involves people, heritage and culture and incorporates the concept of community needs as a fundamental principle of urban space planning and development. This would influence decision-making on community sustainability, health and well-being by fostering cohesion within communities by means of cultural events. Future public square provision and developments undertaken through subdivision development/upgrades should meet the intention of this UPS strategy and, as such, city planning institutions should proactively manage the development of public square proposals and contributions. In this regard, the urban planning institutions should develop a set of 'Developer Guidelines' that clearly identify the city's standards for provision and planning processes in relation to public squares and plazas.

Implementation mechanisms need to ensure that all assets located within each public square are recorded, and that an audit process is established for identifying needs for replacement, substantial repair, improved presentation, removal and/or redesign. This will also help the city to determine whether infrastructure complies with legislative requirements and standards and to prioritise remedial interventions. In addition, processes must be drafted and established to ensure that the asset register includes newly-developed public squares. This process will allow regulators to draw up both capital and operational budgets for public open spaces, amenities and infrastructure, and to prioritise development, maintenance and upgrades.

### **8.8.3 Community UPS Plan**

The researcher proposes that a detailed community engagement process should be undertaken in relation to community public square plans. An annual communication plan is an essential factor for developing and outlining the proposed community consultation process.

To ensure transparency in drafting the UPS strategy, the involvement and support of the community, as well as objectives, principles and new standards for open space provision should be implemented. The researcher's proposal is that a public comment process should be undertaken following The UAE Council's adoption of the Draft Public Square Strategy. A draft communication plan should then be developed which will outline the proposed public engagement process. Following the public comment process, the UPS strategy should be submitted to the planning council for formal adoption and implementation.

#### **8.8.4 Urban Design Policy Review, Monitoring, and Reporting**

Implementing a new urban design policy and its associated design guidelines for public squares and similar types of open spaces within the new and existing neighbourhoods are needed to enhance people's lives. This requires continuous monitoring, evaluating the policy effectiveness, and finally reporting people's feedback and outcome annually to the Urban Planning Council. In addition, an urban planning project management framework should be developed by planning decision-makers to assist in the implementation of the strategy that aims to develop UPSs within the fabric of new communities and cities. The UPS strategy should also be revised within the medium term to ensure the strategic intent and principles remain sustainable.

### **8.9 IMPLICATIONS OF THE RESULTS FOR URBAN PLANNING POLICY**

The evolution of cities and towns is guided by urban planning design regulations, in responding to changing social and cultural values and determining targets in the public's best interest. In the UAE, new urban design policy must be implemented to ensure that development of new communities and cities is assessed and coordinated in relation to long term outcomes. This policy ensures that overall sustainability is improved with every new development that brings about social and physical changes to a town or city. This section presents the implications for the planning policy and constraints that may negatively impact its implementation in the UAE.

Urban planners, professionals and policy makers at both the local and national levels must deal with the future expansion of cities from the perspective of demographic changes which is envisaged by the researcher as a reshaping of specific urban built and social environments. Political and economic transformations are both the main cause and effect of such changes. However, urban planners do not always respond quickly to demographic changes and newly-developed spatial environments may thus not meet the needs of their stakeholders (Laws,

1994). In this section, the researcher focuses on key issues that impact the urban planning policy when the matter involves consideration of demographic changes and the development of new communities, namely:

- The changing structure of families and households.
- New entry to immigrants and allowance of investment opportunities to outsiders.
- The aging of the population.

Each of the above issues has been a topic of heated debates on urban planning between urban planners and regulators.

The researcher believes that architects and urban planners should concern themselves with more open dialogue and initiatives with officials and regulators to pave the way for the development of a new urban planning policy that allows more open public squares in the master planning of new districts and cities. These planning initiatives, if successfully achieved, will draw a new road map for the urban planning actors and will provide for coordination between the role players in the urban planning process in developing fit-for-purpose designs.

The researcher as an architect and urban planner with current urban planning practice in the UAE has three major concerns that should be addressed when new urban planning policy implemented:

- Expansion of cities and towns

The continued urban expansion of new districts and communities in the UAE is not yet aligned with the sustainability measures contained in the design guidelines for smart and sustainable cities. The urban planning actors in both the government and the private sectors should make a serious commitment to implementing those guidelines in the new master planning of communities.

- Coordination on the physical and social characteristics

Greater coordination of existing urban data on the physical and social characteristics is needed for developing new cities and towns. Urban planning authorities are in the best position at every level to secure comprehensive research data to support urban design practices and other urban planning role players who are interested in urban and community development.

- Interrelationship between public and private domains

The interrelationship between public and private domains is also an essential consideration in the urban design process. The public domain is more continuous, cohesive, interconnected and permanent., while the private domain is independent of the public domain, changing, diverse and individualistic. Appropriate urban planning and design processes are needed to ensure the creation of adequate regulations and guidelines that can focus more on the public domain and people's needs. Moreover, the practice of architecture and urban planning which are both controlled by regulations and legislation, if not guided by proper urban design policy, could fail to provide amenities or adhere to proper building standards that contribute effectively to the development of sustainable cities.

Furthermore, architects make a substantial contribution to the design of cities and communities but, compared to urban design initiatives, architectural design is a relatively quick process. Urban design involving many private property owners, on the other hand, takes place over a longer timeframe. Urban designers have a duty, as guardians of the public domain, to ensure adherence to standards by professional members of the design community, such as architects. In conclusion, to develop an appropriate urban planning policy, all urban planning actors in the planning sector must anticipate what people strive for in terms of what they regard as a comfortable and appropriate living environment and adapt their design initiatives accordingly.

## **8.10 CHAPTER SUMMARY**

Over the past five decades, urban design and city planning have been recognised as disciplines in their own right. Despite the fact that the urban design scope is somehow fuzzy and contested, this chapter presented urban design as a collaborative, integrated activity, in order to enhance the liveability of places for people. The researcher argues that while different groups of urban design professionals will continue to claim that urban design is a discrete profession, it is a shared responsibility required to achieve quality and successful urban design. It cannot be handled by a single person or individual profession; instead, the overall quality of the urban environment falls to all the built-environment professions.

This chapter presented a proposal adopted by the author for including community users' participation as a key urban design process within the urban planning policy framework. Until now, this process has not been included in urban planning procedures or the establishment of

design guidelines in the UAE. As a contribution to achieving better urban design solutions, it is hoped that this change to the urban planning framework will contribute to the design and development of new successful liveable cities that embrace and cherish public open spaces. Although urban planners are making every effort to deliver high quality, creative solutions to cities, it is people's perceptions that are important, and will contribute to making liveable places and giving them meaning if such perceptions are seriously considered.

This chapter also emphasised that urban planning design must integrate and combine buildings, hard and soft landscaping, street furniture and spaces together to create visual interest and to enhance or reinforce the sense of place.

Furthermore, the role of architects and urban designers is to deliver particular social goals, and everyone needs to work with other public and private stakeholders to effectively open public spaces network such as squares and plazas deliver to people. Cicaló (2013) asserts that the majority of public spaces nowadays are privatised and under the direct and indirect control and management of real estate and retailer groups. This will create a society that expects and desires only private communications and interactions, that reserves open public spaces solely for spectacles and recreation activities with fees being charged for access, while arguably the aim should be the provision of an accessible and equitable public space for all, which in many cities in the world is becoming increasingly difficult to deliver (Mitchell, 2003).

In this chapter, the researcher highlighted the significant role of the public sector's involvement and contribution to encouraging, securing and maintaining high standard urban design that delivers liveable open public spaces to communities. This role can be encompassed in modes of actions such as:

- Analysing and understanding the quality and meaning of place;
- Providing urban policy tools to guide, encourage and control appropriate urban planning design;
- Implementing policy objectives through negotiation, and urban statutory processes;
- Developing and promoting specific urban design and development solutions, which include large-scale infrastructure and small site solutions;
- Involving community and potential users in the urban design process; and
- Providing ongoing maintenance of the urban fabric.

The creation of an urban environment is not just a mission of professional specialists and their leaders. Urban design is a collective effort of professionals involved in the development of urban areas as they all have a role to play in ensuring the success of the task. The central and local authorities, local community users, urban planners, property developers, investors, occupants and urban place visitors are all key role players in delivering quality built-environment, urban spaces and liveable places.

This chapter has concluded that to achieve sustainable urban design and proper planning solutions for our cities, a successful partnership must take place between stakeholders of both private sector and public sector to build a public space for all to share (cf. Table 5.3; Appendix B).

## **CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS**

### **9.1 INTRODUCTION**

First, the achievement of objectives of this research is summarised to determine whether the overall research aim has been achieved and whether the research questions have been answered (Sections 9.2 and 9.3). Second, the limitations of this study are discussed (Section 9.4). Third, it discusses the theoretical, methodological and empirical contributions to knowledge (Section 9.5). Fourth, Section 9.6 summarises the main conclusions of the study. Fifth, in Section 9.7, recommendations are made for inclusions in policy and guidelines on promoting liveability in public open squares in the UAE since the research is concerned with liveability of urban public squares from an urban planning and design perspective. Sixth, in Section 9.8, recommendations for further research are made. Finally, this chapter delivers a concluding statement of the research.

### **9.2 SUMMARY OF THE RESEARCH METHODS MATCHED TO THE OBJECTIVES**

This section presents a summary of the research methods that were used to achieve this research objectives.

The research approach was a mixed-methods approach with a greater focus on qualitative data and less dependence on quantitative data. As a result, quantitative analysis was confined to descriptive statistics using measures of central tendency, such as averages and ranges, with the results being presented in tables, histograms, bar graphs and pie charts as opposed to inferential statistics based on probability and leading to generalisations about a population.

The qualitative data collection methods used were interviews, focus groups, observations, case studies and document analysis and the quantitative data collection method was a survey.

Objective 1 and 3 were addressed through a review of the professional and academic literature on public open squares as well as face-to-face interviews (qualitative) and a survey (quantitative) which was distributed to eight different group of actors and participants as explained in chapter 5. These methods were used to review historical, social, and spatial values of urban public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares in Chapters 2, 3 and 7.

For objective 2, four different methods were used to investigate people's opinions of and preferences for urban squares and establish an understanding of users' needs and requirements. Documents from different urban planning departments and planning institutions were collected and reviewed and face-to-face interviews, and focus group sessions (all qualitative methods) and a survey (quantitative) were used as described in Chapters 5 and 6.

Objective 4 was addressed through analysis of field observations based on an observation list used by trained data collectors (qualitative), and a survey (quantitative) conducted in four districts in Dubai resulting in the description of four case studies. This provided data to support the development of a new strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE as explained in Chapters 4 and 8.

To address objective 5, the data analysis was based on the understanding that the researcher gained from all the data collection methods (both qualitative and quantitative), which were triangulated and integrated to create a proposed urban planning policy, including recommendations to support authorities in setting planning guidelines and design criteria related to the urban design of urban public squares in UAE cities.

A summary of how the above research methods contributed to meeting the research objectives was provided in Table 1.1.

### **9.3 ACHIEVEMENT OF THE RESEARCH OBJECTIVES**

This section presents the main findings in terms of the research aim and objectives and answers the research main question 'How can planning and urban design policies be formulated to develop urban public squares that are responsive to residents and users in the new sustainable UAE cities?' and sub-questions that correlate with the remedial urban planning process suggested by the researcher as stated in Chapter 1.

The researcher developed the conceptual framework for urban public square by considering concepts for providing liveable public squares in literature for Western and Middle Eastern regions. This objective was addressed in Chapters 2 and 3.



### **9.3.1 Objective 1: To review historical, social, and spatial values of public squares in the UAE cities by tracing the roots of the current phenomenon and recording the transformation of public squares.**

The key urban spatial attributes that emerged from this study in supporting social interaction and activities in urban public squares are spaces, views, anchor and retail facilities, entertainment activities and events, social atmosphere and interaction.

It was found that central public squares within communities tend to attract local users and residents. The perceiver is attracted to spend more time there when boundaries such as trees, arcades, shops and outlets enclose the space. All those help users to feel secure and able to move safely. Uptown Mirdiff public square in Dubai is an example (Chapter 5, Section 5.6.4). The researcher observed that the public square function and characteristics should not be overlooked as an innovative and dynamic looking place that can often be developed in high profile areas. This can be done at minimal cost-effective improvements to enhance public social life by providing inexpensive entertainment and attractions facilities, such as music band, children's play area and toy kiosks, and food and beverage outlets. The resulting data of this research showed that at least in the two studied squares in Mirdif and Dubai Marina districts, they were utilised by different age groups on both weekdays and weekends throughout the day. Most of the respondents admitted and affirmed that public square is a vital part of their social life and also an essential urban element to bring happiness and wellbeing to the community (see findings in Chapter 6).

### **9.3.2 Objective 2: To investigate people's opinions of and preferences for urban squares and establish an understanding of users' needs and requirements**

The case study analyses of Dubai city, and mainly the outcomes from the survey and empirical investigation on the public squares of both communities, Uptown Mirdiff and the Walk Jumeirah Beach Residence, provide evidence of noticeable behavioural and psychological responses that helped residents and users to build a bond with their community (Chapter 5). This research here below summarises the overall responses:

- High level of social ties and interaction between residents and community users, increased friendliness and strong social networks.
- Most community residents have long-time residency in their dwellings which reflect positive liveability satisfaction.

- Residents and users expressed willingness to participate in community meetings and events.
- Residents and users are satisfied with the facilities and amenities provided for children.
- Positive physical and mental health for residents was reflected during the field trips observation and interviews.
- The majority of residents and users agreed that they would be willing to share opinions and participate in the urban development and design process for their community.

**9.3.3 Objective 3: To determine the properties and attributes of public squares that would enhance physical and social integration of urban residents**

In order to analyse the interactions between urban design processes, people’s needs, and the urban public square as a liveable space, a multi-dimensional framework was designed by the researcher which comprises key dimensions and components (Chapter 1 & Chapter 8, Figures 8.4 & 8.5). The main dimensions were identified and accordingly provided a basis for the formulation of the framework: socio-economic, social and cultural, and physical and spatial, and time (Butina Watson & Bentley, 2007).

The researcher designed the framework by separating the three main dimensions in order to facilitate the analyses and detail the components of each dimension (Figure 9.1). Moreover, in Chapter 8, Figure 8.4, a new urban planning framework was proposed by the researcher to primarily interact with the urban planning procedures and enrich developing communities in UAE.

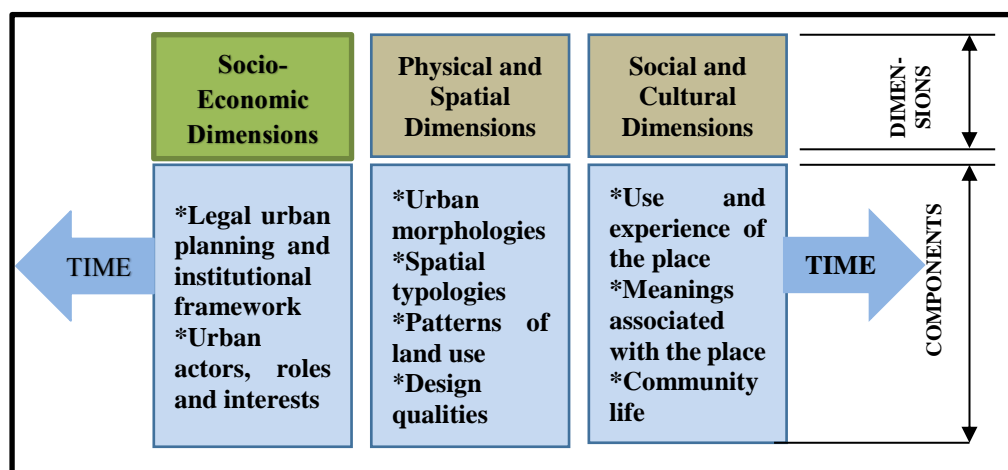


Figure 9.1: The initial conceptual framework for analysing urban design process in relation to public squares

Source: (Adapted from Butina, Watson & Bentley, 2007)

The second step taken by the researcher to avoid any misleading interpretation of the dimensions used for analysis was to by establishing connections between each of the dimension components. This makes the conceptual framework flexible to adjust and refine for emphasizing interaction and emerging components (Figure 9.1). Therefore, it is important to mention that the interconnection between the components is a key principle in understanding how urban public squares affect community liveability.

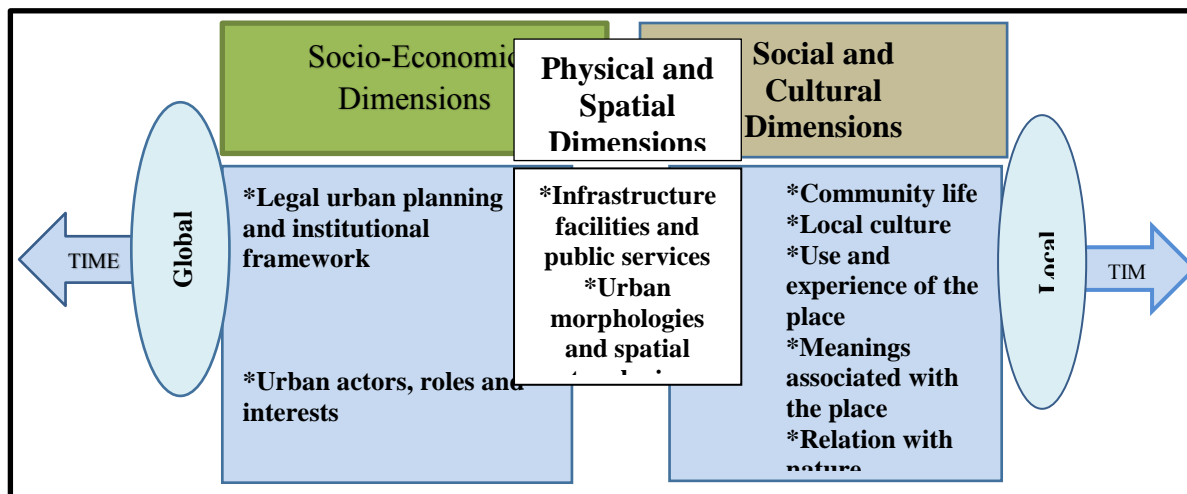


Figure 9.2: Revision of the conceptual framework for analysing urban design process in relation to urban squares

Source: (Adapted from Butina, Watson & Bentley, 2007)

The most important dimensions and components of the initial conceptual framework became clear from the literature review (Chapters 2 and 3) and were confirmed by the in-depth case study analyses. In addition, the framework also identified and offered a comprehensive understanding of the multi-dimensional urban planning and design processes. The research identified that the integration of the three main framework dimensions: socio-economic, physical and spatial, and social and cultural is fundamental to building a healthy community (Figure 9.2).

The conceptual framework was designed using the empirical data to provide a practical measuring tool to evaluate case studies on urban open spaces using what learned from the literature. The researcher classified various concepts to provide an understanding of how the built environment influences the open space and its functions; the way people and users interact with the open space; and the way which of such spaces can be included in the urban planning process and urban design practice. A literature review on the planning and design of open spaces and providers' perceptions thereof led to the development of a conceptual framework

that could be used to evaluate the open urban spaces described in the case studies. The conceptual framework was classified into three sub-divisions: (1) features of liveability through design, using a Charrette tool as a means of evaluating the physical design of the open spaces in the case studies; (2) factors influencing users' experience and use of liveable spaces, based on an evaluation of the satisfaction of these users; and (3) concepts underpinning effective planning and urban design practice in the development of liveable public open spaces. This three-part division was used as a guideline for evaluating the empirical data collected. The mixed-methods strategy and the selection of data collection tools was underpinned by a social theoretical perspective.

#### **9.3.4 Objective 4: To establish a strategy for developing and planning environmentally sustainable urban squares for the cities of the UAE.**

The empirical analysis leads to some key recommendations. This study addressed the problems with traditional urban design concepts and planning principles, in order to enhance the liveability of public squares premised on the implementation of a proper urban design strategy. Taking into account such ideas as climate, walkability, amount of pedestrian traffic, space with activities and functions, and social value such as respecting personal space all influence the conceptualisation of urban open spaces that have long been embedded in the design and planning of traditional Middle Eastern cities. This research stresses that providing public open squares associated with commercial facilities like markets and cultural and religious festivals is a fundamental concept of liveable public open spaces in the region. However, these concepts must be developed to meet modern users' needs and not be provided in their traditional form.

This study also addressed modern planning principles and urban design concepts, the implementation of which would enhance liveability in public spaces in the UAE. As a priority, the urban planning system should be considered by the relevant authorities at different hierarchy levels, thus allowing for the formulation of new planning policies and models to promote urban public squares and their liveability. The urban planning and urban design systems must introduce planning criteria that guide the development of public open square quality and provision. Extra attention should be directed toward socio-economic issues in order to reorient urban planning processes and engaging urban stakeholders and actors to incorporate public open squares in the new master plan development. Authorities and mainly the UPDs must involve community users and other stakeholders to provide opinions, feedback, ideas and strategies that aid in implementing new policies (Chapter 8). To achieve sufficient participation

of community residents, users, and public, the researcher suggests developing a primary action plan with three directions: (1) A new UPD should be established and linked to the current urban design model which facilitates and collects community residents and users' feedback and opinions about their liveability; (2) From lessons learned with previous design failures, authorities should involve the community in the decision-making processes in planning and preparation of master plan; (3) The community users and residents have to be heard and educated about their right to have a healthy built environment. Furthermore, in order to implement providing liveability to communities, policies at a high level must be disseminated to the lower local level as part of the design concepts. This research highlights that there is a desperate need for a development plan within a flexible and comprehensive planning system which defines new urban planning objectives and strategies. Modern design and contemporary urban concepts that have been addressed in this research have relevance for improving the liveability of community public squares in the UAE and the Middle East in terms of space identity, walkability and spatial environment. In order to create liveable, open, public spaces and public squares to improve community and social life, quality facilities such as coffee shops and other refreshment places, playgrounds, stalls and entertainment facilities should be provided and maintained. In addition, community liveability must be enhanced by providing family-friendly gathering spaces, user-oriented spaces, entertainment facilities, restaurants and take-away facilities as well as activities for different age groups.

### **9.3.5 Objective 5: To develop a policy and recommendations to support authorities in setting planning guidelines related to the urban design of public squares in UAE cities**

The overall urban planning process and the design practice for developing urban forms involve key urban actors: 1) urban planning controllers and decision makers: urban planning institutions and municipalities; 2) real estate agents, designers, developers and investors; 3) mediators and facility management agents; and 4) users: residents and retailers.

The key urban planning controllers and decision makers of the public sector involved in the urban planning and design processes are found at two levels: at municipality level, the Urban Planning Department (UPD); at state level, the Urban Planning Council (UPC). The most participative urban planning institutions and organisations involved in urban planning processes in Dubai are Dubai Municipality, Dubai Creative Clusters Authority, Emaar, Nakheel, Jafza, intermediate organisations, and other professional associations, such as the

Society of Engineers (Chapter 5, Table 5.3). Finally, the end-users or consumers are the receivers of the urban products, such as local residents, tourists, visitors and workers.

Controllers and decision makers are the key actors interested in the effects of urban growth on the city expansion, form and function, and as well in its spatial structure; infrastructure provisions, facilities and public services, economic growth, social needs, environmental variables and the cultural values embedded in urban planning decisions.

Producers of urban planning process such as urban planners, architects, landscape architects, developers, investors and real estate agents are interested in housing and community design; evaluating the impacts of urban growth; modifying and improving the existing urban forms and quality of space; and improving urbanisation and quality of life.

Mediators and facility management agents are interested in negotiating land use, operating properties, maintaining infrastructure and housing and monitoring regulatory measures for controlling urban growth.

## **9.4 LIMITATIONS OF THE STUDY**

This research journey was not achieved without limitations.

### **9.4.1 Duration of the Study**

Among others, the duration of the study went beyond the actual allocated time plan of the doctoral programme. Proposed interviews with senior level decision-makers in the urban planning sector implied did not always take place as planned. However, an essential factor to be borne in mind is that the researcher has had more than thirty years of architectural and urban planning professional practice in the Middle East, mainly in Dubai, which enabled him to communicate and interact easily with key urban planning stakeholders and have a thorough understanding of local urban planning gaps and weaknesses, so the lack of access to senior planners was somewhat ameliorated by this.

### **9.4.2 Distances**

A further limitation occurred with the survey some of UAE Emirates cities apart from Abu Dhabi and Dubai such as Ajman, Umm Al Quwain and Fujairah, as the researcher could not undertake field trips to all the urban spaces included in the comparative survey because of limited financial resources and travel logistics. This was addressed making a number of

telephone interviews after the field trips to clarify some issues, particularly regarding the structure of the responsible bodies and their geographic areas of responsibilities.

#### **9.4.3 Time and Resources**

Another limitation was that the views of the users were not addressed systematically because of the constraints of time and resources. The research focussed on the process rather than the product to highlight the importance of institutional arrangements that affect the design and nature of public spaces. Semi-structured interviews with officers and people from governmental departments were arranged to collect primary data; however, most of the interviews took place in governmental offices where the interviewee had to deal with job-related issues while answering the researcher's questions. These interruptions meant that the interviews often took up to three hours to be completed, although they could have been completed in an hour. Furthermore, access to historical documents, data, and maps for projects was limited as some departments restricted access to these materials.

#### **9.4.4 Generalisation**

The function of urban public squares is considered differently by different cultural groups. However, previous empirical urban research show that public squares have almost disappeared in UAE which is an important limitation. Moreover, this research deals with sustainability criteria in urban planning in the newly-developed urban areas in the UAE. Four case studies were chosen, investigated and analysed according to certain urban factors. This means that findings of this research might not be relevant to other urban studies for other communities.

#### **9.4.5 Political Will**

Following the data collection and findings, the researcher envisages that his proposed updated urban planning policy formulated in Chapter 8 will place a heavy responsibility on authorities' urban-planning decision-makers, and the success and influence of this policy will depend on the amount of time that officials and urban decision-makers are willing to devote to the task, and the willingness of the municipal administration to encourage and facilitate duties of architects and town planners during their master-planning sessions. Because the proposed formulation of the new urban planning policy is complex, it may challenge the overall urban planning system and be difficult to put into practice in the early stages.

Another limitation in this research involves the issue of conveying the researcher's proposed urban planning policy framework from the urban planning department directorate to the senior decision-makers in the urban planning council committee. The introduction and implementation of the proposed framework requires substantial political will and needs to be formally established through a high-level council decision. Moreover, the decision to update the urban planning policy and design guidelines cannot simply be applied by the municipal administration senior level staff without a decision from the directorate.

One more important limitation to be recorded is that the proposed restructured policy framework designed by the researcher and explained in Chapter 8 where people's participation and involvement in decisions relating to their community will be subject to substantial review by senior level staff, the preparation of the new urban planning policy framework including monitoring approvals, and other debates are all time- and cost-consuming. Furthermore, private developers must comply with several urban planning guidelines and urban policies and must follow prescribed processes. Currently, there is a lack of flexibility in responding to the challenges of urbanisation faced by many authorities in the UAE.

## **9.5 THE MAIN CONTRIBUTION OF THE RESEARCH TO KNOWLEDGE**

This research is the first of its kind that presents the vital role that urban public square can play to achieve healthy communities and cities in the UAE. It is also the first that highlights important recommendations for the decision-makers, to immediately review and update the current urban design policy terms and guidelines that assist urban planners to plan, design and develop public squares in new communities. The framework provides a master plan for the new proposed cities in the UAE and other Middle Eastern countries. The researcher's recommendations could influence the future urban design practices. Additionally, the research aims to provide an original contribution to knowledge in several ways:

- The research portrayed a deeper understanding of how people react and behave socially and physically to a public square environment. It also showed that by introducing planning and economic approaches, social aspects and modifications to existing open spaces and public squares, they could create secure social interaction, healthy environment, and entertainment for communities.
- The study provided a conceptual framework for building connections between urban planning design approaches and the UPCs and authorities. The research analytical framework was developed to assess and evaluate the urban public spaces and squares as a



product of urban planning in Dubai and in relation to the UAE context. In addition, the conceptual framework could be used by other urban planning researchers and scholars undertaking similar studies in the future.

- Furthermore, a vital contribution of this research is the production and launch of a new urban planning regulations and policy guidelines document which creates a link between the key urban planning actors and the communities' needs and outcomes in relation to their daily living conditions and how public squares influence their living standards and quality of life.
- Finally, this research provides a scientific foundation for the characteristics and provision of liveable public squares in the UAE socio-cultural context, which should be considered in urban design and planning by the governance decision-makers.

## **9.6 CONCLUSIONS**

After discussing the key findings from the analysis, it can be concluded that social liveability in communities cannot be built without creating outdoor spaces that connect people together, where they can interact and socialise, with the public square being one of them. In order to promote such liveability, the urban planning and design guidelines system must be restructured to include people's participation and involvement in decisions that meet their needs and demands. Rapid modernisation of architecture and the urbanism approach adopted from the West had gradually eroded the importance of outdoor spaces that used to be part of everyday life (Chapter 2). Moreover, the experience in the West cannot be adopted and implemented without an in-depth understanding of the local social, economic, and environmental situations that correspond to people's needs. Another important finding is that the race to create modern architecture with a prime focus on building landmark towers has led to the deterioration of the spatial environment between the premises and neglect of the open public spaces needed for social life (Chapter 3, section 3.6). Another obvious finding is that community participation is an inherent and essential aspect of urban development, and should always be included in socially-planned projects. In order to prepare for effective community participation, as well as to ensure that professionals are open to receiving and incorporating inputs, capacity building may be required on both sides.

## **9.7 RECOMMENDATIONS**

This research proposes a new vision for the urban planning process in building sustainable, liveable spaces for people. The researcher's vision is based on a belief that communities cannot

be developed for short terms and finite periods. Over time, things change in any community. New groups of occupants move in, others remain, while others move out. Amenities and different forms of entertainment activities go in and out of fashion. The planning of public space and community squares must allow flexibility in responding to the evolution of the urban environment. It is unfortunate that majority of professionals and planning actors in the UAE such as architects, urban planners, traffic engineers often have a narrow definition of their responsibilities and their products are governed by poorly-developed urban planning regulations and policies which tend to focus on designing and creating landmark buildings and developing cities. By contrast, people in any community have a holistic vision that should lead the urban planning actors to implement that vision; this cannot be achieved without adding the component of people's participation into the new urban planning policy (Chapter 8).

From the above recommendations suggested by the researcher, a strategy for open public squares should be drafted by the urban planning sector decision-makers using professional partnerships to coordinate and maximise the potential of liveability in the new and existing public open squares as follows:

### **9.7.1 Recommended Urban Planning Strategy**

This research considers urban planning applications and recommended strategies for urban public squares in accordance with the following visions:

1) Modification of the urban planning frameworks should take place in order:

- To strengthen and identify urban planning practice, urban elements and distinctive features.
- To develop valid urban planning measures, such as urban development frameworks and local action plans.
- To reinforce the inclusion of urban design guidelines alongside quantitative planning regulations.
- To acknowledge both formal and informal urban transformations.
- To promote participatory methods for urban planning decision-making.

2) Formation of joint ventures and partnerships between different urban planning groups of actors in order:

- To achieve common aims and objectives.
- To empower communities and engaging citizen participation in the planning process.

- 3) Strengthening of citizen participation and involvement by analysing successful experiences of collective action of urban planning.
- 4) Establishment of a process by which communities without external control can take independent action.
- 5) Engaging the young generation in active participation and use their capability by taking advantage of their experience in information technology and virtual social networking.
- 6) In terms of the street network, focus on offering better walkability and means of communication for pedestrians and not only for vehicle movement.
- 7) Injection of new design criteria into urban regulations in relation to public open squares.
- 8) Allowance for various open, public square plots with different sizes in new urban areas, and ensuring that the needs of these plots are understood before imposing regulations on the entire districts of the city.
- 9) Improvement in the permit process, and accessibility to authorities by directly making site-specific, responsive, urban design recommendations.
- 10) Increase in infrastructure routes and services provision in the new urban areas.
- 11) Identification and research on the adverse social and environmental effects in future urban planning.
- 12) Maintenance of flexibility, adaptability and other design qualities in designing and managing open public places.
- 13) Identification of feelings, memories and attachments of users as a pre-requisite for informing design and management of place.
- 14) Identification, understanding of and respect for the membership of the various communities. Moreover, places should support trans-cultural social interaction.
- 15) Management of waste collection and protection of water from contamination and air pollution as they add environmental value.

16) Allowance for spatial-temporal connections for enhancing the continuity of cultural landscape.

17) Identification of and respect for cultural contributions to the use of public spaces, in relation to nature, social interaction, and communal organisation as they are necessary for understanding contemporary urban practices.

### **9.7.2 Recommended Urban Planning Policies**

At the local level, for the UAE UPC and related authorities, the researcher in this research suggests the drafting of a coherent policy for local urban planning which can be used the implementation of a national strategy for designing public open spaces (Chapter 8, Figure 8.4). The policy could be based on the findings of this research.

#### ***Policy 1: Ensure good quality urban design***

- Ensure the urban design of public open space provides good visualisation of how the open space would be enclosed, how much foot traffic could it bear, and can be understood by everyone.
- Provide spaces that take into account the volume of human traffic.
- Ensure both visual and physical accessibility.
- Provide a long-term maintenance plan for each public open space to ensure the upkeep of the standard of the space and its users' facilities.

#### ***Policy 2: Ensure availability of the provision of social needs***

Chapter 8, section 8.12 and Figure 8.5 highlighted many planning aspects that support the needs required to build social life, namely to:

- Involve all community and stakeholder groups in the local plan for public open squares.
- Provide for security and safety.
- Ensure the design is family friendly by catering for people of all ages, including people with disabilities.
- Provide design that respects the local social and moral values such as personal distance between men and women.

***Policy 3: Ensure that the provision of public open spaces considers the local climate***

- Use landscape-softening techniques such as the judicious placement of plants, trees and water features, and ensure the materials used reduce heat as much as possible.
- Design the layout to minimise the heat by creating small size spaces/ sub-spaces.
- Ensure that the seating areas provided in the spaces are well-shaded during the hottest hours of the day.
- Use trees to shade the walkways and cycling paths.

***Policy 4: Ensure the provision of public open spaces meet sustainable environmental requirements***

- Increase public awareness that health can be enhanced by walking and cycling (Chapter 8, Figure 8.5).
- Provide easily-accessible, safe, vehicle-free zones that encourage people to walk and cycle.
- Encourage walking and cycling by linking pedestrian networks and cycle paths within the public open space to the surrounding neighbourhoods and amenities.
- Provide a public transport system that supports public accessibility to the public squares but separates people within the open public space from the movement of vehicles and traffic.

In summary, Chapter 8 focussed on many urban planning attributes and new mechanisms that can be injected into the planning process to enhance the development of sustainable liveable communities that take into account the social life of the people (Figure 8.5).

***Policy 5: Ensure the public open space corresponds to the economic needs***

- Create public open spaces such as squares and plazas using a mixed urban fabric.
- Ensure that soft edges and leisure activities characterise the open space.
- Ensure that providers of food and refreshments in the public open squares maintain high-quality standards and meet health requirements (Chapter 5, Group 3 of Category A).
- Provide for the long-term management of public open squares by involving the local community.

### **9.7.3 Recommendations for Planners, Urban Designers and Policy Makers**

As revealed by this research, there is limited potential for success of any urban planning development that accommodates open public square without enacting new regulations and urban planning guidelines that protect the public's needs and rights to develop liveable public square in their communities. Thus, this research firmly recommends the introduction of such regulations in the UAE in conjunction with future urban planning projects. This is certainly specific to the UAE case but could also be essential for implementation in countries that have not yet experienced urban planning regulations.

The outcome of this research highlighted the significance of connecting residents and community inhabitants to public squares and the impact of such urban elements on social life and wellbeing. As a tool to address and accommodate any future social impacts on the urban planning process, it is recommended that public participation be encouraged in the preparation of the master plan of every large-scale project. Additionally, the research strongly recommends that a social involvement assessment should be mandatory exercise to be imposed on developers of properties and commissioned by the relevant urban planning sector. Its outcomes and results should be submitted with every urban planning project that seeks to obtain planning permission for new development.

In order to overcome the domination of developers' influence, the research recommends that design, control and management including ownership of the open public space should all fall under one formal planning body that substantially depends on public participation and consultation in matters such as the design, operation and management of public space.

Furthermore, this research highly recommends the introduction of an open public square approach in city planning and district zoning to maximise the benefits of the social liveability. However, in order to be able to properly implement the urban planning strategies and design guidelines on the new development, this research recommends imposing formal design criteria from decision makers on urban planners for regulating the city master plan that meets the public needs. When designing a neighbourhood, it is vital to maximise accessibility to the public square, particularly the visual and the physical accessibility, in order to increase the value of the liveability of that place. Overall this could in time rebuild the lost socio-cultural place that helps in rebuilding the city's identity through ideal planning approach rather than following adopted contemporary architectural solutions limited to building iconic landmarks. In order not to forget the existing open public spaces in the UAE, this research recommends improvement

of the physical and the setting of those spaces and enhancing the links between them and the adjacent urban and settlement areas through proper guidelines and land ownership reform. Additionally, this research recommends a planning strategy to integrate the newly-provided districts and communities with public squares.

This research nevertheless highlighted the difficulty of introducing any changes to the urban planning system such as the component of the public participation and involvement in the urban planning policy for developing new cities. In addition, the researcher identified the hurdles facing the decision-makers in restructuring the urban planning process that provides new guidelines to urban planners. This is also somehow a costly solution but could be essential in providing public open square to new communities in the future.

## **9.8 RECOMMENDATIONS FOR FUTURE STUDY**

This research focused on the study of the socio-spatial environment in relation to the importance of public squares in the UAE communities and cities in the context of contemporary urban growth. In the responses to the research questions, this study highlighted new areas for research in relation to liveable public squares and urban planning design practice in the context of the UAE. Further research and deeper probing about social needs and perceptions of the different types of public squares and open spaces are needed to allow detailed urban and social studies on why people in the UAE are desperately in need of public squares as part of their liveable space. The researcher stresses that future research topics and urban studies should include key urban planning actors such as developers, properties real estate agents, investors, landscape architects, architects and other related stakeholders. The idea behind engaging a large number of actors is mainly to obtain a broader recognition of who is involved in urban planning process and development. Furthermore, specific initiatives in the urban planning sector can be oriented to shorten the distance and strength the links between urban theory and practice, reducing the gap between urban planning decision-makers and other urban actors, implementing methods to enhance communication and connections between residents, urban design and planning actors, using quantitative and qualitative techniques for collecting and analysing urban data, and exploring the potential of collaborative and dialogical approaches for defining urban interventions and managing people' s living space.

A further essential consideration for future research is to include the participation of housing managers and community associations in collecting local residents' and community feedback on their living status and report this to the urban planning authorities for remedial planning.

One of the main questions the researcher raises for future research is: *Why are local residents not involved in developing new projects in their city? Or is citizen participation in the design and management of public open square difficult to establish in the UAE and other Middle Eastern cities?*

In general, future urban studies research should provide more insight into how public open squares function and how facilities can be provided to attract different users and enhance the living environment. By doing so, future research can contribute to understanding how important public open squares are to our cities. In addition, the role of private sector is important, since the successful development of public open squares cannot depend only on urban planning actors and regulatory decision-makers but also on investors and knowledge of consumer behaviour.

## **9.9 CONCLUDING STATEMENT**

Urban public squares are vital spatial elements of any city fabric and structure, which fundamentally shape wellbeing of communities and social life. Essentially, this comprehensive research provides the first study to evaluate the influence of urban design and planning process in providing liveable public squares in the UAE. The research findings highlight urban planning and spatial weaknesses and identify areas for improvement in order to develop liveability in the UAE communities and other Middle Eastern cities by injecting public squares into the urban fabric of those cities. As part of globalization and the consequent changes in the UAE different societies, a new urban planning approach of reinstating some traditional forms of public spaces and squares is taking place in some master plans, but this does not yet address the needs and satisfaction of people. However, deep understanding of community needs and their perceptions of their living spaces, which are part of their religion, social and cultural tradition factors are vital in developing successful public squares in Middle Eastern cities. In addition, it is essential to respect and consider the fundamental environmental, economic and social factors in providing public open squares in the Middle Eastern region. Such factors need to be carefully addressed at the different levels of the urban-planning system and to be supported by new design guidelines, urban policies and plans.

As a final thought and firm statement, the researcher's overall conclusion is vital to mention: in the processes of urban design and city planning, the place of people matters in designing, developing, and managing their living place. Place is part of people's behaviour and identity. This idea has to be disseminated in order to build awareness among people, professionals, and



officials in local communities, to foster change in current urban design practice and to generate contemporary scenarios of urban growth.

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## APPENDICES

### APPENDIX A: CONSENT FORM FOR USABILITY EXPERIMENTS

#### A Policy Framework for Developing Urban Public Squares to Enhance Sustainable Development of UAE

Heriot-Watt University

##### Consent to Act as a Subject in an Experimental Study

**Principal Investigator:** ISSAM EZZEDDINE / PhD Student no. H00138278

**Description:** The purpose of this research is to study A Policy Framework for Developing Urban Public Squares to Enhance Sustainable Development of UAE

There are minimal risks for you to participate in this study. All personal information will be kept confidential in a secure filing cabinet or in password-protected computer directories. Your participation will not affect how well you do in your courses (if you are an employee) or affect your relationship with your institution in any way.

You are free to decline to participate in this study. Should you decide to participate, you are free to end your participation at any time. Such a decision by you will not adversely affect or alter you status with the university in any way.

**Voluntary consent:** I certify that I have read the preceding and that I understand its contents. Any questions I have pertaining to the research have been and will be answered by the team. My signature below means that I have freely agreed to participate in this study, and that I agree to the publication of the results for scientific purposes and to the distribution of the recordings and transcripts of the sessions for research purposes so long as my identity is not revealed.

\_\_\_\_\_

Date

\_\_\_\_\_

Participant's Signature

**Investigator's certification:** I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature.

\_\_\_\_\_

Date

\_\_\_\_\_

Investigator Signature

## APPENDIX B: SURVEY QUESTIONS

<b>CATEGORY A - Group 1 - Residents and users of un-gated open urban residential communities</b>	
Q1: What is your gender?	Female Male
Q2: What is your age?	18 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65 to 74/ 75 or older
Q3: What is your Marital Status?	Single Married
Q4: How many children do you have?	0 1-2 3-4 5-6 7 or more
Q5 In which Emirate in UAE do you live?	
Q6: Which of the following applies to your residence type?	Live in dwelling unit (individual building) Live in dwelling unit (closed community with security) Live in a villa (individual location) Live in a villa (community type) Other (please specify)
Q7: How long have you lived in your community?	Less than 1 year 1 to 2 years 3 to 4 years More than 5 years
Q8: Overall, how do you rate your community as a place to live?	Very good Good Only Fair Poor Don't know
Q9: Overall, are you satisfied with this community as a place to live?	Extremely Satisfied Moderately Satisfied Slightly Satisfied Neither satisfied nor dissatisfied Slightly Dissatisfied Moderately Dissatisfied Extremely Dissatisfied
Q10: How likely are you to stay for a long period of time in your community? Rate from 1 to 5 as 1 very likely and 5 not likely at all	1 (Very likely) 2 3 4 5 (Not likely at all)
Q11: Which of the following best describes why you intend to move?	Want to be close to my work The residence unit is not convenient place for my family members The community lacks proper open spaces and outdoor family area Just want to move to better community The community lacks family social life and interaction of residents
Q12: How fair is the rental for your accommodation?	Extremely fair Very fair Moderately fair Slightly fair Not at all fair
Q13: How likely is it that you would recommend this community to a friend or colleague?	Very likely Somewhat likely Neutral Somewhat

<b>CATEGORY A - Group 1 - Residents and users of un-gated open urban residential communities</b>	
	Unlikely Very unlikely
Q14: If you wouldn't recommend this community/residence type to a friend or colleague, indicate the degree of the following reasons:	Lacking parking area Unsafe and lacks security Lacking families gathering areas Lacking *-open spaces/children areas No interaction with neighbours and other residents. Lacking entertainment facilities The high rent value Lacking retail and food & beverage outlets
Q15: How positive are your interactions with residents in your living community?	Extremely positive Very positive Moderately positive Slightly positive Not at all positive
Q16: How often do you participate in activities in your residence community?	Extremely often Very often Moderately often Slightly often Not at all often
Q17: On a typical day, about how many hours do you /or your family spend time outside your accommodation premises?	0-1 hour 2-3 hours 4-5 hours 6-7 hours More than 7 hours
Q18: In a typical week, how likely are you to interact socially in your community?	Extremely likely Likely Neutral Less likely Not at all Likely
Q19: In a typical week, which of the following social activities spaces do you/your family use most often? (Check most 2 important boxes)	Fitness centre Swimming pool Community square Plaza Courtyard Playground area Dining outlets Social activities spaces if available Other (please specify)
Q20: On a typical weekend/ holiday, which of the following areas do you/ your family visit most often?	Community outdoor facilities Children's play area Community centre Fitness centre Swimming pool Shopping mall Other (please specify)
Q21: About how many family friends do you currently socialise with within your community?	0-1 Family 2-4 Families 5-7 Families More than 7 families
Q22: If you /or your family could use only one of the following social places in your community which one would you use?	The main entrance lobby Fitness centre Community square/ plaza /courtyard Children's play area The coffee shop My residence unit
Q23: I would like to get your opinion about how safe you feel living in this community? Do you feel...	Very safe Safe Unsafe

<b>CATEGORY A - Group 1 - Residents and users of un-gated open urban residential communities</b>	
	Very unsafe Unsure
Q24: Using 1 to 5 scale where 1 means you feel very unsafe and 5 means very safe, how do you feel in your residence community during the daylight hours and at night (write in rating 1 to 5)	Inside your residential unit Inside your building At parking area In retail shopping area Community Centre In courtyard/plaza/ square Outdoor landscaping area Fitness Centre Health Club
Q25: Overall, how much confidence do you have in the security performance at your community? Would you say you have...?	Very effective Somewhat effective Not effective Don't know A lot of confidence Some confidence Neutral Less confidence No confidence
Q26: Has anything happened to you or a member of your household within the last year that required police or security assistance?	Yes No Unsure Don't know
Q27: How satisfied are you with the professionalism of your community security team /department?	Very satisfied Satisfied Neutral Very dissatisfied
Q28: Roughly, how often do you see accidents/unsafe activities in your community.	Everyday Once a week Once a month 1-3 times a year More than 4 times a year Never
Q29: Which of the following best describes the status of your current accommodation unit within your community?	It has view to open space It overlooks to adjacent building The location of my unit is most accessible to open space/playground It lacks connection to entertainment facilities It lacks proper natural lighting and ventilation
Q30: Here are some ideas to improve the community/neighbourhood planning that collected from variety of residents and business owners. What do you think?	Isolate parking areas zone Need better security assistance Need outdoor recreation facilities Create a public urban square Plaza Need more F&B outlets Need a library zone
Q31: To what extent do you agree or disagree with following statements?	My family and I are happy with the facilities of our community. My community residents are interacting with each other. My community outdoor space is good place for families to socialise.



<b>CATEGORY A - Group 1 - Residents and users of un-gated open urban residential communities</b>	
Q32: How satisfied are you with each of the following Aspects of your living community?	Entertainment facilities play areas Interaction with neighbors and community users Retail facilities Public urban square or plaza (if any) Greenery & landscaping Parking areas General quality of community Rent / or property value
Q33: Rank in order of importance, what is the most important thing your family look for in your community category?	Rent Property Value Quality Recreation facilities Open space Plaza Square Retail F&B facilities Social life interaction/gathering area Children Play areas
Q34: What influenced you to live in your community?	Rent value Safety & Security Entertainment facilities Outdoor spaces Square Plaza Quality of facilities Recommendation by family or friends It was a random decision Children play areas Close to work
Q35: How does your community compare with other communities in terms of facilities and social activities? Rate from 1 to 5 as 1 for much better and 5 for not good at all.	1(Much better) 2 3 4 5 (Not good at all)
Q36: Now I'm going to read some statements. For each, please tell me whether you strongly agree, or strongly disagree with each statement:	People in my community interact with each other positively. My community is a safe place to live. My community has a good selection of stores and services that meet my needs. My community environment is clean and easily walkable. All family entertainment facilities are adequate.
Q37: Please tell me how would you rate each of the following characteristics of your community?	Outdoor open spaces /plaza Entertainment facilities Food and beverage outlets Social activity square (if any) Children play areas (if any) Health & fitness facilities Parking areas
Q38: How satisfied are you with the facilities in your community?	Parking area Entertainment facilities/activities Greenery and landscaping Gathering plaza/square (if any) Food & beverage shops
Q39: This set of questions is designed to measure the effectiveness of your community facilities. Please rate the level of quality in each area.	The community operator performance The entertainment facilities The outdoor spaces The hard and soft-scape The parking facilities/area Children play area

<b>CATEGORY A - Group 1 - Residents and users of un-gated open urban residential communities</b>	
	Community square/plaza (if any)
Q40: How well, if at all, does the word “innovative” describe your community?	Extremely well Well Neutral Less well Not at all well
Q41: How well, if at all, does the word “well planned” describe your community master plan?	Extremely well Well Neutral Not well Not at all well
Q42: When you think about new community facilities, do you think of it as something people might NEED or as something people might prefer to have?	Need Prefer to have Both equally
Q43: When you are considering new facilities in this community, what are the top two things you generally consider?	Children play area Community plaza / square Fitness centre Community centre Food & beverage facilities Other (please specify)
Q44: In your opinion, what changes would the developers /authorities have to make for your community to give it a higher quality?	Create communities with secured boundaries Parking areas to be underground Build central square/plaza within the community to accommodate all above Create more safe family areas for entertainment Increase food & beverage outlets
Q45: Looking at the Charrette diagram, if you were given the choice of a community structure, what would be your preferred option?	Option 1 Option 2 Option 3 Option 4
Q46: Indicate the main reason for selecting your preferred option.	More privacy Better open space The outdoor space is convenient for social gathering Better view Feel more safe Good children and family spaces Other (please specify)
Q47: How important do you think government should develop better livable communities in UAE?	Extremely likely Very likely Somewhat likely Not so likely Not at all likely
Q48: How important do you think is this research for future communities?	Extremely important Very important Moderately important Slightly important Not at all important

<b>CATEGORY A - Group-2: Residents and Users of Gated Community with Urban Square</b>	
Q1: What is your gender?	Female Male
Q2: What is your Marital Status?	Single Married
Q3: How many children do you have?	0 1-2 3-4 5-6 7 or more
Q4: Where did you previously live?	Dwelling unit in an individual building Villas compounds Individual villa Other
Q5: About how long have you lived in your community?	Less than 2 years 2-4 years 4-7 years Above 7 years
Q6: Have you previously lived in a community with Square/ Plaza?	Yes No Not sure
Q7: How important do you think having a Square/ Plaza within your community?	Extremely important Very important Moderately important Slightly important Not at all important
Q8: Do you feel the Square/ Plaza enhances your social living conditions?	Yes No Not sure
Q9: To what extent do you agree or disagree that urban square is needed for our community?	Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
Q10: Would you like to keep living in your current community?	Yes No Not sure
Q11: How do you consider the square within the community? Is it a place that.....	Highly needed Somewhat needed Neutral Not so important to consider
Q12: How positive to you/ your family to live in a community with square/ plaza?	Extremely Positive Moderately positive Neutral Not at all positive
Q13: What do you like best about the square?	Architecture elements Greenery and landscaping Gathering atmosphere Easy walkable space Welcoming to everyone Shops and outlets Place to dine Entertainment place
Q14: How many of your neighbours / families do you know in your community?	None of them 1-3 families 4-6 families 7-9 families 10 and more families
Q15: How comfortable are you living with your neighbours?	Extremely comfortable Very comfortable Moderately comfortable Slightly comfortable Not at all comfortable
Q16: How often do you spend time with your neighbours within your community?	Not at all Once a week

<b>CATEGORY A - Group-2: Residents and Users of Gated Community with Urban Square</b>	
	2-3 times a week 4-5 times a week Often, 6+ times a week
Q17: Where within your community you regularly meet and interact with your neighbours?	Inside my apartment Fitness centre The community square/ plaza The children's zone The food and beverage outlets The community centre Other
Q18: How would you rate the social interaction between your family members and other neighbours?	Excellent Very good Good Fair Poor
Q19: Overall, are you satisfied, dissatisfied, or neither satisfied nor dissatisfied with the appearance of your community square?	Extremely satisfied Very satisfied Somewhat satisfied Neither satisfied nor dissatisfied Somewhat dissatisfied Very dissatisfied Extremely dissatisfied
Q20: What is the rate of your satisfaction percentage with facilities in your community residence place?	Parking area Entertainment facilities / activities Greenery and landscaping Gathering plaza/square Children play area/ zone Food & beverage shops Walkable zones
Q21: Overall, are you satisfied, if at all, with the appearance of your community square/ plaza?	Extremely satisfied Very satisfied Somewhat satisfied Somewhat dissatisfied Very dissatisfied Extremely dissatisfied
Q22: Overall, how satisfied are you with the level of comfort at the square/ plaza?	Extremely satisfied Very satisfied Somewhat satisfied Somewhat dissatisfied Very dissatisfied Extremely dissatisfied
Q23: To what extent is it that you would recommend this community to a friend or colleague?	Strongly recommend Not Recommended Neither Recommend nor not recommend Recommend Strongly not recommended
Q24: On a scale from 1 (Not at all Important) to 7 (extremely Important), Please rate how important to you to consider the items below within your community?	Shaded parking areas Greenery and landscaping Community square/ plaza as a gathering place Community entertainment activities Health club/ Fitness centre Food and beverage outlets Children's zone All above in one zone
Q25: If you were to recommend to your friends/ relatives a community to live in, what would be your preferred option (on the Charrette chart)?	Option 1 Option 2 Option 3 Option 4

<b>CATEGORY A - Group 3 - Retailers and Shopkeepers</b>	
Q1: About how long have you been in this business?	Years Months
Q3: Do you rent or own your store?	Own Rent Neither (please specify)
Q4: In a typical day, what are your hours operation?	Hours
Q5: If you were given the choice, where do you most prefer to open a business branch?	In Individual Dwelling units building In Villas Compound In Residential Community / group of buildings In Residential Compound with Square/ Plaza Other (please specify)
Q6: What would make your business more successful in your area?	Adequate parking Storefront improvement Location of Store within the community More security Customers easy access to store Other Other (please specify)
Q7: Where do most of your customers live?	Same community Same neighbourhood Outside neighbourhood Other
Q8: What is the biggest challenge of running a business in your area?	Not enough customers? Not enough parking? Not enough business? Too much competition? No challenges at all
Q9: Where do you most anticipate making a higher profit in your trade?	Residential community Commercial sector Community with family gathering square Industrial area Other Other (please specify)
Q10: Indicate the most two important reasons, why you find community with a Square/ Plaza is a good place to run your business in?	The square is a safe place. The square is a place to attract customer. The square is a place for families gathering. The square is a place for residents to meet. The square is a place for entertainment. Other (specify)
Q11: How profitable is your business in a community with a square compared to other branches?	Extremely higher profit than other branches Moderately profitable Same profit Less profitable
Q12: What is your first reaction to have a business branch in a residential community?	Very positive Somewhat positive Neutral Somewhat negative Very negative
Q13: Have you ever opened any branch of your business in a community with Square/ Plaza?	Yes, I have No, I have not
Q14: How would you describe security in your business area?	Poor Fair Good Excellent
Q15: Indicate which type of community you feel will give you higher degree of success/ profit if you open a business branch in?	Offices and Business Community Residential and Families Community Both Equal Other (please specify)
Q16: How often do your customers come in?	Daily 2-3 times a week

<b>CATEGORY A - Group 3 - Retailers and Shopkeepers</b>	
	2-3 times a month Once a month
Q17: Overall, how satisfied are you with the location of your business?	Extremely satisfied Very satisfied Somewhat satisfied Somewhat dissatisfied Very dissatisfied Extremely dissatisfied
Q18: How competitive is the market for your target customer?	Extremely competitive Very competitive Moderately competitive Slightly competitive Not at all competitive
Q19: Please rate your interest in opening a business branch in a residential community.	Very interested Somewhat interested Neutral
Q20: If you were given the choice to open a business in a community, what would be your preferred option (on the Charrette chart)?	Option 1 Option 2 Option 3 Option 4

<b>CATEGORY B - Group 4: Questionnaires for Architects, Urban Planners and Landscape Architects</b>	
Q1: What is your gender?	Female Male
Q2: Which of the following best describes your current job description?	Principal architect Senior architect Project architect Junior architect Principal urban planner Senior urban planner Junior urban planner Other (please specify)
Q3: How many years' experience have you completed?	1-3 years 4-6 years 7-10 years 11-15 years 16-20 years More than 20 years
Q4: How many years of experience you had in UAE?	1-3 years 4-6 years 7-10 years 11-15 years 16-20 years More than 20 years
Q5: Have you been involved in designing/developing a residential community?	Extremely involved Involved Less involved Not at all
Q6: In terms of design, about how many residential communities have you been involved in?	0-2 community 3-5 community 6-10 community 11-15 community More than 15 community
Q7: Overall, how satisfied are you with the urban planning of UAE communities / cities?	Extremely satisfied Satisfied Less satisfied Less dissatisfied Dissatisfied

<b>CATEGORY B - Group 4: Questionnaires for Architects, Urban Planners and Landscape Architects</b>	
	Extremely dissatisfied
Q8: How well, if at all does the word "WELL PLANNED" describe the urban planning of UAE residential communities?	Extremely well Very well Moderately well Slightly well Not at all well
Q9: In general, how do you describe the social environment of the existing communities in UAE?	Pleasant Boring Dismal Normal Unsafe Missing social life Other (please specify)
Q10: In general, how would you rate each of the following characteristics of most of UAE residential Communities?	The setting of buildings within the community plot Parking area and its connection to the dwelling units Greenery and landscaping Outdoor gathering area/ square/ plaza (if any) Social activities and family interaction Food and beverage/ retail/ outlets Proper natural lighting inside dwelling units Security and safety Traffic and roads network
Q11: In your opinion, what are the two (2) most missing urban elements in the existing communities of UAE?	Family gathering space Landscaping and greenery Community square/ plaza Community centre Retail/ food & beverage outlets Other (please specify)
Q12: Below statements, please indicate whether you strongly agree, agree, disagree, or strongly disagree with each statement:	Existing residential communities in UAE are safe and secure. Families entertainment facilities are adequate. New communities require gathering square/ plaza for people to socialise in Existing residential communities lack outdoor liveable areas/ interaction places Square/ plaza is a vital urban element that architects / urban planners are to consider Urban planning codes/ regulations require to be updated to comply with peoples' needs
Q13: In your opinion, indicate how much percentage you think needed for a new Residential Communities in UAE?	Security and safety Greenery and landscaping Parking area segregation from children play area Families entertainment zone Retail and outlet facilities Community Square to accommodate all above
Q14: If you were given the choice to design a community for a client, what would be your preferred option (on the Charrette chart)?	Option 1 Option 2 Option 3 Option 4
Q15: Would you describe the reason of choosing your preferred option of question # 14?	Open-ended
Q16: How important do you think that square/ plaza is vital urban element for future communities in UAE?	Extremely important Important Less important Not at all
Q17: In your opinion, how significant this research is, for UAE future developed communities?	Extremely important important Less important Not at all

<b>CATEGORY B - Group 5–Developers</b>	
Q1: What is the name of your Firm / Agent?	
Q2: How long have you been a property developer?	Years Months
Q3: How many employees does your organisation have?	10 - 20 employees 21-50 employees 51 75 employees 76 - 100 employees More than 100 employees
Q4: How many residential communities have you developed in UAE?	1-2 communities 3-5 communities 6-10 communities 10-15 communities More than 15 communities
Q5: Please rate your satisfaction with your developed properties?	Very satisfied Satisfied Less satisfied Less dissatisfied Dissatisfied Very dissatisfied
Q6: How competitive is the market for your target customer?	Extremely competitive Very competitive Moderately competitive Slightly competitive Not at all competitive
Q7: In your opinion, how convenient are the outdoor social spaces in the new developed communities?	Extremely convenient Very convenient Moderately convenient Slightly convenient Not at all convenient
Q8: Now, here below some statements. For each, please tell me whether you strongly agree, or strongly disagree with each statement:	Community residents need more /or better outdoor family area within their communities Safety and security are priority need to residents Communities in UAE lack outdoor social life and family interaction within same community Retail and food & beverage outlets are required within the community premises to serve the residents The urban planning of UAE communities should comply with residents' needs rather than developers' needs The urban planning codes and regulations for communities/ Cities must be updated to comply with people needs Architects and urban planners must consider in their master plan an outdoor zone for social gathering environment
Q9: In your opinion, what would make the residential community a place of life to people / residents?	Children play area Gathering square/ plaza Food and beverage outlets Entertainment facilities/ activities All above in one area
Q10: How likely is that you conduct "Community consultation " before the design stage of your new developed community?	1 (Not at all likely) 2 3 4 5 6 7 8 9 10 (Extremely likely)
Q11: How safe do you feel are the communities in UAE?	Extremely safe Very safe Somewhat safe Slightly safe



	Not at all safe
Q12: Indicate the three (3) most problems, if any in UAE developed residential communities?	Lack of social life. Lack of family gathering spaces Proper entertainment facilities Quality Maintenance Poor greenery and landscaping Lack of place for events Lack of security and safety Conditions of buildings Other (please specify)
Q13: To what extent do you agree or disagree with the following statements?	The community new planning should include a square/ plaza for families gathering The existing UAE communities/ cities lack social life and family interaction Residents, usually socialise, shop and entertain outside their communities, due to the lack of proper urban planning for those communities Urban planning authorities must reconsider updated urban design approach for new communities. Architects and urban planners must consider urban square/ plaza within the community master plan Successful residential community is the one which satisfy residents/ users more than developer
Q14: In your opinion, which of the following communities best represent the liveable place in meeting residents/ users' needs? select the best three (3) communities	Dubai Marina Masdar City in Abudhabi Jumeirah Lake towers- JLT Business bay in Dubai Downtown- Burj Khalifa Sama AL Jaddaf Dubai Silicon Oasis Uptown Mirdif International City The Gardens The Greens
Q15: If, as a developer you decided to design and develop a new residential community, what would be your priority rate to consider?	The parking lots and driveways should be separate from the residents' walkable areas Create a central Square/ Plaza for residents/ users Retail shops, food and beverage outlets are to overlook gathering zone Enhance security and safety Sustainability approach is the key factor for community design Provide entertainment facilities to create interaction environment between residents/ users
Q16 If you were given the choice to develop a community to your client, what would be your preferred option on the Charrette chart?	Option 1 Option 2 Option 3 Option 4
Q17: How likely is it that you recommend to share different stakeholders' opinions in community/ city planning??	Very likely Somewhat likely Neutral Somewhat unlikely Very unlikely
Q18: How strongly do you agree with the following statements?	The community urban planning should be based on developer objectives The community urban planning should be based on people s' needs The community urban planning should be based on authorities' requirements/ regulations

	<p>The community urban planning should be based on real estate demands</p> <p>The community urban planning should be based of urban planner and architect s' creativity.</p>
<b>CATEGORY B - Group 6 - Real Estate Agents</b>	
Q1: How long have you been a real estate agent in UAE?	<p>Less than 6 months</p> <p>6 months to less than 2 years</p> <p>3-6 years</p> <p>7 years and more</p>
Q2: Who are your target customers?	<p>Individual</p> <p>Companies</p> <p>Developers</p> <p>Authorities</p> <p>Mix of all</p> <p>Other (please specify)</p>
Q3: How involved have you been in marketing residential community properties?	<p>Not at all involved</p> <p>A little involved</p> <p>Somewhat involved</p> <p>Quite involved</p> <p>Extremely involved</p>
Q4: Overall, how satisfied are you with the urban planning of UAE communities?	<p>Extremely satisfied</p> <p>Very satisfied</p> <p>Somewhat satisfied</p> <p>Somewhat dissatisfied</p> <p>Very dissatisfied</p> <p>Extremely dissatisfied</p>
Q5: In your opinion, rate the changes that the developers /authorities would make to improve the liveable atmosphere for residential communities?	<p>Create communities with secured boundaries</p> <p>Isolate parking areas from resident s' social areas</p> <p>Add more outdoor seating and relaxing zones</p> <p>Create more entertainment areas</p> <p>Increase food &amp; beverage outlets</p> <p>Build a community square/ plaza to accommodate all above</p>
Q6: In your opinion, which type of community you would consider at high demand?	<p>High rise buildings</p> <p>Mid-rise buildings</p> <p>Villas compound/ townhouses</p> <p>Community with central square/ plaza for family activities</p> <p>Community with entertainment facilities</p> <p>Other (please specify)</p>
Q7: To what extent do you agree or disagree with following statement?	<p>The residential communities in UAE lack family entertainment facilities</p> <p>Community residents do not interact with each other</p> <p>Communities lack outdoor spaces for social activities</p> <p>building square/ plaza within the communities will have positive impact on social life.</p> <p>The authorities must build policies to develop public urban square, as part of the new cities master planning</p>
Q8: What recommendations would you make to architects/ urban planners to improve when designing new communities?	<p>Provide family gathering place in the community.</p> <p>Create large space for children to play.</p> <p>Allow security system</p> <p>Allow plaza or square for gathering</p> <p>Green areas and landscaping to be considered.</p> <p>Isolate parking area from outdoor children space.</p> <p>Retail arears and outlets to be part of community centre or gathering place</p>
Q9: To what extent would you recommend to architects and urban planners to integrate a square/ plaza in their new community planning?	<p>Highly recommended</p> <p>Moderately recommended</p> <p>Not so important</p>

	Not at all recommended
Q10: How competitive is the market for your typical client / customer?	Extremely competitive Very competitive Moderately competitive Slightly competitive Not at all competitive
Q11: In your opinion, what are the most missing urban elements in the existing communities of UAE?	Families gathering space Landscaping and greenery Community square/ plaza Community centre Safety and security Other (please specify)
Q12: If you were given the choice to recommend to your clients a community to live in, what would be your preferred option on the Charrette chart?	Option 1 Option 2 Option 3 Option 4
<b>CATEGORY C -Group 7: Community Survey Questionnaires. Questions to Police Officers/ Security Representatives</b>	
Q1: What is your age?	18 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65 to 74 75 or older
Q2: What is your profession ranking	Police Officer Senior Police Officer Guard House Man Security Inspector Watchman
Q3: How long have you been serving your profession in this community?	Less than 6 months At least 6 months but less than 1 year At least 1 year but less than 3 years At least 3 years but less than 5 years 5 years or more
Q4: In what type of community less security is required?	City or urban community Suburban community Rural community Gated community with square Villas compound Other (please specify)
Q5: To what extent do you agree that police and security agent must share opinions with decision makers in developing communities?	Strongly agree Agree Neutral Disagree Strongly disagree
Q6: In your opinion, how safe do people feel in their secured communities?	Extremely safe Very safe Moderately safe Slightly safe Not at all safe
Q7: If you were given the choice to select the safest and most-secure residential community model, which option of the layouts on the Charrette chart would you select?	Option 1 Option 2 Option 3 Option 4
Q8: Would you describe the reason of choosing your preferred option of Q7?	The central square is a nice place The square is a nice place for children The plaza is good place to socialise Nice area for lighting and community privacy

Q9: Would you rate the degree of security and safety for the above type of community options?	Option 1 Option 2 Option 3 Option 4
Q10: Which option of the above you expect less need for security monitoring and CCTV cameras?	Option 1 Option 2 Option 3 Option 4
Q11: Police and security officers' responses to how they feel about the communities they serve.	Gated community is highly needed by residents and users. Residents have more confidence when their community is secured. Community without open spaces may increase crime, accidents and theft cases. People need more outdoor spaces for families gathering and entertainment. New urban communities require better outdoor environment for people to socialise. Urban square within the community is vital multifunction outdoor space for residents and users. Central gathering and entertainment space within the community leads to less security monitoring. Community parking area and vehicle driveways are to be segregated from gathering spaces and square. The community occupants and users are usually satisfied with the central square. The community square will add more value to the social environment.
Q12: What is the ratio of accidents in community with square comparative with other urban communities?	Extremely high ratio High ratio Normal Low ratio Extremely small ratio
Q13: To what extent do you agree that the Community Square in UAE should be part of the urban planning policy?	Strongly agree Agree Neutral Disagree Not at all
Q14: To what extent do you think that residents enjoy living in a community with square?	Not at all A little bit Somewhat Quite a bit A tremendous amount
Q15: To what extent do you think that community with urban square can be easily secured and monitored?	Very easy to control Easy to control Normal control Less easy to control Difficult to control
<b>CATEGORY C -Group 8 Community Survey Questionnaires-Officials and Decision Makers</b>	
Q1: Interviewee / respondent gender	Female Male
Q2: What authority/ organisation you work for?	Abu Dhabi Municipality- Planning Department Dubai Municipality- Planning Department Dubai Municipality- Buildings Permit department TECOM TARAKHEES Nakheel Engineering department Jafza EMAAR Sharjah Municipality- Planning Department Dubai Silicon Oasis- DSO Authority

	<p>RERA-Real estate regulatory agency  Dubai Civil Aviation  Dubai Civil Defense  Dubai Multi commodities Center-DMCC  Dubai Properties  Nshama  DEWA-Dubai Electricity and water Authority  SEWA- Sharjah Electricity and water Authority</p>
Q3: How long have you worked at your authority/ organisation?	<p>Less than 6 months  6 months - 1 year  1 - 3 years  More than 3 years</p>
Q4: Which of the following applies to your employment position?	<p>Junior  Senior  Principal  Manager  Head of department  Other (please specify)</p>
Q5: Which of the following applies to your educational background?	<p>Architect  Urban planner  Civil engineer  Mechanical engineer  Electrical engineer  Investment/ marketing  Real estate  Finance  Other (please specify)</p>
Q6: What is your role in the urban development process?	<p>Involved in urban planning data collection  Involved in coordination with architects, urban planners and consultants  Involved in master urban planning statistics  Member of master planning committee  Member of decision-making committee  Other (please specify)</p>
Q7: Overall, how satisfied are you with urban planning of UAE communities/ Cities?	<p>Extremely satisfied  Very satisfied  Moderately satisfied  Slightly satisfied  Not at all satisfied</p>
Q8: Overall, how would you rate the following issues when a community master plan is designed / developed?	<p>Are you aware of urban growth impact?  Are you aware of environmental and social impact?  Are you aware of urban design qualities, urban morphology and spatial typology?  Are you aware of potential users, and users' responses to design?  Are you aware of cultural characteristics of the place?  Are you aware of community users' needs?  Are you aware of safety and security to community?  Are you aware of urban landscape and open spaces?  Are you aware of sense of place and social interaction of users?  Are you aware of sustainability aspects?</p>
Q9: Overall, to what extent do you agree /or disagree on the following urban planning aspects?	<p>Community urban development should deal with environmental, social and economic issues.  Opinions and feedback from community residents and users are to be shared with urban planners during the different design stages.  Open spaces, squares and plazas are vital urban elements to add to community master plan.</p>

	<p>Existing communities and neighbourhoods lack proper open spaces and squares for people to socialise and gather.</p> <p>Design policies and guidelines of urban growth must support community - based actions and behaviours.</p> <p>Squares and liveable spaces are neglected in UAE new mixed-use communities' urban development.</p> <p>Urban Planning authority bodies/ departments involve community users' needs in providing squares and liveable open spaces.</p>
<p>Q10: How likely are you to recommend a change to the urban planning regulations/ criteria?</p>	<p>Extremely likely  Very likely  Moderately likely  Slightly likely  Not at all likely</p>
<p>Q11: If you were given the choice to review and permit a community master plan what would be your preferred option on the Charrette chart?</p>	<p>Option 1  Option 2  Option 3  Option 4</p>

## APPENDIX C: SEMI-STRUCTURED INTERVIEW INFORMED CONSENT



Informed consent

### **A Policy Framework for Developing Urban Public Squares to Enhance Sustainable Development of UAE**

Information sheet for participants:

I am an architect and urban planner with more than 34 years of experience in the Middle East, and would like to invite you to participate in a research about **A Policy Framework for Developing Urban Public Squares to Enhance Sustainable Development of UAE**. This research will be conducted by me as doctoral student in the School of Energy, Geoscience, Infrastructure and Society (EGIS), Heriot-Watt University. The outcomes of the study will contribute to my dissertation, in partial fulfillment of a doctorate in public open squares. My question is how can planning and urban design policies be formulated to develop urban public squares that are responsive to residents and users in the new sustainable UAE cities and Dubai? My intention in this research is to investigate the squares and plazas in UAE specifically the Uptown Mirdiff Community in Dubai (UPMD) and the Dubai Marina The Walk Plaza (DMW), considering that the two public squares are the only existing, active, open public spaces.

The result of this study will be a great contribution to scientific knowledge for enhancing UAE public open spaces, but will probably have no direct benefits or risks to you as a participant. The study will also develop practical policy recommendations, which could influence future planning and urban design practice in UAE and other MENA countries. The experiences summarised from the West, Middle and East and UAE will make important contributions to planning and urban design in providing liveable and enjoyable public open spaces in UAE and other developing Arab countries.

As a researcher, I intend through this interview to explore your personal view on open public spaces such as squares and plazas in UAE. Your participation in this study is voluntary. Also, participant may discontinue at any time during the assessment or prior to the research completion. The entire interview will take about 30 to 45 minutes to complete. All data collected or information you provide through the interview will be kept strictly private and confidential and will be solely used for the purposes of the study. Also, participants may discontinue at any time during the assessment or prior to the research completion. Participants will be anonymous and coded using numbers or pseudonyms when referred to in reporting and analysing the data. Your participation will help to enrich my research and I will be glad to share with you the research results, if you are interested.

Yours sincerely,  
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## APPENDIX D: SEMI-STRUCTURED INTERVIEW QUESTIONS

**Note: Options 1, 2, 3 and 4 refer to the Charrette Tool (Figure 5.13)**

### **Residents and users of un-gated and gated open urban residential communities**

1. \* Gender- \* Age- \* Place of Origin - \* Time of residence
2. How long have you lived in your community? Less than 1 year\* 1-2 years\* 3-4 years\* more than 5 years\*
8. Overall, how do you rate your community as a place to live? Very good\* Good\* Only Fair\* Poor\* Don't Know\*
9. Overall, are you satisfied with this community as a place to live?
10. How likely are you to stay more in your community? Rate from 1 to 5 as 1 very likely and 5 not likely at all.
11. How fair is the rental for your accommodation?
12. How positive are your interactions with residents in your living community?
13. How likely is it that you would recommend this community to a friend or colleague?
14. If you wouldn't recommend this community/residence type to a friend or colleague, indicate the degree for each of the following reasons: Lacking parking area; Unsafe and lacks security; Lacking family gathering areas; Lacking open spaces/children's areas; No interaction with neighbourhood and other residents; Lacking entertainment facilities; The high rent value; Lacking retail and food & beverage outlets
15. How often do you participate in activities in your residence community?
16. How safe do you feel living in this community?
17. How safe do you feel in your residence community during the daylight hours and at night?
18. Overall, how much confidence do you have in the security measures at your community?
19. Overall, how much confidence do you have in the security performance at your community?
20. Has anything happened to you or a member of your household within the last year that required police or security assistance?
21. How satisfied are you with the professionalism of your community security team /department?
22. Here are some ideas to improve the community/neighbourhood planning that collected from variety of residents and business owners. What do you think?
23. Roughly, how often do you see accidents/unsafe activities in your community?
24. To what extent do you agree or disagree with following statements? My community outdoors space is a good place for families to socialise; My community residents interact with each other; Myself/my family are happy with the facilities of our community.
25. On a typical day, about how many hours do you /or your family spend outside your accommodation premises? 0-1 hour; 2-3 hours; 4-5 hours; 6-7 hours; more than 7 hours
26. How satisfied are you with each of the following aspects of your living community? rent or property value; general quality of community; parking areas; greenery and landscaping; public urban square or plaza (if any); retail facilities; interaction with neighbours and community users; entertainment facilities/ play areas
27. Rank in order of importance, what is the most important thing your family look for in your community category? rent or property value; quality; parking areas; recreation facilities children's play areas open space/ plaza area; retail/ F&B facilities; social life interaction
28. What influenced you to live in your community? outdoor spaces/ square/ plaza; children's play areas; recommendations by family or friends; random decision; quality of facilities; closeness to work; rent value; entertainment facilities; safety and security



29. How does your community compare with other communities in terms of facilities and social activities? Rate from 1 to 5 as 1 for much better and 5 for not good at all.
30. In a typical week, how likely are you to interact socially in your community? Extremely likely to not likely at all
31. In a typical week, which of the following social activities spaces do you/your family use most often? (Check most 2 important boxes) social activities spaces not available; dining outlets; playground area; community square/ plaza/ courtyard; fitness centre; swimming pool; other
32. On a typical weekend/ holiday day, which of the following areas do you/ your family use most often? Please select the two most important areas. community outdoor facilities; community square/ plaza; community centre; children's play area; fitness centre; swimming pool; shopping mall; other
33. About how many family friends do you currently socialise with within your community? 0-1; 2-4; 5-7; more than 7
34. If you /or your family could use only one of the following social places in your community which one would you use? The Main entrance lobby; Fitness centre; Community square/ plaza /courtyard; Children play area; The coffee shop; My residence unit
35. How well, if at all, does the word "INNOVATIVE" describe your community? Extremely well-not at all well
36. How well, if at all, does the word "WELL PLANNED" describe your community master plan? Extremely well-not at all well
37. When you think about new community facilities, do you think of it as something people might NEED or as something people might prefer to have? Need; prefer; both equally
38. When you are considering new facilities in this community, what are the top two things you generally consider? children's play area; community plaza/ square; fitness centre; community centre; food and beverage facilities
39. In your opinion, what changes would the developers /authorities have to make for your community to give it a higher quality? create communities with secured boundaries; parking areas to be underground; build central square/ plaza within the community to accommodate all the above; create more safe family areas for entertainment; increase food and beverage outlets
40. For each statement, please indicate whether you strongly agree, or strongly disagree with each statement: people in my community interact with each other positively; my community is a safe place to live in; my community has a good selection of stores and services that meet my needs; my community environment is clean and easily walkable; all family entertainment facilities are adequate
41. Which of the following best describes the status of your current accommodation unit within your community? It lacks proper natural lighting and ventilation; it lacks connection to entertainment facilities; The location of my unit is not accessible to open space/ playground; it overlooks adjacent buildings; it has view to open space
42. Which of the following best describes why you might move? The community lacks family social life and interaction of residents; just want to move to better community; the community lacks proper open spaces and outdoor family area; the residence not a convenient place for my family members; want to be close to my work
43. How would you rate each of the following characteristics of your community? Parking areas; health and fitness facilities; children's play areas (if any); social activity square (if any); food and beverage outlets; entertainment facilities; outdoor open spaces/ plaza
44. How satisfied are you with the facilities in your community? Gathering plaza/square (if any); food and beverage shops; greenery and landscaping; entertainment facilities/ activities; parking areas

45. Looking at the Charrette diagram, if you were given the choice to live in a community, what would be your preferred option? Option 1 Option 2 Option 3 Option 4
46. Indicate the main reason for selecting your preferred option. More privacy; Better open space; The outdoor space is convenient for social gathering; Better view; Feel safer; Good children and family spaces; Other (please specify)
47. This set of statements is designed to measure the effectiveness of your community facilities. Please rate the level of quality in each area. Community square/plaza (if any); children's play areas; parking facilities/area; hard and softscape; outdoor spaces; entertainment facilities; community operator performance
48. In your opinion, what changes would the developers /authorities have to make for your community to give it a higher quality? Increase food and beverage outlets; create more safe family areas for entertainment; build central square/plaza within the community to accommodate all the above; parking areas to be underground; create communities with secured boundaries
49. How important do you think government should develop better liveable communities in UAE?
50. How important do you think this research is for future communities? Extremely important to not at all important

#### **Urban Planning Authorities Controllers: Officials and Decision Makers**

1. What different visions can be identified and conciliated for the community in the urban planning system?
2. What are the planning regulations for urban growth in historic and heritage areas?
3. How do open public spaces/ squares considered in the urban planning developments and urban design criteria?
4. Are there different type of regulations and procedures for different urban growth spatial patterns?
5. Do your authority departments update the urban planning regulations to deal with peoples' needs?
6. Can you briefly explain the consultation procedures between different departments prior to granting urban planning permit?
7. How likely you are to recommend change to the current urban planning regulations/ criteria?  
Extremely likely Very likely Moderately likely Slightly likely Not at all likely
8. How do you see the place of public square in the urban growth of UAE cities and communities?
9. If you have been given the choice to recommend to your friends/ relatives a community to live in (Refer the Below options), what would be your preferred option? OPTION 1 OPTION 2 OPTION 3 OPTION 4
10. Do urban planning systems support community-based needs and actions?
11. Do current urban planning regulations and procedures permit people to participate in urban growth decisions when it comes to developing communities?
12. To what extent you find open public spaces and squares well distributed in the UAE communities and cities?
13. To what extent have urban planning authorities involved people in participating in planning process of public squares?

#### **Design actors: Urban planners, Landscape architects and Architect**

1. Which of the following best describes your current job description?  
Principal Architect Senior Architect Project Architect Junior Architect Principal Urban Planner Senior Urban Planner Junior Urban Planner Other (please specify)
2. What is your role in the urban design procedures and communities master planning?
3. To what extent does the urban design consider open public squares in the urban growth of UAE?
4. What design approaches you consider for designing a community or district?
5. How do you find the public open spaces and squares distributed in the UAE cities?

6. To what extent do you believe that the new developed communities in the UAE lack public spaces and squares?
7. To what extent do you think that the UAE communities in need for public squares?
8. How did the urban planning regulations serve designers in providing open public square in the community master plan?
9. In your urban design approach, do you consider urban morphology, spatial typology and patterns?
10. To what extent the contemporary master planning for the UAE city is influenced by the West?

### **Retailers and Shopkeepers**

1. About how long have you been in this business?
2. Do you rent or own your store?
3. If you have been given the choice, where do you most prefer to open a business branch?
4. Where do most of your customers live?
5. What are the most two challenges of running a business in your current area?
6. Where do you most anticipate higher profit in your trade?
7. Indicate the most two important reasons, why you find community with a Square/ Plaza is a good place to run your business in?
8. How profitable was your business in a community with Square compare to other branches?
9. How often do your customers come in? Daily 2-3 times a week Once a week 2-3 times a month Once a month.
10. Please rate your interest in opening a business branch in a residential community. Very Interested Somewhat Interested Neutral.
11. If you have been given the choice to open a Trade business in a community (Refer the Above options), what would be your preferred option? Please note that the RED area in the images above is for Retail. Option 1 Option 2 Option 3 Option 4

### **Developers**

1. What is the name of your Firm / Agent?
2. How long have you been a property developer?
3. How many residential communities have you developed in UAE?
4. Please rate your satisfaction with your developed properties?
5. Please rate your satisfaction with the developed residential communities in UAE?
6. How many employees does your organisation have?
7. How competitive is the market for your target customer?
8. In your opinion, how convenient are the outdoor social spaces in the new developed communities?
9. Now, here below some statements. For each, please tell me whether you strongly agree, or strongly disagree with each statement: Community residents need more /or better outdoor families area within their communities Safety and security are priority need to residents Communities in UAE lack outdoor social live and families interaction within same community Retail and food & beverage outlets are required within the community premises to serve the residents The urban planning of UAE communities should comply with residents needs rather than developers needs The urban planning codes and regulations for communities/ Cities must be updated to comply with people needs Architects and urban planners must consider in their master plan an outdoor zone for social gathering environment
10. In your opinion, what would make the residential community a place of life to people / residents?
11. How likely is that you conduct "Community consultation " before the design stage of your new developed community?
12. How safe do you feel are the communities in UAE?

### **Real Estate Agents**

1. How long have you been a real estate agent in UAE?
2. Who are your target customers?
3. How involved have you been in marketing residential community properties?

4. Overall, how satisfied are you with the urban planning of UAE communities?
5. In your opinion, rate the changes that the developers /authorities would make to improve the liveable atmosphere for residential communities?
6. In your opinion, which type of community you would consider at high demand?
7. To what extend do you agree or disagree with following statement?
8. What would you say to architects/ urban planners to improve when designing new communities?
9. Would you recommend to architects and urban planners to integrate a Square/ Plaza within their new community planning?
10. How competitive is the market for your typical client / customer?
11. In your opinion, what are the most missing urban elements in the existing communities of UAE?
12. If you have been given the choice to recommend to your clients a community to live in (Refer the Above options), what would be your preferred option? Option 1 Option 2 Option 3 Option 4

### **Police Officers/ Security**

1. What is your age?
2. What is your professional ranking?
3. How long have you been serving your profession in this community?
4. In what type of community less security is required?
5. To what extend do you agree that Police and security agent must share Opinions with Decision makers in developing communities?
6. In your opinion, how safe do people feel in their secured communities?
7. If you have been given the choice to select the safest and most secure residential community model, which option of the layouts below would you select? Option 1 Option 2 Option 3 Option 4
8. Would you describe the reason of choosing your preferred option of Q7?
9. Would you rate the degree of security and safety for the above type of community options?
10. Which option of the above you expect less need for security monitoring and CCTV cameras?
11. Police and Security Officers responses to how they feel about the communities they serve.
12. What is the ratio of accidents in community with square comparative with other urban communities?
13. To what extent do you agree that the Community Square in UAE should be part of the urban planning policy?
14. To what extent do you think that residents enjoy living in a community with square?
15. To what extent do you think that a community with an urban square can be easily secured and monitored?

**APPENDIX E: CASUAL INTERVIEWS CONDUCTED IN HERIOT WATT UNIVERSITY DUBAI CAMPUS (HWUD)**

Interview No.	Date	Group Type	Location/ Area Concerned	Zone	n= # of Interviewees	Sex	Age/s	Activity type	Taped	Nationality/ Ethnicity
1	5-Jan-2014	Student	HWUD	Outdoor	2	M	19,20	Sitting	No	Indian
2	5-Jan-2014	Student	HWUD	Outdoor	1	F	19	Walking through	No	Jordanian
3	6-Jan-2014	Student	HWUD	Indoor	1	M	20	Sitting in his Car	No	Lebanese
4	7-Jan-2014	Student	HWUD	Outdoor	2	M	18,20	Walking in the field	No	Lebanese& Egyptian
5	7-Jan-2014	Student	HWUD	Outdoor	1	M	21	Exercising	No	Indian
6	8-Jan-2014	Student	HWUD	Outdoor	2	F	20,21	Reading/Studying	No	Egyptian
7	8-Jan-2014	Staff	HWUD	Indoor	2	M	32,35	Reading in Library	No	Indian
8	9-Jan-2014	Visitors	HWUD	Outdoor	3	M	30s	Walking through	No	Canadian
9	9-Jan-2014	Student	HWUD	Indoor	2	M	20,22	Sitting in the Lobby	No	Indian & Iraqi
10	9-Jan-2014	Security	HWUD	Outdoor	1	M	32	Controlling & Observing	No	Indian
11	12-Jan-2014	Student	HWUD	Indoor	3	M	20,21,22	Reading	No	Indian & British
12	13-Jan-2014	Student	HWUD	Outdoor	2	F	21,22	Sitting on bench	No	Pakistani
13	13-Jan-2014	Visitors	HWUD	Outdoor	4	M	22 to 35	Walking through	No	Indian
14	14-Jan-2014	Student	HWUD	Outdoor	2	F	21,22	Chatting in the Lobby	No	American & Italian
15	15-Jan-2014	Staff	HWUD	Outdoor	2	M	20,22	Exercising	No	Jordanian & Lebanese
16	19-Jan-2014	Student	HWUD	Outdoor	2	M	21,22	Sitting	Yes	Syrian & Indian
17	20-Jan-2014	Student	HWUD	Outdoor	3	M	20,21,22	Walking in the field	No	Lebanese, Canadian & Indian
18	23-Jan-2014	Security	HWUD	Indoor	1	M	40	Controlling & Observing	No	Indian
19	25-Jan-2014	Student	HWUD	Outdoor	4	M	20 to 25	Taking their meals	No	Lebanese & Jordanian
20	27-Jan-2014	Student	HWUD	Indoor	3	F	19,20,21	Working in the Office	No	American & Indian
21	28-Jan-2014	Student	HWUD	Outdoor	2	F&M	21,22	Studying	No	Pakistani
22	29-Jan-2014	Student	HWUD	Outdoor	3	M	20,21,22	Sitting	Yes	Egyptian & Lebanese

**n= 37 Students + 11 Staff and Visitors = 48 Interviewees**

## APPENDIX F: STRUCTURED INTERVIEWS WITH PARTICIPANTS OF THE GROUPS (1, 2, 3, 4, 5, 6, 7 & 8)

No	Name/Position	No. of interviewees	Organisation	Date
<b>CATEGORY A - GROUP 1</b>				
1	Residents (Family)	3	Dubai International City Phase III (ICP3)	21 June 2015
2	Residential Complex Security Officer	1	Dubai International City Phase III (ICP3)	21 June 2015
3	Community Resident	1	Dubai International City Phase III (ICP3)	21 June 2015
4	Community Police Officer	1	Dubai International City Phase III (ICP3)	22 June 2015
5	Offices Complex Staff	2	Dubai International City Phase III (ICP3)	22 June 2015
6	Restaurant Owner	1	Dubai Silicon Oasis (DSO)	24 June 2015
7	Residents (Family)	1	Dubai Silicon Oasis (DSO)	24 June 2015
8	Community Residents	2	Dubai Silicon Oasis (DSO)	25 June 2015
9	Medical Clinic Supervisor	1	Dubai Silicon Oasis (DSO)	25 June 2015
10	Facility Management Director	1	Dubai Silicon Oasis (DSO)	25 June 2015
11	Fitness Centre Owner	1	Jumeirah Lake Towers (JLT)	9 July 2015
12	Security Officer	1	Jumeirah Lake Towers (JLT)	9 July 2015
13	Community Residents	2	Jumeirah Lake Towers (JLT)	16 July 2015
14	Coffee Shop Manager	1	Jumeirah Lake Towers (JLT)	16 July 2015
15	Residents	1	Jumeirah Lake Towers (JLT)	23 July 2015
<b>CATEGORY A - GROUP 2</b>				
1	Residents (Family)	4	Uptown Mirdiff Dubai (UPMD)	9 August 2015
2	Security Officer	1	Uptown Mirdiff Dubai (UPMD)	9 August 2015
3	Restaurant Manager	1	Uptown Mirdiff Dubai (UPMD)	13 August 2015
4	Residents (Family)	1	Uptown Mirdiff Dubai (UPMD)	13 August 2015
5	Resident	1	Uptown Mirdiff Dubai (UPMD)	16 August 2015
6	Offices Staff	3	Uptown Mirdiff Dubai (UPMD)	16 August 2015
7	Coffee Shop Manager	1	Dubai Marina Walk (DMW)	6 September 2015
8	Residential Complex Operator	1	Dubai Marina Walk (DMW)	6 September 2015
9	Nursery Manager	1	Dubai Marina Walk (DMW)	7 September 2015
10	SPA Manager	1	Dubai Marina Walk (DMW)	15 September 2015

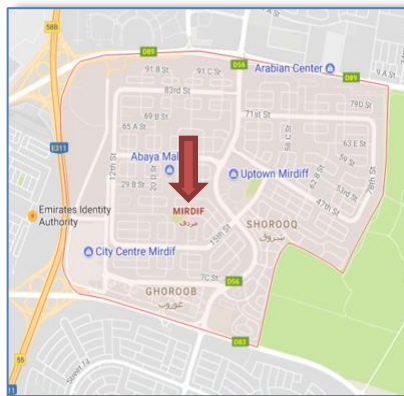
No	Name/Position	No. of interviewees	Organisation	Date
11	Residents	2	Dubai Marina Walk (DMW)	16 September 2015
12	Watchman / Receptionist	1	Dubai Marina Walk (DMW)	16 September 2015
<b>CATEGORY A - GROUP 3</b>				
1	Restaurant Manager	1	Dubai Silicon Oasis (DSO)	11 October 2015
2	Coffee Shop Operator	1	Dubai International City III (ICP3)	18 October 2015
3	Clothes & Accessories Shop	1	Jumeirah Lake Towers	20 October 2015
4	Supermarket Supervisor	1	Uptown Mirdiff Dubai (UPMD)	29 October 2015
5	Hairdresser Shop	1	Uptown Mirdiff Dubai (UPMD)	30 October 2015
6	Coffee Shop Staff	2	Dubai Marina Walk (DMW)	2 November 2015
7	Mobile Phone Shop	1	Dubai Marina Walk (DMW)	2 November 2015
<b>CATEGORY B- GROUP 4</b>				
1	Senior Urban Planner	1	Consultancy Firm 1	10 January 2016
2	Urban Planning Senior Official	1	Urban Planning Consultancy Firm	11 January 2016
3	Senior Landscape Architect	1	Urban Planning & Architectural Firm	18 January 2016
4	Senior Architect	1	Consultancy Firm 2	20 January 2016
5	Senior Urban Planner 2	1	Architects & Engineering Consultants	27 January 2016
6	Senior Architect	2	Dubai Municipality (DM)	31 January 2016
7	Senior Urban Planner	1	Dubai Municipality (DM)	8 February 2016
8	Senior Architect	1	Dubai Municipality (DM)	8 February 2016
9	Architect & Urban Planner	2	Urban Planning Council - Abu Dhabi	15 February 2016
10	Architect - Managing Director	1	Urban Planning Council - Abu Dhabi	16 February 2016
11	Design Director - Urban	1	Dubai Municipality (DM)	25 February 2016
12	Architect & Planner	2	Society of Engineers (SOE)	6 February 2016
13	Civil engineer	2	Society of Engineers (SOE)	13 February 2016
14	Senior Landscape Architect	1	Consultancy Firm 3	23 February 2016
<b>CATEGORY B - GROUP 5</b>				
1	Managing Director (Developer)	1	DAMAC (Developer in Dubai)	3 April 2016
2	Senior Architect - Developer	1	Danube (Developer in Dubai)	4 April 2016
3	Senior Architect	1	EMAAR (Developer in Dubai)	5 April 2016
4	Urban Planner - Architect	1	Select Group (Developer in Dubai)	13 April 2016
5	Marketing Senior Official	1	EMAAR (Developer in Dubai)	17 April 2016
6	Sales Senior Director	1	MAG (Developer in Dubai)	24 April 2016

No	Name/Position	No. of interviewees	Organisation	Date
7	Senior Design Director	1	Nakheel (Developer in Dubai)	27 April 2016
8	Infrastructure Engineer	1	Meraas (Developer in Dubai)	1 May 2016
<b>CATEGORY B - GROUP 6</b>				
1	Managing Director	1	Real Estate Agent	8 May 2016
2	Real Estate Manager	1	Real Estate Agent	9 May 2016
3	Senior Sales Manager	1	Real Estate Agent	10 May 2016
4	Financial Manager	1	Facility Management Firm	17 May 2016
5	Senior Services Operator	1	Facility Management Firm	18 May 2016
6	Senior Maintenance Director	1	Community Operator	19 May 2016
<b>CATEGORY C - GROUP 7</b>				
1	Police Officer	1	Community Security Services	15 December 2016
2	Senior Director	1	Dubai Civil Defence	17 December 2016
<b>CATEGORY C - GROUP 8</b>				
1	Design Director	1	Dubai Municipality (Decision-maker)	9 January 2017
2	Architects & Urban Planner	1	Dubai Municipality (Decision-maker)	9 January 2017
3	Building Permit Director	1	Dubai Municipality (Decision-maker)	10 January 2017
4	Senior Infrastructure Engineer	1	Abu Dhabi Municipality	12 January 2017
5	Senior Structural Engineer	1	Dubai Municipality	15 January 2017
6	Senior Road Engineer	1	Dubai Municipality - Planning Department	19 January 2017
7	Senior Urban Planner	1	Abu Dhabi Urban Planning Council	23 January 2017
8	Senior Landscape Architect	1	Abu Dhabi Urban Planning Council	23 January 2017



**APPENDIX G: INTERVIEW SHEET (AUTHOR'S USE)**

<b>Location</b>	Mirdiff- Dubai, as indicated on map
<b>Zone/ Street</b>	D56- Algeria street
<b>Date</b>	11/4/2014
<b>Visit Time</b>	started at 4.35 pm
<b>Duration</b>	3 hours approximately
<b>Weather Condition</b>	Pleasant and not so humid
<b>Temperature</b>	29 °c
<b>Humidity</b>	52%



<b>Tape No.</b>	2
<b>Tape Side</b>	A
<b>No. of Interview Conducted</b>	3
<b>No. of Interviewees</b>	3 (2 & 1)
<b>Day</b>	Friday

<b>Interviewee A</b>	
<b>Name:</b>	
<b>Age:</b>	
<b>Nationality/ Ethnicity:</b>	
<b>Education:</b>	
<b>Work/ Profession:</b>	
<b>Marital Status:</b>	

<b>Interviewee B</b>	
<b>Name:</b>	
<b>Age:</b>	
<b>Nationality/ Ethnicity:</b>	
<b>Education:</b>	
<b>Work/ Profession:</b>	
<b>Marital Status:</b>	

## APPENDIX H: OBSERVATION FORM

Location:		
Date		Day:
Time		
Temperature		
Observation	Observer's Comments	
<b>Location:</b>		
Write about where I'm sitting		
<b>Weather:</b>		
Describing the weather		
<b>People and Activities:</b>		
*Record people's behaviour, action, body language and interactions. *Sketch the activities and movement on the map. *Focus on how people move around, Walking, Playing, Sitting, Cycling, Sporting, etc.		
<b>Number and Group of users:</b>		
Count no. of users' gender, age ( children, adult, elderly) and ethnicity.		

## APPENDIX I: FOCUS GROUPS INTERVIEW TRANSCRIPTS

Area/ Location of Interview	Participants	Interview Date
<b>A: Emaar square complex (ESC)</b>	<b>A1: Local Employee.</b> <b>A2: Security Officer.</b> <b>A3: Private Developer.</b> <b>A4: Architect</b> <b>A5: Senior Urban Planner</b>	<b>8<sup>th</sup> &amp; 9<sup>th</sup> January 2017</b>
<i>Social benefits and business environment</i>	<ul style="list-style-type: none"> <li>The public square centralising the three buildings complex creates business environment and raises the level of interaction between the local employees (A1).</li> <li>The central square is a place for daily break time and lunch period to employees (A2).</li> <li>Both coffee shop and restaurant at the arcade area of the complex generated new business location between senior staff and clients (A3).</li> <li>The square became the primary access to the three buildings lobby area, as well the drop off point to visitors and users (A5).</li> </ul>	
<i>Leasable spaces and Revenue</i>	<ul style="list-style-type: none"> <li>The occupancy of renting the leasable area is 100% and hardly to find out a space for rent (A4).</li> <li>Many companies, financial institutions and business agents are booking in advance a leasable area for any vacant place in the future (A3).</li> <li>The high rent value is for the leasable areas overlooking the central public square (A2).</li> </ul>	
<i>Security</i>	<ul style="list-style-type: none"> <li>Employees and visitors feel secured walking and sitting in the central square (A1).</li> <li>Raising the space of the central square from the road level enhanced the walkability through the square and created safety in the movements (A5).</li> <li>Segregating the vehicles routes and parking zone from the central square provided safer interaction and accessibility to and from the working spaces (A4).</li> </ul>	
<b>B: Uptown Mirdif Dubai (UPMD)</b>	<b>B1: Resident</b> <b>B2: Retailer</b> <b>B3: Local Employee</b> <b>B4: Security Officer</b> <b>B5: Visitor</b> <b>B6: Community Operations Manager</b>	<b>30<sup>th</sup> &amp; 31<sup>st</sup> January 2017</b>
<i>Urban public space Morphology</i>	<ul style="list-style-type: none"> <li>The circular central square is the focal gathering zone and social interaction (B6).</li> <li>Other secondary passages are spatially adequate for residents and users to move, gather, socialise and exchange dialogue and conversations (B4).</li> <li>The developer of UPMD should enhance the landscaping area and create more greenery areas and trees plantation in order to absorb the heat and mitigate the climate in summer (B1).</li> </ul>	
<i>Social Benefits and activities</i>	<ul style="list-style-type: none"> <li>The community public square provided social life and activities between neighbors and community users (B1).</li> <li>The developer or the community operator will require to take care of some public spaces that not</li> </ul>	

	<p>used for social gathering rather than used for unpleasant behavior by teenagers <b>(B1 &amp; B2)</b>.</p> <ul style="list-style-type: none"> <li>Lack of appropriate zone for children play and sport activities weakened some retail business and affected good revenue <b>(B3)</b>.</li> </ul>	
<i>Retail and business environment</i>	<ul style="list-style-type: none"> <li>The majority of different retails and outlets operators consistently agreed that their outlets in UPMD is running better business and revenue in comparison to other branches in town, this is due to the location at the central square of the community <b>(B2 &amp; B6)</b>.</li> <li>Easy accessibility to the retail, outlets and food court areas encouraged families to spend an average of 3 to 4 hours in the community during each visit <b>(B2 &amp; B5)</b>.</li> <li>The UPMD is very important mixed-use community that built homely environment for visitors and occupants <b>(B5)</b>.</li> </ul>	
<i>Community residents' participation for collective benefits</i>	<ul style="list-style-type: none"> <li>The participation of community users to plan for collective benefits that can serve the community is fundamental, but lacking support from the operator. It will have to be supported and promoted, at least two to three times annually. This will enhance the social life and peoples' interaction <b>(B1 &amp; B3)</b>.</li> <li>The participation of community users appears seasonal mainly when there are planned activities. The problem is that any activity to take place should obtain the operator's permission, and this is one of the obstacles <b>(B1 &amp; B6)</b>.</li> <li>Many goals were achieved in this community because of the public participation arranged between the residents and retails operator. Many open spaces in the community were converted to market kiosks area, children play activities, and mini amusement zone in the central public square <b>(B3)</b>.</li> <li>One of the important factors that affect negatively the public participation in the community is the frequent change of residents and the rented dwellings that does not encourage continuity <b>(B2 &amp; B5)</b>.</li> </ul>	
<b>C: Dubai Marina Walk (DMW)</b>	<b>C1: Resident</b> <b>C2: Retailer</b> <b>C3: Visitor</b> <b>C4: Urban Planner</b> <b>C5: Private Developer</b> <b>C6: Security Officer</b> <b>C7: Police Officer</b>	<b>14<sup>th</sup> &amp; 15<sup>th</sup> February 2017</b>
<i>Cultural and Social life</i>	<ul style="list-style-type: none"> <li>The DMW community needs shared public places to build social networks. The only one public square in the Walk zone is inadequate to achieve this target as it positioned to serve the retail and outlets part rather than the residents <b>(C4)</b>.</li> <li>Participants in this interview highlighted that DMW people expressed attachment to this place and appreciate building families and friends networks in the available public square <b>(C5 &amp; C6)</b>.</li> <li>The community different operators and facility management agents must meet for collective plan that help to enable residents to build recognition and accelerate positive identity to people <b>(C1 &amp; C2)</b>.</li> </ul>	

<p><i>Social amenities</i></p>	<ul style="list-style-type: none"> <li>• The community people need supportive services and amenities, not just buildings and luxurious dwelling units to live in (C1).</li> <li>• The different open spaces in the DMW are mainly attracting visitors, tourists and business investors more than attracting and retaining families in their inner mixed-use community. This is because of the lack of public open spaces and square that link people movement from their dwelling units (C3).</li> <li>• The high density of population in DMW community with little open spaces for families built congested zones and heavy traffic in different timing, this avoided people to be linked to outdoor areas (C4 &amp; C5).</li> </ul>	
<p><i>Managing and securing open public spaces</i></p>	<ul style="list-style-type: none"> <li>• Apart from this interview, the community place survey and group session with different participants revealed a diversity of opinion about the safety and security managed and observed in DMW community. Many incidents reported about violence and tensions between teenagers. The reason behind this crucial case is due to the lack of central stand-alone public space or square that allows main central gathering to people rather than scattered gathering in different zones (C6 &amp; C7).</li> <li>• It is impossible to please or satisfy people all of the time about security and safety in this community despite the fact that Dubai authorities are making great efforts to control and manage safety and security (C5).</li> <li>• Participants shared one common view that the community needs concentrated urban study to allow physical accessibility and walkability to people and families to public open spaces without crossing main roads and streets which can expose family members to accidents. Flyover pedestrian bridges and pedestrian tunnels proposed to be built at the earliest to enhance the social interaction between people and their open spaces (C3 &amp; C4).</li> <li>• It is observed that organised security is maintained and well recorded in the community, despite the domination of young adults' presence (C5 &amp; C7).</li> </ul>	
<p><b>D: International City Phase 3 (ICP3)</b></p>	<p><b>D1: Resident</b>  <b>D2: Architect</b>  <b>D3: Urban Planner</b>  <b>D4: Dubai Municipality Senior Director</b>  <b>D5: Dubai Municipality Senior planner</b>  <b>D6: Retailer</b>  <b>D7: Private Developer</b>  <b>D8: Real Estate representative</b></p>	<p>21<sup>st</sup> 22<sup>nd</sup>  &amp;23<sup>rd</sup>  <b>March</b>  <b>2017</b></p>
<p><i>Community Urban morphology</i></p>	<ul style="list-style-type: none"> <li>• The urban layout consists of compacted plots setting with unclear distribution of open public spaces (D3).</li> <li>• The circular part of the ICP3 master plan indicates this zone as public plaza or square to the community users, but unfortunately the zone is allocated for high rise building (D2).</li> <li>• The master plan lacks central community center and activities zone that can serve equally the various distances of the plots (D1 &amp; D6).</li> </ul>	

	<ul style="list-style-type: none"> <li>• A central public square in the middle of the master plan or at the circular part of the community with easy walkability from the dwelling units can create social interaction and families gathering that encourage investing in this place <b>(D2 &amp; D8)</b>.</li> </ul>	
<i>Social Interaction and activities</i>	<ul style="list-style-type: none"> <li>• More work is needed to analyses and identify public open spaces to provide collective benefits to community residents and users <b>(D1)</b>.</li> <li>• Further review to the community setting and future expansions are needed to define future social sustainability for the community occupants <b>(D4)</b>.</li> <li>• It is highly recommended to know more about the local experience of people living in new communities, and as well understand how the community can be shaped and planned <b>(D8)</b>.</li> </ul>	
<i>Land use flexibility</i>	<ul style="list-style-type: none"> <li>• If the community is to be successful and sustainable, the physical spaces, the housing units, the amenities and social infrastructure needs to be flexible to adapt over time to serve new needs and social possible requirements <b>(D3, D4 &amp; D5)</b>.</li> <li>• Public participation is to be enabled in the future planning of the later phases or future expansions <b>(D1 &amp; D6)</b>.</li> <li>• In practical terms, the land use flexibility should include creative use of lands and buildings and creation of spaces for families to grow social bond establishment without having move away from the community.</li> </ul>	
<i>Community local participation and Influence</i>	<ul style="list-style-type: none"> <li>• It is vital to involve local community residents and occupants in decisions that affect their lives throughout the stages of their community development phases <b>(D1 &amp; D7)</b>.</li> <li>• Urban planning decision-makers, architects and urban planners involved in community master plan are to ensure chances to involve peoples' participation in planning their communities before completion of construction and handing over <b>(D4 &amp; D5)</b>.</li> </ul>	

## APPENDIX J: AUTHOR'S CONFERENCE PAPERS

1. **Conference Paper # 1:** Smart, Sustainable and Healthy Cities. The 1st International Conference of The CIB Middle East & North Africa Research Network (CIB-MENA 2014)–Abu Dhabi University 14-16 December 2014.
  - \* Ezzeddine, I., and Al Hajj, A., (2014), Smart, Sustainable and Healthy Cities. *The 1st International Conference of The CIB Middle East & North Africa Research Network* (CIB-MENA 2014)–Abu Dhabi University
2. **Conference Paper # 2:** The First International Conference of Sustainable Architecture and Urban Planning (ICSAUP): 7th-8th April- 2015- Amman, Jordan
  - \* Ezzeddine, I., and Al Hajj, A., (2015), *Town Square for the UAE Sustainable City: A case study*, First Isra International Engineering Conference–Amman, Jordan
3. **Conference Paper # 3:** The 2nd BUiD Doctoral Research Conference 14th May 2016. The British University in Dubai, Dubai International Academic City.
  - \* Ezzeddine, I., (2016), *Towards formulating new urban model for developing urban public square in the UAE city*. The 2<sup>nd</sup> BUiD Doctoral Research Conference–The British University in Dubai.
4. **Conference Paper # 4:** (Accepted Paper) ICSF International Conference on Sustainable Futures (ICSF) 26–27 November 2017 / Applied Science University (ASU), Bahrain.
  - \* Ezzeddine, I., Elhag, T., Al Hajj, A., (2017), *Towards Developing Urban Public Squares for future Sustainable Cities in the UAE: A case study of the Emirate of Dubai*. ICSF International Conference on Sustainable Futures–Applied Science University (ASU)- Bahrain.