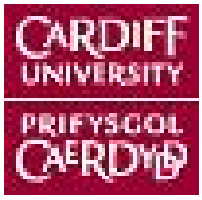

Housing & Quality of Life

Implications of the Three Qualities of Housing in Amman, Jordan

A thesis submitted in fulfilment of the requirements of for the degree of Doctor of Philosophy of Cardiff University, School of Planning and Geography

By

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Dedication

To my

Beloved parents for their kind prayers and support

Dear wife for her care and encouragement

Sweet little daughter Nada with hope of bright future

&

Dear brother and sisters

Family

Acknowledgment

Praise is to ALLAAH almighty, the sole god and lord of universe who guided us hitherto and whom without his guidance we could not have been guided.

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Abstract

Housing is one of the key issues that normally forefront the scene when considering challenges of urbanisation and urban growth. It is a fundamental aspect of human life and a major factor in delivering healthy and attractive communities as it serves to define the life space of individuals. Increasing interest is now shown towards the study of how people think of their housing and how it affects their lives. Therefore, measuring the housing quality has become an important tool to assess the efficiency of housing provision and the extent to which people are satisfied with it.

This research is about examining housing quality and exploring the set of aspects through which it influences people's quality of life (QOL). It stems out of a general concern about the state of life in cities and the general factors that shape and outline such life. It starts from some apparent observations regarding the socio-economic transformations accompanied with urban growth and development taking place in Amman, capital of Jordan, and the alterations that are soundly reforming the profile of housing provision in the city. Such alterations are seen to be adjoined with implications and challenges that are strongly influencing the state of housing sector and the overall state of life that people are living in the city.

The research aims to critically investigate housing quality and the impact it has on QOL experienced by residents in Amman. In doing so, it employs an integrated conception of housing quality that poses three types of qualities: quality of provision, quality of context and quality of dwelling, and explored the implications of each of these qualities, in order to provide an overarching understanding of the influences of housing on QOL. Such understanding implies identifying the most influential aspects within each of the three types of qualities, and interpreting the impact of these aspects on QOL, taking into consideration the impact of the socio-demographic and housing provision factors. The research adopted a mixture of quantitative and qualitative methods to collecting and analysing data in order to achieve a deep understanding of the influence of housing quality in QOL.

Results revealed a variation in the extent and nature of influence posed by the different housing quality components and a disparity in the response of households towards these components attributed to the differences in the socio-demographic and housing acquiring factors. It is argued that the perception of good QOL can be strongly derived from good housing quality and the set of material, social and psychological benefits obtained from it. It is suggested that the current housing provision system in Amman is in need of a reappraisal, in order to come out with a responsive housing provision scheme that provides more flexibility, equity, diversity and capability to choose among different community groups, which can help archiving better QOL.

Abbreviations

DOS: Department of Statistics - Jordan

GAM: Greater Amman Municipality

HUDC: Housing and Urban Development Corporation

JD: Jordanian Dinars

NGO: Non-Governmental Organisation

NHS: National Housing Strategy

HIS: Housing Information System

QOL: Quality of Life

UNDP: United Nations Development Programme

UNRWA: United Nations for Refugees and Work Agency

WHO: World Health Organisation

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Chapter One

Introduction

1.1. Preface

Over the last 50 years the world has witnessed a dramatic growth in its urban population. Half of humanity now lives in cities, and within a few decades, nearly 60 per cent of the world's population will be urban dwellers. This urban growth is most rapid in the developing world with cities growing at rates that are extremely fast by historical standards. In the last two decades the urban population of the developing world has grown by an average of three million people per week, and by the middle of the twenty first century, the number of urban population in developing countries is expected to rise from 2.3 billion in 2005 to 5.3 billion in 2050 (UN Habitat 2008). The speed and scale of this growth impose significant pressures over the abilities of urban and national authorities to cope with the economic, social and environmental ill effects and consequences occurring from this intense urbanisation (Drakakis-Smith 1995; Hall & Barrett 2012; Knox & McCarthy 2005). This situation is so severe that it is likely to strain the resources and imagination of the most accomplished of governments.

Housing is, probably, one of the key issues that normally forefront the scene when considering challenges of urbanisation and urban growth. This is not only because of being a basic human need, or because of having strong links with other life aspects, but also due to the complexity and multifaceted nature of this subject which makes it the centre of attention of a multiplicity of actors and disciplines. Despite this, several pieces of evidence have manifested significant failures in dealing with the challenge of housing particularly in the case of developing countries (Jenkins, et al 2006; Pugh 1990). Issues of housing shortages, affordability, inequality, overcrowding, tenure security and property rights, quality of shelter, growth of slums and indiscriminate

settlements still pose enormous challenges for governments and authorities against reaching what may be considered ‘good housing quality’. One possible justification for this failure is the misunderstanding of the process of urbanisation and the implications it has on housing, resulting in the employment of improper housing policies and programmes (Mayo et al 1986).

It is reasonable to assert that housing is a fundamental component of life and that improving housing circumstances contributes effectively towards enhancing the well-being and life quality of people (Grayson & Young 1994; Hall & Barrett 2012; Sassi 2006; Saunders 1989; Vera-Toscano & Ateca-Amestoy 2008). This fact alone justifies the broad and growing interest in housing studies among different fields of research. Various studies have engaged with diverse aspects of housing and the history of housing research is rich with theories, conceptions, viewpoints, approaches and inferences which explore the significance of housing and the ways in which it affects people’s lives. However, the majority of housing studies have, so far, addressed the issue of housing from narrow angles that only partially grasp the overall influence of housing. In spite of the significant benefits gained from such studies, what seems to be pressing is an approach that encompasses the broad nature of housing and investigates, in a comprehensive sense, the implications it has on people’s lives and welfare. The most appropriate measure to look at such influence is the holistic overarching concept of quality of life (QOL). Such a measure is considered to provide a better insight into impacts of housing outcomes, which in turn, helps with developing effective housing policies and programmes.

In light of this preface, this research represents an attempt to lay the initial blocks for this comprehensive approach by studying the case of one of the cities of the developing world. The research involves assessing housing quality and exploring the set of aspects through which it influences people’s quality of life (QOL). It stems from a general concern about the state of life in cities and the general factors that shape it, starting from general observations on the socio-economic transformations accompanied with urban growth and development taking place in Amman, the capital of Jordan, and the alterations that have reformed the profile of housing provision in the city. The thesis

sets out to investigate the state of QOL in Amman and the role housing plays in shaping it, asking questions about how people assess their QOL and the varying housing circumstances in which they live. It provides a link between what are known as 'housing theories' and the emerging theories of QOL in an attempt to make use of the extensive literature available on both subjects.

1.2. Challenges of Urbanisation and Urban Growth

> 'With more than half of the world's population now living in urban areas, this is the urban century… Cities embody some of society's most pressing challenges, from pollution and disease to unemployment and lack of adequate shelter. But cities are also venues where rapid, dramatic change is not just possible but expected' (Ban Ki-moon, UN Habitat 2008, pp. iii).

There is no doubt that the twenty first century is the century of the city. There has been a massive reorganisation of the world's population, of its political, economical, social and its institutional structures, and even of the ecology of the earth (Harvey 2011; Knox & McCarthy 2005). Cities have absorbed nearly two thirds of the global population explosion since 1950 and will account for virtually all future world population growth. The vast majority of this final build-out of humanity will occur in the urban areas of developing countries (Chen et al 2013; Davis 2007). This rapid urban growth has been the result of a combination of factors that include natural population growth; migration; changes in the legal or administrative status of urban areas; improving living conditions in cities by means of infrastructure and basic services, public amenities, communication and transportation; and other political, social and economic forces including globalisation (UN Habitat 2008).

Such urbanisation is characterised by a disproportionately high concentration of people and investment in the largest cities, particularly the capitals, and the emergence of extended metropolitan regions (Chen et al 2013; UN Habitat 2008). These, in turn, represent a fusion of urban and regional development where the distinction between what is urban and rural has become blurred as cities expand along corridors of communication, by passing or surrounding small towns and villages which subsequently experience in situ changes in function and occupation (Davis 2007; Knox & McCarthy

2005). “Urban chaos” is perhaps the most apt description of metropolitan or large-scale city growth in developing countries, where cities have spread far beyond their carrying capacities, outgrowing their abilities to provide adequate services to their population. Never before have administrations been under greater pressure to improve their performance; and rarely have they had fewer resources to do so (Drakakis-Smith 1995; Gilbert 1992).

This rapid urbanisation has brought with it a whole host of urban and environmental problems that might threaten the future development of cities and the liveability of their inhabitants (Yuan 2001). Rapid urban growth is often associated with ill effects of urbanisation which include traffic congestion, environmental degradation, crime, poverty, overcrowding and slums. High growth rates put pressure on city administrations to deliver infrastructure services, transport, health and education, housing and poverty alleviation programmes (Knox & McCarthy 2005; UN Habitat 2008). Such services are not easily scaled up as quickly as demand when cities grow rapidly, especially in situation of weak financial and administrative capacities (Harris 1990). This can swiftly exhaust the ability to meet the growing needs of inhabitants impacting negatively on their well-being and quality of living.

Inequality is another problem strongly associated with rapid urban growth. In many cities, wealth and poverty coexist in close proximity. Inequality can lead to negative social, economic and political consequences, creating fractures within society that can develop into social unrest. This is particularly true in places experiencing both high levels of inequality and endemic poverty, which increase the risk of political tension and social divisions and threaten national security and economic development (UN Habitat 2008). In fact, it has been argued that inequality and urban poverty could become the most significant and politically explosive problem of the century (Davis 2007). The result is probably producing more marginalisation, alienation, disempowerment and degradation among people. In that sense, it is said that when thinking about quality of life of the next generations by projecting forward current trends in our cities, the outcome will mostly be dystopian (Harvey 2011).

Some argue that the challenges of urbanisation and the problems brought by rapid growth are nothing new and that, in the nineteenth century, conditions were even worse. What makes the situation nowadays more critical is that in the past urbanisation and the consequences of urbanisation were taken rather more seriously and in a very positive and powerful way in contrast to how they are viewed today. In addition, most governments in the Third World where the majority of urbanisation process is taking place, lack sufficient knowledge and information to deal with such problems. Even with the legislation and bureaucracies established and designed in many countries to tackle urbanisation challenges, the use of these policy instruments is often equivocal and ineffective (Drakakis-Smith 1995; Mayo et al 1986).

1.3. Consequences on Housing

The unprecedented scale of urban growth poses fundamental questions as to whether this magnitude of urban development can be accommodated and sustained. How the urban population will be housed is a major concern that is often hard to handle (Pacione 2009). Housing is a major challenge associated with urbanisation since it is both a driver of urban growth and an outcome of it. Unlike other consequences of urbanisation, housing is strongly connected, with not apart from, almost all other aspects of life. It affects and is affected by economy, health, education, environment, social integration, communication, recreation and even politics (Hall & Barrett 2012). Therefore, understanding housing should cover a complex bundle of considerations where housing, particularly in urban settings, has to be seen in a multi-faceted way. In view of this, housing problems require simultaneous solutions in shelter, in social justice, in economic efficiency, in finance and in relation to public and private urban services (Garcia-Mira et al 2005; Pugh 1990).

Few countries in the developed and developing world have really achieved high levels of effectiveness in their housing and urban policies; that is, being able to provide their inhabitants with decent housing conditions (Pugh 1990). For the majority of countries, particularly developing ones, the magnitude of urban growth and the demand for housing and its accompanying urban services remains far beyond the capabilities of people and governments to accomplish. This has resulted in severe housing problems

which seem to be growing significantly. The massive, rapid and uncontrolled urban and population growth has resulted in the expansion of urban areas in an exaggerated manner, leading to the depletion of large tracts of land and resources, and an increase in transportation costs and the expenses of providing infrastructure and public services. This, in turn, has driven up the prices of urban land and housing in an unaffordable manner. In an attempt to solve this problem, governments have used their own budgets to develop affordable public housing but, inevitably, public budgets have been hard pressed and limited and there are simply not enough public housing to go round among all the deserving social cases and claims. Housing insufficiency has been large gross and growing rapidly and housing shortages have become so severe that small additions to the stock have increased in value and have taken over by the better off (Jenkins et al 2007; Pugh 1990; Willis & Tipple 1991).

The failure of public housing programmes as well as the private housing market to provide affordable housing has forced the majority of the urban population in the developing world into cheaper, often inadequate, alternative forms of shelter that range from inner-city slum tenements and peripheral squatter settlements to the pavements of major cities (Pacione 2009). The prevalence of inadequate housing varies dramatically across cities of the developing world. In some cities, a relatively small percentage of households experience shelter deprivation, and many experience only one barrier to adequate housing. In other cities, the majority of dwellings suffer from two or more shelter deprivation, threatening the health, safety and well-being of their inhabitants (UN Habitat 2008). Everywhere in the developing world, housing choice seems to be a hard calculus of confusing trade-offs. Urban inhabitants, particularly the poor, have to solve a complex equation to try to optimise housing costs, tenure security, quality of shelter, journey to work, and sometimes, personal safety (Davis 2007). The result in most cases means making several concessions among certain means of housing quality to gain the most vital need so that better living conditions can be achieved, which in turn affect the overall well-being and life quality of people.

1.4. Quality of Life - An Assessment Tool

Several means of assessment have been used to evaluate the implications of urbanisation and urban development on people's lives, including those related to housing. One of the emerging and promising concepts for examining such impacts is quality of life (QOL). In fact, concerns about enhancing QOL have remained either an explicit or implicit goal of public policy in almost all societies for several decades. Despite this, it is only recently that the concept has achieved popular use as an instrument for measuring the impact of development policies, and QOL issues have become the focus of planners and policy makers in cities in industrialised and developing countries. Research has started to give attention to the QOL concept, seeking to explore the components which determine QOL and identify mechanisms which could contribute to improvements in QOL (DAS 2008). Pioneering studies in the field have been conducted by researchers in western nations who come from numerous disciplines such as planning, architecture, sociology and psychology. Beside researchers, international organisations such as the United Nations (UN), United Nations Development Programme (UNDP) and World Health Organisation (WHO) have established their own measurements of QOL (Lee 2008).

The list of reasons for undertaking a study on QOL is long (Sufian 1993). Since cities are the epicentre of human activities, and thus are considered the pivot of contemporary existence, it is important to understand the spectrum of conditions that contribute specifically to the quality of urban life. The measurement of QOL can be a tool for grasping these conditions and hence can be used as a diagnosis tool by policy makers. It is believed that assessing QOL provides information which is of relevance for the design and evaluation of public policies as well as, for the discussions regarding the proper way to organise societies (Rojas 2009). As a measuring tool, QOL is distinct in that it provides a human dimension to measuring the progress in planning and developing procedures by allowing for an integration of indicators which take into consideration and gauge people's values, preferences and opinions (Young 2008).

Another important reason for the interest in QOL lies in the question of the effective allocation of scarce resources. Most developing world cities lack accurate, current data

on land conversion patterns, the number and conditions of housing units, infrastructural deployment patterns subdivision patterns and so forth (Davis 2007). Together with the scarcity of resources it becomes necessary to find the most efficient way of distributing such resources in line with the needs and the priorities of people. This can be achieved by using the results of the related QOL research as input in the decision-making processes. Such studies provide the means for producing appropriate policy recommendations for authors (Ulengin et al 2001).

It is argued that planners need to pay close attention to the concept of QOL in order to assess the effects of plans and projects on the places and lives of all citizens. The main purpose of planning is to help ensure that the future is somehow better than the past, and with QOL research it is believed that a better understanding of people's needs regarding different living aspects could be achieved (Massam 2002). Notwithstanding this, very little has been done to examine the impact of housing on QOL.

1.5. The Jordanian Case Study

Jordan is part of that developing world facing dramatic urbanisation forces which strongly reshape people's lives and impose enormous challenges upon decision makers. Relative to wider global change, Amman, the capital of Jordan, has transformed dramatically, becoming massively urbanised and growing extensively beyond its traditional boundaries. Over its relatively short modern history, Amman has experienced extensive alteration, being sent into spirals of urban growth with a vast increase in population and considerable spatial, social, and economic transformations. This massive growth was however, accompanied with deteriorations in the urban and social fabric of the city, resulting in severe challenges facing officials and policy makers (Abu Khalil 2009; Al-Asad 2006; El-Ghul 1999). Many aspects of urban living in Amman are nowadays in need of considerable attention, as the quality of its urban services have not kept up with the extensive growth it has experienced. It is evident today that Amman is embarking on a new heightened era of urban, spatial and perhaps socio-economic restructuring that is in need of great attention (Daher 2011).

Housing is one of the primary elements of the massive urban growth and transformation that took place, and is still, taking place in Amman. It is among the most vital sectors that shape life in Amman in different ways related to different scales. Despite the efforts that have been taken to cope with the significant growth of housing needs, housing still forms a big challenge, not only in terms of meeting housing needs, but also in terms of handling with its tremendous implications on other aspects of life. So far, such efforts have been relatively successful in responding to the growing demand for housing by providing housing for a broad sector of the city population. But on the other hand these efforts were marred by numerous failures in relation to the quality of the housing product and the equitable distribution of housing opportunities among the different groups of population. The negative impact of such failures extended from the scope of the single housing unit to the broader scale of the neighbourhood and the city as a whole, reflected in the deterioration of considerable parts and elements of the city's urban setting (Ababsa 2011; Al-Asad 2005c; Meaton & Alnsour 2006). Part of the transformation that took place in Amman was the emergence of apartment building as the prominent residential building type. The impact of the spread of this type of dwellings has been tremendous on Amman, resulting in various changes and challenges that started taking place within socio-cultural, economic, urban and even ethical dimensions affecting in a way the overall shape and quality of life in the city.

Research on QOL is still uncommon in Jordan. In spite of being a subject of substantial concern and a core topic in the daily discussions among individuals and authorities, studies about QOL in Jordan fall short in sufficiently covering the holistic dimensions of the concept as a definite field of research. Instead, broad studies can be identified, covering particular aspects of life quality including living conditions, health, education, equity and social integration, poverty, transportation, natural environment and others. The notion of life quality and the term "quality of life" itself are frequently referred to in public media and the press and even in some fields of academic research, but as a general phrase that indicates a desirable aim that people seek to achieve without specifically addressing the definition, attributes and assessment of the idiom. Moreover, numerous official and unofficial statistical surveys as well as life satisfaction studies have been undertaken as part of development programmes by different governmental

and non-governmental institutions. Arguably, however, these have all missed the comprehensive side of the concept and thus failed in many cases to achieve the intended goals of the programmes. What is in fact missing is scientific research built on a rational process that addresses the issue of QOL in its comprehensive extent and along different scales to provide valuable evidence which people can rely on when formulating future development programmes.

A few academic and professional attempts have been made, however, to analyse and assess QOL in Jordan comprehensively or to address particular scales or aspects of life under the umbrella and through the vision of QOL. Among these is the work done by Al-Azah (2010) in which he studied aspects of development in Jordan settlements analysing the relationship between reasons and causes and how it relates to the development and life of people. The work comprehensively examined the drivers, pressures, states and impacts of urban development within different parts of Jordan, trying to establish a better understanding about the interactions of different aspects of development and the implications they have for achieving sustainable development and life. Another attempt made by Al-Betawi (2004), tried to develop measuring criteria for QOL in Amman using a "closed shop" professional approach; here, selected experts were interviewed to formulate a local set of domains and indicators to be used for measuring QOL.

Al-Khalaileh (2004) made another attempt on his work about understanding the effects of physical environments on children's QOL within a specific location – namely Al-Wihdat Refugee Camp. Although the work does not present a holistic dimension of QOL in the sense that it addresses a specific dimension, it does portray a fine effort that adopts in a way the vision of QOL research. The Department of Statistics (DOS) in Jordan also carried out a number of surveys relating to people's well-being and life quality including a living conditions survey in 2007 and multi-purpose household survey in 2003. Additionally, there was an attempt to conduct a joint venture project - where measures were developed abroad - to assess QOL among citizens. Unfortunately the project was not completed because of its incompatibility with the lifestyle and norms in Jordan.

Research on housing, on the other hand, seems to be of more concern. Plenty of studies from different disciplines have been undertaken on both academic and technical bases. However, they still do not cover all necessary aspects in housing research. Design, space layout and environmental behaviour are among those aspects that have attracted interest, particularly from the academic side. Several studies have been carried out to assess a number of housing schemes and analyse the sort of social interaction, psychological comfort and spatial behaviour of residents. These include the works of Abu-Ghazzeh (1996, 1999), Al-Homoud (2003), Abu-Ghazalah (2008) and others. Housing policies and governmental practices are other aspects that have been extensively addressed by both academics and professionals in, for instance, the works of El-Ghul (1997), Nusair (2004), Meaton and Alnsour (2006) and Juwaynat (2008). However, many of the studies are not publicly accessible and some of them suffer from repetition and in some instances from contradictions with some of the facts and figures.

Housing for low income groups, unauthorised housing, squatters and upgrading are also aspects that have been addressed. Studies on low income housing include the works of Petro (1994), Al-Homoud et al (2009) and others. The literature on unauthorised housing can be divided into two main areas; academic studies and technical studies, each with different emphases and influences as well as varying terms including uncontrolled, unplanned, informal or illegal referring to the non-compliance with regulations. Academic studies have emphasised two dimensions - the social and environmental costs resulting from housing without compliance with planning standards and the use of alternative technology to reduce the cost of building materials with respect to unauthorised housing. The technical studies are related to structural issues and the technical manuals produced by building components procedures (AlNsour & Measton 2009). Urban upgrading is perhaps one of the issues that has attracted most interest in the field due to its political background. Many of the studies undertaken on this aspect relate in a way to the United Nations development programmes or other international and national courses.

Notwithstanding this, literature on housing suffers from a shortage of studies about housing quality and construction where there is a real dearth of data relating to this

field. A further lack can be seen in the studies of housing market behaviour. The housing market in Jordan suffers from a lack of real assessment and understanding of the actual need for housing in different locations and social groups. It is believed that the need for housing market behaviour studies is greater in developing countries than in developed countries since the housing problem in the former is more severe, and resources are scarce. A better understanding of housing demand parameters is crucial for successful urban policies, especially in small countries such as Jordan, where land and capital are scarce while the population is increasing at extraordinary rates (Hunaiti 1995). However, it is only recently that studies about the housing market have been undertaken. Examples include the works of Al-Homoud et al (2009) and Al-Oun (2010).

1.6. The Research Project

Housing is believed to play an influential role as part of the set of relationships that shapes out urban life. Such a role, however, is still not properly covered or understood when thinking of cities like Amman where the impact of housing can be witnessed beyond being merely a basic requirement for its population. The proliferation of apartment buildings, for instance, should not be seen as simply a change in housing typology, but rather as a striking change that affects the overall profile of the city. In view of this, this research argues that it is necessary to reconsider housing research in Jordan so that it captures the multiplicity of aspects adjoined with it, leading to a scheme which more comprehensively explores housing, not only as a need within urban settings but also as a factor that actually shapes the urban setting.

1.6.1. Focus of the research

Housing and QOL are both multifaceted, complicated fields of research. Therefore, studying and writing about housing and QOL in a manner that encompasses and incorporates all related aspects may prove impossible. What can be done instead is to establish a particular focus or view from which the impact of housing on QOL can be explored. In light of this, the focus of the research will be primarily on housing as a product not as a process or activity. In other words, the research will explore the different implications of the residential built form, i.e. the outcome, on different scales,

rather than the production process, including for instance, construction procedures and the set of economic activities associated with it. Additionally, although the study will be concerned with influences of different housing circumstances on the overall QOL of people, the primary focus of the research will be largely directed towards the central parts of the Greater Amman Municipality (GAM) that form the core urban setting of the city. Accordingly, the study does not cover the rural parts or the peripheral towns that are included within the boundaries of GAM. The study does not also cover the several refugee camps that are located in the city, due to the special political and administrative considerations of these parts. Within this setting the research addresses the implications of the different housing quality components in relation to the different housing types and community groups. In line with this, a focus will be made on the middle income part of the community within its broad scope that encompass upper-middle income group, middle income group, and lower-middle income group, as this represents the chief segment of the population and probably the worst affected by the transformations taking place. A large section of this category of the population is facing the threat of becoming part of the low and limited income groups which might result in a significant drop in the size of this key segment of the community.

1.6.2. Research aim and objectives

This study aims to critically investigate housing quality and the impact it has on QOL experienced by residents in Amman.

In doing so, the research seeks to achieve the following objectives:

- *Critically examine the existing conceptualisations of housing quality and QOL.* This implies reviewing the different conceptions and viewpoints addressed in literature to define, describe, interpret or assess housing quality and QOL and, identifying the shortcoming of these perceptions, ending up with the development of a conception that provides better insight on the subject.

- *Assess the state of QOL in Amman and determine the factors that affect people's perceptions and judgements of their QOL.*

This involves measuring the perceived QOL level among people and identifying the life aspects they consider most significant and have the greatest impact on their lives, particularly in Amman.

- *Identify the significance of housing on QOL in relation to other factors influencing QOL.*

  This implies measuring people's level of satisfaction with the overall housing circumstances in Amman and the perceived impact of housing on people's QOL, in addition to determining the extent to which people believe housing has an impact over other aspects of life.

- *Examine the impacts of the diverse aspects of housing quality on perceived QOL of residents.*

  This comprises identifying types of housing quality and the different components of each type of quality and exploring the impact it has on people's satisfaction with housing and QOL in Amman, in respect to the various socio-demographic factors.

1.6.3. Significance of the research

Few studies have comprehensively explored the impacts of different housing attributes on people's QOL. A scholarly attempt to understand the interrelationships between housing elements and elements of other life domains leading to better QOL has not been undertaken prior to this research, particularly in the case of developing communities. Such an attempt would seem to be essential to provide influential guidance for housing research and to direct planning efforts towards improved urban development and housing provision, leading, in turn, to a better life quality. In this regard, this research stands as a contribution to both housing and QOL theory and research as it investigates the element of housing under the broader umbrella of QOL in such a way that it does not focus only on housing as a field of research but also as an attribute that strongly influence other attributes of life quality. In this sense it tackles a number of issues that are inherent in the concept of QOL, including comprehensiveness, combining subjectivity and objectivity and understanding the two faceted roles of attributes as

causes and effects. This opens the way to an alternative direction in housing research that may be of interest to researchers and professionals from different disciplines.

In so doing, the research provides a novel thorough approach for addressing the concept of housing quality and exploring the impact it has on people's lives. Besides, the research provides a great deal of empirical data about housing in Amman and the impressions people have towards various components of housing quality in respect to their diverse socio-demographic attributes. It focuses particularly on the massive increase in the production of apartment buildings, which have become the dominant form of residence in Jordan, and considers the implications of this kind of housing scheme on people's QOL. By this means, it presents an attempt to build knowledge about housing in Jordan in an extensive way that combines a variety of issues trying to cover the gaps in housing research in Jordan.

1.7. Thesis Structure

In order to maintain a robust narrative and a clear flow of information the thesis is structured in nine chapters, as shown in Figure 1.1, articulating the five main parts of the research: introduction, theory, methodology, analysis and findings, and conclusions.

Chapter 1, *Introduction:* Outlines the research context presenting the general background and argument of the research regarding the consequences of urban growth and housing development on the quality of people's urban lives in general and in the context of Jordan in particular. It also considers the merits of undertaking a QOL assessment in understanding community needs and directing planning strategies and processes towards delivering better outcomes. Doing so, the chapter identifies the main foci of the research, and sets out and justifies the aim, objectives and questions of the study the thesis is attempting to answer. The chapter concludes with an outline of the thesis structure.

Chapter 2, *Literature Review*: Presents the theoretical framework of the research as regards both housing quality and QOL. The chapter starts by discussing the general implications of urban growth on QOL in general and housing specifically. The chapter

is then split into two main parts; the first explores the notion of housing quality and the attributes that constitutes good housing conditions. This implies reviewing the variety of perspectives on the meaning of housing quality and good design and the different approaches undertaken in literature to assess housing quality, bearing in mind the wide range of concerns they all have. In respect of that that chapter highlights the strengths and weaknesses of each approach followed by proposing an integrated definition of housing quality that will be used in this research. The second part addresses the concept of QOL in a comprehensive manner, reflecting the diverse thoughts related to the concept. In this part the chapter discusses the meaning of QOL and the synonymous terms used interchangeably with it. It presents the factors that shape and influence QOL and demonstrates the different philosophical foundations and viewpoints adopted to conceptualise and grasp the concept of QOL, attempting to establish a clear understanding of it. The chapter then moves on to discuss the means of assessing QOL followed by presenting some of the main findings from QOL literature. It concludes by addressing housing as a domain of QOL and reviewing research undertaken on the relationship between housing and QOL, thereby, attempting to establish a theoretical reference base for the practical part of the research.

Chapter 3, *Background to Jordan*: Provides an overview about the milieu of research focusing on the attributes of urban growth and transformations taking place generally in Jordan and specifically in Amman. Following that is a presentation of Amman's city profile, a discussion of the main implications such transformations have on people's lives and a demonstration about people's life quality and the main features that shape it. The chapter then deals with the housing policy context in Amman and the different elements of housing demand and supply including types and volume as well as challenges and constraints.

Chapter 4, *Research Methodology*: Portrays the research framework and discusses the research design and approach undertaken to answer the research questions. The chapter justifies the use of secondary resources and the adopted strategy for inquiry including procedures for primary data collection. It defines the settings within which the field work was carried out and the set of challenges faced during the empirical part of the

work. The chapter then goes on to discuss the data analysis strategy and the legitimating procedures taken to establish the validity and reliability of the research instrument, ending with the research ethics that had been taken into consideration.

Chapter 5, *Reflections on QOL and Satisfaction with Housing*: Presents the initial research outcomes concerning the exploration of the state of QOL in Amman and the status of different life aspects that influence people's QOL as well as the issues that are of major concern among people and that are considered to be of higher priority. In this sense, it provides a precursory description about how people living in Amman assess their QOL and what aspects they believe are the most influential in respect to their various socio-demographic attributes. It also looks at the sort of correlation that housing has with other life domains. In addition, the chapter provides some preliminary remarks about the status of housing and the extent to which people are satisfied with their housing circumstances. Adding to that is the exploration of the robustness of the primary satisfaction with housing and QOL measures adopted in the research, on which the majority of the analysis was built. This chapter is followed by three thematic chapters based on both quantitative and qualitative means of analytical procedures presenting descriptive, explanatory and speculative analyses. Each chapter covers one basic level of concern, regarding housing quality, and its influence on QOL. These are arranged respectively from housing provision and the influences of housing affordability in the first of the three following chapters, to attributes of site and location in the second, ending with the quality of dwelling in the third chapter.

Chapter 6, *Quality of Provision*: Searches for the correlation between housing provision and QOL, attempting to find out the extent to which people living in Amman believe their abilities to afford proper residences affect their general sense and likelihood of attaining a good life. The chapter examines attributes of good housing provision and seeks to understand the implications of the current trends in housing supply on the abilities of people to meet their housing needs and how that is reflected in their satisfaction with housing and QOL.

Chapter 7, *Quality of Context*: Addresses the influences of dwelling place location and surrounding neighbourhood attributes on people's satisfaction with QOL. It identifies the main problems that people consider as diminishing their contentment with their housing context and consequently lessening their perceptions of having a good life in Amman. The chapter discusses the influences of different factors including, for instance, social relations with neighbours, aesthetic quality of neighbourhood and availability of basic amenities. It looks at the direct and indirect impacts of neighbourhoods' features through exploring the set of associations between different components of housing context and the means by which it shapes and influences people's lives.

Chapter 8, *Quality of Dwelling*: Looks at the relation between the quality of the features of the residential units including design, layout, area, appearance, quality of construction and basic amenities among others, and the likelihood of residents being pleased with their housing and QOL. In so doing, it highlights the main problems that the majority of people face regarding the internal conditions of their houses, and tries to build a clear understanding of the interrelationships between different attributes of housing quality and the extent to which they affect people's lives.

Chapter 9, *Conclusions and Recommendations*: Presents basic inferences and summarises research findings. It synthesises the answers for the research questions that have been addressed in previous chapters and provides insights into the influences of housing on QOL. The chapter then gives general recommendations and sets out opportunities for future research.

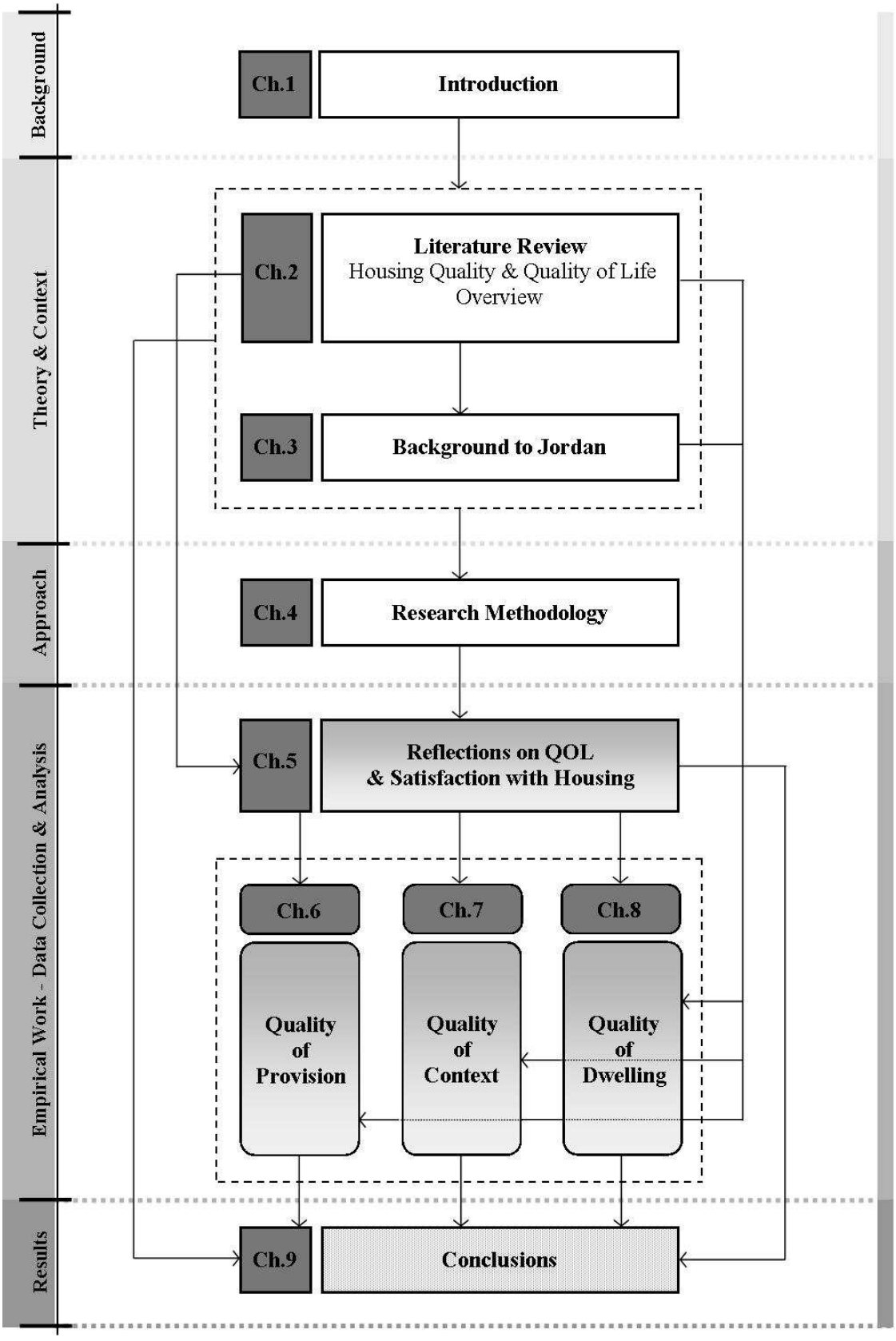


Figure 1.1.: Thesis Structure

Chapter Two

Literature Review

2.1. Introduction

Housing is a fundamental aspect of human life. It is a key factor in delivering healthy and attractive communities as it serves to define the life space of individuals. Without appropriate shelter, people cannot meet their basic needs and participate adequately in society (ENVIS 2009). Housing provides security, privacy, neighbourhood and social relations as well as status. It is a crucial setting through which basic patterns of social relations are constituted and reproduced (Coolen 2006; Hall & Barrett 2012; Smith 1994; Vera-Toscano & Ateca-Amestoy 2008). It also provides community facilities and services, access to jobs and control over environment. It is strongly associated with all aspects of life as its influence surpasses the mere provision of refuge and the set of needs associated with it, going beyond the settings of its physical boundaries and objective characteristics to include a wider spectrum of impact (Grayson & Young 1994; Markus 1988). To borrow the statement of Stretton (1976):

> '…Much more than half of waking time is spent at home or near it. More than a third of capital is invested there. More than one third of work is done there. Some high proportion of all goods is produced there, and even more are enjoyed there. More than three quarters of all subsistence, social life, leisure and recreation happen there. Above all, people are produced there and endowed there with the values and capacities which will determine most of the quality of their social life and government away from home' (cited in: Saunders 1989, p: 177).

This importance of housing entails that being 'ill-housed' could mean deprivation along any of these vital issues. Inadequate housing is inextricably the cause of a wide range of problems including homelessness, poverty, crime, unrest, unemployment, educational deprivation and ill health. All such aspects are said to lead to an enormous deterioration

of human life, and limit the chances of achieving better quality of life QOL. This fact has brought to the forefront the academic, policy and public attention towards the importance of housing and its quality (Vera-Toscano & Ateca-Amestoy 2008).

This chapter reviews the notions of housing quality and QOL. It seeks to offer a deep understanding of the terms, exploring literature that deals with the definition, conceptualisation, and assessment of them. In doing so, it aims to construct the theoretical framework of the research on which the rest of the analytical work is built. However, due to the complexity and multifaceted nature of the two concepts and the abundance of literature related to them it has proven impossible to cover them holistically in this finite review. In light of that, the primary focus of the review is on addressing the theoretical and conceptual aspects of the two concepts. Few general findings will only be presented in relation to the detailed assessment of housing quality and QOL in this chapter. Rather, extensive reference to such findings is made within the analytical chapters in respect to the research findings whenever relevant.

In order to achieve the aim of the chapter, it is divided into two thematic parts. The first part addresses the conception of housing quality by exploring the different viewpoints and approaches adopted in literature, while the second part discusses the notion of QOL and the different theories and philosophical foundations implemented to conceptualise and measure QOL. Each part comprises a number of sections that cover in detail the different aspects related to each of two terms, i.e. housing quality and QOL.

PART I: HOUSING QUALITY

Part one first examines the general consequences of urban growth and the challenges it imposes on housing quality. This is followed by defining the concept of housing quality and identifying the attributes that constitute good housing conditions covering both the objective and subjective attributes. This includes exploring the different perspectives on the meaning of housing quality and the different approaches undertaken to examine it, followed by a detailed review about the different aspects tackled in research related to housing quality covering, respectively, the residential built form, the neighbourhood and surroundings, housing supply and affordability, and residential satisfaction. Building on all that part one concludes with the proposal of an integrated definition of housing quality that encompasses all presented aspects to be used in this research.

2.2. Urban Growth and Challenges of Housing

Over the past few decades, the world has witnessed a massive increase in urbanisation and urban growth with more population concentrated within the boundaries of cities and urban centres. This urbanisation has been often plagued with problems that negatively affect people's lives. Such problems are painfully well known in the fields of power provision, availability of land and services, housing, transportation, environmental degradation, poverty and deprivation, inequality, crime and many others (Harris 1990; UN Habitat 2008; Yuan 2001).

Considering the developing countries, the process of urbanisation was not, in most cases, the outcome of economic and social developments, but an immediate response to the vast unplanned growth of urban population. This in turn has increased the severity of the urban challenges due to the lack of resources and administrative knowledge. Most cities in developing countries suffer from constraints that hinder their abilities to cope with the massive urban growth and urbanisation process. These include: infrastructure deficiencies restricting productivity investment, the dominant role of government in planning and financing urban infrastructure, inappropriate regulations, lack of financial resources and poorly-developed financial sectors that hamper investment in infrastructure, housing and other urban activities (Chen et al 2013; Gilbert 1992). What

has emerged, therefore, is a broad and widening gap between urban management and urban populations (Drakakis-Smith 1995). Together with the problem of expanding expensive physical facilities and public services, cities - instead of becoming generators of affluence and human well-being - have degenerated into problems of welfare as well as social, environmental and political degradation (Harris 1990).

Among all challenges of urbanisation and urban growth, housing is usually a central problem. Housing is strongly connected through the management of the wider economy and the potentiality of useful relationships with the whole range of public urban services and urban development efforts. In cities, both in the developed and developing countries, it is proximity to jobs, social infrastructure, availability of efficient services and healthy environments which give housing much of its value. Housing is strongly affected by all aspects of life and has also strong influences on them. Yet, housing aspirations and city development which are efficient, equitable and humanly satisfying are not easy to fulfil as operating realities. Few countries have really achieved high levels of effectiveness in their housing and urban policies, being able to a considerable extent, to provide their inhabitants with decent housing conditions (Jenkins, et al 2006; Pugh 1990).

For the majority of countries, particularly developing ones, urban growth was always accompanied with severe housing problems resulting from feeble housing policies and practices. It is argued that public budgets in such countries could not possibly cover housing demands or housing needs in any reasonably short time horizon. It is also argued that those who make housing policy tend to see housing in terms of “housing needs”, defined as minimum acceptable physical standards of housing and infrastructure. This type of assessment based on such standards is used to establish the basic requirements of a country’s housing strategy comprising amount, quality, location, and cost. However, in practice, such assessments are often inadequate guides to policy, because they do not include a realistic assessment of the resources available, nor do they consider people’s ability and willingness to pay for housing (Mayo et al 1986). Actual cases have shown that both governments and private sectors were incapable of meeting housing needs of a wide range of population groups either in terms of affordability and

financial reach or in terms of design specifications and contextual requirements (Pacione 2009).

This shortage of adequate housing is often exacerbated by high rates of population growth (Willis & Tipple 1991). For instance, during the 1980s in low income developing countries nine new households were formed for every permanent dwelling built. Over the same period, governments typically spent only 2%. of their budget on housing and community services; an amount that can barely be considered if compared to what has been spent in the case of developed countries (Pacione 2009). Table 2.1 presents some housing measures, including governmental expenditures on public services, showing the wide gap between housing conditions in low- and high-income countries.

Table 2.1: Indicators of housing quality in high and low income countries

Cities in	Floor area per person (m^2)	Persons per room	% of permanent structures	% of dwelling units with water connections	Government expenditure per person on water supply, sanitation, drainage, garbage collection, roads and electricity (US$)
Low income countries	6.1	2.47	67	56	15.0
Low to mid income countries	8.8	2.24	86	74	31.4
Middle income countries	15.1	1.69	94	94	40.1
Middle to high income countries	22.0	1.03	99	99	304.6
High income countries	35.0	0.66	100	100	813.5

Source: Pacione 2009

The failure to provide affordable housing has forced the mass of urban population in developing world into cheaper, probably inadequate, alternative forms of shelter that range from inner-city slum tenements and peripheral squatter settlements to the pavements of major cities (Pacione 2009). In respect of that, housing expert Ahmad Soliman (as cited in Davis 2007) presented four basic shelter strategies for the urban poor in Cairo:

> 'First, if access to central job markets is paramount, the household can consider renting an apartment. In such case the rental tenements offer centrality and security of tenure, but are expensive and hold out no hope of eventual ownership. The second option is centrally located but informal shelter in a small room or roof top with a poor quality environment and a cheap rent, or no rent at all, with good access to job opportunities but with no hope of secure tenure. The third and cheapest housing solution is to squat on publicly owned land. The fourth solution is to buy a house site on one of the vast semi-informal developments with legal tenure but without official building authorisation' (Davis 2007, p: 29).

Although this discussion is primarily describing the particular situation in Cairo, it matches to a big extent with the situation in almost all cities in developing countries where people, particularly poor, are forced to sacrifice many of their vital housing needs or qualities including, for instance, location, physical and structural quality, security and legality, in order to afford some other basic requirements. Housing choice almost always seems to be a hard calculus of confusing trade-offs. Urban inhabitants, particularly the poor, have to solve a complex equation as to try to optimise housing cost, tenure security, quality of shelter, journey to work, and sometimes, personal safety (Davis 2007). The result in most cases is making several concessions among certain means of housing quality to gain the most vital need that helps achieving better living conditions, which in turn affects the overall well-being and life quality of people.

This prevalence of inadequate housing varies across cities and countries. The range of housing problems and the barriers to adequate housing ranges from complete shelter deprivation to experiencing only one barrier of adequate housing (UN Habitat 2008). In addition, problems can range from those related to housing affordability and the ability to secure suitable shelter, to those related to lack of services and disturbing surrounding environment, to those related to deterioration of residential environment and poor quality of residential space, all of which are embodied in the broader term of 'housing quality'.

2.3. Defining Housing Quality

Housing quality is a complex concept because it is neither absolute, nor static. Rather, it is a relative concept that may vary between countries and also between specific groups

of people in a particular country both at one point in time and over long periods. It reflects a dynamic and contradictory reality depending on the stage of the social and economical development, on the civilization degree, on the comfort standard which characterises a society and on the proliferation of the way of living of people living in that society (Cernesco & Abraham, 1989). In principle, housing quality is context-dependent and variable over time. Accordingly, there are no 'objective' static standards which enable us to grasp it in a comprehensive way (Lawrence 1995).

The concept of housing quality is associated with two sorts of ideas or trends that present two different strands of housing research. The first refers to the intention of evaluating housing by means of criteria or measures aiming at assessing existing housing circumstances and defining the attributes that determine what is considered good and of high value. This basically presents the interest of different academics and researchers on housing issues who seek to gain better knowledge on the dynamics of the interrelated factors that shape housing and determine the efficacy of housing services. Another example comprises official public surveys and housing assessment programmes that seek to evaluate conditions of existing housing stock to help direct public policies and interventions. Examples include: The American Public Health Association Appraisal Method, Canadian Census, UK Survey of Housing and Environmental Deficiency Index and English Housing Survey. The second trend in addressing housing quality refers to pre-design evaluation of housing developments. This usually takes the form of guidelines that tend to define good design through sets of procedures and instructions to be applied in order to achieve better housing settings that secure the attainment of better living circumstances. Both tendencies are complicated by technical, physical, social, economical and political overtones (Ambrose 1989).

The desirable attributes of housing seem to convey many different things to many people. Accordingly, there seem to be many different approaches, employed by different research disciplines, to evaluate housing depending on the characteristics or the set of attributes under consideration, given that analysis or assessment of housing can involve the examination of a multiplicity of relations between individual, social, technical, economic and geographical structures. This makes the presence of inadequate

housing conditions not only a matter of an architectural or technical problem, but also of economic and political ones. The variety of approaches to housing evaluation was documented in a number of resources, including, for instance, a review paper presented in the United Nations in 1985. A notable finding of this review was the prevalence of complex approaches to housing evaluation and the distinction of evaluation and quality defining systems among countries, reflecting varying degrees of emphasis of the use of the physical measures and non-physical measures, or in other terms objective and subjective measures, in their analysis (Ambrose 1989; Duncan 1971).

It can be noted from literature that discussions on the quality of housing have in most cases focused on one of two main features: the 'habitability' of dwellings and what might be called the 'socio-cultural features' of housing (Ozsoy & Gokmen 2005). The first feature, which is merely objective, is reflected in research about material /quantifiable characteristics of housing in terms of physical features of residences and their functional, technical and construction components. This approach is often criticised for ignoring the fact that ergonomic, technical and physical standards of housing are dependent on the cultural values, social conventions and preferences of inhabitants. The second approach focuses on the subjective point of view of the individual using one or more sociological and/or psychological research methods to look at how people experience and interact with the environment around them and how they judge its suitability in relation to their daily routines and their expectations for the future use (Lawrence 1995).

In addition to the distinction between objective and subjective approaches in conceptualising housing quality, another classification can be made in regard to the elements or aspects used to define and assess housing quality. Literature has shown that housing quality has often been conceptualised very narrowly at either the dwelling, neighbourhood or supply and affordability levels. Some studies have comprised more than one aspect but still do not cope with the broad sense of housing quality. Further details about the different aspects of housing quality and how they are tackled in literature related to housing quality is provided in a following section. Ahead of that, a brief discussion about the different perspectives on the meaning of housing quality

adopted by different disciplines and fields of research is provided. This probably gives more insight about the theoretical and conceptual foundations of research on housing quality – the factor that paves the way towards a clearer understanding of the discussion of its different aspects.

2.4. Perspectives on the Meaning of Housing Quality

The multiplicity of disciplines concerned with the subject of housing, with its range of different interests and rationales, has led to the emergence of many discourses on and approaches to defining housing quality and determining the attributes that constitute good housing design. Following the work of Franklin (2001), disciplines engaged in the research of housing quality can be split into two categories; those involved in planning and design issues including architecture, urban design, planning and politics, and those addressing the human dimension of housing including notably environmental psychology, sociology and humanistic and cultural geography. Each discipline presents a distinct perspective on good housing design and contributes to the debate on housing quality through a particular focus or concern.

The political discourse is perhaps among the most pervasive and influential discourses of housing design and quality. For policy makers, the main focus is usually on housing supply and affordability. This includes issues related to housing demands, costs, public funds and subsidies as well as housing finance. Another focus is on design standards and control via policy documents and regulations. Regulatory and advisory bodies in many countries, especially developed ones, have produced quantifiable recommendations which they claim can be used to assess the essential elements of housing quality. The ‘Housing Quality Indicators’ produced by Housing Corporation - UK supported by DETR (1999) is a good example of that. The manual comprises 10 indicators to ensure delivering housing developments of high quality. These are: location; site visual impact, layout and landscaping; site routes and movement; unit size; unit layout; noise, light and services; unit accessibility; unit energy, green and sustainability issues and performance in use. A number of similar texts containing prospective or recommended standards for general or more specialised application have been produced. However, most of these publications construct housing quality as if it is

clearly determinant, objectifying it in terms of specifications, standards, measurements and dimensions, while missing things that are potentially too subjective or which relate to the wider built environment (Franklin 2001).

For architecture the discourse of housing quality is primarily, according to Franklin (2001), of style, aesthetics and capacity of the residential building to function and communicate to the beholder, to stimulate the mind and sharpen the perceptions. This viewpoint is probably built on the basis that architecture has been moving away to a wide extent from the provision of housing. Nevertheless, it still has a role in formulating the functional quality of housing particularly with the aid of sustainability and green design discourse. In that sense, it is seen to be predominantly objective and focusing more on the scale of the dwelling or the residential built form.

Urban design is probably one of the most influential and productive disciplines in the research of housing quality. Massive amount of studies on housing quality has emerged from this discipline. These include books, articles, guidelines and instructions about the definition of housing quality and attributes of good design. Examples include the work of Biddulph (2007), CABE (2007), Lewis (2005), Carmona (2001) and Goodchild (1997). The intrinsic message of this discipline is to look at housing not in terms of isolated units, as the case with architecture, but as a part of a wider context, having a relationship with elements of the surrounding environment. That is, according to Franklin: *"to set housing within the wider discourse of the built environment, wherein people, buildings, spaces, roads, transport, uses, safety etc are each but one element of a larger whole… contributing to the overarching quality of the so-called public realm"* (Franklin 2001, p: 83). Although this approach has contributed towards broadening the scope of housing quality research to cover vital contextual aspects, the attempt to bring housing more centrally into debates about urban living has been criticised for omitting the consideration of the private realm of the individual dwelling and its liveability, concentrating instead on the assemblage of urban parts.

While disciplines involved in planning and design focus on the objective dimension of housing quality, those addressing the human dimension of housing adopt a subjective

understanding of housing quality. The social discourse, for instance, argues that social reality exists in terms of the actions and thoughts, meanings and interpretations of individuals in the course of social interaction. This in turn is shaped by social processes and institutional forces, with which individuals and the groups to which they belong consciously or unconsciously engage. According to that, housing quality is defined as a matter of individuals' perceptions and satisfactions with housing conditions depending on the sets of personal and social attributes they hold. An extensive amount of literature undertaken on the subject of housing quality has been generated from this discourse. Examples include the works of Adriaanse (2007), Turkoglu (1997), Amerigo and Aragones (1990) and Grubber and Shelton (1986).

On the other hand, an approach rooted in psychology brings into the discourse of housing and place quality attributes of emotion, affect and self-involvement, of privacy and territory, thus giving greater depth to an understanding of the factors which lead to attachment to place. This helps explain the need to 'personalise' places in order to develop and sustain the sense that this place is one's own and the role of place in complementing the image one has of oneself and one's neighbourhood. The concept of place attachment links environmental psychology to people-environment studies which forms - in addition to environmental psychology and the humanistic, political and cultural branches of geography - other disciplines that have emerged in housing research with the discourse of people, place and space. The central concern of such disciplines is to account for the social and cultural factors which impact the relationship between people and their environments – particularly home environment, looking at the meaning, use and perception of place in the case of environmental psychology discipline whilst geography and sociology are more interested in the socio-political and economic production and consumption of space (Franklin 2001). Research on the meaning of housing and the quality of home presents an important example of this discourse. Several researchers including Gurney (1996), Smith (1994), Somerville (1992), Saunders (1989) and Tognoli (1987) have proposed a number of attributes or types of quality that lead to the perception of a house as a 'home'. The list of attributes is long, but includes for example comfort, safety, autonomy, personalisation, independence, privacy and belonging. Researchers working on the meaning and quality

of home believe that home is an advanced level of housing that has attained certain types of quality and therefore, looking at these sorts of quality is part of exploring housing quality.

Building on what has been presented, it can be noticed that there has been little consensus about the concepts and means of housing quality, due to the multiplicity of disciplines engaged in the subject of housing quality. Each discipline presents a valuable, but partial, viewpoint towards the comprehensive discourse of housing quality. Disciplines engaged with planning and design were found to be more objective focusing on the physical quality of the residential environment, while disciplines such as sociology and psychology were found to be primarily subjective. The scale or scope of interest was also found to vary among disciplines. While disciplines such as urban design and sociology seem to be more concerned with the wider contextual scale of neighbourhood and the surrounding environment, architecture and, to a certain extent psychology, seems to be more concerned with the scale of residential units. Politics, on the other hand, seems to be interested with issues related to housing supply and provision.

2.5. Aspects of Housing Quality

As mentioned earlier, most studies undertaken on the subject of housing quality have engaged with either its objective or subjective elements (Lawrence 1995). Studies that combine both dimensions are still uncommon. In addition, the majority of studies, especially those concerned with the objective or physical attributes of housing quality, have engaged with partial aspects related either to the residential built form, residential context or housing supply and affordability. Studies that encompass all such aspects are, as yet, uncommon. Each of these studies, however, is believed to have its strengths that add positively to the broad conception of housing quality in addition to its own weaknesses that need to be overcome. Following is a detailed discussion about the different aspects addressed in housing quality research, reflecting on the potentials accompanied with exploring each one of them and the main matters that are often focused on.

2.5.1. Residential built form

Examining the goodness or defect of residential built form presents, probably, the most conventional approach for defining and evaluating housing quality. It can be noticed from literature that the term 'housing quality' is mostly used in studies directed towards the assessment of the dwelling's physical attributes. Such studies often pay attention to the functionality, maintenance, occupancy and efficiency of the dwelling or housing unit. This includes assessing the stability of the dwelling's structure, the quality of construction and the provision of basic services such as water supply, drainage, heating, lighting and ventilation. It also includes the assessment of thermal comfort, indoor air quality, overcrowding, adaptability, and safety. In addition, there is a considerable amount of research that looks at the spatial configuration and arrangement of domestic space including furniture patterns as a quality factor (Duncan 1971; Ozsoy & Gokmen 2005).

Studies adopting this approach vary in their scope of concern ranging from those focusing on particular issues such as the quality of space design, housing appearance, quality of construction or indoor air quality to those covering almost all aspects related to the physical housing conditions. Examples of the first group include the works of Mahmud et al (2012), Chappells & Shove (2005) and Georgia & Smith (1999), while the second group, representing the more comprehensive extent, is best represented by what is known as the 'house conditions surveys' that are widespread in western countries. Examples include the English House Condition Survey as well as the Scottish and Welsh House Condition Surveys. This type of survey comprises a broad range of measures and indicators that cover in a detailed manner almost all aspects related to the physical conditions of the housing units including both the internal and external features. In that sense they are particularly useful in providing a comprehensive and accurate assessment of the types and conditions of the available housing stock and therefore are widely accredited by governmental institutions and researchers, working on issues of sustainability and environmental design.

Another example of studies that cover broad aspects of dwellings' physical conditions includes the work of Van Bogerijen (1989). In his study, Van Bogerijen identified two

sorts of qualities related to the physical conditions of houses: construction technical quality and living technical quality. The first encompasses issues related to the technical deficiencies of the housing unit and the non-fulfilment of legally stipulated minimum requirements that each dwelling is to meet, such as the presence of toilet and connections to water and sewerage, and the absence of the provisions within the dwelling, like thermal insulation and ventilation. The living technical quality on the other hand, covers aspects related to the spatial and aesthetic quality of the housing unit including outer elements (facades, roof cover, etc.), interior elements (floors, walls, doors, etc.), size of rooms and installations, as well as common spaces and storage.

In spite of the valuable and precise information these types of studies provide for defining and assessing housing quality, they are often criticised for being very narrow in their framework and scope. In most cases, these studies do not pay attention to other aspects of wider scale, that include for example attributes of neighbourhood, which has significant influence on housing quality. Adding to that is their objective approach that conceptualises housing quality merely in terms of its physical and quantifiable attributes, while ignoring the social, cultural and psychological aspects that form the basis for households' housing preferences and thus play an important role in determining housing quality. The meanings of 'good' and 'unfit' also vary from one country to another as different nations ascribe different levels of importance to housing. For example, in Germany a good dwelling has certain amenities inside the dwelling (bath, toilet and a modern central heating system) and unfit dwellings are lacking an inside toilet. In Spain a good dwelling does not display any of the characteristics mentioned for the dilapidated, poor and substandard dwelling. Unfit dwellings include those made from cheap or crude materials, and mobile dwellings. For the Netherlands, however, dwellings are classified according to the relative costs of renovation in relation to the newly built value. These costs are up to 10% for a good dwelling and 20 to 30% for an unfit dwelling. The case with poor and developing countries is perhaps much more variant. This makes the adoption of general universal standards very difficult and flags up the importance of grasping and assessing quality in response to local circumstances (Duncan 1971, Oxley 2001).

2.5.2. Neighbourhood and surroundings

Besides assessing housing quality in terms of physical conditions of dwellings, extensive research has been undertaken on the quality of neighbourhoods and residential surrounding environments as another means of housing quality. What is distinctive about this type of research is that it provides more insight about the implications of housing quality on other aspects of life and, therefore, broadens the scope of attention on and analysis of the concept of housing quality.

The work of Lansing and Marans (1969) presents an early example of this type of research. Lansing and Marans identified three quality measures based on physical characteristics of the neighbourhoods. The first measure is *openness*, referring to the spatial quality of the neighbourhood in terms of building heights, size of building blocks, street width and setbacks, area of open space, and number and size of trees on the street. The second measure is *pleasantness* defined as the level of satisfaction the environment represents to the viewer. The criteria used to determine the degree of pleasantness include architectural character, spatial character, landscape character, and maintenance level. The last measure constitutes *degree of interest* defined as the extent to which curiosity about the environment is aroused. This includes variation in architectural style; variation on vegetation and elements of landscape; variation in spatial character; and characteristics peculiar to the cluster such as architecture, landscape treatment, and activities reflecting the socio-economic cultural traits of the residents. In that regard, the researchers distinguished between two sorts of quality assessment, the first based on planners' and professionals' assessments about features that constitute neighbourhood quality and the second based on residents' own statements about those features. Findings reveal only a partial agreement between planners and residents. While planners seemed to focus on physical characteristics including, for instance, maintenance level, residents were more concerned with aesthetic and social attributes including how well the neighbourhood is kept up; noise; thinking the neighbourhood is beautiful, and being populated by friendly people, but not too close together. In spite of being narrow in its focus, using some vague measures and indicators that are not easily identified, the importance of this study lies in the fact that

it provides an impetus for carrying out research on neighbourhood quality and from its findings that match with findings from several recent studies in the field.

Another relevant example is the work of Greenberg (1999) undertaken on improving neighbourhood quality through meeting a hierarchy of needs. Greenberg identified four core aspects that negatively affect the quality of neighbourhood. The two foremost aspects are crime and physical deterioration. Both were seen as the most critical factors associated with poor neighbourhood quality. The third aspect is unwanted land uses including bothersome industrial and commercial developments resulting in uncontrolled odours, noise and pollution. The fourth factor incorporates the absence of public amenities and transportation facilities: yet these were found to be less important in explaining neighbourhood quality ratings. Greenberg also found that the standard socio-demographic characteristics of people such as age, sex and ethnicity were the least useful correlates of variations in defining and rating neighbourhood quality.

Unlike the previous two studies, Bonaiuto et al (1999) provided a more comprehensive interpretation of neighbourhood quality applying the concept of 'place attachment' as a unique criterion to define quality of neighbourhood. They sought to discover the set of neighbourhood attributes that helps developing strong attachment with neighbourhoods and better neighbourhood quality, and verified the relative predictive power of the different social, spatial, functional and contextual features for such attachment. The study identified four general and 11 specific explanatory and influential content areas as follows:

1. Architectural and planning features: architectural and town planning space, organisation of accessibility and roads and green areas.
2. Social relations features: people and social relations.
3. Punctual and in-network (non-punctual) services: punctual social health assistance services, punctual commercial services and non-punctual services – transportation.
4. Context features: lifestyle, pollution and maintenance/care.

Using a set of path analysis models, results have shown a strong influence of architectonic and town planning features where five indicators seemed to play a

significant role in predicting neighbourhood attachment. These are buildings' aesthetic pleasantness; buildings' excessive and repetitive volume; lack of green areas; internal practicability, and external connections. On the other hand, social relations and context features were found to be relatively influential while the punctual and non-punctual services showed the least influence. In that regard, two indicators of social relations were identified: threatening people and presence of social relationships, and three indicators for context features were identified: lack of opportunities, quiet, and presence of micro-upkeep. Among all the searched aspects, six were found to have the greatest influence neighbourhood attachment and quality; these are lack of opportunities, quiet, buildings' aesthetic pleasantness, presence of social relationships, lack of green areas, and inadequacy of cultural activities and meeting places (Bonaiuto et al 1999).

Kearns and Parkinson (2001) present another dimension for studying neighbourhood quality focusing on the subject of scale. Building on the work of Suttles (1972) they propose three scales within which neighbourhoods should be studied and analysed. According to their argument, neighbourhood exists at three different scales, each with its own predominant purpose or function, as shown in Table 2.2. Accordingly, neighbourhoods should be analysed as multilayered. Although their study was engaged with limited attributes of neighbourhood quality encompassing qualities of 'connectedness', 'status' and 'engagement', and therefore, did not add much to the components of neighbourhood quality, it provides a good structural base on which to analyse and assess neighbourhood quality.

Table 2.2: Scales of neighbourhood

Scale	**Predominant Function**	**Mechanism(s)**
Home area	Psycho-social benefits (for example, identity; belonging)	Familiarity Community
Locality	Residential activities Social status and position	Planning Service provision Housing market
Urban district	Landscape of social and economic opportunities	Employment connections Leisure interests Social networks

Source: Kearns & Parkinson (2001)

Carmona (2001) presents, probably, one of the most comprehensive descriptions of neighbourhood quality. He identified eight types of quality that can be thought of when assessing urban housing design qualities. These are spatial quality, morphological quality, contextual quality, visual quality, perceptual quality, social quality, functional quality and sustainable quality (Gallent & Tewdwr-Jones 2007). He claims that such qualities can form the base for SWOT (strengths, weaknesses, opportunities, threats) analysis though which a thorough appraisal of housing quality can be made. In line with that he defined a set of principles for housing design quality that comprise 17 distinct principles that come with these eight types of quality; these principles are:

1- *Context:* adequately respond to established urban design, landscape and architectural context and what is distinctive about the site and surroundings (contextual).
2- *Sense of place:* establish sense of place in new developments and, where appropriate, in their constituent parts (perceptual).
3- *Community:* encourage the creation of a sense of community through the integration of physical and social foci and a well-used public realm (social).
4- *Urban space:* establish a coherent network and hierarchy of well defined individual urban spaces and a visually interesting townscape layout (morphological/visual).
5- *Legibility:* create legible, easily navigable environments (perceptual)
6- *Connectivity:* create well-connected permeable layouts fully integrated into their surrounding environment (morphological).
7- *Movement:* create a pedestrian-friendly public realm designed for walking, for child play activities and encourage social intercourse (social).
8- *Car dominance:* cater for vehicular access and reduce dominance of cars (functional).
9- *Security:* create well used, well surveilled streets and spaces (social).
10- *Innovation:* build to last through high quality materials and detailing, and through innovation in architectural design (sustainable/visual).
11- *Flexibility:* create spaces and buildings that are resilient and adaptable (sustainable).
12- *Choice:* offer variety and choice in building sizes, types and tenures (social).
13- *Landscape:* integrate fully and address positively public open space (spatial/contextual).

14- *Sustainability:* respond to sustainability agenda by conserving land and material resources, integrating energy efficient technologies, designing for ecological diversity, for less car travel and greater use of public transport (spatial/sustainable).
15- *Mixing uses:* move beyond strict zoning and mixing houses with other uses (sustainable).
16- *Functionality:* create buildings and environments that function successfully (functional).
17- *Homeliness:* create buildings and environments which offer peace of mind, which are safe and secure and carry for users a sense and meaning of home (perceptual/functional/social).

Another attempt includes work of Karn and Sheridan (1996) who developed a practical guide for housing quality. The guide looks broadly at different features of home, inside and outside, from the perspective of the household and helps with considering whether the design of the house is suited to the needs of the people who will live in it. In doing so, it talks about ways in which the design of homes may affect the comfort, safety and convenience of people living in them. The guide comprises 13 subjects representing various aspects of housing quality; these are neighbourhood attractions, outside the home, security and safety, the way to live, fitting in furniture and equipment, storage, moving around the home, avoiding accidents, fire safety, noise, daylight and view, energy costs and making changes.

Building on the above discussion, it can be said that an environment of high quality is usually defined as one that conveys a sense of well-being and satisfaction to its population through characteristics that may be physical, social, environmental or symbolic. It can be generally noticed that research engaged with neighbourhood quality has extensively contributed towards widening the conceptual understanding of housing quality. However, these studies still suffer from a number of limitations among which are the absence of studies that include a full spectrum of neighbourhood characteristics and the ignorance of aspects related to the individual dwellings and housing units.

2.5.3. Supply and affordability

Housing affordability is one of the main issues that influence the desired quality of housing. The quality of house that individuals are able to attain is largely a reflection of what they are willing or are able to afford. For the great majority of people this scarcely bears comparison with an 'ideal' house. The extent to which housing falls below any particular standard may be as much a reflection of households' wealth and financial ability in aggregate. It is very easy to foresee that a dwelling, which is quite difficult to purchase, shall become an even more expensive item in the event of increasing the divergence between the prices of housing and income. For most people the cost of buying or renting their house consumes by far the largest part of their income. This, in turn, affects their ability to provide better housing and life qualities. Moreover, if the financial capabilities lead to the threat of losing the home this could be very damaging for the household (Maliene & Malys 2009; Harrison 2004; Markus 1988; Duncan 1971).

Housing affordability has long been considered a key indicator for success in the overall housing system. Therefore, it is among the issues that focus the attention of policy makers and numerous researchers engaged with the fields of housing economics, housing policies and housing behaviour. Several studies have been undertaken on housing affordability to assess the efficiency of housing supply and explore the set of opportunities and constraints that determine the ability of households to fulfil their housing needs and demands, and thus, achieve better housing quality. Such studies tackle various issues related to housing policies, housing supply and allocation, housing costs and finance, affordability problems, dynamics of housing markets and others. This puts forward the idea that affordability is really a label for a number of closely related issues linked to housing provision. Such issues include housing supply and demand, housing delivery, accessibility to housing market, housing costs and housing tenure and homelessness, all of which affect the achievement of better housing quality (Gallent & Tewdwr-Jones 2007; Leishman & Rowley 2012).

The effect of tenure type is an aspect that has been extensively addressed. Attempts have been made to explore the set of consequences associated with the different tenure

types, particularly home ownership, on the individual and societal levels. Examples include the work of Elsinga and Hoekstra (2005), Dietz and Haurin (2004), Rohe and Basolo (1997), Rossi and Weber (1996) and Rohe and Stegman (1994). Researchers have found such apparent implications on aspects including health, mobility, social integration, sense of security, household behaviour, wealth accumulation and environment. Although most of these studies work within economical perspectives or with the housing behaviour research agenda, their contribution in enriching and widening the concept of housing quality is substantial.

Choice and control are two other meanings that have been extensively referred to when addressing the issue of housing quality and the efficiency of housing provision. Both are strongly associated with the concept of home constituting the profound dimension of housing. It is argued that the increased choice/control would be associated with greater housing quality and, thus, higher levels of subjective QOL. This has been confirmed through the work of Nelson et al (2007) who found out that perceptions of housing quality have been related to perceptions of housing control and choice. Households who perceived themselves as having had more choice/control over their housing were also more likely to perceive their housing as being of greater quality. It has been justified that ability to exercise more choice over where people live would have allowed them to select better quality housing. Additionally, greater perceptions of choice/control over housing themselves could lead to increased attachment to housing and, accordingly, an improved evaluation of its quality (Van Ham 2012; Nelson et al 2007; Brown & King 2005).

Research on affordability and housing provision is important for enriching the conceptualisation of housing quality. It presents the wider lens through which housing quality can be assessed, and helps providing explanations for findings obtained from research engaged with quality of dwelling or neighbourhoods. It is also recognisable for being an important source for objective data that might relate to housing quality.

2.5.4. Residential satisfaction

Residential satisfaction is a subject covered substantially in the literature on housing and built environment. It has long been a major topic in disciplines such as sociology, psychology, planning and geography. The reason for the popularity of this topic is, according to Lu (1999), twofold: the first is being recognised as a 'mediator' of individual happiness or well-being (Vera-Toscano & Ateca-Amestoy 2008). Accordingly, it has been studied as an important criterion in describing the QOL of inhabitants in determinate residential environment, and also a trigger factor affecting residential mobility (Amerigo & Aragones 1997). The second reason is being a source for understanding individuals' evaluations of their housing circumstances which determine the way they respond to residential environments and form the basis of demands for public action. In that sense, it presents an alternative viewpoint of addressing housing quality by covering the subjective dimension overlooked in conventional objective approaches.

Residential satisfaction studies tend usually to examine households' perceptions of their living environments, including both the house and the neighbourhood, through dividing explanatory factors into characteristics of users (either cognitive or behavioural) and attributes of the environment, both physical and social. The main aim is to find out the most influential factors that affect people's perceptions and determine their level of satisfaction. Despite the variety of approaches applied by different studies to assess and conceptualise residential satisfaction, they all share the same central idea - that what is important in determining individuals' residential satisfaction is their perception rather than the actual configuration of residential forms and conditions (Lu 1999). In line with that, all such studies work under the notion that residential satisfaction measures the differences between households' actual and desired housing situations, where satisfaction with one situation indicates the absence of complaints and a high degree of matching between actual and desired states. On the contrary, the 'lack of fit' between households' actual and desired housing needs creates stress or dissatisfaction with their residence (Lu 1999; Morris & Winter 1975).

Research related to residential satisfaction may be grouped into two categories: the first includes studies of residential satisfaction as a criterion of evaluation of residential quality, treating satisfaction as a dependent variable, i.e. an outcome. Examples include the work of Marans and Rodgers (1975), Cutter (1982), Amerigo and Aragones (1990) and Weidemann et al (1982). The objective of this type of study is to establish the factors that determine the degree of households' satisfaction with their residential environment. Such factors include length of residence, tenure status, physical characteristics of the house and neighbourhood, social bonds, and the socio-demographic characteristics of residents. In that sense, this approach is more associated with research focusing on the qualities of dwelling and neighbourhood. The second category interprets residential satisfaction as a predictor, i.e. independent variable, of households' behaviours, like residential mobility and adaptation of housing. This approach assumes that any incongruence between the set of needs and aspirations and the current residential status can be alleviated by moving either to another house or to another location. Examples of this approach include the work of Newman and Duncan (1979) and Galster (1987). This type of research is usually more linked with research on housing market and provision.

In general, residential satisfaction is a complex cognitive construct. Unlike the case with the objective research on housing quality, research on residential satisfaction tends to reflect a broader perspective in addressing housing quality that combines aspects related to the dwelling, neighbourhood and, in some cases, affordability and housing provision. In respect of that, different studies have adopted or come up with different measures of satisfaction. Table 2.3 illustrates examples of residential satisfaction features that have been explored in a number of studies. It can be noticed that studies undertaken on residential satisfaction vary in their focus, and in the type and amount of explanatory variables and factors of influence, as well as the degree of specificity with which they identify such variables.

Table 2.3: Factors of residential satisfaction explored in a number of studies

Study	Factors of Residential Satisfaction	
	Aspects of Concern (Scale)	Satisfaction Components (Research Measures)
Vera-Toscano & Ateca-Amestoy (2008)	- Dwelling - Neighbourhood - Housing provision	**T**enure type - **P**roperty value - **H**ousing adequacy - **P**ublic/private housing - **R**oom stress - **P**rovince - **A**vailability of public services - **B**othersome features - **I**nteraction with neighbours - **S**ocial consensus with neighbours
Hur & Morrow-Jones (2008)	- Neighbourhood	**S**afety - **L**ocal government service - **C**leanliness - **T**rees - **P**edestrian access to stores - **T**raffic - **R**acial composition - **D**istance to work - **D**istance to family and friends - **A**ccess to recreational opportunities - **P**roximity to problem areas - **G**eneral appearance - **D**ensity of housing - **S**ocial activity - **S**ocial communication
Adriaanse (2007)	- Dwelling - Neighbourhood	**D**welling is properly maintained - **C**onvenient dwelling layout - **P**leasing ambiance of dwelling - **A**ttachment to neighbourhood - **P**leasant treatment of neighbourhood's residents - **C**ohesion **A**ttractiveness - **S**ocial mix - **L**ack of annoyance - **C**ontact with neighbours - **F**eeling at home
Kearney (2006)	- Neighbourhood	**D**ensity - **P**roximity to shared nature - **U**se of shared outdoor areas - **V**iew from the home
Elsinga & Hoekstra (2005)	- Dwelling - Housing provision	**T**ype of tenure - **H**ousing quality index - **D**welling type - **N**umber of rooms - **S**pace shortage in dwelling - **H**ousing expenditure
Parkes, et al (2002)	- Dwelling - Neighbourhood	**A**ccess to neighbourhood facilities - **G**eneral appearance of area - **L**eisure facilities - **N**oise - **C**ommunity spirit in area - **F**riendly community - **Q**uality of schools - **Q**uality of public transport - **S**treet lighting - **C**rime - **R**elations with neighbours - **S**afety in accommodation
Day (2000)	- Dwelling - Neighbourhood	**C**hoice & tradeoffs - **A**uto accommodation - **S**pace around house - **P**rivacy - **V**iews – **I**mage - **I**nterior space
Lu (1999)	- Dwelling - Neighbourhood - Housing provision	**H**ousing adequacy - **R**oom stress - **P**roperty value - **H**ousing cost in income - **P**ublic/private housing - **C**ensus region - **C**entral city/suburb - **B**othersome features in neighbourhood
Turkoglu (1997)	- Dwelling - Neighbourhood	**A**ccessibility to city centre & public services - **A**vailability & maintenance of social, recreational & educational services -**S**atisfaction with neighbour - **S**ocial & physical environmental problems - **S**ize & physical conditions of dwelling - **C**limatic control of dwelling
Aragones et al (1992)	- Dwelling - Neighbourhood	**R**elationships with neighbours - **Q**uality of house - **U**rban insecurity - **C**omfort - **O**vercrowding of house
Aragones & Corraliza (1992)	- Dwelling - Neighbourhood	**R**elationships with neighbours - **U**rban safety - **H**ealth infrastructure - **O**vercrowding - **I**nfrastructure facilities
Amrigo & Aragones (1990)	- Dwelling - Neighbourhood	**B**asic residential infrastructure - **R**elationship with neighbours -**S**afety of the town - **I**nfrastructure of the neighbourhood - **D**eterioration - **C**onnection with the outside world - **U**rban activity and noise - **O**pen natural spaces
Amrigo & Aragones (1990)	- Dwelling - Neighbourhood	**C**omfort with the neighbourhood - **C**omfort of house - **S**afety - **P**rivacy - **T**hermal insulation

Each of these studies came up with different sets of factors or housing quality attributes that were found to be the most influential. For instance, Amerigo and Aragones (1997) identified four important aspects that seemed to be of substantial concern. The first two relate to the house and are the quality of basic infrastructure and overcrowding, while the second two refer to the neighbourhood and surrounding area, and are perceived residential safety and relationships with neighbours.

On the other hand, Lu (1999) found that home ownership and availability of space were the two housing aspects that seemed to be associated with more satisfaction with homes and neighbourhoods. Unlike the previously mentioned studies, in his study about improving neighbourhood quality, Greenberg (1999) found that poor neighbourhood quality was strongly associated with crime and physical decay. These were seen to be more influential if compared to other factors such as absence of good parks, schools, mass transportation facilities and other public amenities. Bothersome industrial and commercial developments also lower neighbourhood quality if residents perceive that these developments were imposed on them and result in uncontrolled disturbances and means of environmental or social deterioration. Other factors include mistrust of authority, negative emotions, and lack of sense of mastery of the environment. Greenberg claims that residents differ in their feelings about a given neighbourhood according to their personal attributes that include degree of optimism, sense of control and trust of local officials. These influence the way and extent to which they assess and rate their neighbourhood quality. He also stated that previous neighbourhood experiences confound present ones and play a role in differentiating between attitudes of people towards the same neighbourhood they live within.

The work of Hur and Morrow-Jones (2008) presents another sort of finding. The study has shown that factors affecting residential satisfaction vary among community groups as they were similar among satisfactory groups of neighbourhoods, but noticeably different in the case of unsatisfactory groups. Satisfaction with housing density, traffic and proximity to problem access seem to be important in all cases. Satisfaction with general appearance and density of housing seem to be the most significant factors in the case of satisfied neighbourhoods. Other factors include satisfaction with local

government services and satisfaction with recreational opportunities. In the case of dissatisfied neighbourhoods, indicators of social problems such as satisfaction with safety from crime, satisfaction with racial composition, and satisfaction with proximity to problem areas turned out to be dominant influences for the overall satisfaction of residents, besides satisfaction with general appearance. Findings of Hur and Morrow-Jones match to a certain extent with findings from a set of studies which identify physical appearance as the most important factor for increasing neighbourhood satisfaction and QOL. These include the work of Kaplan (1985) and Langdon (1997). Other researchers claim that attributes of residents affect their tendency towards valuing physical and social factors in determining their overall satisfaction. For instance, newly arrived residents are seen to point out physical appearance as the most important factor for residential satisfaction, while long-term residents consider stress factors such as tension with neighbours and inability to communicate with others as the most important (Potter & Cantarero 2006).

Regardless of the differences, most studies tend to agree on a certain number of attributes that seem to be more associated with residential satisfaction. Sirgy and Cornwell (2002) listed a number of features, based on an extensive review of literature, that have received empirical support in relation to residential satisfaction. The list includes the following features arranged under three categories as follows: *physical features* - upkeep of homes and yards, landscape in the neighbourhood, crowding and noise level, nearness of neighbourhood to facilities needed, quality of the environment in the community; *social features* - social interactions with neighbours, outdoor play space, satisfaction with people in the neighbourhood, ties with people in the community, crime, race relations in the community, privacy at home; and *economic features* - home value, cost of living in the community, satisfaction with socio-economic status of neighbourhood and neighbourhood improvements.

In spite of its popularity, research on residential satisfaction and the interaction between the individual and their residential environment faces a number of problems that can be grouped around three dimensions. The first relates to the content of the residential environment and how it is empirically defined. An example is the problem associated

with the definition of neighbourhood. In many cases the concept is not used within clear, well established and bounded limits that define what features constitute a neighbourhood. The second dimension broaches the problem of the interaction between the individual and the residential environment because of being dynamic, two-way and constantly changing. The third relates to the issue of social desirability inherent in the term 'satisfaction' and the difficulty of determining objective levels of residential satisfaction. Such problems sometimes result in contradictions between research findings (Hur & Morrow-Jones 2008; Amerigo & Aragones 1997).

2.6. Towards an Integrated Definition of Housing Quality

Despite the abundance of research undertaken on the subject of housing quality there seems to be a scarcity in studies that cover broad dimensions of the subject. Even with the efforts made to develop substantial and coherent theoretical and practical frameworks to understand and analyse quality and design of housing, most of them became fragmented as they were the subject of different disciplines involved in housing studies such as architecture and planning, psychology, economics and sociology. Furthermore, research from different bases has had difficulties connecting with each other due to the different concepts, theories, methods and even languages and assumptions about people-environment relationships that each discipline has and uses (Garcia-Mira et al 2005). For instance, it can be noticed that studies exploring objective-subjective relationships in housing have been limited (Marans 2003). Lawrence (2000) pointed out that there were also very few studies that address the morphological or spatial dimensions of housing.

In respect of that, many researchers argue that it is no longer possible to discuss housing quality without considering the reciprocal relations between different factors and attributes that include, for instance, physical characteristics of housing and the much broader environmental and social conditions. For that reason, they call for a reappraisal of the concept of housing quality, calling for an integrated definition of housing quality in which sets of architectural, demographic, economic, ecological, psychological, social and political factors are explicitly interrelated. This implies the development of a contextual understanding based on the identification and aggregation of the contingent

factors that relate to the different aspects of housing, including provision and affordability of housing (Lawrence 1995). Table 2.4 present these sets of factors.

Table 2.4: Contextual conditions of housing

Land use and Building Regulations
Planning and building construction laws
Government fiscal incentives for construction and renovation
Available land for construction
Building stock for renovation
Provision of public amenities, infrastructure and services
Economic and Political Factors
Roles of public/private, and formal/informal sectors
Land and housing ownership and management
Bank interest rates and inflation
Subsidies and taxation for construction and renovation
Nature of building stock cycle
New construction and renovation costs
Socio-Demographic Factors
Population characteristics by age, gender and nationality
Vocational distribution and employment status of population
Households and personal income status of population
Social assistance, poverty and delinquency
Morbidity and mortality rates
Fecundity and natality rates
Marriage and divorce rates
Households formation and structure
Immigration and emigration
Qualitative and Quantitative Factors
Availability of services in the neighbourhood and the city
Availability and diversity of housing, services and employment
Affordability and choice in local market for house-owners and renters
Evolution of comforts and housing standards
Changes in lifestyles and domesticity
Social values attributed to neighbourhoods and building types
Social values attributed to housing tenure
Residential history of the local population

Source: Lawrence (1995)

This integrative perspective offers more collaboration, conceptual innovation, and multiple methods and measures in defining and assessing housing quality (Ozsoy & Gokmen 2005). It takes into account not only the needs but also the perceptions of resident in order to create a more harmonious residential environment, maximising comfort with the resources at their disposal. Additionally, it entails the necessity to replace the longstanding use of prescriptive principles based on definite conceptual

visions or beliefs that specify what ought to be achieved by proscriptive principles that state what not to achieve. Proscriptive principles imply that what is not forbidden is permitted. They do not hinder a wide range of solutions to housing requirements, and thus open the way for broader awareness of housing quality attributes and more innovative solutions for accomplishing housing needs and requirements (Lawrence 1995). Furthermore, this approach offers a combination of the 'outside' and 'inside' viewpoints about housing quality comprising external and internal values as well as approved standards and shared local experiences, in addition to utilising both quantitative and qualitative approaches. This gives rise to possibilities in the long term for deepening our understanding of both local and general views of housing quality, and the interrelated natures of the different perspectives (Ambrose 1989).

In terms of welfare, development, and overall distributional impact, the study of whole-sector housing quality is more significant than attention to parts of a housing system. This is necessary for the development of effective housing policies in order to establish a more comprehensive approach that has vigorous relationships to general land policies, to the development of housing finance systems, and to the broader economic, social and institutional conditions for enhancing the qualities of supplies of housing (Pugh 2001). This helps broaden the definition of housing quality, as suggested by Lawrence (1995), to explicitly encompass housing availability and affordability.

In brief, a desired integrated definition of housing quality can be seen as one that comprises the three different scopes of concerns (dwelling, neighbourhood, provision), addressing both physical attributes of housing (objective) and attributes of residential satisfaction (subjective) as illustrated in Figure 2.1. This integrated framework of housing quality, illustrated in the figure, is the one adopted in this research.

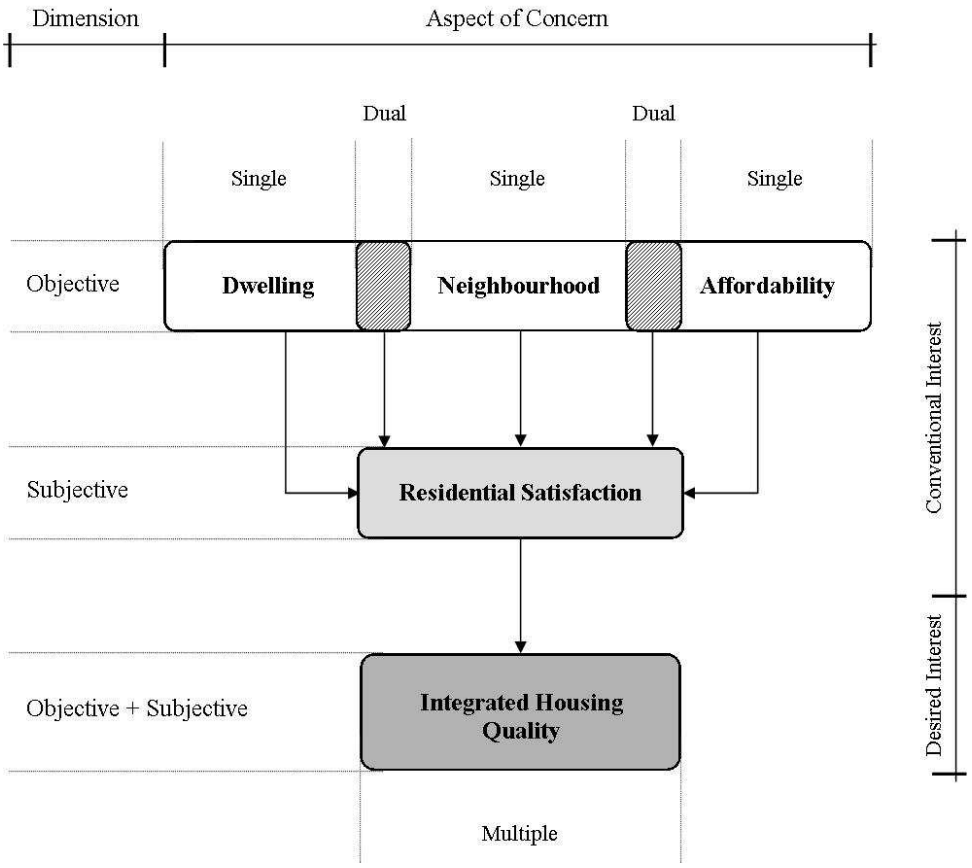


Figure 2.1: Integrated housing quality

PART TWO: QUALITY OF LIFE (QOL)

The second part of this literature review addresses the concept of QOL in a holistic and detailed manner, presenting the diverse thoughts that deal with the concept. This part starts with introducing the concept of QOL as a way to understand and assess housing quality, followed by discussing the meaning of QOL and the synonymous terms used interchangeably with it. This includes presenting the factors that shape and influence QOL and demonstrating the different philosophical foundations and viewpoints adopted to conceptualise and grasp the concept of QOL. The chapter then discusses the means of assessing QOL followed by presenting some main findings from QOL literature. It concludes with addressing housing as a domain of QOL and reviewing research undertaken on the relation between housing and QOL, attempting to establish a theoretical reference base for the practical part of the research.

2.7. Understanding Housing Impact through the Concept QOL

Living in a quality environment is a key element in improving people's lives. Accordingly, a good QOL is intimately bound up with the enjoyment of comfortable and affordable housing which meets the needs of inhabitants and offers both safety and privacy. At the most basic level quality housing provides shelter and helps to sustain health (Grayson & Young 1994). On a wider scale it helps foster community cohesion, create a sense of place and improve the urban environment, making people's lives easier to cope with, more enjoyable and even less costly (Sassi 2006; CABE 2003). In spite of its complexity, the link between poor housing and poor QOL is an issue that can hardly be denied. It is said that*: "At its best, housing can provide both a physical and emotional base for a good QOL. At its worst, it can condemn people to misery"* (Grayson & Young 1994, p:71).

There is no doubt that the severe challenges that are recently facing the provision of good quality housing, particularly in developing countries, have palpable implications for the overall QOL of people. The question is not whether there might be influences of bad housing quality or not, but rather what sorts of influence might this bring to people's QOL. This, in turn, implies understanding what is meant by the concept of QOL and what are the attributes that shape it. The majority of literature related to housing, urban design, planning and sustainable development uses the term 'Quality of life' merely as a fancy term to define a splendid state sought to be achieved by employing a certain design or development. Few studies have addressed QOL as a distinct subject of research trying to employ its theory, conception and practice as a basis to understand the implications of housing on people's lives (Yuan 2001).

As this research though, seeks to look at the impact of housing on people through the concept of QOL, it was necessary to explore the theoretical foundations and attributes of the concept. In light of that, this second part of the literature review attempts to provide the conceptual base of the term quality of life QOL starting in the following sub-sections with addressing the emergence of the concept and defining its meaning and dimensions. This is followed by a section that addresses the philosophical foundations of QOL research and related common trends and scopes of it. Following are sections

that tackle the assessment of QOL and the different theories related to it, concluding with some findings obtained from literature.

2.7.1. Emergence of the QOL concept

Questions regarding the essential qualities of a good society and the good life have captured the attention of thinkers since early times. Diverse concepts and terminologies were introduced by philosophers to define the good life and how it can be achieved. Aristotle, for example, introduced the concept of 'Eudaimonia', commonly translated as happiness or welfare, as the highest good for human beings where individuals were called on to realise their potentialities in order to achieve a 'good life' (ENVIS 2009). Some philosophers emphasised virtue and moral as the way to maintain the pleasant life, while others prescribed the equal distribution of resources among people as the way to achieve it (Diener & Suh 1997). The term 'Quality of Life - QOL' has come into popular usage since the late 1960s as a concept encompassing all former notions of a good life, providing an extension of the set of instruments employed to examine societies and test the impact of development policies and efforts. This recent appearance was steered according to Lane (1994) by three main ideas: 'democratic politicism' assuming that maintaining democratic governance will secure a good QOL; 'economism' referring to the idea that economic prosperity will cause better life quality; and 'ethicism' reflecting the assumption that improvement in morals and values will produce better social institutions and better QOL. Since then the concept of QOL has spread rapidly, playing an increasingly important role in different disciplines including social sciences, planning, urban design, geography, medicine and health care as well as psychology (Das 2008).

2.7.2. Defining QOL

QOL is a multi-faceted elusive concept that can mean different things to different people, encompassing such notions as 'well-being' centred on the individual to 'good place' centred on the location. It is also a multi-scale concept that can be approached at varying levels of generality from the assessment of community well-being to the specific evaluation of individual and groups circumstance (Felce & Perry 1995). The concept has several interesting attributes: it refers to human life only, it is rarely used in

plural, it is used as a single inadvisable generic term, and it is difficult to classify into any discrete category of related sciences (Szalai 1980). Roughly speaking, QOL usually refers to a valued and well-lived life that meets human needs. Dissart and Deller (2000) referred to QOL as an indication of "the more or less 'good' or 'satisfactory' character of people's life". It might also refer to the presence of the conditions that favour such a good life and the satisfaction or dissatisfaction of individuals upon these conditions (Rojas 2009; Costanza et al 2006). In addition, it comprises not only the material aspects of life such as increased wealth, but also the less tangible aspects of life such as good health and opportunities for recreation and play (Yuan 2001), and also has 'etic' (universal) and 'emic' (cultural bound) properties (Verdugo et al 2010).

Many researchers believe that the QOL is a concept that is too broad to be described. Operational definitions of QOL are diverse, with variability fed by the use of different societal or individualistic perspectives and by the range of applicable theoretical models and academic orientations (Felce & Perry 1995). Numerous attempts have been made to provide a definition of QOL. However, there does not appear to be one generally accepted definition in the vast body of literature that has been generated on the subject. Baker and Intagliata (1982) pointed out that there might be as many definitions as the number of people studying the phenomenon. Hughes et al (1995) identified 44 discrete definitions over a period of 23 years (Rapley 2003). Romney et al (1994) provided three explanations for not reaching a universally accepted definition of QOL; these are (1) the concept of QOL being to a considerable degree value laden, (2) the likelihood to describe and interpret the psychological processes relevant to experiences of QOL using multiple considerations and different conceptual filters, and (3) the concept of QOL embodies the understanding of different issues including human growth and development, life span of individuals and the influences of environmental factors and value systems on all these psychological processes.

Despite variances among terms and norms used to define QOL, there is still some sort of consistency within definitional terminology attained during the the course of QOL research. This is believed to be due to the uniformity of scientific examination practices applied to QOL studies that consist of the meticulous validation of commonalities and

differences among group preferences, opinions, behaviours, and values, which give solid meaning and understanding of what constitutes quality of life. In formulating a definition, most specialists agree that the term quality has the same meaning as grade and the grade ranges from high to low and from better to worse. In that sense the word "quality" is used as an evaluative term acknowledging degrees of desirability or value (Shin 2003). This makes one think of the excellence associated with human characteristics and positive values such as happiness, success, wealth, health and satisfaction. Another viewpoint refers to the term quality as a sort or type of thing rather than as a mere value. In that sense the term is taken to be primarily descriptive. Both senses are believed to be important (Sirgy et al 2006). The term "life" on the other hand indicates that the concept explores the very essential aspects of human existence (Schalock et al 2000). Defining such aspects and what sort of qualities are implied within them is, however, a matter of considerable debate resulting in less agreement about the meaning of the term "life".

Amongst the definitions provided for QOL are:

> "The wellbeing or ill being of people and the environment in which they live" (Bubolz et al. 1980, p:108).
>
> "The construct of the shared characteristics residents experience in places and the subjective evaluations residents make of those conditions" (Myers 1987, p:112).
>
> "Quality of life is the factual material and immaterial equipment of life and its perception characterised by health, living environment and legal and equity, work, family, etc." (RIVM 2000, cited in Kampr et al 2003, p:7).

The lack of a standard definition has led into interchangeable use of the term quality of life with other concepts such as well-being, welfare, liveability, standard of living, life satisfaction and happiness. The rationale behind such substitution is that all these terms to a great extent share the same set of concerns and refer likewise to aspects related to the person-environment relationship. The central theme in distinguishing between all these concepts is perhaps the object and scope by which each concept identifies the sort of interaction concerned. Some concepts, for instance, are primarily related to the environment as is the case with standard of living, liveability and good place, while others are primarily related to the person such as life satisfaction. Both sorts of concepts

represent measures of appraisal, the first referring to material aspects whereas the second refers to personal, immaterial aspects of life. On the other hand some concepts focus on the individual scale, while others address more aggregate scales (Kamp et al 2003).

Well-being is the good or satisfactory condition of existence; a state characterised by health, happiness and prosperity. The term came to be used in contrast to the sheer economic welfare, as it covers aspects related to social and personal dimensions of individuals and societies. It is reasonably close to QOL as a concept in the way it presents the person-environment relationship. However, it does not cover the wide spectrum of issues that QOL does. In addition, there is a tendency to deal with well-being as a concept centred on the individual level, although it is used occasionally on an aggregate base. Happiness can be noticed as the origin term used to denote QOL through history. Together with well-being they appear to be the mostly used alternatives to the term QOL that attract according to Bowling and Windsor (2001) much conceptual confusion and preoccupies wide range of disciplines dating back to ancient philosophy.

Happiness is defined generally as 'the mental state of being well characterised by positive emotions ranging from contentment to intense joy'. Thus, it is not an evaluation of life but rather feelings about life. Since the initiation of the term QOL as a generic concept, attempts were made to verify the actual meaning of the term happiness and shape it in a form that distinguishes it from QOL. Three main notions were proposed. The first interprets happiness as an equivalent concept to QOL, but with a short-term value. The second stance diminishes the overall state of happiness to be related to a single aspect of life that may affect QOL but which lacks the multidimensional character of QOL (Haas 1999). The third vision defines happiness as part of the subjective enjoyment component of QOL being conceptualised as the balance between positive and negative affect. A later conceptualisation of happiness views it as consisting of three main components - positive affect, satisfaction, and the absence of distress - broadening it into a more comprehensive mean (Das 2008; Veenhoven 2001). In respect of that, happiness appears to be close to satisfaction in terms of indication as a subjective measure; yet it is believed that satisfaction is a better measure as it

represents a more systematic and long lasting mean that is more responsive to policy interventions compared to happiness which reflects an assessment at a single point of time (Schuessler & Fisher 1985).

Sustainability is another concept firmly related to QOL. Although they have been mostly considered separate from each other, they have a lot in common. They are both complex and multidimensional and, therefore, best handled using integrative approaches. They both deal with existing and desirable living conditions of people and share the same endeavour of reaching the 'good' life. QOL as a concept is believed to be adaptable and congruent with the normative premises of sustainable development and hence part of the increase in the study of QOL issues is thought to be in response to their increasing importance in promoting sustainable development (Yuan 2001). Examples of programmes that use sustainability interchangeably with QOL are London Quality of Life Indicators, Sustainable Seattle Indicators (1998) and Central Texas Indicators (2000) (Greenwood 2002). The main difference between the two terms perhaps lies within the general scope of interest. The majority of debates about QOL concentrate on the present well-being of groups or individuals, while the concept of sustainable development extends the perspective from today to the future and from human beings as alone to the coexistence with the natural environment (Schafer et al 2004). The object of sustainability is the future while quality of life is focused on the 'here and now'.

In light of all previously mentioned disparities, what makes QOL different from all those concepts is that it comprises them all. QOL is unique in being a generic concept that covers wide ranges of variables and dimensions. The formation of the term of QOL came as an attempt to introduce a concept capable of comprising all previously used notions in a way that introduces a more holistic way of understanding people's lives. Accordingly, matching it with other concepts diminishes the broad scope it comprises. Hence, it is best described as a vessel or an umbrella concept that covers such variety of concepts (Moons et al 2006).

2.7.3. Objective and subjective dimensions of QOL

QOL is seen as the product of the interaction of a limitless number of factors that interact to affect both human and social development at the level of individuals and societies (ENVIS 2009). In order to reach a full definition of QOL it is important to study as many of these factors as possible. These factors are mainly grouped under two fundamental sets of components that operate and interact in cumulative and intricate ways. The first set includes 'endogenous' factors that relate to the internal psychological mechanisms producing the sense of satisfaction with life. These include, for example, values of a person or group. The second set of factors includes 'exogenous' forces related to the external conditions which initiate the internal mechanisms. Among these factors are natural environment, production technology, infrastructure and relations with other groups and institutions (Massam 2002; Rogerson 1995). Liu (1975) imitated this interaction in a formula that interprets QOL as follows: QOL= f(PS,PH) where PS and PH represent psychological and physical inputs respectively. He identified physical input in turn as a function of three elements: PH= f(S,E,P) where S, E, and P refer to socio-environmental, economic and political components. Accordingly QOL is defined as f(PS(S,E,P)). The influence of all these factors on people's QOL is believed to be inconsistent and not necessarily regular over time. A good example is the impact of environmental issues which were paid small attention at an earlier time while nowadays these are one of the main concerns in people's lives (Das 2008).

These two groups of components set up what researchers usually refer to as the subjective and objective dimensions of QOL. As an objective measure, QOL is shaped by the interaction of four determinants of the central activity of the population. These are material welfare, quality of population, quality of social system and quality of ecology or environment. Each of the four determinants in turn can be decomposed into a number of components. As an example, quality of population is inferred from the population demographic structure, material behaviour, and the population's physical and moral health, while material welfare is determined by standards of living, income, housing, education and others. The social system quality relies on citizens' factors such as equality, personal rights, protection, political system stability and individual's inclusion in the social infrastructure (Kolenikov 1998).

Subjective factors of QOL are more complicated to analyse. They comprise the realm of human experience with which one internally processes the surrounding world (Lever 2000). This includes a number of personal and psychological attributes including values and beliefs, attitudes and potentials, mental health and many others, all of which form the internal construct of an individual through which he/she perceives and assesses the overall life circumstances. The subjective component is seen to be more qualitative and generally depends on the individual and is not easily measurable, while objective components are more quantitative, and likely to be more measurable in an aggregate form (Lu 1975).

Three central approaches are commonly used to conceptualise and assess QOL in reference to sets of subjective and objective factors. The first approach defines QOL as the quality of one's life conditions. This reflects both the economic and social philosophies in determining QOL, being mainly concerned with the objectively measurable life conditions that in sum constitute QOL. The second approach defines QOL as one's satisfaction with life conditions, referring to the subjective well-being philosophy. This includes satisfaction with different aspects of life including material comfort, health, work, housing, learning, social relations and many others, all of which contribute towards the overall satisfaction with life (Felce & Perry 1995).

Both approaches suffer from not reflecting QOL cumulatively where room is always left for inquiries that cannot be fully answered by any one of them. The objective approach could be arbitrary because it determines QOL independent of the person in question. The subjective approach, on the other hand, tends to be transient, because it focuses solely upon feelings of well-being without any consideration of the personal capacity to sustain such feelings (Shin et al 2003). Several studies have shown that there is poor correlation between objective and subjective dimensions of QOL and that each of the two sides is incapable of making inferences of the other one. Rather, objective and subjective measures should be incorporated in order to reach more reliable and valid inferences about QOL. The third model outlines QOL in that sense. It defines QOL as a combination of both life conditions and satisfaction and thereby infers that by examining both of them one can reach an actual understanding of QOL.

Sirgy et al (2005) posit that such combination yields four logically possible states of affair that can describe QOL and the extent to which it can be considered good or bad. Such depiction depends on the degree of consensus between the objective and subjective measures. The first comprises the state whereby both the objective and subjective measures are good, i.e., the objectively measured features of people's lives are good and people are generally satisfied with their lives. They call this a 'Real Paradise'. The second case comprises having bad objective measures but good subjective measures. That is, in spite of having bad objective features of life, people still feel good about their lives. This is called 'Fool's Paradise'. The third case includes having good objective measures but bad subjective measures, i.e., the objectively measured features are good but people still feel dissatisfied with their lives. They call this 'Fool's Hell'. The last case implies both measures are bad. This is called 'Real Hell'.

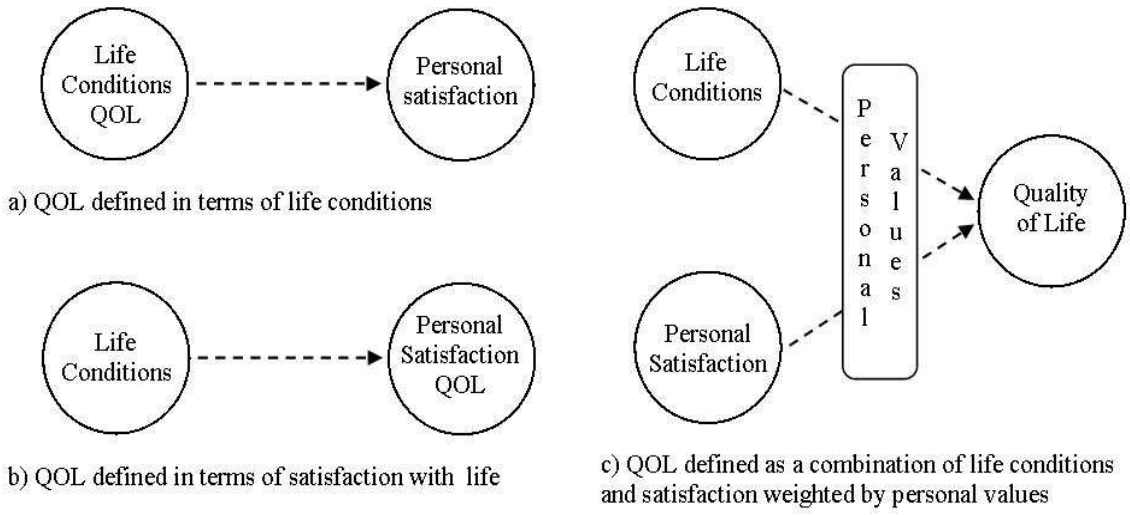


Figure 2.2: Approaches for conceptualising QOL
Source: Felce & Perry (1995)

Felce and Perry (1995) proposed a fourth perspective that they claim presents a more insightful model. It depicts QOL as a combination of life conditions and satisfaction but emphasises, in addition, the need to take account of personal values, aspirations and expectations as means that influence the overall assessment of both attributes. They further elaborate on this later approach. Based on the viewpoints of Cummins (1992) regarding the merit of considering the importance individuals place on the particular

aspects when combining subjective and objective components of QOL, they introduced a three-factor model in which personal values as well as life conditions and life satisfaction interact to determine QOL. In such a case, the set of personal values is taken as a means of a third component not as a filter.

According to this model QOL is defined as "as an overall general well-being that comprises objective descriptors and subjective evaluations of physical, material, social and emotional well-being together with the extent of personal development and purposeful activity, all weighted by a personal set of values". Hence, any changes in any of the three components may change the others. That is, changes in some objective facet of life, for example, may change satisfaction or one's personal values or both. Similarly, changes in values may change satisfaction and precipitate change in some objective circumstances. In the same way, a change in a sense of satisfaction may lead to a reappraisal of values and lifestyle. In addition, the three elements are capable of changing independently as a result of external influences.

2.8. Philosophical Foundations of QOL Research

Foundations of recent QOL research are rooted in six main disciplines: economics, sociology, psychology, healthcare, environmental studies, and planning and quality of place studies (Flynn et al 2002; Kamp et al 2003; Sirgy et al 2006)[1]. Each of these disciplines represents a distinct perspective and theoretical approach, and therefore contributes towards the development of the holistic view of QOL. However, it should be also noticed that each discipline incorporates a sort of bias to overemphasise the importance of its own area. The attempts to relate the paternity of the development of the QOL concept to one discipline or another deprive it of the significance that may be given to it, and also narrow its area of applicability (Marginean 2004).

Economics was amongst the earliest disciplines to pay attention to the study and assessment of QOL. Its approach, however, rested solely on the utilitarian way of thinking, attempting to assess people's standards of living by the use of materialistic

[1] Details about the history of QOL studies in relation to each discipline can be obtained from Sirgy et al (2006), Rapley (2003), Flynn et al (2002) and Day & Jankey (1996).

measures such as GNP. The Social Indicators Movement in the 1960s brought about a new impetus in QOL assessment using quantitative social data related to aspects such as education, housing, education, crime and social interaction. This movement was brought about by a view in society that life had in general become worse although the standards of living were improving considerably (ENVIS 209). However, the objectively measured social indicators were found to account for only a small extent of individuals' QOL (Day & Jankey 1996). Psychological or subjective indicators were purported as an alternative that is more accurate to measure QOL. In that sense, Psychology has contributed to the field of QOL by signalling the subjective realm of human experience through applying the concept of life satisfaction as an essential component determining QOL (Haas 1999).

From a health perspective, QOL has a long tradition where debates over health and its boundaries in relation to happiness and QOL go back centuries. QOL and health care have been linked through the assessment of patients' physical emotions and functional capabilities in respect to medical treatment. QOL research in medical settings centres most clearly on individual quality to denote the state of the patient in the deviation from psychic norms during rehabilitation process. In doing so, it focuses on the objective operationalisation, psychological and social post-treatment consequences, and functional and mental status particularly in the case of people suffering from disabilities and chronic illnesses.

Environmental studies on the other hand, emphasise attributes and conditions of the physical and biological environment. This is strongly associated with the sustainability discourse that pays a great deal of attention to the quality of the natural environment and the significant role it has in delivering better QOL for people. Hence, it works within a broader and more collective scale which goes beyond the level of the individual to that of the whole community and urban setting.

Another important root for QOL research is the study of quality of place usually carried out by researchers in the fields of urban design, spatial planning, geography and policies, and frequently in the social sciences. It is argued that QOL is principally a

place-rooted concept on the basis that individuals and societies exist only in space and, therefore, their life is shaped - beside influences of time - by the conditions of that space (Castells 1983). In fact, apart from the psychological and healthcare schemes of conceptualising life quality, most other disciplines tackling QOL incorporate the component of place or location in their studies. Despite that, many researchers argue that quality of place is a far different concept from QOL (Landis & Sawicki 1988). They refer to studies of place quality as being specific and focusing on some not all aspects of life quality; therefore, they cannot be considered the same. Others deem that it is hard to split life from its context and that in order to study and understand life quality it is necessary to pay attention to the context which reflects in a way the life embodied in it (Castells 1983).

The importance of place was among the issues raised from the 2nd International Conference on the QOL in Cities emphasising the notion that places are the grounds on which life quality varies between communities. Quality of place is seen as one of the QOL research forms focusing more on places than on individuals (Appariciо et al 2008). It is described as the measurement of conditions of place and how they are experienced and evaluated by individuals. Quality of place has a relatively long history of research. Since the 1960s, numerous studies have been conducted on quality principles and physical form, particularly on the urban scale to explore the potentials different places have that impact QOL of residents. Among those studies are the works of Jarvis (1993), Johanson (1988), Lang (1994) and Lennard (1987), all of which developed a framework or principles to describe or achieve the quality of place (Smith et al 1997). An attractive, diverse and tolerant urban environment is increasingly recognised as a key factor in attaining better life quality, making a particular location an attractive place of residence (Trip 2007).

Another widely used means of studying quality of place is what researchers refer to as the liveability studies, in which comparisons are drawn among different urban areas according to number of objective measures assumed to reflect QOL. This type of research attracted broad interest in political and commercial media using QOL as part of place promotion. Examples are the works of Garoogian and Weingart (1998), Meltzer

(1998), Money (1998), Thomas (1994) and Toucan Valley (1997) (Cobb 2000). One of the earliest and mostly well known examples is the 'Guide to the Places Rated Almanac' which provided a comprehensive assessment of metropolitan areas in the US. This trend is, though, criticised for focusing only on the overall QOL and providing less details about the position of individuals and that it tend to. In addition, there is a belief that this kind of studies usually emphasises on particular attributes over others and portrays QOL as only positive attribute (Trip 2007; Rogerson 1999).

Planning is another discipline becoming strongly engaged with the concept of QOL. The concept of life quality lies close to the heart of planning given that the central purpose of planning is to attain general welfare and the public well-being ensuring better future for people. This reference to better is bound up with the concepts of fairness, freedom, justice, liberty, efficiency and sustainability all of which are critically important to QOL (Massam 2002). The comprehensive nature of QOL corresponds well with the long-standing concern for comprehensive planning. Protecting QOL is a goal that citizens' groups and business leaders share, and hence can afford a strong potential basis for consultation and cooperation efforts as well as providing a prime vehicle for carrying out planning goals and settings processes (Myers 1988).

The study of QOL in planning rests to a large extent on the assumption that variations in QOL among individuals, groups or places can be identified, and that perspective measures should be taken to eliminate the differences. Unlike many other professions, planners believe in QOL as a dynamic concept, and so profit from the longitudinal perspective that integrates QOL into the developmental process. This developmental perspective emphasises changes over time and is a key foundation for understanding and assessing QOL in planning (Myers 1988). It is best described as a loop running from QOL to urban development and back. Implicit in this view is the principle that QOL is both a cause and effect within a planning process, where QOL encourages development at a certain phase and is altered by the resulting growth at another (Massam 2002). Effective planning can slow down the rate at which negative effects of growth move through the system to lessen the undesired feedback from growth to QOL.

The most important objective of measuring QOL from the planning point of view is to inform policy-makers and allow the identification and evaluation of which factors have the greatest impact on QOL, and which are amenable to improvement (Grayson & Young 1994). This helps bring about positive change where indicators show a lack of progress. In that sense, QOL studies provide a critical starting point for planning and development through providing the means of self-assessment and valuable policy conclusions which require prior definition of the problem (Shookner 2002).

2.8.1. Trends in QOL research

In light of this multiplicity of disciplines, research on QOL has gone into two main streams that can be noticed from the literature. The first stream implies theorising and conceptualising QOL. This is mainly undertaken by academic research in the fields of psychology and healthcare and to a certain extent in the fields of social sciences and planning. The second group of research focuses on measuring or assessing QOL. This presents the main stream of QOL research and is carried out by both academics and professionals from a wider range of specialists that include social sciences and behavioural studies, economics, planning and urban design, architecture, geography, politics and environmental studies. Under each stream, every research undertakes a distinct notional approach that ranges between being theoretical to empirical depending on the scope and aim of the research in question.

Theoretical models represent hypothetical relations between concepts, while empirical models represent factual relations between different concepts. Both attempt in a way to describe the cognitive, affective, and symbolic processes through which individuals assess, determine, and experience the QOL. Ideally both go hand in hand: from a theoretical framework a conceptual measurement or model is formulated and empirically tested. Nevertheless, in practice, some conceptual models are of such a high level of abstraction that testing is not possible. In that case we speak of ‘thinking models’. At the other extreme are models that are empirically explorative; more or less coincidental elements are combined into a framework. This again reflects the diversity of approaches undertaken to study QOL (Kamp et al 2003). Table 2.5 shows a brief comparison between the two QOL trends, providing examples for each.

Table 2.5: Trends in QOL research

Trend	Aim & Methodology	Discipline	Examples
Theorising QOL	*Aim & focus:* - Define QOL - Develop theories of what makes up good life - Identify components of QOL *Methodology:* - Literature review - Theorising (thinking) models		***Academic***
		- Psychology	Verdugo et al (2010); Schalock (2004); Ventegodt et al (2003); Veenhoven (2000); Diener & Suh (1997); Marland et al (1997)
		- Health care	Moons et al (2006); Poston et al (2003); Haas (1999); Felce & Perry (1995)
		- Sociology	Cummins (2000); Veenhoven (1999); Hagerty (1998); Schuessler & Fisher (1985); Liu (1975)
		- Planning & Politics	Kamp et al (2003); Massam (2002); Dissart & Deller (2000); Lunger (1996); Lane (1994); Myers (1987)
Assessing / Measuring QOL	*Aim & focus:* - Evaluate the various characteristics of locations that make them desirable places to live - Establish set of QOL indicators - Show current status - Produce accurate and credible information on community QOL for informing policymakers - Compare various geographical areas by means of QOL indices - Propose mechanisms which could contribute to QOL improvement *Methodology:* - Empirical models - Surveys -Secondary data resources - Statistical analysis		***Academic***
		- Sociology	Dunning et al (2008); Das (2008); Royuela (2006); Bowling & Windsor (2001); Lever (1999)
		- Urban planning & design	Trip (2007); Lee (2006); Marans (2003); Ulengin et al (2001); Sufian (1993);
		- Geography & Spatial Planning	Apparicio et al (2008); Rogerson (1999); Morris et al (1988); Pacione (1986); Kuz (1978)
		- Economics & Ecology	McMahon (2002); Zhu (2001); Vemuri & Costanza (2006); Kahn (1995)
		- Architecture	Ozsoy & Gokmen (2005), Romice (2005)
		- Marketing	Chon (1999); Sirgy (1998)
			Professional / Practical
		- Multi-disciplinary (Governmental institutions)	- QOL for the Pikes Peak Region (2007, 2009) - Quality of Life in Hawai'I (2009) - Quality of Life Survey - Liverpool (2008) - European Quality of Life Survey (2007) - Brown County Quality of Life Survey (2007) - Quality of Life in Twelve of New Zealand's Cities (2001, 2003, 2007) - The Economist Intelligence Unit's Quality of Life Index (2005) - Quality of Life in Canadian Communities (2001) - A Quality of Life Index for Ontario (1998) - Quality of Life in Jacksonville: Indicators for Progress (1985)

2.8.2. Scopes of QOL research

The difference in QOL research trends is accompanied with diversity of the scales or scopes of interest. This diversity of QOL studies and programmes brought by literature represents a broad range of facets within which QOL can be studied. Besides the conventional distinction between objective and subjective dimensions, QOL is approachable at varying levels of generality from the assessment of community well-being to the specific evaluation of the situations of individuals or special groups. In addition, QOL can be researched on the scale of an identifiable component (domain) or part of it, or across the whole life, i.e. global- or domain-specific. The subsequent case is reflected for instance in such phrases as the quality of urban life, the quality of work life and the quality of housing and family life (Schuessler & Fisher 1985). QOL can also be assessed across different time scales and at different geographical boundaries ranging from the local to the regional to the national and even the international level, or in other terms, from the micro to the meso to the macro scales, although it is believed to be mostly influential at the local scale. This distinction is reflected below in the figure presented by Pacione (1986) illustrating the four dimensional structure of QOL investigations and which provides clear guidance for anyone interested in conducting any QOL research or study.

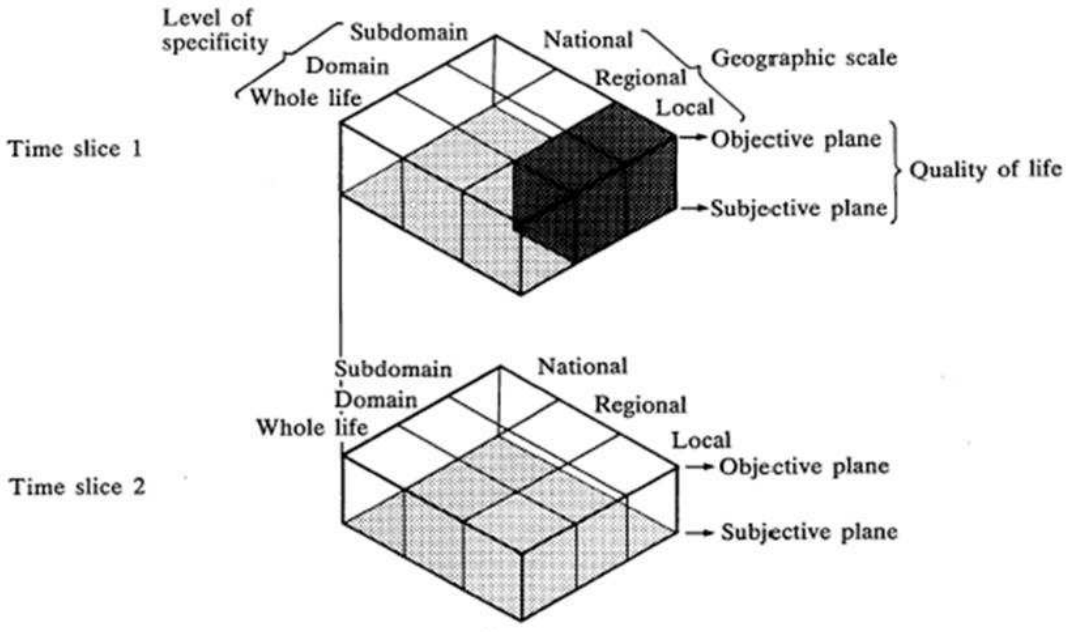


Figure 2.3: A four dimensional structure of QOL investigations
Source: Pacione (1986)

Massam (2002) provided an additional sort of categorization. He referred to three basic dimensions regarding the study of QOL that could be of direct interest. The first indicates that the focus can be on either the 'private/individual or 'public/collective' angle. The second distinguishes the study of QOL as a focus on either means or ends, while the third presents a distinction between place and person.

2.9. Conceptualising QOL

The diversity in QOL research demonstrates that there are many ways to conceptualise themes related to QOL grounded in the multiplicity of fields addressing it. Part of the endeavours undertaken to conceptualise QOL were to understand its traits as a collective or a discrete mean; that is, to grasp the relationship between QOL and other variables. Mallard et al (1997) tested three proposed models that explain this relationship. The first is entitled the 'Bottom-up model', which rests on the proposition that particular variables influence the overall QOL of individuals and that QOL as a whole results from the cumulative satisfaction achieved in relevant facets. The second model, 'Top-down model', proposes that QOL is a lasting characteristic that shapes the satisfaction of individuals in the underling related facets. The third model called the 'Bidirectional model' argues for an integrated view of the former models, in the sense that QOL does influence and contemporaneously is influenced by life factors.

Besides the concern of conceptualising QOL as a collective or discrete mean, several theories have been applied in defining and conceptualising the notion of QOL. Lane (1994) presented what is known as the 'Relational Theory of QOL' in which QOL is described as a function of two companion qualities - quality of conditions (QC) and quality of persons (QP) - within the formula $QOL=f(QC,QP)$. Hence QOL is defined neither as a condition, nor a state of mind like happiness or even a quality of person, but rather as the relationship between quality of conditions and quality of persons; or in other terms, the rapport between subjective person-based elements and a set of objective circumstances. According to the relational theory, to build an efficient relationship, every external feature of life should have an internal receptor. Subsequently, opportunities in the environment contribute to QOL only if there are matching receptive properties in the persons involved. These opportunities imply choices, but choices are

worthless without the cognitive complexity that allows for both rational and imaginative reasoning, on the one hand, and informed desire on the other. This can be achieved throughout strengthening the internal attributions as part of personality development of individuals. According to that, enhancing QOL becomes not only a matter of improving quality of conditions, but also enhancing the capabilities of people to undertake valuable benefits from such conditions (Lane 1994).This opinion was agreed by a number of researchers including, for instance, Royuela (2006), who posited that each individual's perception of life quality is directly dependent on his capability constraints to exchange and gain.

The concept of capability is best reflected in what is known as the 'Human Development Theory of QOL' which represents a developed version of the Relational Theory. The theory suggests that QOL is derived from states of being and opportunities for doing, which are both individually and socially constituted. Without capabilities associated with being (such as health, social connections and self-esteem) and doing (political activity, intellectual challenges, and engaging work), a person is not able to take advantages of the benefits that utilitarian takes for granted. The capacity to purchase commodities is a consideration, but it is only one aspect of a multi-dimensional assessment. The value of commodities lies in their facilitation of social interaction. Each sphere of action should be treated as incommensurate with others, and so progress in one area should not be regarded as a trade-off for moving backwards in another. QOL is determined by the characteristics of each person that enable him or her to function in the world and lead a full life. In that sense it is defined as *'the satisfaction of an individual's values, goals and needs through the actualisation of their abilities or lifestyle'* (Emerson 1985, p. 282).

Capability is defined as 'the ability or potential to do or be something, or more technically, to achieve a certain level of functioning' (Yuan 2001). This applies on the scale of the individual, community or even the surrounding environment. QOL from the standpoint of environment is the degree to which the environment has the capacity to provide resources necessary to meet the needs of human life (Bubolz et al 1979). This capability is seriously degraded by the growing consumption of environmental

resources, and therefore sustaining it is of great importance in order to achieve better QOL. On the individual and community levels, command over resources is considered one of the major catalysts of capability. By means of control it fosters a higher degree of freedom in dealing with various life events. This in turn enables people to select alternatives that better maximise happiness and improve their life qualities.

The influence of personal characteristics and values in shaping people's QOL is best explained in what is known as 'the gap theories of QOL' according to which QOL could be described as 'the difference between one's present life circumstances and a standard to which one compared oneself' (Day & Jankey 1996). Within this conception, QOL can be understood in terms of the gap between actual status of people and what they desire or expect; or in other terms, the perceived discrepancy between one's aspirations and achievements (Brown et al 2004). In that sense, it is the accomplishment of personal goals and the fulfilment of needs in accordance with the surrounding conditions that create better life quality (Moons et al 2006). The fulfilment of needs works within a progressive satisfaction of a hierarchy of requirements derived from different perspectives among which is Maslow's seminal developmental perspective (Turksever & Atalik 2001). From this perspective, overall QOL can be interpreted as a function of a) the degree to which each identified human need is met 'fulfilment', and b) the importance of the need to the respondent in terms of its relative contribution to the subjective well-being (Costanza et al 2006). Hence, it is not the conditions themselves that convey the true quality of the setting, but the meaning of those conditions to the people (Marans 2003).

People's desires and needs as well as their living conditions vary, resulting in each individual having their own assessment criteria built upon particular expectations, which makes satisfaction with different aspects of life relative and influenced by the level of each subject's aspirations (Lever 2000). Such feelings are mostly built on comparisons where in some instances the gap measured is the distinction made between what one has and what a reference group has. In other cases the difference is between what one has and what is considered the ideal. Others may also measure the difference between what one has and what one wishes to have (Haas 1999; Rojas 2009).

People's assessment of a good life always changes and their expectations of what constitutes it do not stop within one particular status. Two philosophical arguments clash here. The first claims that human nature looks continually for improvement, in the sense that a need which is achieved becomes the starting point for new needs in a hierarchy that ranges from the most basic to the most spiritual needs. Easterlin (2003) argues that because of hedonic adaptation, people's aspirations will always adjust to their changing circumstances and therefore their desires and expectations will keep rising every time to about the same extent as their actual gains, leaving them feeling no more satisfied than before (Vemuri & Costanza 2006). Maintaining an ample means of life quality and life satisfaction is accordingly hard to achieve. Human wants rarely reach the state of complete satisfaction except for over very short periods of time (Lieu 1975).

The second argument refers to the concept of adaptation in an opposing way. That is, because of adaptation, people diminish their requirements to fit with their living conditions. In other words, their expressions of happiness and satisfaction adjust to rather than reflect their actual circumstances. This notion is valid particularly in the case of poor conditions referring to the principle of 'homeostasis' which allows people to maintain a certain degree of stability in their satisfaction with their environments, as they adjust their satisfaction according to their resources (Cummins 1999).

Both sorts of arguments lead to the recognition that the personal part of QOL is strongly relative and findings from subjective measures of life quality alone cannot be taken for granted. This in turn results in apparent variances between findings from objective and subjective measures (Michalos 2009). Such variance is claimed to be minimal in the case of degraded environments as individuals will tend to be dissatisfied with this environment and their lives. In such cases the threshold of adaptation is believed to be exceeded where people will no longer be able to adjust with their living circumstances and their subjective QOL will be down-sized to reflect those conditions. In this situation the inner correlation between subjective and objective measures is supposed to be in its higher levels (Cummins 1999).

2.10. Assessing QOL

Assessment is one of the most controversial issues in the field of QOL research; how to move from conceptual thoughts about QOL to practical courses that can be applied and lead to actions. This implies the adoption of different approaches and methodologies and the use of a variety of variables and weighting schemes resulting in different outcomes and interpretations (Ulengin et al 2001). In general, the most common way to measure QOL is to develop assessment measures; i.e. indicators. The most notable fact to understand here is that all measures of quality are proxies of the true situation one is seeking to judge, keeping in mind that if quality could be strictly quantified it will no longer be quality, but rather quantity. Thus any proposed measures should not be judged on the basis of true or false, but rather on how adequate they present the conceptual understanding of QOL and bring closer the ultimate objectives of any study (Cobb 2000).

2.10.1. Components of QOL

Measuring QOL as a broad notion requires splitting it into the more basic components, usually termed “domains”, which can be reasonably evaluated. These components constitute the range over which the concept of QOL extends and thus represent in aggregate the complete QOL construct. Domains vary between research disciplines and schools of thought from which the subject of QOL is approached and also between social groups of population (Kamp et al 2003; Bowling & Windsor 2001). They range from the most abstract attributes derived from philosophical perspectives on QOL to the more sensible aspects engaged with social and urban planning approaches. Different results were obtained from studies on QOL due to the differences in the chosen sets of variables, the weighting scheme of the variables, the people that the data were gathered from, and the homogeneity of the geographical analysis units that the research is based on (Ulengin et al 2001). There is, however, considerable agreement among researchers on relevant domains for assessment. At a basic level these domains include environment, health, housing, education, economy, social well-being, community assets, democracy, transport, culture and recreation and use of land (Wegener & Huner, 2001). Table 2.6 shows some examples of domains included in different QOL studies at different scales and in different places.

Schalock (2004) grouped the majority of aspects presented in literature under eight core domains: interpersonal relations, social inclusion, personal development, physical well-being, self-determination, material well-being, emotional well-being, and rights. The World Health Organization Quality of Life (WHOQOL) on the other hand defines six broad domains: physical domain, psychological domain, level of independence, social relationships, environment, and spiritual domain (Lee 2008).

Felce and Perry (1995) provided five domain headings within which different QOL aspects can be arranged. These comprise

1. Physical well-being: subsuming health, fitness and physical safety.
2. Material well-being: subsuming finance or income, quality of the living environment, privacy, possessions, meals or food, transport, neighbourhood, security and stability.
3. Social well-being: subsuming interpersonal relationships and community involvement.
4. Development and activity: concerned with the possession and use of skills in relation to both, self-determination – competence or independence and choice or control and the pursuit of functional activities – work, leisure, housework, education, and productivity or contribution.
5. Emotional well-being: including affect or mode, satisfaction, fulfilment, self esteem, status/respect, and religious faith.

The relationship between QOL domains is often complicated and indiscernible, and therefore the use of multiple attributes within a multi-element framework is always necessary (Zhu 2001). It is always necessary to understand the association between different attributes and it is also useful to measure and compare the assessment of the different domains constituting QOL and determine the degree to which each of the domains explain the QOL experienced (Marans 2003).

Table 2.6: Domains used in some QOL studies

Study / Programme	Date	Domains
Quality of Life in Europe - First European Quality of Life Survey	2003	Economic situation - Housing & the local environment - Employment, education & skills - Household structure & family relations - Work life balance - Health & health care - Subjective well-being - Perceived quality of society
Quality of Life in Hawai'i, (Centre on the Family University of Hawai'i)	2009	Economic - Education - Environment - Health - Housing & Transportation - Social
Quality of Life in 12 of New Zealand's Cities	2007	People - Knowledge & Skills - Health - Safety - Housing - Social connectedness - Civil & political rights - Economic standard of living - Economic development - Natural environment - Built environment
Quality of life in Romania (Marginean, I.)	2004	Person - Population - Natural Environment - Human Settlements - Dwelling - Social Environment - Family-Occupation - Working life - Macroeconomic resources for the standard of living - Incomes - Consumption - Services to the population - Household - Education - Health care - Culture - Insurance & Social assistance - Leisure - Political environment - State institutions & public order.
The FCM Quality of Life Reporting System – Quality of life in Canadian communities	2001	Population resources - Community affordability - Quality of employment - Housing - community stress - Health of community - Community safety - Community participation
Quality of Life Indicators for the Pikes Peak Region	2009	Vibrant economy - Social well-being - Natural environment - Healthy community - Educational excellence - Arts, culture & recreation - Community engagement - Moving around efficiently - Keeping the community safe
London's Quality of Life Indicators	2009	Electoral turnout - Participation in volunteering - Childcare - Primary education - Secondary education - Green procurement Code - Physical activity - Employment rates - Child poverty - Crime - Neighbourhood satisfaction - Income inequality - Fuel poverty - Ecological footprint - Waste - Carbon dioxide emissions - Bird populations - Access to nature - Household recycling - Traffic volumes - Air quality - Business survival - Life expectancy - Decent housing - Housing affordability - Flooding - Carbon efficiency
Northwest Indiana Quality of Life Indicators	2008	Economic development - Income - Environment - Housing - Transportation - Education - Heath - Public Safety - Arts & Culture - Civic Engagement
Hillsborough County Quality of Life Indicators Project	2007	Government - Economic - Transportation - Housing - Public safety - Environment - Education - Health - Arts, culture & recreation
Carver County Quality of Life Indicators	2006	Economic - Education - Environment - Growth & Housing - Health - Mobility - Leisure & recreation - Social - Public safety
The development of quality of life indicators – a case study from the city of Bristol. (McMahon, S.K.)	2002	Waste management - Energy –Transport - Environmental protection - Biodiversity - Housing & Shelter - Sustainable business - Health & well-being - Community safety, Social economy - Leisure, culture & tourism - Land use & development - Education - Poverty & Social exclusion
What Matters in Greater Phoenix - Indicators of Our Quality of Life (Arizona State University)	1998	Education - Families & youth - Public safety & crime - Economy - Health & health care - Environment - Transport & mobility - Arts, culture & recreation - Community

2.10.2. QOL indicators

The most common way to measure QOL is to develop indicators. An indicator refers to a set of statistics that can serve as a proxy or metaphor for phenomena that are not directly measureable (Cobb & Rixford 1998). QOL indicators are measures that reflect the consensus of a population on what is valued and desired; that is, the collective propriety concerns and interests. They aim to provide details on the QOL experienced. Each indicator provides a road map of its subject, explaining leading concepts and community trends through time series data (Henderson et al 2000). There should be a clear distinction between indicators and determinants of life quality as this is crucial for conceptualising and measuring QOL. Indicators are 'barometers' that characterise QOL, while determinants are factors that influence and shape QOL (Moons et al 2006). An indicator that is meaningful and useful usually reflects a combination of idealism (what is to be measured) and pragmatism (what can be measured). This makes the selection of QOL indicators a non-straightforward procedure.

The importance of indicators is to inspire people to move from knowledge to action. This can only be achieved if the indicators are conceptually meaningful and encompass purposes that have broad social and political appeal. They should be value-oriented, promoting a well defined ideology and point of view that reflect and motivate political commitments, unlike the value-neutral and consensus-based indicators that have been historically developed and which did not lead to actual engagements (Cobb 2000). In that sense indicators can be classified into descriptive indicators that name and quantify problems to help understand where a community is and to highlight conditions that might be overlooked, but do not lead to changes themselves; and prescriptive indicators that reveal causes - not symptoms - and impact of existing assumptions on which potential policy decisions can be based. Indicators must ascertain root causes of problems so that the relationship between existing policies and potential policy decisions towards improving QOL is better understood.

Another issue to bear in mind is the value given for each indicator. It is unlikely that each aspect of life quality contributes equally to any given individual's or group's QOL. Several studies have supported such an argument, confirming that each indicator

contributes in varying degrees to the overall QOL. On the contrary, many studies undertaken to measure QOL suffered from the assumption that attributes are equally valued by assigning them equal weights in practice, and thus did not succeed in reflecting the actual situation. In other cases the problem was giving inappropriate weights to some aspects. In determining the value given to each indicator, two aspects are to be considered - the relative contribution of each aspect in contributing to overall QOL and its importance.

2.11. Research on Housing as a Domain of QOL

Research has shown that most QOL indices and programmes would include measures of core life domains among which are housing (Yuan 2001). Subjective studies of QOL have also shown that most people derive their greatest sense of quality from their home and family life (Wish 1986). Bratt (2002) identified three broad ways in which housing may impact well-being and QOL. The first is through its physical attributes and availability including quality and the very existence or lack thereof, and housing deprivation. The second way is through the physical presence of housing through the way in which it relates to its occupants, whether it is affordable, whether it provides sufficient space and opportunities to create a positive sense of self as well as empowerment, and whether it is stable and secure. The third key attribute relates to neighbourhood conditions including safety and quality of neighbourhood in which the housing is located and the accessibility it offers to basic services.

Despite this fact, only a few studies have searched, in a comprehensive manner, for the relationship between housing and QOL in reference to the theoretical and conceptual bases of the two aspects. Alternatively, various studies have engaged with exploring the impact of housing on QOL in relation to specific features or aspects. Examples include the work of Gutberlet, (2000) who studied the implications of the poor living conditions in squatter and marginalised urban settlements on QOL, the works of Aminzadah (2000) who examined the negative impacts of high-rise residential buildings on QOL; and Kubota and Miura (2000) who examined the impact of high-density housing on QOL. Another example is the work of Lima (2000) who studied the impact of real estate values on QOL.

An important work is, probably, the recent publication on housing, space and quality of life edited by Garcia-Mira et al (2005). The volume presents the work of 35 researchers concerned with the relationship between housing, space and quality of life, in the context of its physical, psychological and social aspects of urban life. Aspects covered include neighbourhood QOL, space use, dwelling layout and housing quality, feeling of security ad QOL in mass housing, acceptability of alternative cladding materials in housing and QOL, house design as representation of values and lifestyle, and many others. It can, however, be noticed that the majority of studies related to housing and QOL have been set in the western and developed countries, which adds another area of weakness to the literature on housing and QOL.

On the other hand, a quick review of nearly 20 QOL studies and programmes[2], investigated as part of this research, shows that the focus and determination of housing quality measures and indicators differ from one study to another. Some studies exploit a narrow set of measures that address particular aspects of housing as is the case with the 'Planners' Guide to Places Rated Almanac' and the 'Comox Valley Quality of Life Survey - 2009' which apply measures that revolve entirely around relative housing availability and cost, avoiding issues of structure quality and variety (Landis & Sawicki 1988). Other studies offer a wider range of concerns that comprise measures of physical housing conditions besides those related to provision. A good example is 'Northwest Indiana Quality of Life Council – QOL Indicators' using 12 different indicators covering three main aspects which are housing profile, addressing issues related to housing formation, tenure type and amount of housing production; cost of housing, addressing housing value and housing affordability; and housing quality, addressing issues of crowdedness and the provision of basic amenities.

The most comprehensive inclusion of housing measures is applied by the 'European Quality of Life Survey' and the 'Quality of Life in Twelve of New Zealand's Cities' programmes, both covering wide spectrum of concerns. The European Quality of Life Survey applies six distinct measures that cover home ownership, adequacy of housing, problems with accommodation, satisfaction with accommodation, availability of

[2] Refer to Annex 1 for details about the studies.

facilities in immediate neighbourhood and environmental problems in the housing area. Likewise, the second programme addresses six key components, each constitutes further detailed indicators. The components are housing tenure, housing costs and affordability, household crowding, urban housing intensification, government housing provision and housing accessibility.

Three main remarks can be made, however, on the basis of this review. The first is that the majority of QOL assessment programmes utilise measures that refer to housing provision including housing affordability, value, formation and tenure type. The second remark is that subjective measures are rarely used in such programmes as the focus is often on objective measures. The final comment is that the variation in the quantity and type of measures used to assess housing quality reflects different contextual circumstances among different programmes and a diverse value or degree of significance given to housing as a domain in comparison to other QOL domains.

2.12. Summary of Chapter's Findings

During the last three decades, the concept of QOL has evolved from a generic philosophical concept to a sensitising notion that guides programme practices, from an individual perspective to a social construct that allows assessing the core domains of QOL and guides quality improvement, and to a research construct that serves as a systematic structure to develop policies and practices to enhance people's QOL (Verdugo et al 2010). Housing, on the other hand, is a subject that has been extensively studied since earlier periods of time among a multiplicity of disciplines and fields of research. Several disciplines have engaged in the subject of housing quality, each presenting a distinct focus and viewpoint that ranges from assessing objective conditions of the dwelling and surroundings to exploring residents' attitudes and degree of satisfaction with their residential environments. It is argued, however, that the concept of housing quality is better grasped under an integrative definition that links together the different aspects tackled in studies related to housing quality. This includes covering both the subjective and objective dimensions encompassing the three scales of concern - the dwelling, the neighbourhood or context and the provision. This integrative perspective offers more collaboration, conceptual innovation, and multiple methods and

measures in defining and assessing housing quality and takes into account the needs and perceptions of residents in order to create a more harmonious residential environment, maximising comfort with the resources at their disposal.

Despite the difference in the evolution of each subject, it has been clearly noticed that housing and QOL are both multifaceted and, therefore, a multi-disciplinary approach is required to capture this broad disposition. Housing as a distinct discipline is in fact a matter of vast argument. Many books and articles that cover the subject of housing lack, according to Oxley (2001), explicit and definite theory of housing. Rather, they refer to theories of other disciplines such as social sciences, psychology and economy. Many researchers such as Clapham claim that housing by itself is a distinct field or discipline of research that should have its own theory of housing. Others, including Oxley, argue that housing might be a field of activity, an area of policy and practice, and a complicated multifaceted phenomenon, but not a discipline. He adds that housing is an area of investigation rather than a discipline and that there is much enlightenment that can come from different perspectives, but only if these perspectives are set out and their differences are appreciated. There is little to be gained by trying to merge disciplines to create some sort of common housing discipline (Oxley 2001). The same argument can be stated in relation to QOL. It has been noticed that QOL research has emerged as an outcome of various subjects and fields of interest, each of which contributed in developing and conceptualising QOL from a certain viewpoint. In total, they all add towards enriching the concept.

Research has shown that most QOL indices and programmes include measures of core life domains including housing. Subjective studies of QOL have also shown that most people derive their greatest sense of quality from their home and family life. Nevertheless, it was found that research which explores the relationship between the two subjects in a comprehensive and detailed manner remains uncommon, particularly in relation to the developing world.

It can be said that housing and QOL share a large set of commonalities that include the benefit from the inputs and contributions of other disciplines including themselves.

Based on that, they might be best understood not as single aspects or elements but as systems. They can both be seen as systems or means of socio-spatial complexs that include people, groups, agents, ideas, techniques, materials, and all essential factors that take part either in the production and use of housing or in the achievement of better QOL. In addition, it has been noticed from the literature that research engaged in issues related to housing, particularly housing quality, and that engaged in issues related to QOL refer in many instances to the same sort of theoretical base. Concepts such as control, choice, autonomy, self-esteem and human development are qualities that are often referred to when conceptualising and assessing either housing quality or QOL. In addition, both subjects, i.e. housing quality and QOL, are said to be better understood in the presence of both the objective and subjective components. This similarity may form a strong base upon which a joint study can be undertaken on housing and QOL.

Chapter Three

Background to Jordan

3.1. Introduction

Jordan is a small country lying in the heart of the Middle East at the south western part of Asia, and covering an area of 89,318 km^2. It is bounded on the north by Syria, on the south by Saudi Arabia, on the east by Iraq and on the west by the West Bank/Palestine. Jordan is inhabited by around 6,110,000 people with the vast majority of nearly 82.6% living in urban areas, thus placing immense pressures on the provision of housing and public services. The natural growth rate of population in 2010 was estimated to be 2.2% (DOS 2011).

Jordan is a young country that has extremely limited natural and economic resources. It is amongst the poorest countries in terms of availability of fresh water. It is one of the low-income countries of the region with an average GDP per capita of about US$4500 (DOS 2011). Due to this lack of resources, the government depends to a great extent on taxes, fees and external loans from the Arab and foreign institutions to run up the different expenses and development actions. This negatively affects the citizens' economic situation and restrains the government's efforts to implement sufficient economic programmes and plans. The distribution of income in Jordan is seen to be vastly unequal. The wealthiest 10% of households earn more than 50% of the total national household income, while the poorest 48% earn only about 10% of the total household income, and live below what is accepted to be the poverty line (Jaber 2002).

Amman is the capital city and the overriding urban hub of the central governorate where the majority of governmental, political, economic, social and cultural activities of the whole country take place. It stands on the nub of the country's urban agglomeration,

linking the mostly urbanised and populated settings. It is the country's most populous city; home to more than 2,400,000 inhabitants accounting for about 39% of the total population of the country (DOS 2011). Together with Zarqa, Blaqa and Madaba (the closest urban settings) Jordan's Central Region houses over 60% of the total population of the country, most of which are strongly tied in with the capital. Amman is probably responsible for about 70% of the country's economic activity as it attracts a significant portion of the country's investments and human talent, diverting them from other locations. This creates better living circumstances in the capital city on the one hand, but negatively influences the quality of life (QOL) in other parts of the country, causing it to confront excessive demographic and infrastructure pressures from the rural and urban disadvantaged flocking to Amman in search of a better life (Al-Asad 2004a).

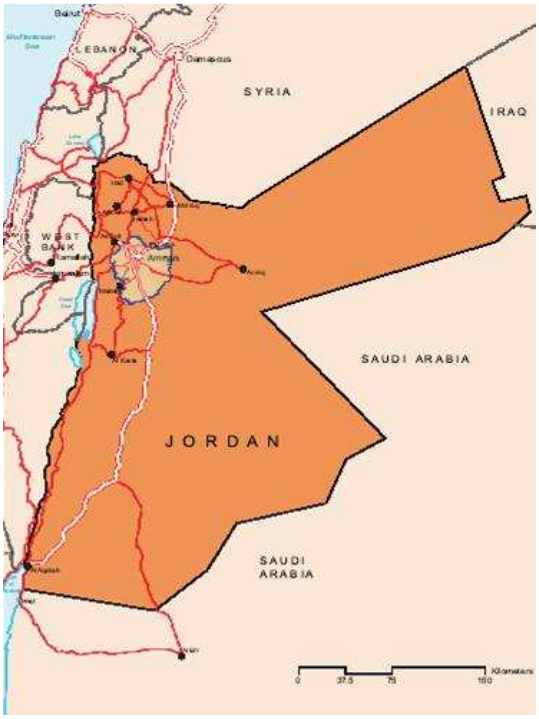


Figure 3.1: Map of Jordan
Source: The Amman Plan Metropolitan Growth Report (2008)

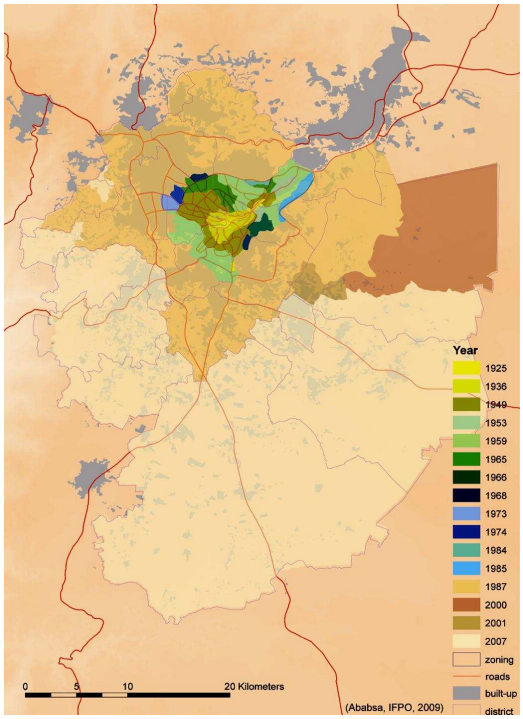


Figure 3.2: Amman growth map
Source: Ababsa (2011b)

Following is a general review of population growth and composition, and the implications of urban transformations on life quality in Jordan overall, and Amman specifically. The review additionally presents an assessment of the reality of the housing

sector in Jordan, particularly, covering issues related to housing provision in Amman, including both demand and supply, housing policy context and the main challenges and constraints that this vital sector faces and which adversely affect QOL in the city. By doing so, this chapter provides a general description about the research context and the circumstances within which the study takes place.

3.2. Urban Growth and QOL in Jordan

Since the independence of the Hashemite Kingdom of Jordan in 1946, the country has faced a massive growth in its population and urban development. During the last five decades the population of Jordan grew nearly ten times from little over half a million inhabitants to over six million inhabitants, doubling within a fifteen-year period at the expense of the limited arable land available. The population doubled from 500,000 to 1,005,000 inhabitants in 1965, to 2,250,000 in 1980, and to around 4,500,000 in 1995, before reaching over 6,000,000 in 2011 (DOS 2011; El-Ghul 1997). Part of this rapid growth resulted from natural increases in the domestic population. However, the central reason behind this expansion was the waves of external immigration coming to Jordan. Jordan was the location of four main population influxes in 1948, 1967, 1982 and 1991 resulting from wars and political instability in the region including the Arab-Israeli wars in 1948 and 1967 and the Gulf War in 1991 (Al-Homoud et al 2009b).

This rise in population imposed increasing demands on available, adequate shelter, infrastructure services and community facilities to address the increasing needs of the population which was beyond the ability of the country to adjust to due to its limited resources. The resulting high levels of demand against the backdrop of poverty, low incomes, poor economic capabilities and indefinite planning and management led to widespread environmental degradation and uncontrolled random growth affecting the socio-economic structures and the geographical distribution of population in the country, and hence the overall life quality (El-Ghul 1999; Meaton & Alnsour 2006). As the needs for residences were higher than the government's ability to cover them and above people's capabilities to systematically afford, thousands of households started to build their houses within informal settlements or illegally on others' lands, as squatters, forming huge pockets of squatter settlements on the edges of the urban centres (Al-Daly

1999). The creation of these squatter areas together with the camps established to house some of the incoming refugees imposed additional tremendous pressures on the urbanisation processes in the country and posed big challenges over the provision of basic communal services.

These drastic growth pressures that have taken root in Jordan over the last five decades created rigorous challenges for the different governments to attain the vast needs accompanying such growth, in a way that retains a pleasant life for citizens. In spite of limitations in wealth and scarcity of resources, there were some partial successes in a number of matters during certain periods of time. Security is probably one of the most noticeable aspects that positively influence peoples' life where Jordan has achieved some good outcomes, at least compared with other countries in the region. However, many other aspects of life are below desirable bounds and for the majority of people achieving what can be called a good life is still far from reach. This has been corroborated in the study done by Mallard et al (1997) where, for the Jordanian sample, the overall QOL seemed pervasively affected by the aggregate life satisfaction of people in nearly every life domain including finance, health, housing, recreation, transportation, education, family relations and friends. This was dissimilar to the cases of other countries where the emphasis was on specific life domains. This indicates that almost all aspects of life in Jordan suffer from some form of deficiency and therefore influence the overall QOL. Several international indices have stated Jordan as having modest QOL level. Although they might have resulted in different ranks depending on the criteria used, they all show that Jordan ranks far below the leading countries in terms of QOL. A good representative example of such indices is the 'Well-being of Nations Index of QOL' in which Jordan was located at the 151out of the 180 nations included in the Index.

3.3. The Case of Amman

Amman is certainly the top Jordanian city in terms of living conditions and QOL; yet, it is the city that has experienced the greatest population and growth rate in Jordan and perhaps in the region, and thus suffered the most. The continuous growth of Amman's area and population has transformed the look and feel of the city and how people

interact and feel within it (Al-Asad 2005b). Over its relatively short modern history, Amman has experienced substantial alteration, being sent into spirals of urban growth with a vast increase in population and considerable spatial, social, and economic transformations. The physical expansion of Amman exceeded 4% per year over a half-century period. Founded in 1921, by 1946 the Amman Municipality occupied an area of 31km^2 and had a population of 60,000 inhabitants. This expanded in 1959 to cover 50 km^2 and to accommodate a total population of 246,475. Since that time, the Municipality has experienced rapid population growth and numerous boundary expansions. By 1986, Amman's population had reached 870,000 and the urban area had increased to 91km^2. In 1987, the Greater Amman Municipality (GAM) was created, encompassing an area of 532km^2. This was followed by subsequent boundary expansions in 2000, 2001, and 2005, raising the total GAM land area to approximately 680 km^2 divided into 20 local districts. Keeping pace with this rapid boundary expansion the population of Amman had grown to approximately 2,200,000 by 2004. In 2007, as part of the National Agenda to amalgamate lower-tier municipalities, GAM's boundaries further expanded by annexing peripheral municipalities resulting in a huge boost in its geographical boundaries increasing from 680 1662 km^2 split into 27 districts, absorbing an additional 190,000 residents (GAM 2008). Currently, GAM has a population density of 4,000 inhabitants per km^2. However, in Amman's central neighbourhoods, the density of the population is over 20,000 inhabitants per km^2 and, in some locations, has reached the maximum of 31,240 inhabitants which is among the highest urban densities in the world (Ababsa 2011b).

Several reasons have driven people to settle in the Amman region. These include some cultural and political reasons as many of the tribal and rural individuals are enrolled in the public services, including governmental institutions and army, with the majority located within urban settings, specifically Amman. Most of these individuals moved their families near their jobs and gradually settled in Amman. Settlement of Bedouins and the desire for modern life was another reason. In addition, Amman formed a big pole of attraction for both internal and external immigrants coming not only from Palestine, but also Caucasians, Syrians, Lebanese, Iraqis and people who returned from

the Gulf, as it granted opportunities of security, jobs, services, access, aspirations, facilities and a better quality of life (El-Ghul 1997).

The primary pattern of Amman's growth was firmly shaped by the high topography of the city. The valleys and the mountains create a complex terrain, with many steep slopes of over 50 % found in the centre of the city. Most of the earliest developments in the city occurred in the valleys between these steep slopes, which acted as barriers to development and restricted road developments in specific directions (Meaton & Alnsour 2006). Within this scheme the western hills of Amman were home to its most affluent citizens, however, Amman's residents did not think of the city exclusively in terms of rich western hills and poor eastern ones, but also thought of Amman as a ring of hills surrounding a shared downtown core. This image began to change during the 1970s as Amman experienced a phenomenal wave of growth and began to spread beyond those hills. This rapid outward expansion has transformed Amman from the former distinct pattern of hill development surrounding a downtown core to a large, sprawling, ever-growing metropolitan area with a variety of settlements, including cities, towns and villages, located within its boundary and threatening other somewhat distinct towns and villages as well as the very identity of Amman as a fairly compact city (Al-Asad 2008a; GAM 2008).

Within this rapidly urbanising scheme the quasi-paternal relationship of the rich to the poor had begun to break down and the old egalitarian values had given way to class distinction based on income and style of life (El-Ghul 1999). In turn, Amman started being conceived as consisting of two zones, Eastern and Western Amman, expressing not only a geographic distinction, but referring to two entities with differing socio-cultural characteristics: a more affluent, rather cosmopolitan Western Amman, and a less affluent, rather conservative Eastern Amman. Yet this division of east and west never manifested in a lack of understanding, communal feeling, and social mixing between residents of different parts of the city – that is, it did not create tension in the daily routine of people (Abu Khalil 2009). The division was not a clear-cut one. Characteristics generally associated with one could be found in the other, but it

nonetheless expressed the reality of a dual Amman that materialised in the 1970s and continues today.

Since the beginning of the twenty first century, however, the scenes described above have changed dramatically. Amman entered a new phase of remarkable change within which people have witnessed acceleration in the transformation of the city. This was accompanied with alarming consequences on people's lives in the city in a sense that some felt as if the city started running away from them and is gradually withdrawing from their own vision and capacity. As a result Amman today is witnessing the phenomenon of 'West of the West Amman' and 'East of the East' leading to more divisions between the two dominant socio-economic ends of the spectrum, and completely obliterating the middle classes (Ababsa 2011a; Abu Khalil 2009).

Consequently, Western Amman started taking over the traditional East through several neoliberal plans that enhance the domination of a particular class of occupants who are taking over the city by controlling its future planning and management aided by different forms of social, financial, and cultural capital to falsely represent the powerless majority of the city's residents (Ababsa 2011b; Abu Khalil 2009). In light of this, Amman represents a clear example of the neoliberal restructuring and emerging forms of spatial ordering and engineering such as high-end and isolated urban development and regeneration, witnessed in projects and development representing the upper-end residential gated communities while low-income residential cities work to push the poorer segments of society to the outskirts of the city in newly zoned heterotopias. This sort of replacement interferes with the QOL in the city, intensifying socio-economic and spatial polarisation not only between East and West Amman, but also between this new "elitist urban island" and the rest of the city (Daher 2010).

The massive growth of Amman unfortunately coincided with deterioration of urban planning capacities, particularly in the last three decades. As a result the quality of urban living did not progress throughout time. The quality of the city's urban fabric – its streets, sidewalks, spaces and buildings and how they relate to each other – has deteriorated greatly. What was once considered to be superior urban compositions in the

period between the 1930s and 1960s has turned into deteriorated settings marked by increasing chaos, sprawl and blight (Al-Asad 2004d).

Figure 3.3: The massive urban spread of Amman

Figure 3.4: West (Rich) Amman versus East (Poor) Amman

Many aspects of urban living in Amman are in need of considerable attention, and the quality of its urban services have not kept up with the tremendous growth it has experienced, particularly over the past five years or so. Various pollution indices are very high in the city. This is further compounded by loss of vegetation in arable lands which have been scarified to accommodate urban development (Meaton & Alnsour 2006). Other aspects include busy streets functioning above capacity, inefficient public transportation system, lack of green and leisure places and inadequate infrastructure. Al-

Asad (2006) stated a “list of wishes” that highlights some important aspects that clearly illustrate the situation in Amman. The list includes:

- Lots of roads, but not enough streets.
- Too many shopping malls but not enough corner shops.
- Lots of pavements but not enough pedestrians.
- Too many open spaces but not enough green spaces.
- Lots of people but not enough citizens.
- Too many developments but not enough planning.

What is probably the most critical matter is the obvious social disparity and economic transformations that strongly threaten people’s lives, causing the middle classes to disappear beneath the emergence of a small, very rich class, and a large, poor class, leading to dissatisfaction over QOL among the majority of citizens (Al-Sabban 2002). It can be said that many of the recent urban development projects taking place in Amman emphasise both directly and indirectly such segregation, thus raising the tensions between different community groups. Such developments include gated communities, housing developments, high rise buildings, modern malls and shopping centres.

As a result, it can be said that Amman nowadays faces many spatial development challenges on the metropolitan scale (GAM 2008). These include:

- Expanding development pattern based on low-density urban sprawl with single-use residential districts, very high land and housing costs, and high levels of automobile ownership and use.
- Automobile-dominated transportation system with resulting congestion, air pollution, and marginalisation of the pedestrian.
- Decreasing level of focus in the urban structure with the decline of the old downtown and the planned development of regional shopping malls, and scattered residential projects.
- Influx of foreign investment capital triggering a building boom that is not clearly linked to domestic need or demand and that could distort land and housing markets.
- Serious shortage of affordable housing.

- Serious condition of water stress that will require huge investment in new infrastructure, and the upgrading or replacement of existing infrastructure.
- Growing socio-economic polarisation of the city into zones of affluence and poverty.
- Underdeveloped system for financing new urban infrastructure and services placing a burden on general governmental revenues that cannot meet the outstanding needs.

Housing is one of the most vital sectors that shape life in Amman in different ways related to different scales. The careful attention that is often paid to the economic factors of new housing developments is often not matched by enough attention to the environmental setting and the contextual aspects of residential buildings. On the scale of the single housing unit, it is argued that the current design practice results in residential units that are high in energy consumption and water use, negatively influencing the environment and the financial abilities of households to run the units (Meaton & Alnsour 2006). On the broader scale of neighbourhoods, several things can be mentioned. One of the aspects of greatest concern is the deterioration in the quality of neighbourhoods, which has worsened their settings due to interruptions of newly added elements such as a wide, busy road, a large public organisation, a busy commercial establishment and so on. In such cases the life in the neighbourhood becomes intolerable with much noise, congestion, privacy intrusion, lack of safety and loss of identity (Al-Asad 2005c). This reflects a sustained assault on residential neighbourhoods as a result of which the quality of these neighbourhoods is eroded. Reasons behind such acts might include the prevailing of private interest over public benefit or poorly designed land use zoning. In all cases this constitutes a significant issue that strongly affects the overall well-being of people and the quality of urban settings.

3.4. Amman City Profile

The Jordanian population is highly urbanised, with 82.6% living in urbanised areas. This ratio is higher in the case of Amman city being the major urban setting in the country, reaching 94 %, leaving only 6 % of the total population of Amman living in rural areas. Such high ratios infer high pressures on housing and urban services. Amman is home to 38.7% of the total population of Jordan. This population is equally

distributed among both males and females, forming 51% and 49% of the total population of Amman respectively. Tables 3.1 and 3.2 present the distribution of Jordan and Amman population by urban and rural settings and by gender.

Table 3.1: Distribution of population by urban and rural settings

	Total Population	Rural	Urban
Jordan	6,249,000	1,087,400 (17.4%)	5,161,600 (82.6%)
Amman	2,419,000	144,700 (6.0%)	2,274,900 (94.0%)

Source: DOS (2011)

Table 3.2: Distribution of population by gender

	Population density (p/km^2)	Total Population	% of total population	Female	Male
Jordan	70.4	6,249,000	100.0%	3,027,900	3,221,100
Amman	319.2	2,419,000	38.7%	1,175,600	1,244,000

Source: DOS (2011)

The Jordanian population overall, as well as that of Amman in particular, is generally a quite young population. According to 2011 statistics, nearly 65% of the total population falls under the age of 30. The average size of a Jordanian family is 5.4 members. Families with four to eight members represent nearly 50 % of the total number of families (DOS 2011). Tables 3.3 and 3.4 present the distribution of Jordan and Amman populations by age and by number of family members.

Table 3.3: Distribution of population by age

	Age (%)						
	<15	15-29	30-49	50-64	+65	Undefined	Total
Jordan	37.3	30.5	22.2	6.7	3.2	0.1	100
Amman	35.1	30.3	23.5	7.6	3.4	0.1	100

Source: DOS (2011)

Table 3.4: Distribution of families by household size

	Number of Family Members (%)									
	1	2	3	4	5	6	7	8	9	+10
Jordan	4.6	10.6	11.1	13.9	14.8	14.0	11.1	7.9	5.1	6.9
Amman	5.7	11.0	11.8	15.0	16.0	14.6	10.7	6.9	3.9	4.4

Source: DOS (2011)

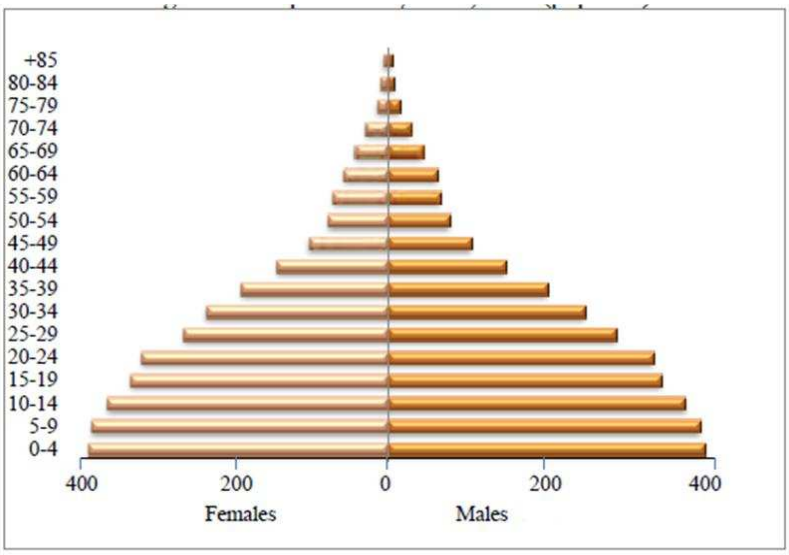


Figure 3.5: Jordan population pyramid 2011
Source: DOS (2011)

The Jordanian population is largely low-income, with the middle and upper-income segments of the population comprising only a small proportion of the total. As can be seen from Table 3.5, almost 50% of people gain a monthly income of less than 300Jordanian Dinars (JD) which is far short of the amount needed to cover basic living necessities including shelter, food and health. Nearly one third of the Jordanian population has a family income of less than 500JD per month. This results in making thousands of houses across Jordan, particularly in Amman, beyond the financial capabilities of households.

Table 3.6 presents population distribution by economic activity, where it can be seen that around 10.5% of the economically active population in Amman is unemployed. Recent figures, however, show higher unemployment ratios reaching 12.9% on the level of country and 11.7% on the level of Amman. The majority of the population works as employees; nearly 40% work in the public sector while 60% work for both organised and unorganised private sectors (DOS 2011)[1].

[1] 1.00 JD is approximately equal to 0.87 GP or 1.4 US$

Table 3.5: Distribution of population by monthly income

	Monthly Income (%)					
	<100 JD	100-199JD	200-299JD	300-499JD	+500JD	Total
Jordan	1.6	13.3	37.7	37.6	9.9	100
Amman	0.6	10.7	37.8	36.2	14.6	100

Source: DOS (2011)

Table 3.6: Distribution of population (15+ years) by economic activity

	Economic Activity (%)							
	Economically Active		Not Economically Active					Total
	Employed	Unemployed	Student	House wife	With means	Elder	Other	
Jordan	39.0	7.8	15.5	28.0	2.6	6.2	0.9	100
Amman	35.6	10.5	15.9	27.7	3.2	6.3	0.8	100

Source: DOS (2004)

Regarding education, it can be seen from Table 3.7 that nearly 56% of Jordan's population aged15+ years are below the secondary level of education. This ratio seems to be slightly less in the scale of Amman, accounting for 50%.

Table 3.7: Distribution of population (15+ years) by educational level

	Education Level (%)							
	Illiterate	Read and write	Primary	Secondary	College Diploma	University Degree	Higher education	Total
Jordan	10.0	3.7	42.2	24.3	9.1	9.4	1.4	100
Amman	7.6	3.1	39.1	25.8	10.5	11.9	2.0	100

Source: DOS (2004)

3.5. The Demand for Housing

Housing is widely recognised as an imperative dynamic and complex spatial phenomenon in any urban system. It forms a continual reconfiguration of the built environment to meet society's needs. The need for housing development is constant, because population, technology and taste are ever-changing. The driving forces and the pressures placed on housing developments vary immensely across time and from one place to another. In Jordan the process of housing development is largely complicated because irrespective of whether it was planned or unplanned it has been soundly influenced by uncontrollable global and regional forces of political instability and

economical change that excessively steered the need for residence and shaped the demand to fulfil this need (Meaton & Alnsour 2006).

The consequences of the economic and demographic transformations that have occurred in Amman over the past few decades have resulted in reshaping many of the social and cultural beliefs of people in various aspects of life. These have included key principles and considerations that have shaped the main attributes of housing behaviour in the city for a considerable period of time. Alterations in those principles have resulted in changing the form of housing demand in terms of tenure type, housing type and characteristics of residential units. Such changes took place in a manner consistent with the emerging challenges and circumstances that refer in their entirety to the limited financial constraints imposed by the growing living burdens that were associated with the transformations.

The general annual demand for housing is estimated to be around 32,000 units of which 14,000 are needed by low-income households (Al-Hamoud et al 2009b). Amman's share of the total ratio is approximately 13,000 units. This demand is the result of four need factors that form the basis for housing supply in Jordan (Al-Rjoub & Momani 2005); these are:

- Need resulting from natural population growth and the formation of new households.
- Need arising from forced population growth by means of external and internal migration towards urban settings including Amman as a main destination.
- Need resulting from the replacement of old houses.
- Need occurring from the reduction in the volume of room occupancy and space design in houses resulting from the change of households' compositions and the transformations of lifestyles and social models.

Apart from the last two factors, the need resulting from population growth, especially from migration, is seen to be the most prominent factor.

As noted above, the Jordanian population is predominantly young with about 65% being under the age of 30. This will continue to form a driving force in the housing sector as the population gets older and couples begin to set up homes of their own creating

approximately 30,000 new households in Amman each year, generating a unique demand in the real estate market. Population segments which are interested in acquiring housing products are divided according to their income level following the general census of 2001 as follows (Al-Homoud et al 2009a):

Table 3.8: Population segments according to income level following 2001 census

Segment	High income	Middle income	Limited income	Low income	Poor people	Have-nots
Annual Income JD	Over 10,800	6,000 – 10,800	3,600 – 6,000	1,800 – 3,600	720 – 1,800	Less than 720

Source: Al-Homoud et al 2009

At present, affordable housing has become a critical issue in Amman due to inflation in prices. The average Ammani family earns JD576 per month and the income growth is not keeping pace with inflation. International standards indicate that housing should not consume more than 30% of income, which leaves the average family less than JD173 per month to pay for rent or a mortgage and the operational costs of a house, such as heating, water, and electricity, which is not enough.

A distinction should be made, however, between the need for housing and the demand to accomplish this need. While the first presents the genuine want for residence and shelter, the second is taken to mean the actual request accompanied - to a certain extent - with the will and capability to acquire the residence. In that sense, need is a much broader and harder issue to address if compared to demand which can be seen as an economic term that reflects, in addition to the physiological and social aspects of need, a financial dimension that enables one to move from desires to deeds. This demand is affected by a number of composite attributes that reflect the expectations of housing costs depending on the increase of the household's income and demographics, source of financing and public subsidies, stable macro-economy, lower interest rates, financial liberalisation and government policies (Al-Homoud et al 2009b).

3.6. Housing Policy Context

Several government agencies are involved in the provision of shelter and shelter-related services. This involvement takes the form of direct provision of residential units and urban services such as water, sewerage and electricity or the form of indirect interventions by means of policies and legislations that guide, manage and instruct the production of residential units. These include planning laws and bylaws, zoning and land subdivision, housing strategies, building regulations and codes, taxation systems, ownership and tenancy law and many others.

In general, until the mid-1960s, the production of housing units was basically undertaken by the informal private sector where individuals had been responsible for building their own residences. Due, however, to the massive growth in population and the rise of housing demand especially for limited- and low-income groups, the government started leading the role of housing provision in the country. The beginning of direct government intervention in housing was in 1966 through the establishing the Housing Corporation to provide adequate housing and subsidised housing funds for limited- and low-income people and groups of government employees. This was followed by the founding of other agencies such as the Urban Development Department to provide basic urban services, the Housing Bank to provide housing funds and the Military Housing Fund to deliver housing units for employees of armed forces (Al-Rjoub & Momani 2005; Juwaynat 2008).

Nevertheless, the production of public housing projects suffered a partial breakdown due to technical faults in the design of the projects and most certainly because of the limited financial capabilities of the public institutions which made them unable to carry on with raising subsidies and increasing the benefits for participants in public housing projects (Hunaiti 1995). Additionally, there was a lack of institutional coordination between both the public and the private sectors responsible for planning and implementing housing programmes. This resulted in the absence of a comprehensive plan that took into account the social, economical and political conditions and subsequently there emerged a number of housing problems (Nusair 2004).

Accordingly, as part of the national efforts to guide the housing provision and address the challenges in the sector, in 1989 the government adopted a National Strategy for Housing (NHS) to reform the housing activity in Jordan by revisiting the role of governmental agencies through the creation of a partnership with the private sector and directing policies that help meet different housing needs including the provision of adequate housing for people with limited income, improving the efficiency of the land market and the development of investment programmes. The strategy addressed five main issues that formulate the housing sector: access to residential land, institutional framework, housing finance, construction techniques and labour training (El-Ghul 1997; Juwaynat 2008; Nusair 2004). By doing so, it highlighted the need to lower the costs of serviced urban land through the adoption of appropriate planning standards, upgrade squatter and slum areas, minimise direct and indirect governmental subsidies, reduce the role of the public sector in the direct provision of housing and encourage the role of the formal private sector.

The government had become increasingly aware that changes were needed in policies and legislation concerning tenancy, landownership and taxation, as well as in urban planning and zoning practices to enable the private sector to play a greater role in the provision of housing for low-income families. Therefore, in the early 1990s, the Housing Corporation was amalgamated with the Urban Development Department, creating the Housing and Urban Development Corporation (HUDC). It has since become the official umbrella for the housing sector responsible for the development of housing policies and strategies in general and the provision of housing for low-income groups, serving the housing needs of civil servants and low-income households below the 40th percentile of the income distribution. This was accompanied with a restructuring of the housing sector emphasising the key role played by the HUDC as a facilitator in this area and signalling a gradual withdrawal from the field of production in favour of the private sector. This was characterised by efficiency and flexibility in responding to the need for housing in addition to its ability to continue production at low cost and in accordance with the principle of supply and demand (Nusair 2004). Other actions that have been taken include simplifying procedures for developers, stimulating the banking sector to create a more competitive environment for financial

services, to strengthen the role of municipalities in the regulation process and to work on capacity-building programmes to enhance the ability of beneficiaries to access adequate housing service (Juwaynat 2008).

In spite of all the undertaken efforts, fulfilling all housing demands and responding to the rates of increase in population through the provision of suitable housing at prices commensurate with the financial resources of the citizens remains a challenge for housing policy-makers in Jordan. Granting equal opportunities, combating urban poverty and distributing population and housing balanced with the development requirements are still vital tasks that confront the government (Juwaynat 2008).

Housing policies in Jordan operate to remove imbalances and obstacles to activate the housing market in order to improve the efficiency and effectiveness of this market and develop a mechanism for government support (Nusair 2004). Consequently, major housing policies, programmes and projects have been conducted by the public and private sectors over years, and yet, due to the scale of demand for new shelter and services, substantial housing problems still exist and are waiting to be solved by mutual efforts from the public and the private sectors (Al-Sabban 2002). Such solutions are to take the concept of the house in such a broad way that it includes all aspects of the urban setting, maintaining a harmony between the housing units and the different components of the urban context in which it is located (Nusair 2004).

3.7. Housing Supply

The last 50 years of housing history are rich in experiences in Jordan for both government and people in formal and informal sectors with large housing expansion and changes in supply and output characteristics. The developments constitute a mixture of both planned and unplanned units (El-Ghul 1997; Meaton & Alnsour 2006). In Jordan as a whole, as well as Amman, more than half the dwellings are owner-occupied where the vast majority of people live in permanent housing. Home ownership is common among the population and is said to be equally allocated between the owners of high- and low-income households, taking into account the difference of quality in terms of location, design, and construction materials (Abu-Dayyeh & Ziadat 2005;

Nusair 2004). The share of rented houses makes up a ratio of about 30% of the total residential units which is believed to be growing (DOS 2004). The average annual housing supply is 20,000 units with an annual growth ratio of 3.8%, most of which is designed to accommodate higher-income groups, resulting in a cumulative housing shortage particularly for low- and middle-income groups (Al-Homoud et al 2009a).

Many of Jordan's residential buildings are detached, single-storey houses. Nevertheless, 73% of housing within the current stock all over Jordan, which accommodates almost 70% of the total population, consists of multi-dwelling buildings of two or more storeys. In general, the average residential unit area declined from 208.0m^2 in 2000 to 169.0m^2 in 2006 (Al-Oun et al 2010; DOS 2004). The ranges of 50.0-100.0 m^2 and 101.0-200.0m^2 floor areas represent the most common sizes. The average useful living floor area per capita is about 20.0m^2, which is below that in developed countries; for example it is about 40% of that in the USA and 50% of that in Western Europe and Japan (Jaber 2002).

The cost of housing is rising because input and production costs are rising and the net profit for housing developers is believed to be relatively reasonable. The average cost of one square metre of construction in Jordan in 2003 was about JD 40. This substantially increased to about JD 144 in 2008, forming a strong barrier against the ability of people, especially those on low incomes, to achieve their housing needs within sensible expenses.

3.7.1. Housing types

More than 941,467 single family and multi-family dwellings comprise the residential sector in Jordan, out of which 380,285 are located in Amman. The total number of available houses is about 506,000 units (DOS 2004). The majority of housing units is distributed under three main types including villas and 'dars', which constitute the form of single family houses and apartment buildings. Another type of housing includes residential compounds of different sizes.

Up to the 1970s, the mostly dominant housing type was the free-standing one-storey single family house known as ‘dar’. This consists of a number of rooms centred in some cases around a courtyard that might look in some instances like a villa but with a lower quality of construction and finishing. Such houses most often would be later expanded vertically to reach two or three stories to house the owners’ grown-up sons’ families or to be rented as a source of additional income. Yet, during the late 1970s, the apartment building emerged as a more prominent residential building type in Amman and by the 1990s it became the predominant and the fastest-growing building type, today accounting for a ratio of nearly 87% of the total residential units (DOS 2004). The proliferation of this type of building formed one of the most striking changes that took place in Amman. Such buildings usually house a minimum of eight living units (Al-Asad 2005c; Tomah 2006).

Figure 3.6: Housing types in Jordan

Figure 3.7: The domination of apartment building type

The construction of apartment buildings is allowed in most parts of Amman, and is prohibited only in a very limited number of areas in the city. A combination of high demand and the rise in prices of housing units made it more economically sensible for developers to build apartments than single family houses which have now become beyond the reach of the vast majority of Amman's residents (Al-Asad 2004c). The impact of the spread of the apartment building, however, has been tremendous on Amman. It has raised the density of habitation in the city imposing further pressures on the urban fabric and public amenities including car parking, road traffic and others. The social dimension of apartment buildings is also significant. In general, people are still not well adapted to this type of dwelling as many people do not seem comfortable living with unrelated families, and sharing common spaces and facilities. These apartment buildings are often characterised by very little social cohesion. One consequence of this lack of social cohesion is that many occupants of apartment buildings feel very little responsibility towards the building and its other inhabitants (Al-Asad 2004c). The type of residential unit strongly reflects the social class and geographical location of the housing development. As can be seen from Figure 3.8, the majority of villa-type houses are in the western part of Amman where the quality of living conditions is higher. The 'dar' type is dominant within the eastern and southern parts, particularly on the urban peripheries, while the apartment buildings cover most of the core areas as well as the western parts. Notice that currently apartment buildings dominated in almost all parts of the city.

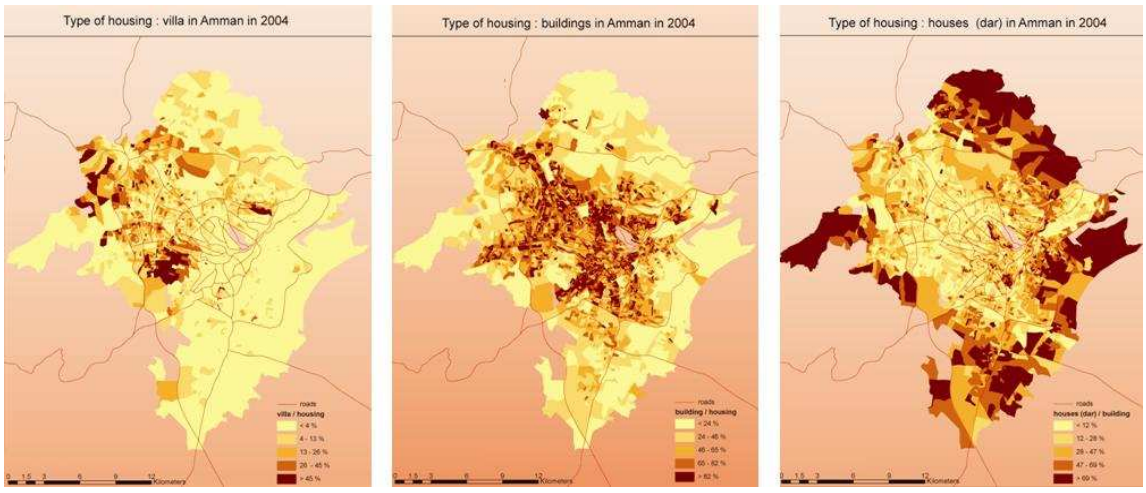


Figure 3.8: Distribution of housing types in Amman
Source: Ababsa (2011b)

3.7.2. Housing delivery system

The provision of housing in Jordan is overseen by two groups of producers. The first group includes the public sector which contributes, as mentioned above, towards the production of a small amount of the total housing scheme in the country either by constructing housing units or providing what is called 'site and services'. The units are dedicated mainly towards limited- and low-income households in addition to some identified beneficial groups. The Public Sector includes several institutions including in the first instance the HUDC in addition to other bodies such as the Jordan Valley Authorisation, the Military Housing Institute, GAM, universities and many others (Abu-Ghazalah 2008), all of which can be incorporated as direct governmental interventions in housing production. However, in several cases, such public actions did not benefit most of the rapidly growing urban population and were inadequate in meeting the housing demands of needy people. In most cases public housing programmes were too expensive and often went unoccupied for long periods of time as a result of poor location, inadequate infrastructure or prices that, even with subsidies, were higher than many people can afford.

Public interventions have often been questioned and criticised for not being able to meet their primary objectives, ending up being a kind of waste of the country's limited resources thus and causing additional financial burdens on the government, which in turn affects its capability to provide other essential public services. One explanation can be made in respect to what Mayo et al (1986) have referred to when examining housing strategies in developing countries as the "*common perceptions of housing problems leading to common solutions*", where housing problems are seen as simple and their solutions therefore appear simple, yet facile and inefficient. This often compounds the problems instead of solving or eliminating them.

This was remarked on in the latest royal initiative of 'Decent Housing for Decent Living' which was launched in 2008 to enable around 100,000 citizens mostly of limited and low incomes to possess a proper housing unit. The project raised the ambitions of a broad range of sectors in the community who aspired to get a house that would fulfil many of their needs and elevate their level of living. However, the outcome

was terribly disappointing in many ways. It is argued that the initiative was not well thought out in terms of costs and actual demands of targeted households, as well as in the process of delivery. This resulted in a massive increase in the costs of the units that exceeds what was initially expected, and even exceeds the prices of the private market for the implemented specifications. This opinion was supported by several arguments stating that according to the high prices of housing units the project become unsuccessful in marketing the product for those targeted households. Accordingly it has become necessary to promote the units among all community groups who are able to afford their high prices, but who are uninterested in buying due to the modest specifications that have been implemented.

Figure 3.9: Public housing projects - Decent Housing for Decent Living
Source: HUDC web site (2011)

The second group of providers comprises the private sector. This contributes towards the provision of housing for different groups of society especially those with high and medium incomes. It is responsible for the production of more than 85% of the total annual supply (Al-Omari 2007). The private sector includes both organised and unorganised providers and can be split into four categories as follows (Al-Rjoub & Momani 2005):

1. Individual (owner) builders. This used to be the most common way for housing production until recently where individuals are responsible for buying the land, raising finance, and looking for designers and contractors, and perhaps overseeing the construction activities.

2. Private housing companies and housing developers that produce and sell residential projects. This has become the most dominant source for the provision of residential

units and there are currently more than 1300 registered companies operating in the housing market in comparison to just nine registered in 1990. These are responsible for the provision of more than 45% of the total housing production.

3. Individual investors who are not registered in the Ministry of Industry and Trade but invest in the production of residential units and sell them in a non-recurring manner in most cases. The share of this part equals nearly 8% of the total housing provision.

4. Private housing cooperatives which produce less than 1% of the total housing supply.

3.7.3. Challenges and constraints

Housing in Jordan suffers from a number of obstacles that negatively influence the provision of housing units. Major problems that face housing sector include distribution imbalances, housing sprawl, great fluctuation of prices, inability to meet demands of low-income households, inflexibility and standardised residential stock, restrictive planning, lack of appropriate regulations, incompliance with residential standards and many others. Al-Homoud et al (2009) identify two attributes that cause the undersupply of low-income housing in Jordan which are believed not only to hinder the provision of residential service for this wide span of the population but to influence almost the whole housing sector and consequently the overall living conditions of people. These include controllable and uncontrollable attributes. Controllable attributes include management aspects in terms of lack of human resources and capacity building, real estate aspects referring to the lack of marketing skills and technology, and construction industry referring to inaccessibility to appropriate building technology and affordable construction. These also include land ownership and site selection aspects being limited to the developers' geographical areas. Uncontrollable attributes comprise financing in terms of small capital operation and difficulties in bank loans and lending, government policies including lack of incentives, tax exemptions, and rigid laws and regulations and social and cultural views in terms of requirements of certain spatial arrangements, and the rejection of borrowing from financial institutions for religious reasons.

Petro (1994) presents a broader scope of classification, grouping housing constraints in Jordan under four main categories: urban land market referring to the constraints imposed by land tenure and ownership patterns; land-use control examining zoning

regulations, laws and legislations; housing development looking into housing construction delivery system; and housing finance. Regarding urban land market, it can be noticed that the majority of residential land in urban areas is fully registered and owned by legal title where individual citizens own nearly 90% of the plots, leaving only 1% as public ownership. The high demand for residential land accompanied with the concentration of most of the urban land in the hands of a few leads to the monopoly of land markets where the only aim of landowners is to make as much profit as possible, resulting in the inflation in land prices (Petro 1994). Together with the absence of appropriate counter-measures to force landowners to release their land-holding, the provision of housing within affordable margins becomes a hard task for both the public and the private sectors. The cost of the land has recently increased to account for about 50% of the total cost of housing units, this has increased from 20% in previous decades (A-Omari 2007). It is argued that the existing systems of tenure are hence deficient, in that they do not result in the most efficient patterns of land use; instead, reinforcing existing inequalities of wealth and opportunity and being ill-adapted to the needs of rapid urbanisation (Petro 1994).

Land use regulations have failed to meet the needs for land of all income groups in Jordan at reasonable prices. The inefficient planning accompanied by the multiplicity of reference and output channels has led to multiple mechanisms of action and unguided growth. This has resulted in inefficient use of urban land with large numbers of vacant plots in good locations, and discrepancy between zoning and actual demand resulting in an oversupply of large plots suitable for upper-income groups and a shortage of smaller plots suitable for the majority of middle- and low-income groups (Juwaynat 2007; Petro 1994). Planning authorities continue to provide larger plots despite the fact that economic conditions have increased the number of urban poor, and master plans have failed to respond to the changing needs of the market (Alnsour & Measton 2009). This can be noticed from the different plans that were developed either for Amman or other cities in Jordan, most of which did not respond to the actual development and growth needs. Together with the insufficient planning system, it was always hard to achieve what can be called a successful responsive planning practice. Appendix 5, provides more details about the planning system in Jordan and highlights some of the main issues

related to the administrative and legal context of planning in Jordan, as well as provides some details about number of the key plans issued for the development on Amman.

Other issues include a lack of appropriate building regulations, lack of legal stability to the housing sector, and extensive governmental taxation including for instance sales tax, land registration fees, licence fees and secretion fees, all of which contribute to the inflation of housing prices (Al-Omari 2007). It is argued that there is a degree of confusion in the planning process and about the role of planning standards and municipal management in addressing the issue of housing provision and urban growth. As is the case in many developing countries, it is believed that urban management suffers from several negative manifestations including favouritism, nepotism and corruption (Alnsour & Measton 2009). The legal environment regulating the ownership, sale, and rental of real-estate properties had also played an important role in defining the character of the housing sector. Until the year 2000, the law governing the rental of real-estate properties gave the tenant the right to continue renting the property within the initial rental period, leaving the owner incapable of terminating the lease or raising the rent. This resulted the renting of real-estate properties being an unrewarding investment since the value of the initial rent would be eaten up by inflation year on year, and the owner would end up getting a very poor return on his or her initial investment. This also led to the dilapidation of the stock due to the lack of the owner's interest in maintaining the house. The new law, however, has taken into consideration many of these issues and seems to impose some positive effects on the sector (Al-Asad 2004b).

Additionally, due to the domination of the private sector in the supply of residential units, housing provision is strongly left to the free play of market forces that are not oriented towards any population segment, but rather towards anyone who can afford the prices which are beyond the capabilities of a wide range of the population (Al-Oun et al 2010). The quality problem is another aspect to be considered as it is common in the Jordanian construction industry. Many projects experience quality problems thereby causing costs to exceed initial estimates. This might be the result of a number of factors including, for instance, lack of highly skilled workers, low management commitment, lack of resources, limited availability of highly experienced big contractors, and

resistance to change in quality and production systems. It is worth mentioning, however, that quality issues are not basically related to prime structural works but to conditions of product performance, conformance, durability, serviceability, aesthetics and perceived quality (Sweis 2009). As for form, there are no variations in the appearance or design of the produced units comprising mainly apartment buildings. Units are standardised with limited sizes and layouts, and therefore do not always suit all sorts of housing needs. This is due to constraints of building regulations and unwillingness of housing developers to spend much money and effort on the design of units. Consequently, they do not provide flexibility in the available stock and accordingly almost all buildings end up having the same look with a standardised living environment (Al-Oun et al 2010).

Housing finance is a chief obstacle facing the majority of households in affording the proper funding required to acquire and maintain a house. According to Al-Hmoud et al (2009), home financing in Jordan generally comes from three sources:

- Individual financing through savings, property selling, and money transfers from abroad. This contributes f about 48% of annual housing financing.
- Regular financing through loans from banks and private financial institutions. This forms 18% of the housing units annually.
- Irregular financing through assistance and loans from family members, relatives and business owners which makes up about 34%.

In regards to the first source of finance, the gap is getting wider between people's incomes and the prices of houses which diminish the available savings, after taking into consideration the high living costs accompanying the modern life style. The regular financial loans are characterised by traits which makes it hard for most people to be eligible to receive them. These include insufficient payback periods, high interest rates, rigid requirements for proper security, and loan amounts not covering the full costs of buying a house. The governmental subsidies on the other hand are very limited due to scarcity of resources and thus are directed towards only small group of beneficiaries.

All these factors have led to several technical challenges facing the production of housing in Jordan. However, the most influential outcome is probably the rise in

housing costs and the inability of households to afford the associated prices. Adding to the previously mentioned factors, housing prices are also influenced by some recent factors. These include the high global oil prices, the increased demand of the Arabs to own land and real estate in Jordan because of the security and stability in the Kingdom, and the occupation of Iraq which has led to the displacement of large numbers of Iraqi citizens into Jordan, especially the wealthy (Al-Omari 2007). The continual rising prices of urban land and the steadily rising costs of construction works due to high costs of building materials and labour, together with the absence of sensible housing finance, the uncertainty of residential standards and the weakness in administrative practice have led people in many instances to break the law and build with low levels of compliance with planning standards in order to meet the accelerated demand for housing. All of this has led to more housing complications and social intrusions among residents (Alnsour & Measton 2009; Tomah 2011). On the bigger scale it has resulted in poor design and poor quality of dwelling units and neighbourhoods and led in some locations to the emergence of housing sprawl.

3.7.4. Fit between demand and production

Housing supply in Jordan particularly in Amman suffers from two sorts of problems related to both the quantity and quality of the final product. The first problem results from the imbalance between supply and demand in the sense that what is supplied does not cover the actual needs of the population in terms of quantity. The second problem refers to failure of the quality of the product to meet the social and economic requirements of the population.

One possible reason is that the estimation of housing demand is largely based on population projections and composition of households without determining preferences for housing designs and types, income groups and proper locations (Hunaiti 1995). Jordan lacks the presence of an active housing market that understands the real needs of residents. In that sense, it lacks the reasonable insight and methodology that is necessary to promote successful housing provision. This results from the absence of systematic studies adopted by either the public or private sectors to explore the actual attributes of the housing market, and to grasp as well as predict the current and future housing

demands and aptitudes of households in accordance to the economical, social, cultural and political circumstances, resulting in mismatching supply with actual demands. Most housing developers focus either on building costs or on buildings' aesthetics to promote their products and generate more cash flow. Generally, developers and to a lesser extent residents consider housing an investment to generate profits and returns. This perception views housing as consumption and not as a product, which decreases chances of investments in quality housing. Accordingly, developers rarely evaluate their products in terms of actual means of quality such as durability, or design and comfort, and instead centre their main focus on the apparent perceptible selling features that attract residents. They argue that in many instances they are forced to overlook preferences of users in order to be able to maintain reasonable prices for housing units. Hence, they do not take into consideration tenants' comfort; nor do they assess the concurrence of their products with their needs (Al-Oun et al 2010). Like other developing countries, Jordan faces a surplus in unoccupied housing units for high- and middle-income segments, while undergoing a big shortage in housing stock for limited- and low- income, poor segments who represent around 65% of the total number of families in Jordan according to the population and family census of 2004 (DOS 2004). As a result, despite a continued need for residential units, hundreds of houses across Jordan, particularly in Amman, remain uninhabited and unoccupied because of a focus on high-end and luxury developments by the majority of providers. The market has become oversaturated with up-scale housing units, where supply has out-paced demand (Al-Oun et al 2010).

Another reason for the disruption is the lack of coordination among the different parties involved in the provision of housing including developers, economic agencies, designers and governmental institutions (Al-Oun et al 2010). Despite efforts to systemise their contributions, they still fail to fill the quantity-quality gap of housing production. Together with weakness in the supply process, lack of awareness of users' needs, focus on profit and even lack of competition between housing providers have lead to standardisation in the final housing product that is not necessarily oriented towards any population segment. This then offers residents only limited scope in meeting their needs and accomplishing their preferences. Rather than gratifying their

requests, residents have to fit their needs and financial capabilities to the available standardised residential units, thus compromising the rest of their life aspects.

3.8. Summary of Chapter's Findings

The economic, urban and demographic transformations that have occurred in Amman over the past few decades have resulted in altering the look, feel and QOL of the city. The excessive growth pressures that had taken place in Jordan in general and in Amman in particular have created significant challenges, coinciding with a decline in urban planning. This in turn has resulted in a deterioration of the quality of urban living in the city. Housing is one of the most vital sectors that shape life in Amman. Part of the transformation that has taken place in Amman includes changes in the key attributes of housing behaviour in the city. This included changing the form of housing demand in terms of tenure type, housing type and characteristics of residential units. As a part of this change, apartment buildings emerged as a more prominent residential building type in Amman, becoming the predominant and the fastest growing building type. Such changes took place in a manner consistent with the emerging challenges and circumstances that refer in their entirety to the limited financial constraints imposed by the growing living burdens that were associated with the transformations.

Several efforts were made by both the public and private sectors to cope with the growing housing demand in the city. Yet most of these interventions were criticised for not being able to meet the actual needs of the majority of the population. It is strongly argued that the housing market in Jordan suffers from a lack of real understanding of the actual needs of housing among different social groups. This has resulted in a number of problems and obstacles that negatively influence housing provision in Amman. Such problems include: distribution imbalances, housing sprawl, great fluctuation in prices, inability to meet demands of low-income households, inflexible and standardised residential stock, and non-compliance with residential standards and many others. At present, affordable housing has become a critical issue in Amman among a wide range of population groups. Such problems are anticipated to expand under the deterioration of living conditions and material capabilities accompanied with the growing demand of housing resulting from natural population growth and instability in the region.

Chapter Four

Research Methodology

4.1. Research Design

Research design is the procedural plan adopted to answer research questions. It is the framework that draws the intersection of research purpose, philosophy, strategies of inquiry, analytical procedures and the specific methods to be used in a research study. Philosophy is the general worldview that presents the basic set of beliefs and ideas that guide the work. It is commonly known as the paradigm or, in other terms, the epistemology and ontology of research. Whether explicitly verified or implicitly recognised, a philosophical worldview influences the practice of research and establishes the strategies of inquiry which it will apply. The strategies are the types of quantitative, qualitative and mixed models that provide the direction for procedures in research design. They identify the particular research methods that involve the forms of data collection instruments, analysis and interpretation employed in the study (Creswell 2009).

This research adopts an inductive reasoning approach. It sets out to construct a broader comprehensive notion about the composite impact of housing on quality of life (QOL) through the inspection of different attributes related to housing and their implications for QOL. It comprised a literature review along two main subjects: housing quality and QOL, in addition to a background review of the context of Jordan. This was followed by an empirical study constituting data collection from secondary and primary resources through the use of two complementary schemes. A series of sequential data analysis procedures comprising coding, conceptualising and categorising were carried out, ending up with a collection of explanations that generate the theory and enlighten us as to the subject of research.

4.2. Philosophical Worldview

It has been noted earlier that both housing and QOL are complex, multifaceted constructs that embrace both objective and subjective attributes and therefore should be viewed as a whole. It is believed that although each dimension has its various measures reflecting a range of strengths and weaknesses, they are conceptually and methodologically complementary. Hence, housing as well as QOL can be fully comprehended only if we understand the interplay and interaction among these dimensions, which in turn requires multiple approaches that reflect different theoretical angles (Diener & Suh 1997). This applies both to QOL studies and to domain-oriented ones such as housing studies as well. The other viewpoint regarding the matter of integrating subjectivity and objectivity holds that the distinction is somewhat illusory and cannot be defined as clearly as would appear to be the case. It is argued that each is replete and contained within the other (Costanza et al 2007). No matter what viewpoint is followed, both agree on the necessity of combination and multiplicity. This in fact is emerging as the preferred approach of many researchers and planners (Massam 2002), and this is the vision upon which the philosophy of this research was based; which is mostly a pragmatic worldview that believes in the multiplicity of thoughts and practices.

Pragmatism is a philosophical tradition centred on the linking of practice and theory. It is a more practical way of thought that is not committed - according to Creswell (2008) - to any one system of philosophy and reality. Instead, according to Seale (1999), it can be thought of as a means of methodological awareness that mediates the relationship between conventional philosophical perspectives and the practice of social research, believing that it is not always necessary or possible to have a close connection between philosophical positions and actual practice. It arises out of actions, settings and consequences. It is much more concerned with applications and solutions emphasising the research problems and with using many of the approaches available to understand the problem. In that sense, it offers the researcher the prospects of choosing the research strategy, methods and procedures that meet the purpose of research, and which offers the most promising outcomes given the nature of the research question. This is seen to be related to the idea presented by Jones and Riseborough (2002) that in QOL research "*what matters is what works*". Consequently, Pragmatism is seen as a thoughtful

foundation for mixed methods studies conveying the importance of focusing attention on the research problem and using pluralistic approaches to derive knowledge about the problem (Morgan 2007). It opens the door to different worldviews, different assumptions, a variety of methods, and different forms of data collection and analysis, that all work in concurrence with the style of QOL research.

4.3. Research Approach

The research worked under the conception of methodological pluralism which has recently became a widely accepted strategy in QOL research. This method is recommended in several literature resources in the field of QOL among which are the works of Bonham et al (2000), Schalock (2004) and Dunning et al (2008). It is seen as a means to combine personal appraisals and functional assessments. Personal appraisal addresses the subjective nature of the subject under concern typically asking people how satisfied they are with aspects related to that subject, which is, in regard to this research, housing quality and QOL. Functional assessment, on the other hand, addresses the objective nature of housing quality and QOL. This can confirm results from the personal appraisal strategy; it allows for the evaluation of outcomes across groups, and provides important feedback to service providers, funders, and regulators as to how they can change or improve their services to enhance the recipient's functioning level. Methodological pluralism thus allows one to focus on the multidimensional nature of housing quality and its related aspects, and the impact they have on QOL, and also allows for incorporating multiple perspectives and level analysis into understanding the concept of housing quality in a better way (Schalock 2004). This, in turn, allows the researcher to meet the objectives of ***triangulation***, or the determination of results across personal appraisal and functional assessment strategies (Cook 1985); ***complementarity***, or the use of qualitative and quantitative methods to measure the overlapping, but distinct facets of the housing quality constructs (Greene et al 1989), and ***instigation***, which allows one to recast results from one strategy with results from the contrasting one (Schalock et al 2000). The mixed methods approach is perhaps the most obvious way of doing this. It is an approach that associates both quantitative and qualitative forms in one research or study to get a better insight of the research problem, and therefore it was applied in this research.

4.4. Research Approach Justification

Although it appears to be a valuable and effective research tool, the mixed methods approach is not always accepted as most appropriate. Many argue that combining quantitative and qualitative methods is not logically possible as they present different research paradigms in terms of the role of theory, epistemological issues and ontological concerns. In challenging this line of thought, Bryman (2008) proposed two versions of figuring out this debate. The first is an epistemological version which sees quantitative and qualitative research grounded in incompatible epistemological principles, and therefore mixing methods is not possible. The second version is technical; this perceives research methods as autonomous. It gives greater prominence to the strengths of data collection and analysis techniques associated with each method and sees that they can be fused and pressed into the service of each other. Accordingly, mixed methods research becomes feasible and desirable. This view is the one adopted for this research. Extending this, the broad conceptual and technical experience in the fields of housing and QOL research promotes the need to combine the two ways of research in order to gain better knowledge on the topic. This was among the main issues raised from the 2nd International Conference on the QOL in cities; that "*objective and subjective methods should complement each other and balance the limitations of each*" (Shookner 2002).

4.5. Strategy for Inquiry

A concurrent triangulation strategy was used for the research, being the most commonly applied strategy of the different mixed methods models. This implied the collection of both quantitative and qualitative data concurrently in one phase and then comparing the two databases to find out any sort of convergence, differences or combination. The mixing in this model came during the interpretation and discussion phase to merge and integrate the results found from each scheme. The weighting for each scheme was ideally taken to be the same. However, priority was given to one method over the other later on during the analytical phase with respect to the issue or theme under concern. Two separate quantitative and qualitative methods, survey and interviewing, respectively were used. This model is said to be advantageous, resulting in well-validated and substantiated findings. It helps offset the weaknesses inherent in each single method with the strengths of the other providing for confirmation and

comprehension, which in turn increases the researcher's confidence in findings and grants the opportunity to better understand the task under study (Dunning et al 2008). One more advantage is that concurrent data collection usually results in a shorter period of data collection which was a significant issue in the overall schedule of the research.

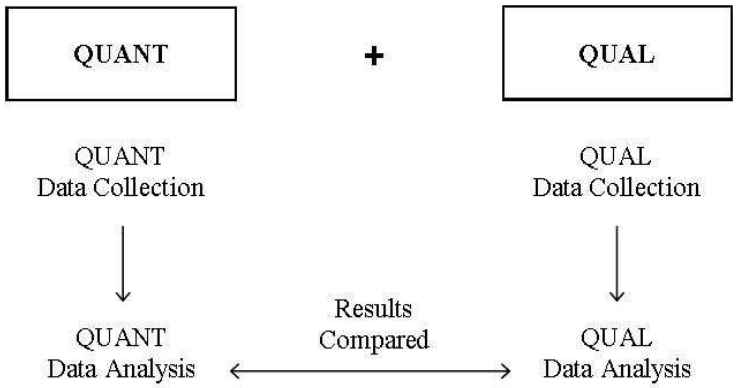


Figure 4.1: Concurrent triangulation design
Source: Creswell (2008)

4.6. Data Collection Procedures

Data collection was guided by the stages of research proposed by Myers (1988) for a successful comprehensive QOL research. Although his methodology was developed as a planners' tool to measure QOL in cities – that is, in a more practical, comprehensive and larger scale in comparison to this research, it still offers good insight for the work of the research. Myers suggested a multi-stage process that starts with reviewing literature, followed with interviewing leaders of major interest groups to learn their views about what factors are of most concern to the community. The next stage includes the collection of data from objective indicators of various dimensions of QOL and housing quality, in the case of this research, ending with the conduction of a survey of citizens to learn about their perceptions of QOL and housing quality.

Building on the literature review, data were collected through different stages and on different levels within both secondary and primary data resources. The use of secondary data in the research comprised the references to the statistical data on housing and households as well as some international QOL case studies to explore the main aspects of life quality and find out the attributes and measures most commonly used for the

housing domain. Considering the local context of Jordan, four main resources for secondary data were used:

1- Official statistical census data including data about population, households, housing units, amenities and services and social figures.

2- The Amman Plan Metropolitan Growth Report – 2008

3- Greater Amman Municipality website including data and maps about districts and neighbourhoods, as well as information about housing policies and actions.

4- Official documents and reports regarding housing policies and housing projects obtained from the Housing and Urban Development Association.

Regarding the primary data, the research applied, in parallel, two main data collection methods. The first constituted the qualitative part of the study which comprised interviews with selected individuals, key informants, of specific related experience and knowledge in the field of housing and QOL. The second approach involved conducting a survey with residents of Amman to gain their input about specified aspects of housing quality and QOL. This part presents the quantitative side of the work. However, it encompassed both quantitative and qualitative data.

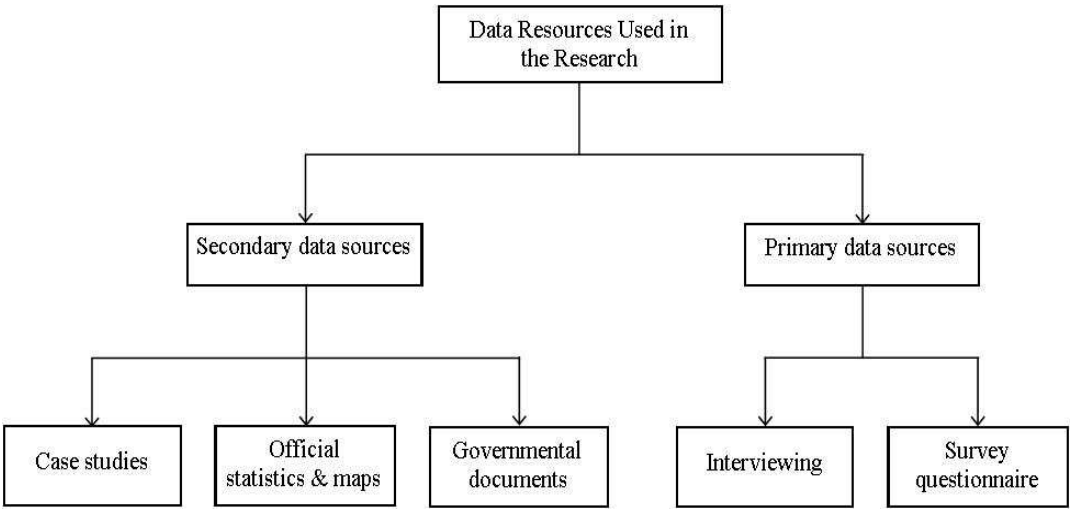


Figure 4.2: Data resources used in the research

Table 4.1 lists the main statistical data used in the research, all obtained from the Department of Statistics (DOS) – Jordan, reflecting the most recent available studies and surveys.

Table 4.1: List of statistical data used in the research

Document	Data used
Jordan In figures 2011	- Selected indicators including total population, population growth, urban population, average household size, inflation rate, GDP growth rate % and GDP per capita (JD).
	- Area by region and governorate.
	- Population by region and governorate.
Population & Housing Census 2004	- Distribution of housing units by type of occupancy, type of housing unit, urban-rural and governorates.
	- Distribution of occupied housing units by private or collective households by type of tenure, type of housing unit and governorates.
	- Distribution of occupied housing units by private or collective households by type of heating and governorates.
	- Distribution of occupied housing units by private or collective households by type of sewage system, type of housing units and governorates.
	- Distribution of housing units occupied by private or collective households by number of households in the housing unit, type of housing unit and governorates.
	- Distribution of housing units occupied by private households by average number of persons per room, type of housing unit and governorates.
	- Distribution of occupied rented conventional housing units by monthly rent value (in JD), type of housing unit, number of rooms and governorates.
	- Distribution of conventional housing units occupied by private households by number of persons, type of housing unit, number of rooms, and governorates.
	- Distribution of housing units, households and persons by type of housing unit and governorates.
Household Expenditures & Income Survey 2010	- Average annual household expenditure on groups of commodities and services by governorate (in JD).
	- Average annual household member expenditure on groups of commodities and services by governorate (in JD).
	- Percentage distribution of households by governorate and household expenditure group (%).
	- Percentage distribution of household members by governorate and household expenditure group (%).
	- Distribution of households and household members by income groups.
	- Average annual current income of household by source and governorate (in JD).
	- Average annual current income of household by source, and groups of annual household expenditure (in JD).
	- Average annual current income of household member by source and governorate (in JD).
	- Distribution of housing units by type of housing unit and governorate (%).
	- Distribution of Housing Units by Type of Tenure, Governorate and Urban/Rural (%)
	- Distribution of housing units by main source of drinking water, governorate (%).
	- Distribution of housing units by main source of heating and governorate (%).
	- Distribution of housing units by type of sewage system and governorate (%).

4.7. Qualitative Interviewing

The first part of the primary data collection procedures entailed undertaking qualitative interviews with experts in the fields of housing and QOL in Jordan. This helped generate a substantial amount of expansive and contextual data quickly. It was also useful in providing a better understating about both the explicit and implicit connections between the different aspects related to housing in Amman and the means by which they affect the overall QOL. In so doing, it also helped to get descriptions of current housing circumstances in the city as well as explanations about the underlying causes for these circumstances. In addition, it contributed to the recognition of additional sources of information and facilitated cooperation with officials from different governmental institutions in gaining access to further useful studies which positively enhanced the quality of information obtained.

Semi-structured interviews were carried out for this part of the research comprising a series of topics in a general schedule format. The schedule provided a degree of structure, but allowed for greater generality in addressing research ideas and interviewees' own perspectives, giving insight into what they perceived as relevant and important in respect to the context of Amman. This offered the opportunity to gain a range of notions and opinions reflecting the complexity of housing and QOL issues in Jordan in general and Amman in particular, but at the same time maintained consistency that helped in performing sound comparisons and assessments with results obtained from the quantitative part of the study.

4.7.1. Study population

A purposive theoretical sampling approach was applied for this part of study. This entailed sampling interviewees or informants who were willing to participate and who the researcher believed have the proper knowledge and experience that can provide the required information and contribute effectively towards the richness of the research. The idea was to carry out interviews, within the data collection time limitation, until reaching the theoretical saturation point by which the researcher feels confident with the inclusiveness and extent of the presented ideas and views. At this point there would be less information to add that may count towards better understanding the subject of the

research. The chief virtue according to Bryman (2008) "is that the emphasis upon using theoretical reflection on data as the guide to whether more data are needed placing a premium on theorising rather than the statistical adequacy of a sample". A snowball sampling approach was applied for that purpose, starting with an initial set of targeted experts from which the rest of the sample was generated. This helped identify people with good experiences, and who were willing to take part in the research. It also helped in saving time and making it easier and more comfortable for the researcher to approach these people because of being recommended and in some cases contacted by other interviewees.

Fifty individuals or parties were contacted using a snowball sampling approach; out of which 30 respondents were successfully interviewed, representing a response rate of 60% [1]. It is agreed that this figure grants a level of acceptability of data that can support convincing conclusions in qualitative research (Bryman 2008). The study population comprised a variety of respondents, representing issues of housing and QOL in Jordan from different disciplines and agencies. This helped capture different views and angles of thought related to housing design, policies, provision, services and practice which contributed in building a comprehensive understanding of housing quality and its relation to the overall QOL. Table 4.2 provides a breakdown of the 50 contacted individuals according to their background and response, as follows:

Table 4.2: List of interviewees

Group or Organisation	**No. of contacted persons**		**Group or Organisation**	**No. of contacted persons**	
	Interviewed	Not Interviewed		Interviewed	Not Interviewed
Greater Amman Municipality	2	1	Architects, planners & engineering consultants	5	4
Housing & Urban Development Corp.	5	0	Jordan Engineers Association	2	1
Housing Developers	2	3	Universities' professors & faculty members	7	7
Jordan Housing Developers Association	1	0	Research centres	3	3
Non-governmental organisations	2	1	Department of Statistics	1	0
Total	**12**	5	**Total**	**18**	15

[1] The remaing 40% of those contacted individuals either declined to be interviewed or did not respond to the iterative contact attempts made by the researcher.

As can be seen from the table, participants were selected from both academic and professional backgrounds. They included faculty members from schools of architecture, design, social sciences, economics and engineering from different colleges and universities; architects, urban designers and planners; housing and real estate developers; members in related governmental bodies including the Ministry of Public Works and Housing, Housing and Urban Development Association and Greater Amman Municipality, in addition to other non-governmental agencies such as the Amman Institute for Urban Development and the Centre for the Studies of the Built Environment.

4.7.2. Interviewing Instrumentation

The main aim of conducting interviews was to acquire more detail and explanations regarding the subject and context of the research. Therefore, semi-structured, face-to-face interviews were conducted with each of the 30 participants. The average time for each interview was one hour with the shortest interview taking 40 minutes and the longest lasting over two hours. Time was extended as much as required, if there was further information to be added, and as long as the interviewee expressed the interest to carry on with the interview. Interviews were semi-structured in the sense that they used a guided approach specifying in advance the main issues to be covered in the interview. This helped make the data collection process more systematic for each respondent. However, questions did not necessarily follow the exact format outlined in the prepared schedule, as the sequence and wording varied during the course of the interview. In addition there was some latitude within the interviews to ask further questions that were not initially stated in the guide in response to what the interviewer picked up from the interviewees that seemed to be significant for the intentions of the research. The approach was thus closer to unstructured than structured interviewing, as illustrated in Figure 4.3. This opened the way towards more flexibility in discussions with open-ended answers allowing the interviewee to elaborate on points of interest for the researcher, albeit with some guidance. In doing so, each interviewee was asked to respond on some basic issues that relate to general housing circumstances and QOL in Amman and then address the issues which they were most knowledgeable about.

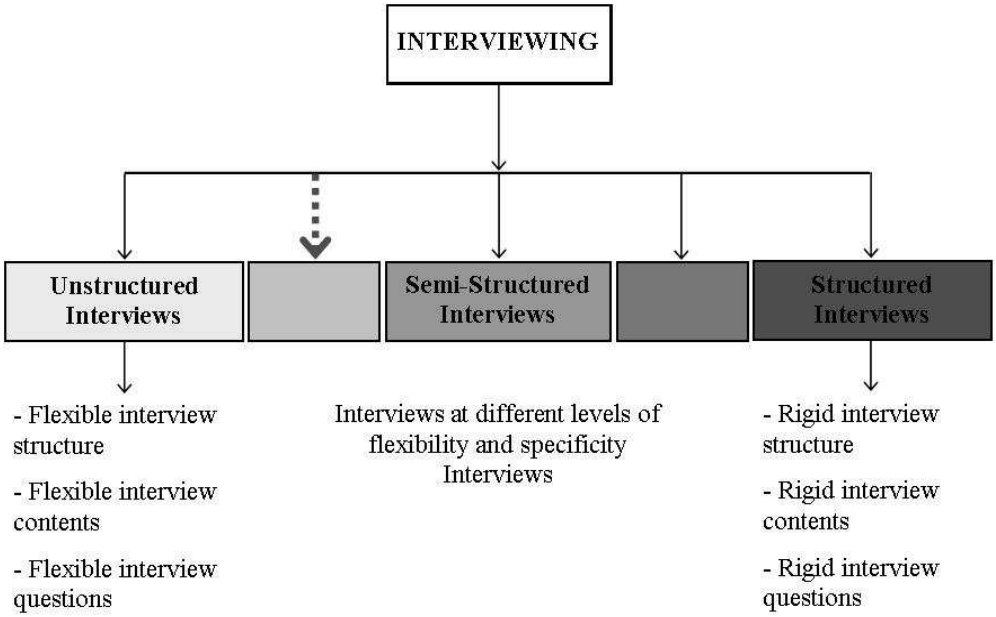


Figure 4.3: Types of interviews
Source: Kumar (2011). Modified by researcher

An initial set of 15 experts (covering different aspects related to the research subject) was listed based on the personal knowledge of the researcher. Each of the 15 appointed experts was contacted in advance via email or phone requesting their contribution and provided with general feedback about the research. Out of the 15 contacted experts, eight responded positively expressing their willingness to participate. All respondents who accepted were contacted afterwards to arrange the meeting venue, date and time. In order to build confidence with the interviewees, each was provided with a brief oral introduction about the research prior to the start of the interview. The introduction presented the significance of the research, the reason for choosing the respondent, the purpose of the interview and confidentiality confirmation. Note-taking and digital recording techniques were both used whenever possible in order to capture the discussion taking place during the interview and to provide a permanent and complete record that can be referred to later. Each of these informants or interviewees was asked to identify other people that they felt would be useful for the study, and those in turn were contacted and interviewed. According to the information gained from the initial set of interviewees and, building on their recommendations, another set of experts was identified. Other rounds were carried out with more participants, applying the same

procedures. Several rounds were conducted to cover any raised issue and get more feedback about certain points of view to reach the level of confidence for the different topics which were presented and discussed.

In order to maintain consistency and order among all interviews, a preliminary schedule was prepared in advance. This drew a general outline for the interview identifying the main points to be addressed. Queries covered respondents' experiences, factual knowledge gained alongside experience and opinions built upon that experience. The outlined guide for interviews covered some main subject matters or questions that the researcher sought to obtain from each interviewee. These included the following:

- What is your own assessment regarding QOL in Amman?
- What are the main concerns regarding housing quality in Amman?
- To what extent do people's opinions match with the actual housing conditions in Amman?
- To what extent does housing affect QOL and how?
- What are the main issues that should be considered in order to achieve better housing quality and consequently better life quality in Jordan?

Monitoring procedures were undertaken during the interviews to ensure there was proper management of time and related issues. These included, in reference to Denscombe (2003): identifying the main points stated by the interviewees expressing their priorities, identifying the key terms that emerged, and looking for underlying logic of what was being presented by the informant to ensure there is a rational link between the ideas expressed by the interviewee and the subject of the research. These also included looking for inconsistencies in the ideas and points of view expressed by the informant, picking up clues as to whether the interviewees' answers involved an element of trying to please the interviewer, getting a feel for the context in which the discussion was taking place and keeping a proper level of eye contact during the interview to get the benefit of non-verbal expressions and communication clues. Hence, the pursuit of the way through which data were obtained depended to a certain extent on the response of the interviewee and the immediate judgment of the researcher regarding

the necessity or appropriateness of probing for more information. A high degree of alertness was required in order to run the interview in a positive and productive manner. This required the interviewer be sensitive to interviewees' responses. Such sensitivity comprised rephrasing and recoding questions, generating new questions or even dropping some probing questions. This all helped in getting the best of the information obtained during the interviewing process.

In spite of the degree of sensitivity applied during interviews, the researcher retained a state of active listening and control over the direction of the interview. In addition, different techniques were used to elicit data on certain issues. Such techniques included requesting examples and clarifications, posing alternatives and checking on contradictions. These techniques were used whenever needed in order to make the best use of interviews and gain as much useful information as possible.

4.7.3. Qualitative data transcription and categorisation

In order to make better use of interviews, each interview was transcribed verbatim. It is worth mentioning here that interviews were conducted in Arabic and therefore transcripts were also written in Arabic. Later, at the analytical stage, precise translation was undertaken whenever a quote was taken. Each transcript was given a distinct reference number denoting the group the interviewee belongs to and their sequential number in that group. For that, each group was given a code or an abbreviation as shown in Table 4.3:

Table 4.3: Interviewees' groups' coding

Group	Code	Group	Code
Greater Amman Municipality	GAM	Architects, planners consultants	APC
Housing & Urban Development Corp.	HUDC	Jordan Engineers Association	JEA
Housing Developers	HD	Universities' faculty members	UA
Jordan Housing Developers association	JHDA	Research centres	RC
Non-governmental organisations	NGO	Department of Statistics	DOS

Accordingly, an interviewee who belongs for example to the group of architects and planners would have APC1, APC2 or APC3, etc, as a reference number, while an interviewee who is a university academic would have their reference number as UA1, UA2, or UA3, and so on. The same scheme applies for all other groups of interviewees.

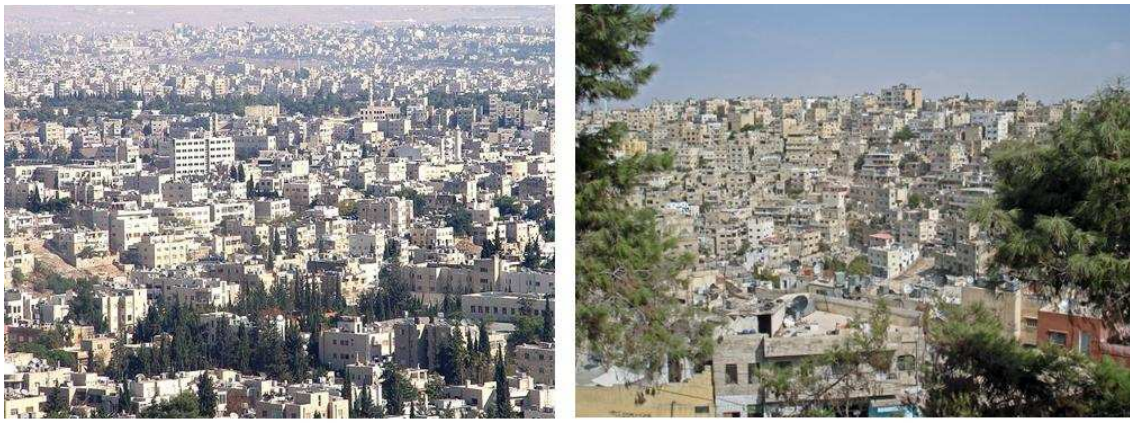
Due to the relatively low number of interviews, using computerised techniques to analyse data collected was deemed unnecessary. A manual coding and analysis procedure was applied instead. The content of each transcript was reviewed and classified, using a colour code, into four main categories matching with the sections developed for the questionnaire that was used in the quantitative part of the study. Each of these categories or sections addressed one of the main issues or scopes of concern to the research, which include: perceptions about housing and QOL, housing provision, housing context and neighbourhood and finally, dwelling characteristics and residential built form. This helped in organising the data and generating coding categories in a clearer way. Within each category, further sorting was undertaken to identify more detailed issues to be analysed separately. The process of transcribing and categorising interviews went through a series of steps: the first comprised coding and writing down the content of each interview, the second was reviewing the content and categorising it into four groups, while the last step included a second round of reviews to carry out the more detailed categorisation.

4.8. Household Survey

This part entailed conducting a self-administered questionnaire amongst a specified number of respondents. Questionnaires are one of the most commonly used instruments for gathering data by means of social survey design. They offer greater anonymity where respondents feel more comfortable and secure about participating. The main purpose of the questionnaire was to gain a quantitative insight about the actual life quality and housing conditions within which citizens live and their personal perceptions as well as subjective judgment regarding their housing circumstances. Together, this sort of public response and the specialised feedback obtained from the qualitative part of the data collection process facilitated the building up of comprehensive in-depth knowledge about housing circumstances in Amman-Jordan and the extent to which they influence the QOL.

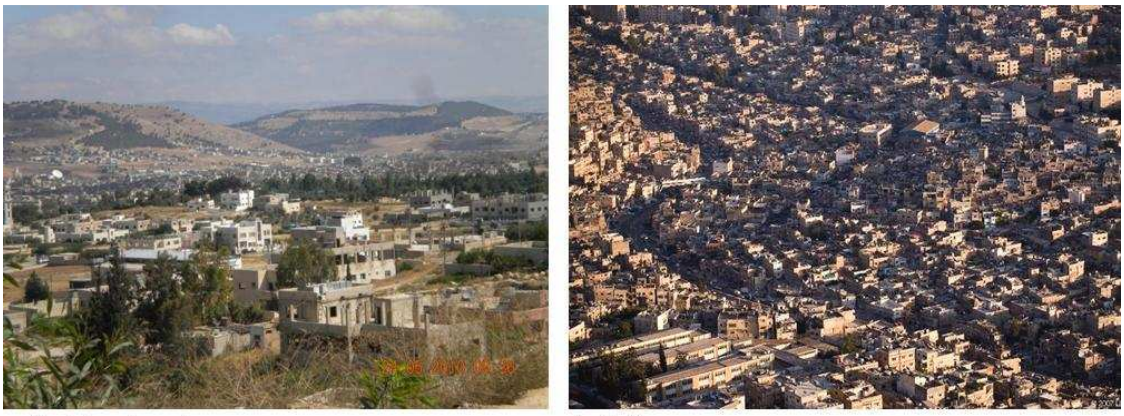
4.8.1. Study population and sampling

The study population is "*the universe of units from which the sample is to be selected*" (Bryman 2008). It is the basic finite set of individuals that the study intends to generate data from, on which inferences will be made. In the case of this study, the study population comprised in general the community living in urban areas within the Greater Amman Municipality (GAM) boundaries defined in the latest comprehensive plan for 2008 as shown in Figure 4.4. In that sense, the sampling frame does not cover the rural parts or the peripheral towns that are included within the boundaries of GAM. The sample does not also cover the several refugee camps that are located in the city as can be seen from Figure 4.5. The sampling unit comprised the household selected from the sampling frame and represented by any available adult. Consequently it was deemed improper to use simple or stratified sampling techniques as it becomes difficult and extensively time-consuming to identify each sampling unit in such a large setting.



Areas forming the core urban setting of the city

Figure 4.4: Areas included in the sampling frame



a. Peripheral rural areas

b. Refugee camps

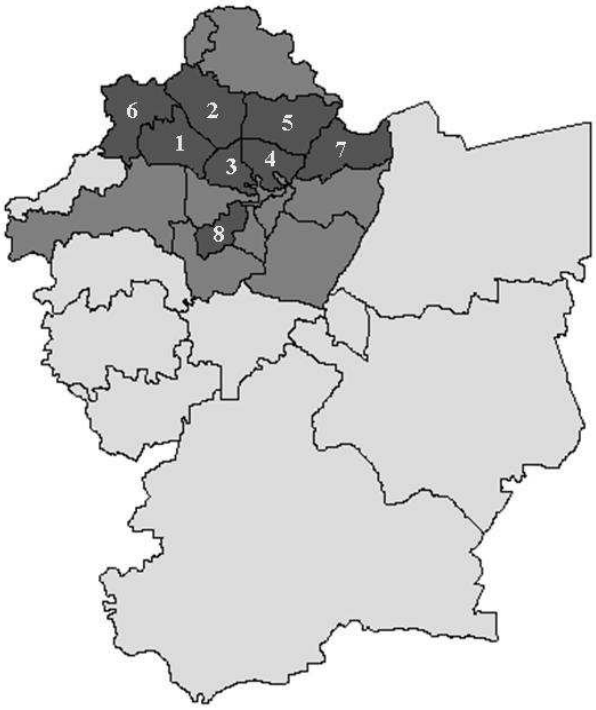
Figure 4.5: Areas not included in the sampling frame

A multi-stage cluster sampling strategy was initially applied to draw the general sampling frame from which the primary sampling units have been selected. The clustering criteria took into account the formulation of a sampling frame that constitutes as much variation as possible in the sample in terms of social classes, types of dwellings, geographical locations, urban densities, services and urban settings in order to address all possible circumstances. The first phase started with a defined term of categorisation based on the administrative divisions of the Greater Amman Municipality area where 18 districts had been selected out of 27 that cover the whole area of Amman. The 18 selected districts were considered to represent mainly the urban and central settings, and to incorporate the diversity of circumstances sought in the sample. The 18 selected districts were in turn placed in five main categories that represent the different social classes of the community comprising the high, upper middle, middle, lower middle and low classes. This classification was made in reference to information obtained from secondary data resources including official statistics about Amman population and the spatial and socio-demographic characteristics of the different districts of Greater Amman Municipality (GAM).

An initial scheme comprised the random selection of neighbourhoods and households from the 18 selected districts to be approached and surveyed[2]. This was replaced - as will be explained later - with a scheme that constituted distributing questionnaires randomly among people on the scale of the district, by approaching them in their houses as well as, in public venues and working places. The returned questionnaires were checked and sorted according to their locations, and only forms that were wholly completed were considered. Unlike the case with the qualitative part of the study, the quantitative part of the research was guided by a predetermined sample size. Around 1550 questionnaires were distributed, out of which 980 were returned - a reasonable response rate of 63.2%. After sorting and revising the returned questionnaires, a final overall sample size of 775 households was achieved. These were split over 8 districts with an average of 97 household in each.

[2] The administrative division of the Greater Amman Municipality (GAM) comprises 27 districts including both the urban and rural settings. Each district is split into number of neighbourhoods. Thus, the neighbourhood presents the finer administrative division within the boundaries of GAM. The number and size of neighbourhoods, however, vary among the different districts.

Figure 4.6 shows districts of GAM including those forming the sampling frame of the study and those from which the final study sample was taken. Additionally, it provides a breakdown of the total sample size among these districts. Table 4.4 presents the main attributes of eight districts selected in the survey sample in regard to the location, social class, population and density[3].



No.	District	Quant.
1	Telaa AL-Ali, Um Al-Summaq & Khalda	101
2	Al-Jubeiha	105
3	Al Abdali	99
4	Basman	95
5	Tareq	98
6	Sweileh	95
7	Marka	100
8	Bader	82
Total		**775**

Districts excluded form the sampling frame (9)

Districts included in the sampling frame, but excluded from final sample (10)

Districts included in the final sample (8)

Figure 4.6: Greater Amman Municipality districts included in the sample

Table 4.4: Districts' main characteristics

District No.	District	Location	Social Class	Population	Density
1	Telaa AlAli,	West	High	110324	Middle
2	Al Jubeiha	North west	Upper middle	63961	Low
3	Al Abdali	Central	Upper middle	90862	Middle
4	Basman	Central	Lower middle	196712	High
5	Tareq	North east	Middle	52160	Middle
6	Sweileh	West	Middle	64126	High
7	Marka	East	Lower middle	89596	High
8	Bader	South	Low	134940	Middle

[3] Further description of the 8 districts including neighbourhoods, as well as main physical and social features and characteristics can be obtained from Appendix 6, pp: 424

4.8.2. Survey instrumentation

Reference was made to different relevant resources prior to the design of the questionnaire, in order to identify the key useful points to be considered in constructing the questionnaire. The questionnaire was formed in a way that adapts to the context of the local environment of Amman and suits the requirements of the statistical methods. Several revisions were made to produce the most satisfactory form. The layout of the questionnaire was presented in such a way that is presumed to be pleasing to the eye and easy to read and follow. How the questionnaire's queries were formulated was approached with much care. Good attention was paid to the wording and tone of questions as the quality of obtained data relies strongly on them.

The following were the main issues considered when developing the questions to maintain a high level of accuracy and efficacy for the questionnaire:

- Addressing all research questions.
- Using simple, everyday language.
- Avoiding the use of ambiguous questions where there could be more than one meaning or interpretation among different respondents.
- Avoiding the use of double-barrelled or leading questions.
- Being as short as possible.
- Avoiding asking questions that are based on presumptions made by the researcher.
- Avoiding the use of technical terms.
- Presenting a gentle sequence of questions.
- Providing a neatly written and signed cover letter presenting the research title, the researcher's name and the research body, background and purpose of research, a statement of anonymity and a 'thanking for contribution' statement as a means of showing esteem and respect for the respondents.
- Using multiple choice questions in most parts of the questionnaire with very few open-ended questions to make them easier and quicker to fill in. For multiple choice questions, choices were taken to be mutually exclusive and covered the total range of possible answers.

4.8.3. Questionnaire design and structure

The questionnaire form consisted of six main sections, each addressing a particular subject related to the research. The sections were: 1) Personal and household information, 2) Perceptions about housing and QOL, 3) Housing provision, 4) Housing context and neighbourhood, 5) Residential built form, and 6) Basic services and amenities. Apart from the first section which refers to the basic conventional demographic information with objective questions, the other five sections were stated and ordered in a sequential way that moves from the broader concerns of housing and QOL to the more specific aspects of housing basic amenities. In that sense every section reflected a specific area of concern. Each of the five sections constituted both objective and subjective queries. Together, the six sections acted to provide the comprehensive information that reflects both quantitative/factual data and qualitative/perceptual data covering different physical, economic and social dimensions. All questions were coded in order to ease the drafting, reporting and analysing procedures.

4.8.4. Piloting and reviewing

It was considered appropriate to conduct a pilot study before administering the self-completion questionnaire to subject the tool to a critical appraisal to ensure it was functioning well. Piloting procedures were carried out in two stages. The first stage examined the questionnaire form to identify any problems that may arise in understanding or interpreting the questions by the respondents, and to figure out the reasons for such confusions. This helped to assess the ease, clarity and length of the questionnaire, providing the opportunity to carry out any necessary modifications that might affect the quality of the instrument. The piloting was conducted by sending the questionnaire form via email to a number of colleagues and assistants to provide their comments, and forms were distributed to a limited number of respondents to get their feedback. Issues of questionnaire length and the repetition and ambiguity of some questions were raised and modifications were made in response.

The second stage of the piloting assessed the sampling process and implementation of the survey. Prior to the initiation of the survey, the initial sampling procedures proposed a strategy of selecting five neighbourhoods from five districts, representing the five

different social classes. From these five neighbourhoods 375 fully completed questionnaires were to be obtained. Using a random number generator, five locations were identified within each neighbourhood, each of which was again divided using a smaller grid from which five houses were randomly selected for each location. The initial sampling strategy entailed approaching the selected households into their houses. This strategy however, was found inefficient due to number of difficulties that hindered the effective distribution and collection of questionnaires. Alternatively, another modified strategy was adopted.

4.8.5. Difficulties faced

The completion rate of the questionnaires was hindered by many obstacles, most of which ceased the implementation of the initial sampling strategy. These factors included:

- The high rejection rate to taking part in the survey and filling in the questionnaire.
-The prevailing frustration amongst people who do not believe in the usefulness of such studies and moreover, feel worried about providing any sort of personal information that might negatively influence them.
- The unstable present political and social situation of the country and region in light of the deteriorating living conditions of people and the growing sit-ins and protests taking place in various parts of the country which generates a reluctance or apathy among people to contribute to or take part in any study or survey, and also makes it hard and in some cases risky to approach people directly in their houses.
- The extremely hot summer, making it very hard for the researcher and assistants to travel, walk, move around and approach households in their houses on a frequent basis - taking into consideration that the work was carried out during the day time for social and security reasons when the temperature was at its highest. Within such circumstances it was difficult to achieve a viable number of completed questionnaires in a day. Considerable time was required, causing additional burden due to time limitations.
- Time and resource limitations in terms of the ability to recruit a bigger number of assistants to carry on the survey.

- Part of the work took place during the Holy Month of Ramadan where people fast for long hours and allocate much of their time for religious and social matters; therefore, they are not willing in most cases to participate in or respond to questionnaires or surveys.
- Non-response in replying and sending back the completed questionnaire.
- The misunderstanding of some questions that appeared to be unclear and therefore caused some confusion.

4.8.6. Questionnaires distribution and sorting

In response to the difficulties that have been encountered during the piloting phase in terms of the distribution of the questionnaires, an alternative strategy was applied to attain wider distribution of the questionnaires and guarantee higher response from households. For this alternative strategy, ten out of the 18 identified urban districts, representing the five different social classes, were initially selected. Each social class was represented by two districts. Ten assistants, each of whom lives in one of the selected districts, were assigned to carry out the survey and distribute the questionnaires among local households. Each of the assistants was responsible for distributing the questionnaires in different geographical locations within the district in which they live, so that it would be easier for them to work within areas that they are familiar with - the factor that might help getting more friendly responses from local households who live in the same district. Each assistant was clearly informed about the study and the questionnaire used for the survey, so as to be able to answer any raised questions or queries from the survey respondents.

To reach a higher number of households, within the limited time frame of the survey, questionnaires were distributed either directly to houses or in local public venues, comprising in particular, shopping facilities and mosques, in addition to some working places. Note that in order to approach working places it was necessary to contact an employee working there in order to make all necessary arrangements. Regarding the first approach, i.e. distribution to houses, questionnaires were distributed among neighbours and people known by the assistant who in turn distributed further number of questionnaires among their neighbours or people they know who live in the same

district. This made it possible to gain higher degree of response and accordingly bigger number of questionnaires in a shorter period of time. Regarding the public venues, questionnaires were distributed randomly among people who were willing to participate. Questionnaires were either filled in presence of the research assistant, or filled later and collected afterwards by the assistant. Figure 4.7 illustrates the applied sampling and questionnaire distribution strategy.

The aim was to achieve a total number of one thousand completed questionnaires with a minimum number of eighty questionnaires for each district in order for the district to be statistically representative. Nearly 1550 questionnaires were distributed all over the ten districts. Respondents were asked to state the basic information related to their place of living including the name of the district, neighbourhood and street and the number of the property in order to provide a coding guidance for the researcher. Out of the 1550 distributed questionnaires, 980 questionnaires were returned. These were assessed according to specified criteria that included the exclusion of any faulty, incomplete or incorrectly filled-in questionnaires, and questionnaires from districts that are not included in the research sampling frame[4]. The remaining applicable questionnaires were then sorted according to the districts and neighbourhoods to which they refer. In respect of that, two districts achieved a total number of questionnaires that are far below the targeted number which is a minimum of eighty questionnaires for each district. These were accordingly taken away from the study and their questionnaires were set aside. Note that achieving a reasonable or statistically sufficient number of respondents was not possible on the neighbourhood scale and, thus, the district scale was adopted for the analysis.

[4] As a result of distributing questionnaires in public venues, i.e. shopping facilities and mosques, as well as in working areas, some questionnaires were filled by people who were present in those places but live in districts other than the ones in which they were given the questionnaires. Such questionnaires were sorted out and placed within the districts to which they belong, in case these districts were included in the study; otherwise they were taken out from the final set of accepted questionnaires.

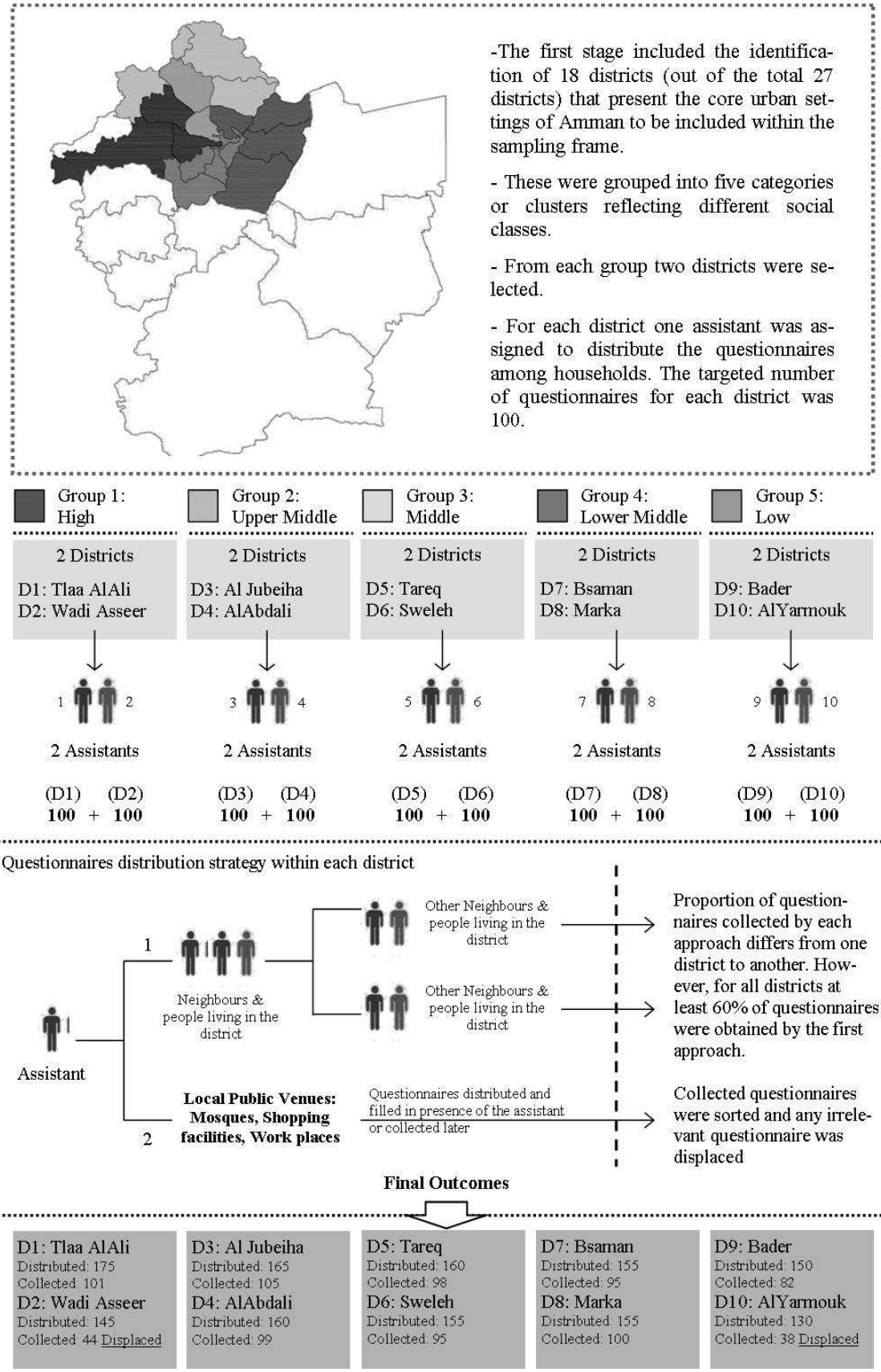


Figure 4.7: Questionnaires distribution strategy

Out of the 980 returned questionnaires 205, were rejected because of not being qualified. Reasons for disqualification included: being incomplete, some significant questions not being answered and lack of seriousness in filling the questionnaire. The latest point was noticed from reviewing the whole questionnaire and finding some contradictions in the answers that did not make sense. Other reasons for rejecting questionnaires included the loss of one or more of the preconditions related to the person eligible for filling out the questionnaire. For example, some questionnaires were found to be filled out by individuals who are less than 18 years old, contrary to the requirement of being 18 years or above to take part in the study. The final overall sample size of 775 households was achieved. These were split over eight districts with an average of 97 households in each. Figure 4.8 illustrates the filtering procedure used in determining the final set of accepted questionnaires, while Tables 4.5 and 4.6 provide a breakdown of the sample according to districts and socio-demographic attributes of respondents and according to housing provision characteristics respectively.

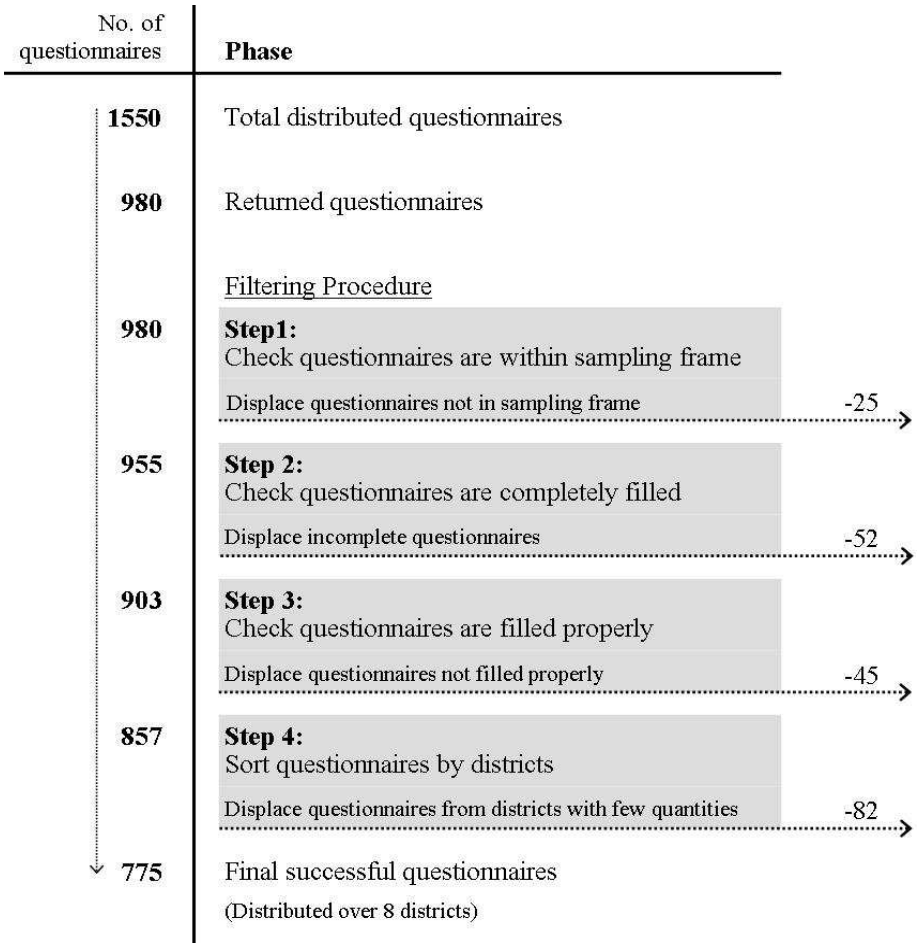


Figure 4.8: Questionnaires filtering procedure

Table 4.5: Frequencies of districts and socio-demographic characteristics of the study sample

Variable	Categories	Frequency	Valid Per cent
District	Telaa AlAli, …	101	13.0%
	Al Jubeiha	105	13.5%
	Al Abdali	99	12.8%
	Basman	95	12.3%
	Tareq	98	12.6%
	Sweileh	95	12.3%
	Marka	100	12.9%
	Bader	82	10.6%
	Total	**775** (missing = 0)	
Sex	Male	542	69.9%
	Female	233	30.1%
	Total	**775** (missing = 0)	
Age	18-30	256	34.1%
	31-40	214	28.5%
	41-50	168	22.4%
	51-60	61	8.2%
	>60	51	6.8%
	Total	**750** (missing = 25)	
Level of Education	Primary education	39	5.1%
	Secondary education	144	18.7%
	College or diploma	133	17.2%
	University degree	332	43.0%
	Higher education	124	16.1%
	Total	**772** (missing = 3)	
Employment	Self employer	97	12.6%
	Employed (public sector)	206	26.8%
	Employed (private sector)	323	41.9%
	Un employed	93	12.1%
	Other	51	6.6%
	Total	**770** (missing = 5)	
Household Structure	Single	18	2.3%
	Couple	53	6.9%
	Single with children	40	5.2%
	Couple with children	569	73.8%
	Other	91	11.8%
	Total	**771** (missing = 4)	
No. of people in home	1-2	85	11.0%
	3-4	257	33.2%
	5-6	282	36.4%
	7-8	120	15.6%
	> 8	29	3.8%
	Total	**773** (missing = 2)	
Monthly Income (JDs)	≤300	57	7.5%
	301-600	226	29.8%
	601-900	167	22.0%
	901-1200	105	13.8%
	1201-1500	67	8.8%
	>1500	137	18.1%
	Total	**759 (missing = 16)**	

Table 4.6: Frequencies of housing provision characteristics of the study sample

Variable	Categories	Frequency	Valid Percent
Tenure Type	Own outright	322	41.7%
	Buying with mortgage	79	10.2%
	Private rental	229	29.7%
	Family owned	142	18.4%
	Total	**772** (missing = 3)	
House Type	Flat	583	75.2%
	Single detached house - dar	111	14.3%
	Villa	43	5.5%
	Other	38	4.9%
	Total	**775** (missing = 0)	
Length of Residency	$\leq$ 5 years	315	41.3%
	6-10 years	175	22.9%
	11-20 years	159	20.9%
	21-30 years	82	10.7%
	$\geq$ 31 years	32	4.2%
	Total	**763** (missing = 12)	

4.8.7. Quantitative data analysis

PAWS Statistics 18 (SPSS 18) software application was used for the analysis of the quantitative data. Different statistical tests and procedures were applied in respect to the type of analysed data. These include descriptive univariate analysis comprising frequencies and measures of central tendency, i.e. mean, median and mode, and descriptive bivariate analysis including cross tabulations, correlations, means comparisons and others. Different types of graphs and diagrams including box plots, scatter plots and bar charts were also used for investigation and illustration. Table 4.7 presents all statistical analytical procedures, tests and graphs used for data analysis in relation to the type of data being analysed. Non-parametric standard tests were used assuming data do not follow a normal distribution.

Note that due to the variations in the types of collected data (numerical and categorical) it was necessary to carry out statistical analysis that fit with each type. This, however, made it not possible to investigate the relationship between all measures. Taking into consideration that the majority of collected data were in the form of categorical data, transformation of numerical data was needed. Therefore, all numerical data were re-coded from their original form into ordinal forms of five categories in most cases. Such data included socio-demographic factors and housing provision factors such as age, number of people living in the house, number of dependent children and length of

residence. Data were also included that related to the evaluation of QOL, satisfaction with neighbourhoods and satisfaction with dwelling. Each of these three variables was originally collected in the form of a 10-scale measure ranging from one as the lowest value to 10 as the best value. Transformation was carried out to convert each variable into ordinal data of five measures. This conversion made it possible to apply cross tabulations between these significant variables and all other tested variables. However, in order to achieve higher levels of consistency and confidence, statistical tests were applied in reference to both the original forms of numerical data and the converted categorical/ordinal data whenever possible.

Table 4.7: Statistical tests and procedures undertaken in the research

Type of analysed variables	**Statistical procedure / Test**	**Graph**
One numerical	- Frequencies - Measures of central tendency	- Bar chart
One categorical	- Frequencies	- Bar chart
Categorical vs. categorical	- Cross Tabulation - Chi Square Test (Significant < 0.05)	- Stacked bar chart
Categorical vs. numerical (no. of groups under categorical = 2)	- Mann-Whitney Test (non parametric) (Significant < 0.05)	-
Categorical vs. numerical (no. of groups under categorical = +3)	- Kruskal Wallis H Test (non parametric) (Significant < 0.05) - Mean Comparison	- Scatter plot
numerical vs. numerical (not normally distributed)	- Spearman's Rank Correlation (Significant < 0.05)	- Scatter Plot

Small ratios of missing data, i.e. unanswered questions, were found in the data collected. These ratios, however, seem to vary among variables. The highest reported percentage of missing data did not exceed 4% of total responses on that particular question. Such a percentage was seen to be minor and do not cause any significant defect to the data related to that variable. However, in order to attain higher levels of accuracy, valid percentages were used for all measures.

4.9. Legitimating Procedures

Legitimation is about establishing the appropriateness, quality and accuracy of adopted procedures to find out the answers to research questions. It is the counterpart nomenclature used for the mixed methods approach that refers to research validation in quantitative and qualitative studies carried out throughout the different phases of the research starting from the philosophy and design and ending with the inferences drawn from the research. Applying a mixed methods approach evokes the sort of validity associated with the quantitative component, validity related to the qualitative strand and any validity issues that might arise that relate to the mixed method approach (Creswell 2009). In that sense, legitimating constitutes the validation of both compartments. Hence, procedures are to be taken to maintain sound means of validity for each part, although it should be kept in mind that each research has its own set of contextual and procedural limitations which means that in most cases it is not possible to apply and probably achieve research quality in every aspect.

Validity and reliability are the two main criteria to verify the quality of quantitative research. Validity is defined as the ability of the research instrument to demonstrate that it is finding out what it is designed to, i.e. providing answers to research questions using appropriate methods, while reliability refers to the consistency and stability in research findings when used repeatedly (Kumar 2011). Both validity and reliability are concerned with the adequacy of measures and applicability of research outcomes. Different types of validity can be defined. These include measurement validity which refers to whether the developed measure reflects the concept it is suppose to, and internal validity which is concerned with the soundness of findings that specify the causal connections among research variables. Another type is external validity, which is concerned with the question of whether the results of the study can be generalised ahead of the specific research context. This has to do with the success of sample selection and to what extent it is considered to be representative of the broader population (Bryman 2008).

Two approaches were used to establish the validity and reliability of the research. These were based on either logic that underpins the construction of the research tool; i.e. to

what extent does the research tool provided the proper reflection of research questions and aims, or statistical evidence that was gathered using information generated through the use of the instrument. Several procedures were applied in that sense. These included:

- Establishing face validity by checking for the logical link between questions and questionnaires, ensuring there was a balanced coverage of the different issues under concern and that each aspect had adequate representation in the questions. This entailed giving careful attention to the format and design of the questionnaire and assessing its different items.
- As the questionnaire was originally drafted in English, there was a need to translate it efficiently into Arabic in order to make it usable. This was evaluated by external native Arabic-speaking colleagues to make sure it functioned well and accurately represented the English version.
- Applying guidelines of effective sampling to reach as reasonable representative sample that helped to achieve a good level of external validity within the limitations of research. It is worth mentioning here that the initial sampling strategy was seen to be better in that sense than the adopted one. This does not mean that the alternative strategy lacked validity and precision. Several considerations were taken to attain a sound degree of confidence with the alternative sample. Such considerations included increasing the size of the sample, covering more geographical areas, retaining the variety of sample units in reference to socio-demographic attributes of sample units and ensuring random selection as much as possible.
- Carrying out different statistical tests and procedures to maintain the significance of the research findings and the attainment of internal validity.

Regarding the qualitative component of research, concepts of validity and reliability cannot be applied in the same way as they are in the quantitative part because of the flexibility and spontaneity in the data collection procedure in such kind of research. They do not carry the same connotations of stability, representativeness, standardisation and generalisability as is the case in quantitative research. Qualitative validity means that the researcher checks for the accuracy of the findings, while qualitative reliability

indicates that the researcher's approach is consistent across different research studies and projects (Creswell 2009). Two alternative sets of criteria were used instead for judging the quality of research in this part; trustworthiness and authenticity. Trustworthiness is made up of four criteria – credibility, transferability, dependability and conformability. Credibility involves ascertaining that the results of research are feasible and believable from the perspectives of the research participants. Transferability refers to the extent to which research results can be passed to other contexts. Dependability is the parallel term of reliability which presents the stability and replicable of research. Conformability is about the degree of objectivity and corroboration of research results (Bryman 2008; Kumar 2011). Authenticity is a kind of additive value that contributes towards some sort of practical achievement. It constitutes a number of criteria, two of which were of concern in this research. The first is fairness which means representing different viewpoints fairly and without bias, and the second is ontological authenticity which reflects the role of the research in helping respondents and participants to arrive at a better understanding of the social milieu.

A series of procedures were taken to maintain as much quality and accuracy as possible of the findings from the qualitative component of the research.
These include:
- Avoiding fostering personal thoughts among respondents and during data analysis and interpretation.
- Applying respondent validation technique, by which the researcher got the confirmation and credibility of study members -or at least most of them- concerning the research findings to make sure their ideas and notions were correctly understood and presented.
- Producing rich description to convey the research procedures and findings and make it more transferable.
- Checking transcripts for any obvious mistakes made during transcription.
- Clarifying biases brought to the study by the researcher to ensure open and honest outcomes.
- The use of an external auditor to review findings and provide an objective assessment and feedback.

4.10. Ethical Considerations

Ethical issues were considered in relation to the different stakeholders of the research including the researcher, research participants in both qualitative and quantitative components of the research, and the research-sponsoring organisation, to ensure that that the research would not be affected by the self-interest of any of these parties. There could be several concerns regarding research ethics. However, most of the discussions about ethical issues tend to spin around specific issues that frequently appear to be the most prominent matters in research (Bryman 2008). These issues, discussed below, were the ones mainly considered in this research.

1. Informed consent

The principle of informed consent implies that subjects are made sufficiently aware about the nature of the research and the sort of information required from them in accordance with the criteria set by the National Commission for the Protection of Human Subjects, which include: participants being capable of giving consent, provided adequate information to allow respondents for a consistent decision, and consent being voluntary and unforced (Kumar 2011).

In that sense, all participants were informed about the purpose of the study, how they were expected to take part in it, how much time the participation was expected to take and the right of any participant not to answer any particular question, or to withdraw from the study at any time. This included participants from both parts of the research; the survey and the interviews. Respondents were also informed, in the case of interviews, that interviews would be recorded and that no one but the research team would listen to the interviews.

2. Risk of harm

It was taken into consideration that involvement in the data provision will not be likely to cause any harm to the respondents, and in case of any possibility of risk, it was kept to the minimum that is not greater than the ordinary situation in their daily life. Some precautions that were taken included:

- Committing to the agreed schedules and times in the case of interviews and utilising time efficiently in order not waste respondents' valuable time.
- Making sure respondents are in comfortable conditions in which they feel restful and not in a position where they could be distracted by work or other demands or commitments.
- Avoid the use of inadequate wording or style of talk.

3. Confidentiality and anonymity

Confidentiality is a right that should be granted to each research participants. The researcher ensured that information provided by the respondents was kept indistinctive, and that the source of information could not be later identified except by codes utilised by the researcher. Participants were assured that their identities will remain anonymous and their responses will only be used for the purpose of academic research. However, in some cases within the qualitative part of the research it was found useful to relate the presented ideas and point of views of interviewees to whom they referred. This was only done with the approval of the related interviewee.

4. Seeking sensitive information

There were no attempts to seek any kind of sensitive information that might embarrass respondents as the research concern was mainly on general issues that are of interest to the majority of people. However, as part of the research is of an exploratory qualitative nature, it followed that some ideas emerged during the conduction of the research that seemed to be useful but could be deemed sensitive or critical from a personal or political point of view. In such cases respondents were informed about the researcher's interest to cover such points and were given the choice to either discuss these further, or not.

5. Avoiding bias and incorrect reporting

The researcher applied procedures to avoid introducing any bias into the research activity, making sure there were no attempts to hide what was found from the research or highlight something disproportionately to its true existence to promote any personal thoughts or beliefs relating to the subject of the research. This also implied to reporting

research findings and outcomes in a way that did not change them, or skew them them towards the interests of the researcher or someone else.

6. Using secondary data and copyright

The researcher undertook the responsibility to ensure forms of secondary data including statistics, maps, reports and documents were obtained wherever possible from official resources.

7. Approval of institutional review board

As part of the research ethics, the work was carried out in accordance with the codes of ethics applied by the researching body. An ethical approval form appended with the research proposal and ethics statement was submitted to the Ethics Committee in the School of City and Regional Planning of Cardiff University and approval was obtained prior to fieldwork commencing.

4.11. Data Analysis Strategy

The research adopted an approach that shifted from a `between' to a` multivariate/within' data analysis approach to the study of housing quality and QOL, trying to realise and evaluate the relative contribution of a number of subjective and objective variables to one core QOL dimension. This has three heuristic and practical advantages as stated by Schalock et al (2000). It allows one to focus more on the predictors or correlates of a perceived housing and life quality rather than just comparing status. It helps understand better the complexity of the concepts of housing quality and QOL and the role that contextual variables play in the evaluation of one's satisfaction with housing and QOL. It shifts the focus of our thinking from exclusively personal to both person and environmental factors as major sources of QOL influence and enhancement.

In order to maintain consistency and patent flow of information, analysis was carried out in four main divisions/chapters. Each of these divisions or parts tackles a definite scale of concern.

Part 1: assessed QOL status and the overall satisfaction with housing circumstances and verified the significance of housing domain, compared to other life domains, on QOL.
Part 2: investigated the status of housing supply and provision and the influence it has on QOL, referred to as 'quality of provision'.
Part 3: investigated the quality of housing surroundings and the influence it has on QOL, referred to as 'quality of context'.
Part 4: investigated the quality of housing unit and the influence it has on QOL, referred to as 'quality of dwelling'.

Each of the three types of qualities was identified with a number of indicators through which its influence on the satisfaction with housing and QOL was examined. Each indicator in turns was identified by one or more measures to assess its influence and relationship with QOL. The whole structure of the questionnaire applied in the household survey was built in line with the set of adopted indicators in terms of the outline and the questions - that is; for each adopted indicator there was at least one related question.

4.11.1. Development of housing quality indicators

Referring to what has been discussed earlier in chapter two the research adopted an integrated viewpoint for housing quality that comprises three sorts of quality: quality of provision, quality of context and quality of dwelling. For each quality a definite set of indicators was proposed. These were developed in line with the mostly utilised attributes or quality indicators in research; obtained from literature related to both housing quality and QOL, taking into consideration being comprehensive as much as possible; that is, covering broad aspects of housing quality, and working in consistence with the particular circumstances of the city of Amman. This was achieved through the application of a series of incremental steps that included reviewing, sorting and verifying the most suitable indicators to be applied in the research as follows:

- Reviewing literature related to housing quality as well as QOL and recording all utilised or proposed housing quality measures and indicators. Such literature include studies about the quality of residential form, studies about the quality of neighbourhood

and surroundings, studies about housing supply and affordability, studies about residential satisfaction and studies about measuring QOL.

- Sorting out all the recorded measures and categorizing them in reference to their focus or the subject they address.
- Dismissing indicators that are rarely used or those that focus on very specific issues that seem only relevant to the contexts of the studies in which they were used, ending up with the most significant measures.
- Grouping all related measures together and reformulating them in one comprehensive and representative indicator and placing all the developed indicators under the relevant sort of housing quality, i.e. quality of provision, quality of context and quality of dwelling.
- Consulting some colleagues as well as experts among those who were interviewed about the proposed set of housing quality measures, to make sure the proposed indicators properly address and respond to the context of Amman, and getting their comments and suggestions regarding the proposed measures and acting upon them towards the development of the best representative set of indicators.
- Formulating the final set of housing quality measures and indicators to be applied in the study.

Figure 4.9 illustrates the process of developing research indicators, presenting the five main sources from which the initial set of indicators was generated and the most common measures used in these studies, as well as the final set of indicators adopted for use in the research [5].

[5] Further details about the formation and configuration of housing quality indicators, used in the research, and the set of measures taken from studies on housing quality and QOL in relation to the three qualities of housing can be found in Appendix 2.

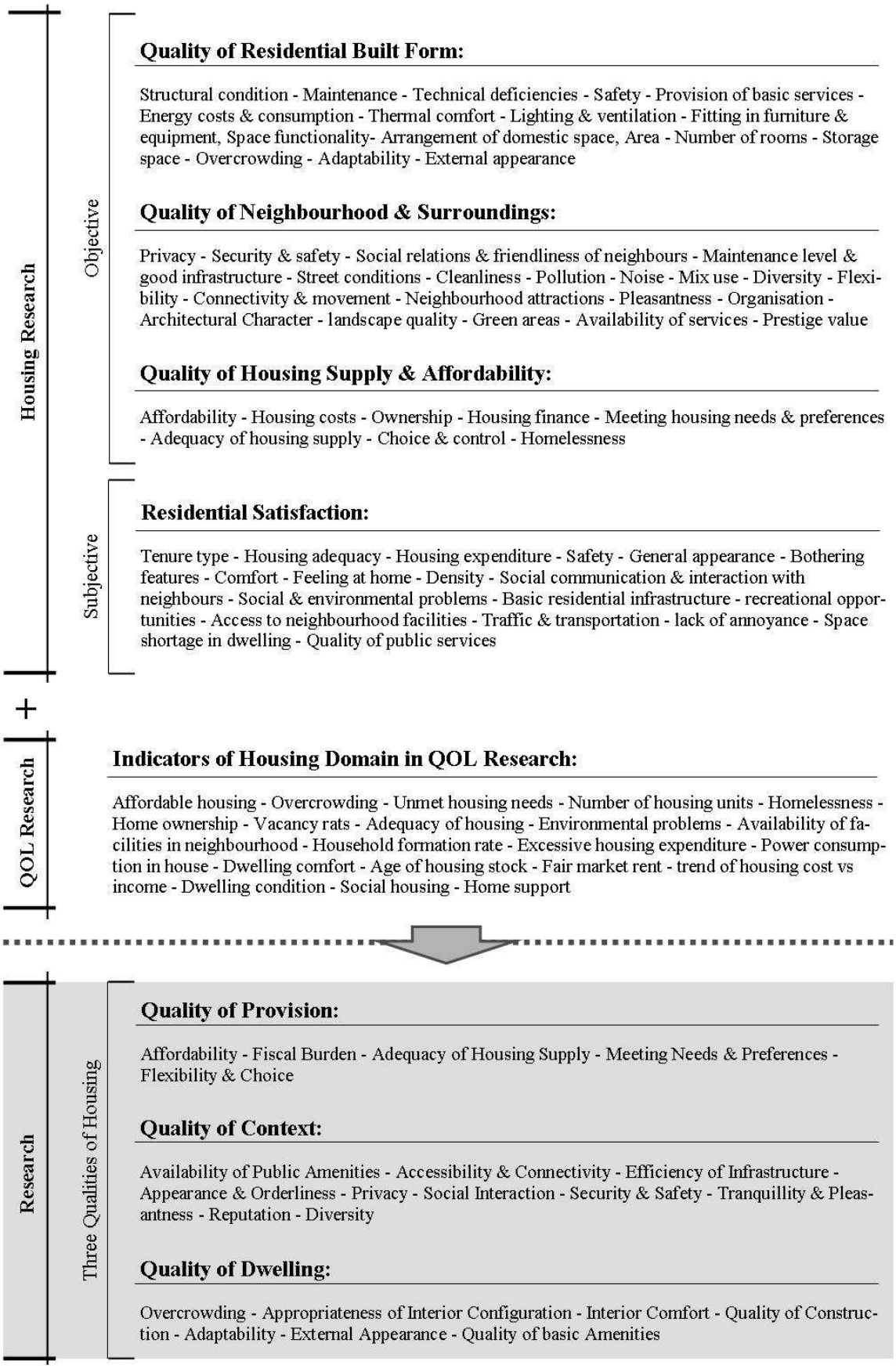


Figure 4.9: Development of housing quality indicators

4.11.2. Measures of satisfaction with housing and perceived QOL

The impact of each indicator was assessed in relation to three different scales of interest: the scale of the quality to which the indicator belongs, i.e. provision, context and dwelling, the scale of housing in general, and the overall scale of QOL. Figure 4.10 illustrates the three different scales upon which the impacts of housing quality indicators were assessed. Three measures, representing three scales of interest, were used:

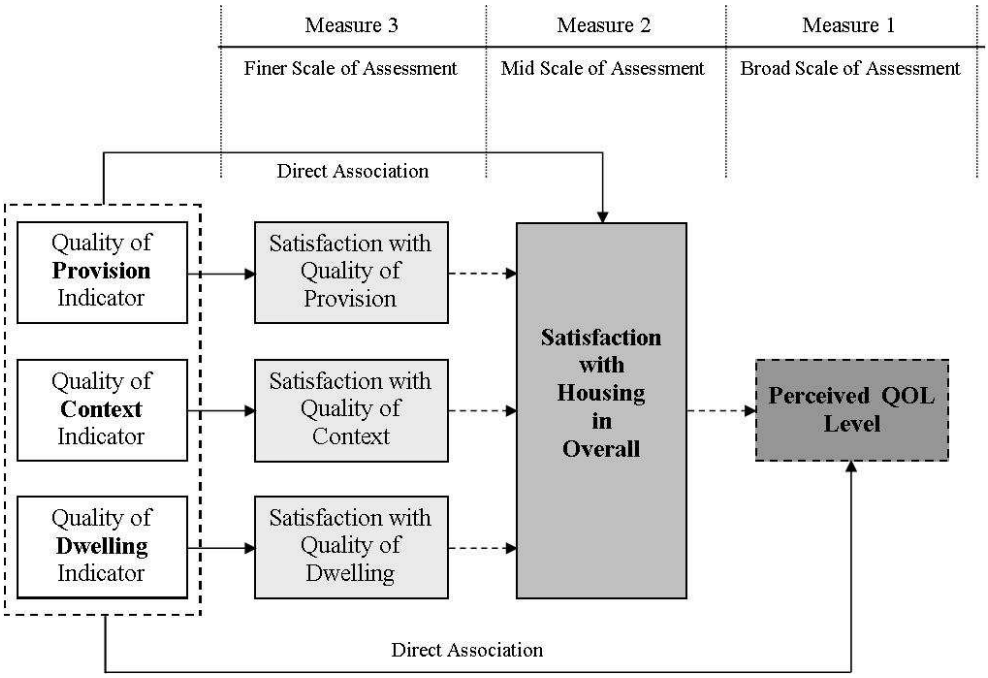


Figure 4.10: Scale of housing quality assessment

<u>*Measure 1:*</u> *QOL level.* This was obtained from a direct question in the survey that asks respondents to state the level of their QOL.

Measure 2: Satisfaction with housing circumstances. This was obtained from a question asking people to state the degree to which they are interested in moving to another house as a proxy of the overall satisfaction with housing[6].

Measure 3: Satisfaction with housing provision, context or dwelling. Three questions were used to cover the three sorts of satisfaction, each of which relates to one of the three examined qualities of housing.

[6] Justification of using the interest to move to another house as an indication of satisfaction with housing is made in the following chapter when addressing findings of satisfaction with housing.

The three questions included:

- To what extent do you agree there is enough suitable housing available in the market within your financial constraints?
- To what extent are you satisfied with the conditions of the neighbourhood ?
- To what extent are you satisfied with your house quality?

Having a significant relationship with measure of QOL level denoted having a direct influence on QOL, while having relationships with the other two QOL measures denoted having an indirect influence on QOL via housing. On the other hand, the influences of socio-demographic factors were also assessed for each indicator. In that sense, each indicator was analysed as an independent variable in terms of its influence on QOL and satisfaction with housing and as a dependent variable through exploring the effect of other factors on it. This was seen to provide a comprehensive understanding of the effect of each indicator and consequently the effect of each type of housing quality. Figure 4.11 provides more clarification regarding this matter.

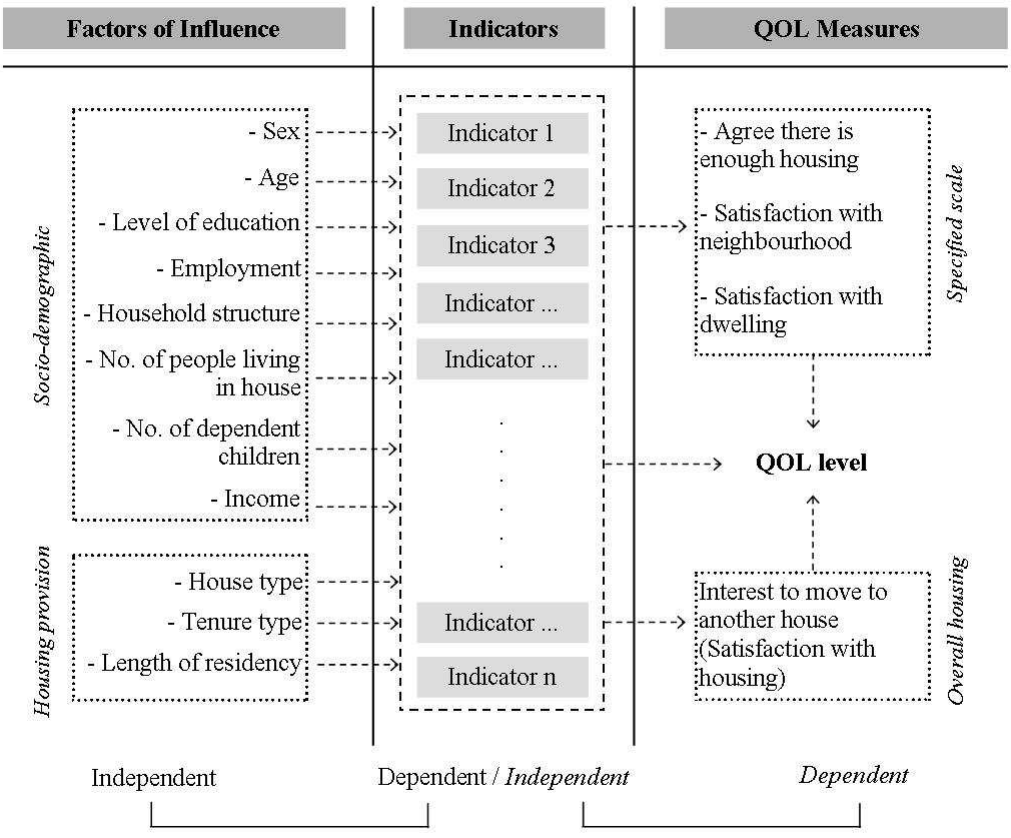


Figure 4.11: Factors, indicators and measures of analysis

4.11.3. Determining significance of indicators

It is generally noticed that the impact of the various components of housing quality on QOL differs from place to another. Therefore, as part of assessing housing quality and understanding the influence it has on QOL in Amman, it was necessary to verify the importance or weight of each of the assessed indicators. Four aspects were considered as the criteria for assessment, from which two were related to the quantitative part of the research; i.e. survey results, while the other two related to the qualitative part of the research, i.e. the interviews.

The adopted criteria included the following issues:

- Achieving significant results in statistical tests. Indicators which were found to have significant association in statistical tests with QOL measures were taken to be more influential.
- Clarity and stability of relationship. Some indicators were found to have a clearer and more consistent pattern with measures of QOL in comparison to others. Although all were statistically proven to have significant associations, indicators with more apparent patterns were considered to be more important.
- The number of interviewees claiming the indicator has a significant impact on QOL. The more interviewees referring to a particular indicator, the more important it was considered.
- Potency and depth of argument. Solid and evident arguments made on certain indicators were taken as signs of the importance of the indicator.

All together, the four criteria were taken to distinguish the significance or weight of some indicators over others. Although this approach seems to be subjective in some of its components, it represents a good combination between the two data collection approaches - the quantitative and qualitative - and still provides a useful guide to determine the importance of each indicator.

4.11.4. Linking findings of survey and interviews

In order to maintain consistency in the discussion and flow of information for each indicator, the research adopted a narrative that starts with addressing findings obtained from the survey in relation to the measures used for that indicator. This is followed by interpretations made in consistence with literature and findings from related studies. Results obtained from the interviews come next, providing more insight about that indicator either by confirming results gained from the survey, of providing clarification of or explanation to what has been found from the survey, or even covering additional issues that were overlooked in the survey.

4.11.5. Presenting outcomes for the three housing qualities

Each type of the three housing qualities is addressed in a separate chapter following however, the same structure and sequence of data presentation. For each type of quality the analysis starts with presenting findings related to the overall satisfaction with the type of quality under consideration and its degree of association with the perceived QOL and satisfaction with housing in general. This is followed by exploring the effects of the different survey respondents' attributes, i.e. socio-demographic and housing provision factors, on the level of satisfaction with this sort of quality. After that, each of the identified indicators is addressed in a separate section. Each section starts with introducing the indicator and justifying the use of it as a measure for housing quality. This is followed by presenting survey findings that describe households' responses in regard to the current condition of this indicator. This in turn, is followed by exploring the level of association the indicator has with measures of satisfaction with housing and the perceived QOL, using different statistical tests, to determine the significance of this indicator and the impact it has on QOL. Subsequently, interpretations and reflections are made in relation to relevant secondary data and literature. This is followed by exploring the influences of the different socio-demographic and housing provision factors in relation to the addressed indicator, and interpretations are made on related findings. Finally arguments made by key informants, i.e. interviewees, are presented to provide additional viewpoints (concurrent or opposing) about the state of the indicator, and give further clarifications and explanations about the impact it has on QOL.

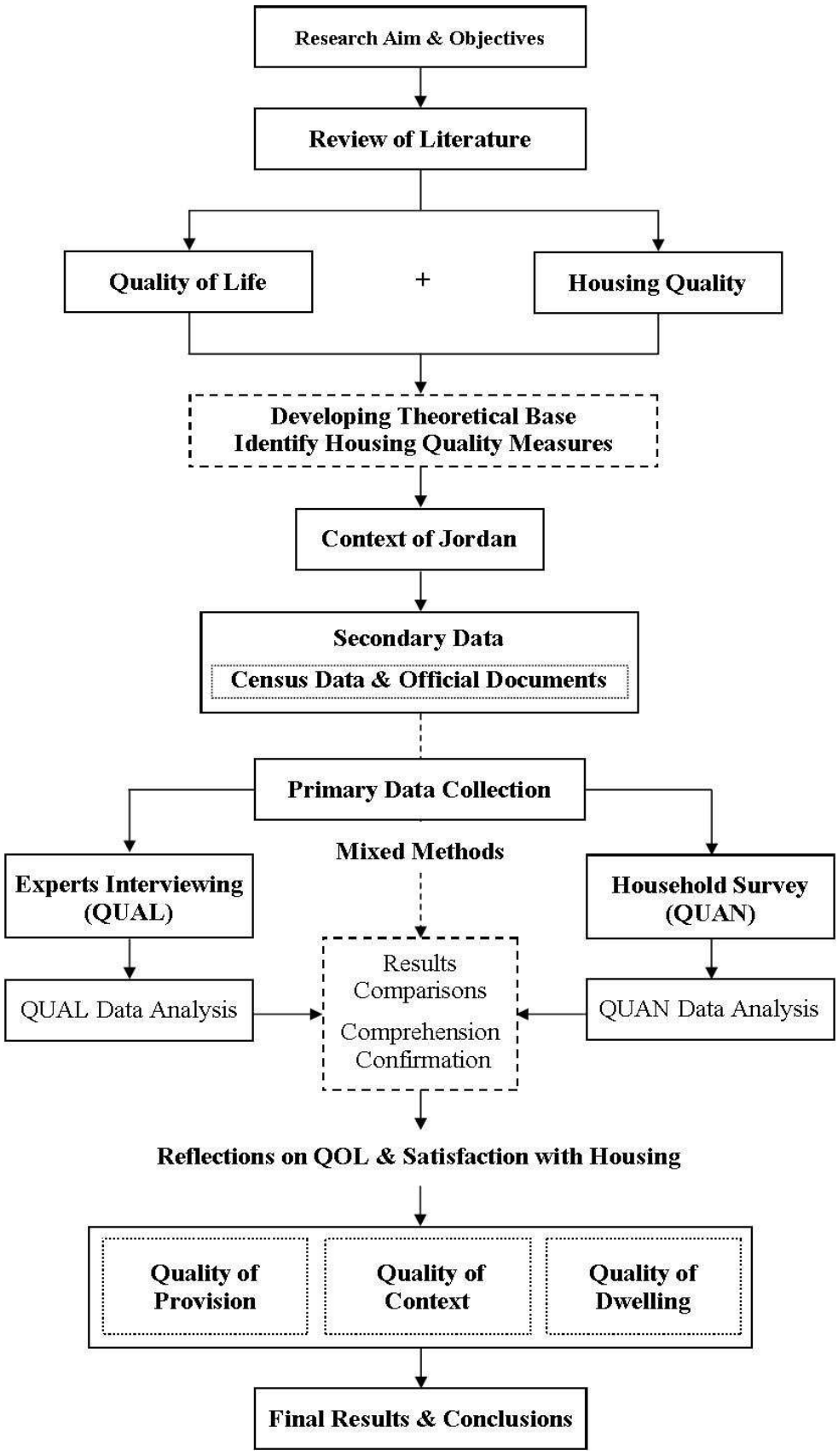


Figure 4.12: Research structure

Chapter Five

Reflections on QOL and Satisfaction with Housing

5.1. Introduction

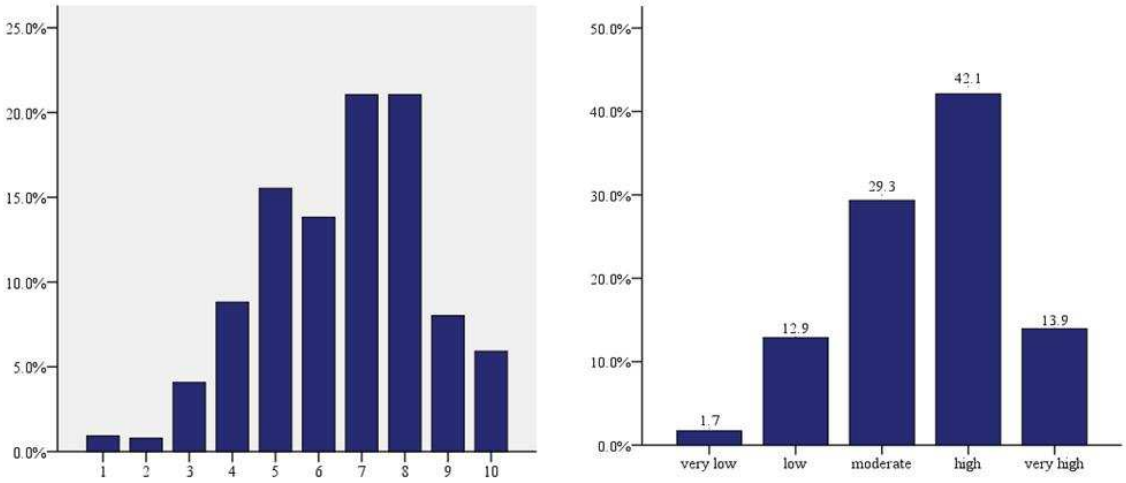
This chapter presents the broadest level of analysis undertaken in the research that forms the foundation for the rest of the analytical work. It aims at understanding people's living conditions and exploring their perceptions and priorities for having a better quality of life (QOL), and their assessment of their current QOL status. Doing so, it provides a precursory description about how people living in Amman assess their QOL and what aspects they believe are the most influential in respect to their various socio-demographic attributes. The chapter also addresses the significance of housing as a life domain, explores its association with other QOL domains, and examines people's levels of satisfaction with their current housing circumstances. In that sense, the chapter covers three vital issues that are primarily associated with the theoretical and methodological base of the research. These are:

1. Describing life status in Amman and the factors that affect people's perceptions and judgements of their QOL.
2. Verifying the importance of housing as a vital component or a factor that affects QOL in comparison to other life aspects.
3. Exploring the robustness of the primary QOL measures adopted in the research, on which the majority of analysis was built.

5.2. State of Life Quality in Amman

Figure 5.1 shows the results obtained from the survey regarding people's assessment of their QOL. Figure 'a' illustrates frequency distributions of data in its original form using a 10-scale measure, while figure 'b' illustrates frequency distribution of a

converted form of five categories, each combining two scales of the original form. The average score, using the scale of 1-10 with 1 denoting very poor QOL and 10 denoting excellent QOL, was found to be 6.58. Values of 7 and 8 were found to be the mostly frequent, counting for 42% of the total number of responses. It can be noticed that nearly 56% of respondents considered their life to be of high or even very high quality, in comparison to 14.6% who deemed their QOL as being low or very low. This response pattern indicates a broad-based satisfaction with QOL. This, however, contradicts findings obtained from several international indices and studies including, for instance, results of the Wellbeing of Nations Index of QOL which placed Jordan in the 151st place among 180 nations. This is also supported by results obtained from the QOL Index developed by the Economist Intelligence Unit using methodology that links the results of subjective life satisfaction surveys to the objective determinants of QOL. The Index recorded Jordan as having a low QOL level, scoring 5.675 and coming in the 75th place among 111 countries.



a. Assessment of QOL using a scale of 1-10

b. Assessment of QOL using categories

Figure 5.1: Assessment of QOL

Part of this contradiction might result from comparing figures related to the whole country, comprising both good and poor urban and rural settings, with findings related to the most urbanised and developed city in the country - that is Amman. This justifies to some extent the highly positive QOL rating in the case of Amman. Nevertheless, arguments made by interviewees in addition to public impressions extrapolated from media and people's daily conversations denote that QOL, even in Amman, is not that

good, at least in regard to certain aspects, and in fact it is getting worse. It can be also said that having a high QOL level instead diverges from actual objective conditions which people live and experience, at least in many parts of the city, particularly within the last few years which have witnessed a noticeable decline in the efficiency of urban services and deterioration in economic, social and living conditions among a broad sector of society. In such conditions QOL was expected to be quite poor and, thus, lower than from the actual findings from the survey carried out in this study.

For further exploration, responses regarding QOL level were analysed by geographical subgroups, i.e. districts. Figures 5.2 and 5.3 illustrate QOL assessment among the different districts that had been investigated in the research. Variations can be clearly seen where in some districts QOL achieved very high values in contrast to other districts where lower values were more dominant.

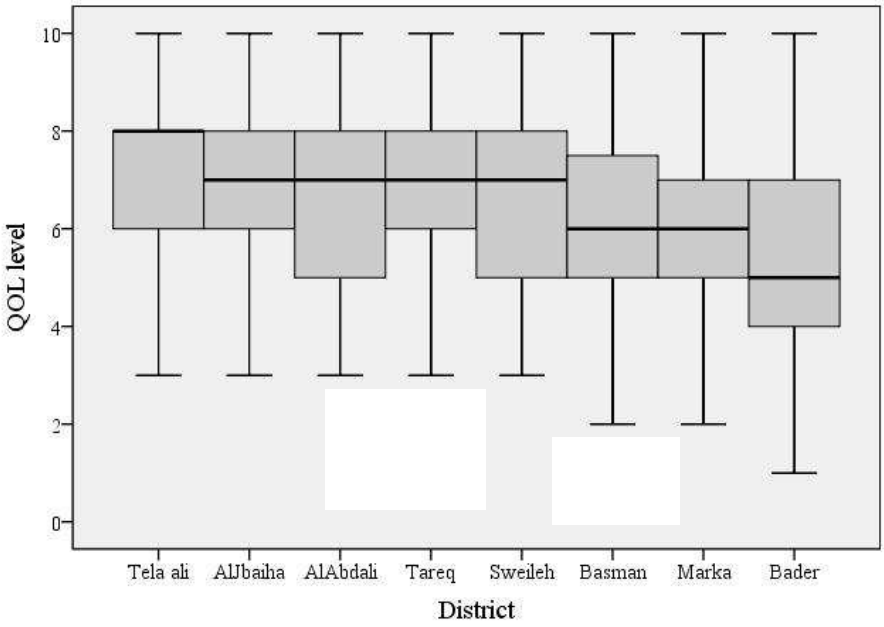


Figure 5.2: QOL scores vs. districts box plots

High QOL values were associated with districts with higher social classes presenting better living conditions in most living aspects, including for instance, advanced financial capabilities, better urban services, healthier residential circumstances and probably improved health and educational facilities. On the other hand, lower values of QOL were mostly associated with districts of poor living conditions and urban services.

This can be seen as a positive type of association where districts of better living conditions score higher in QOL value. This significant relationship was confirmed using statistical tests including the Kruskal Wallis H Test. A significance value of 0.00 < 0.05 was obtained denoting the presence of a significant association between district and QOL. Figure 5.2 reflects to a certain extent this positive association where it can be seen that the mean QOL value decreases gradually from 8 in the case of the district that reflects the higher social class to the value of 5 in the case of the district that presents the lowest social class among the investigated districts. Although the magnitude of change is not a considerable value, it still reflects a significant positive relationship between QOL and district. Figure 5.3 illustrates this relationship in a clearer manner.

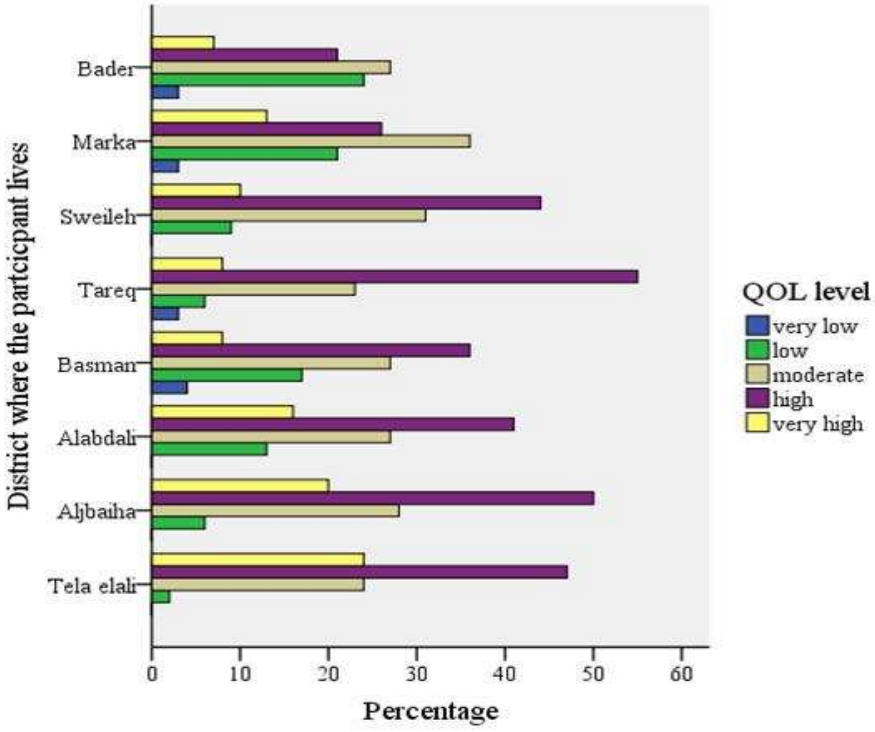


Figure 5.3: QOL level vs. districts bar chart

Additional detailed analysis provides a more in-depth understanding of the state of QOL. This comprises an investigation in relation to socio-demographic personal attributes including sex, age, education, occupation, household structure, number of residents, number of dependent children and income to examine any sort of association between QOL and personal characteristics from which better explanations can be drawn. In reference to that, results have shown significant associations between QOL

and some socio-demographic attributes. Table 5.1 shows results obtained from applying a number of statistical tests to investigate the relationship between QOL and socio-demographic factors. Note that more than one test was applied for each factor to gain higher levels of confidence.

Table 5.1: Significant values obtained from testing association between socio-demographic factors & QOL

Attribute / Factor	**Significance value obtained**			
	Kruskal-Wallis H Test or Mann-Whitney Test (QOL: ordinal)		Chi-Square Test (QOL: categorical)	
Sex	0.000 < 0.05	Significant	0.00 < 0.05	Significant
Age	0.163 > 0.05	Insignificant	NA	-
Level of education	0.000 < 0.05	Significant	0.00 < 0.05	Significant
Employment type	0.229 > 0.05	Insignificant	0.38 > 0.05	Insignificant
Household structure	0.180 > 0.05	Insignificant	0.35 > 0.05	Insignificant
No. of people living in house	0.005 < 0.05	Significant	NA	-
No. of dependent children <12	0.007 < 0.05	Significant	NA	-
Income	0.000 < 0.05	Significant	0.00 < 0.05	Significant

No sort of significant relationship was found regarding the effect of age, employment and household structure. However, tests have revealed the presence of a significant association between QOL and some of the factors including sex, level of education, number of dependent children, number of people living in house and income. Cross tabulations were applied to obtain better insight about the type of these associations. Regarding sex of respondent, females seemed to be more likely to positively evaluate their QOL, where around 67% of female respondents stated their QOL to be high or very high in comparison to males of whom 51% stated their QOL to be high or very high. A possible reason might be that in the Jordanian community the male is still the one mostly responsible for working and providing sustenance for the whole family and, therefore, is the one who is most likely to face different challenges relating to livelihood, and obstacles in terms of covering living expenses, provision of adequate house, commuting, daily interaction with different community members and many others. This does not mean that females do not face such issues, but it is more likely that males are the ones who encounter the majority of such matters.

A positive association was found between level of education and QOL as higher scores of QOL were accompanied with higher educational levels. For instance, only 34.4% of respondents with primary educational levels stated their QOL level as being high or very high. This percentage seemed to be higher in the case of respondents with college or diploma degrees, half of whom stated high or very high QOL levels. Respondents with high educational degrees reported the highest percentages of positive response regarding QOL where around 77% stated their QOL to be high or very high. This reflects findings from other studies including for instance, Venhooven (2001), who figured out strong correlations between education and QOL, especially in the case of poor nations. This, however, contradicts results obtained from other studies which found a small correlation between education and life satisfaction. Education in that sense is seen not to be influential on the subjective dimension of QOL, but as a tool towards maintaining better health and income and possibly more objective materialistic gains.

Income was also found to have significant association with QOL. A strong positive association was figured out from cross-tabulating amount of monthly income and people's evaluation of their QOL. Results reflect an apparent relationship between gaining high income and reporting high QOL levels. Only 25.4% of respondents earning a monthly income equal to or less than 300JDs stated their QOL to be high or very high. This percentage tends to increase steadily with the rise of income, reaching 35% in the case of respondents who earn 301-600JDs in the month, to 56.4% in the case of respondents who earn 601-900JDs, and so on, reaching its maximum - 83.8% - in the case of respondents who earn a monthly income of more than 1500 JDs. Several studies have come up with similar findings, including for instance, the works of Diener et al (2009), Diener & Diener (1995) and Veenhoven (2001) showing that high correlations are found between QOL and happiness on one side and earnings on the other side. Veenhoven (2001) stated that this relationship tends to be stronger in the case of poorer nations where the influence of income tends to be more obvious. It had been found from a number of studies that GDP per person explains more than 50% of variation in life satisfaction among people. Other surveys, however, showed that even in rich countries, people with higher incomes are more satisfied with life than those with lower incomes.

This can be justified on the fact that income confers advantages in terms of basic physical needs, security, and the actualisation of one's abilities. This is due to the greater freedom of action afforded by increased income to bring better material wealth and higher quality of objective conditions including those related to housing which positively results in higher levels of comfort and satisfaction (Diener & Diener 1995).

Investigations also included exploring the influence of housing provision factors including housing tenure, house type and length of residence. Several statistical tests and procedures were carried out to address this. These included cross tabulations, Chi Square Test, Kruskal Wallis H Test and Spearman's Correlation Test. Results revealed significant associations between tenure type and house type on one hand and QOL on the other hand. No significant relationship was proved between length of residence and QOL. Table 5.2 presents results obtained from cross-tabulating tenure type with QOL.

Table 5.2: Tenure type vs. QOL level cross-tabulation

			QOL level					
		No.	very low	low	moderate	high	very high	Total
Tenure type	own outright	314	1.0%	6.1%	24.2%	48.1%	20.7%	100%
	buying with mortgage	78	0.0%	12.8%	29.5%	47.4%	10.3%	100%
	private rental	226	1.8%	20.8%	34.5%	34.1%	8.8%	100%
	family-owned	139	4.3%	15.8%	32.4%	38.8%	8.6%	100%
Total		757	1.7%	12.9%	29.3%	42.1%	13.9%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.004 < 0.05 (Significant)
- 3 cells (15.0%) have expected count less than 5 (Accepted)

The table reveals a more positive relationship between homeownership and QOL if compared to the relationship between other types of tenure and QOL. Participants owning their homes seemed to be more likely to report higher levels of QOL with a ratio of approximately 68.8% describing their QOL as being high or very high. This ratio was found to be lesser, although still reasonably high, in the case of those respondents buying their homes with a mortgage, from which 57.7% described their QOL as being high or very high. Respondents renting their houses or living with their families were found to be less likely to state high or very high QOL levels. In other

words, they seem to be less satisfied with their QOL in comparison to those living in their owned houses or in houses bought with mortgages. Slightly less than half of respondents who live in their family houses described their QOL as being high or very high, while nearly 42% of those living in private rented houses did so.

In light of such findings, it can be said that home ownership is the best form of tenure type that makes it more likely for households to achieve better QOL. Several studies support such a notion and provide explanations for it. Many researchers argue that home ownership has the advantage of making a major contribution to one's satisfaction with home and neighbourhood as well as happiness and contentment with life as a whole (Rohe & Basolo 1997; Rohe & Stegman 1994; Rossi & Weber 1996; Saunders 1990). The association between home ownership and the sense of better QOL is said to be the result of a multiplicity of benefits associated with ownership. Autonomy is one of these benefits. This is the right to do what you will with the dwelling. It is argued that because of enjoying such rights, owner-occupiers feel a greater sense of belonging and security in their homes. It is suggested that home ownership is likely to be a key factor in influencing people's sense of self and identity and reducing feelings of alienation and powerlessness (Saunders 1989). Home ownership has also been said to lead to higher level of perceived control and command over important life aspects. In addition to that, several scholars have suggested a link between home ownership and individual self-esteem (Rakoff 1977).

Rosenberg (1979) provided three explanations of how home ownership may contribute to a person's self esteem. The first explanation refers to what he called the principle of 'reflected appraisal' according to which individual's self-esteem can be influenced by how he or she is viewed by others. He stated that home ownership can play an important role in expressing the prominent social status of the household which in turn leads others to hold the home owner in high esteem. The second explanation refers to the principle of 'social comparison' where self-esteem is influenced by how individuals see themselves when compared to others and, in the case that they feel they are doing better, they are likely to have higher levels of self-esteem. In that sense, home ownership may present evidence of doing better than or at least the same as others. The principle of

'self attribution' comprises the third explanation. It suggests that people base their self-esteem on observing their own behaviours and outcomes, and accordingly, if they pursue their goals successfully, they take it as evidence that they are competent and doing well. Home ownership is one of the main goals of most people and thus, once it has been achieved, it may well be a significant indicator of personal success leading to higher self-esteem.

Other attributes or benefits presented by researchers include: higher level of maintenance and property improvement (Gurney 1999; Mayer 1981), better physical health of residents, wealth accumulation, less mobility (Dietz & Haurin 2003) and better participation in neighbourhood and engagement in societal activities (Saunders 1989). All these benefits were found to have a positive role in achieving better QOL. In light of all these arguments, home ownership has understandably become an important indicator of housing quality in most QOL studies and programmes. Consequently, improving opportunities for home ownership is taken to be among the key objectives of several housing strategies.

Regarding the influence of house type on QOL, results have shown a positive association between living in villas and having better QOL. Table 5.3 presents results obtained from cross-tabulating tenure type with QOL.

Table 5.3: House type vs. QOL level cross-tabulation

			QOL level					
		No.	very low	Low	moderate	high	very high	Total
House type	flat	572	1.6%	13.6%	29.4%	42.1%	13.3%	100%
	dar	108	0.9%	8.3%	34.3%	42.6%	13.9%	100%
	villa	42	2.4%	2.4%	16.7%	47.6%	31.0%	100%
	other	38	5.3%	26.3%	28.9%	34.2%	5.3%	100%
Total		760	1.7%	12.9%	29.3%	42.1%	13.9%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.004 < 0.05 (Significant)
- 4 cells (20.0%) have expected count less than 5 (Accepted)

The table reveals a clear relationship between house type and QOL. People who live in flats seem to be more likely to state lower levels of QOL where 15.2% of them stated

very low or low levels of QOL. This percentage seems to be lower in the case of respondents who live in dars as only 9.2% of them stated very low or low QOL levels, while those living in villas seemed to be the least likely to state lower levels of QOL (4.8%). Regarding higher levels of QOL, respondents residing in villas seemed to be the most likely to indicate higher levels, with about 78.6% stating high or very high QOL levels if compared to those residing in flats from which group 55.4% stated high or very high QOL levels. Several explanations can be given for these findings. The first is the set of design characteristics that single detached houses enjoy such as the larger floor areas, the provision of open spaces, the quantity and quality of services and amenities and many others. The second explanation is the higher degree of independence, privacy and freedom associated with detached house forms. Another reason might be the better financial capabilities that people living in single detached houses, particularly villas, supposedly enjoy, which make them more likely to attain higher standards of living, which in turn improve QOL. Further explanations are provided in more details in the coming chapters.

5.3. Ranking of Life Domains

In order to explore the importance of housing among other life domains, respondents were asked to rank a set of 10 domains in a descending order according to the influence these domains have on their life starting from 1 for the most influential domain and ending with 10 for the least important domain. The domains comprised: access to transportation, culture and recreation, education, employment and income, family and social life, health, housing, natural environment, political environment and security and safety. Results have shown some connotations of uniformity within outcomes related to some domains such as political environment as well as security and safety. In spite of that, results in general have shown variations in ranking aspects related to QOL. This in turn reflects differences in people's living conditions related to personal and locational attributes on the one hand, and the priorities and perceptions people hold regarding factors that affect their QOL on the other hand. This can be explained as a sign of significance of almost all aspects of life which agrees to a high degree with results obtained by Mallard et al (1997) who found that, unlike the case in many countries, QOL in Jordan seemed to be pervasively affected by nearly every life domain.

Table 5.4 presents results of rankings awarded to domains and corresponding values obtained by each domain. It shows the two most frequent mode values (rank) given for each domain, the frequencies of these ranks and the ratios they comprise from the total number of ranks given for each domain. The table additionally shows sums and means of the calculated values corresponding to given ranks[1]. In so doing, it concludes with the final rank that each domain obtained from assessing all these values, which in turn defines its level of importance or significance among all other domains.

The final outcome reflects to a reasonable extent the general impression one can get from personal observations and general public talks about life in Amman except for some aspects including in particular, transportation which was placed, unexpectedly, in a low rank. Transportation is believed to be one of the most significant problems that impact negatively on the life of people in Amman on a daily basis, and in almost all places and for all community groups. This in fact is a matter of public concern raised by several experts who had been interviewed during the study. Among those were employees in the Planning Unit of Greater Amman Municipality who stated that Amman suffers from a faulty transportation system which, accompanied by a poor infrastructure and public services system, may account for around 70% of the overall obstacles that challenge the quality of urban life in the city. This is because, unlike most other aspects that might be of significant concern for particular groups or community members, transportation is an issue that almost every community member deals with.

[1] To calculate the corresponding values for domains, each rank was given a value from 1-10 that represents its significance. For example, rank 1 was given the value of 10, rank 2 given the value of 9 and so on until reaching rank 10 which was given the least value, 1. Values were multiplied by frequencies to obtain the final sum of values, from which the mean value was calculated. The sums and mean values formed the base for the final assessment and ranking of domains.

Table 5.4: Ranking values for domains

Domain	Given Rank					Corresponding Value		Final Rank
	Mode 1	Frequency	Mode 2	Frequency	% of Total	Mean Value	Sum Value	
Health	1	186	2	124	41.5	7.45	5564	**1**
Employment & Income	1	173	2	113	38.2	7.12	5318	**2**
Security & Safety	1	120	3	120	32.1	6.87	5131	**3**
Housing	**2**	**154**	**3**	**114**	**35.9**	**6.69**	**4999**	**4**
Family & Social Life	2	116	4	113	30.6	6.67	4988	**5**
Education	6	123	5	115	31.9	6.31	4717	**6**
Access to Transportation	7	128	8	127	34.1	4.31	3216	**7**
Culture & Recreation	8	171	9	135	41.0	4.04	3022	**8**
Natural Environment	9	223	8	162	51.5	3.61	2695	**9**
Political Environment	10	447	9	108	62.2	2.26	1686	**10**

The impression based on ranking results provokes two initial suppositions. The first is that there seems to be a general tendency towards valuing aspects that are of a more personal or individual dimension such as health, income and security over those of collective concern such as transportation, recreation and politics. The second remark that can be made is that most people tend to identify aspects of QOL from a notional or visionary point of view more than a practical and functional one. In such a view, subjective issues such as being safe, feeling healthy, having good relations and dealing pleasantly with others can be of higher weight than materialistic issues. This contradicts with opinions of experts and specialised people who seemed more rational and objective in defining QOL and naming the factors that affect it in a way that gives priority to issues that are in an unpleasant state and in need of improvement. The way people prioritise aspects of QOL had been referred to in several studies including the work of Lee (2008) who claimed that when assessing QOL from the perspective of individual subjective measurement, physical environmental assessment becomes less important than factors such as safety, prosperity, convenience and sociability issues. These findings indicate that from an individual subjective perspective, individuals may be more concerned with spiritual and perceptual perspectives than with environmental

perspectives. Another comment that can be made is that the general trend of ranking reflects, in a way, the primacy of basic human needs comprising physiological and safety needs represented by health, income, security and housing followed by the need of belonging which is reflected in the domain of family and social life. Needs of esteem and self actualisation represented by recreation and political interests are the ones that ranked the lowest. Such trends reflect to a certain degree the inadequacy of basic needs among a wide sector of the community, and that many people are still concerned with their primary needs, as is the case with most developing countries.

Housing appeared to be of sound importance, occupying the fourth rank among all domains. This concurs with findings from different studies including that of Das (2008), who found that satisfaction based on condition of housing was strongly correlated with satisfaction from overall QOL. Besides, it can be noticed that housing as a domain seemed to be very close in terms of rank and value to family and social life, which reflects a general impression among people that housing is a key factor in maintaining family and social life, and vice versa.

Besides detecting the rank and corresponding value for each domain as a quantifying indication of importance, it was necessary to inspect the consistency and degree of confidence that can be built upon the outcomes of each domain. Measures of spread including standard deviation and variance were used for that purpose in addition to the use of box plots to display the median and inter-quartile ranges of distribution for each domain. Table 5.5 presents mean[2], standard deviation and variance values for each domain. Although standard deviation values seem to be very similar for all domains and do not have great degree of difference, they still provide insight about the uniformity of results obtained for each domain. Referring to Table 5.5 it can be noticed that the lowest standard deviations and ranges were for natural environment and political environment domains, indicating more agreement for both domains and possibly more consistent

[2] Mean values are calculated from ranks given to each domain. These differ from mean values presented in table 6.2 which was calculated from the corresponding values as shown earlier. Yet, they both give the same sort of information but in a reverse way. As an example, the mean value for health given in table 6.2 is equal to 7.45, while in table 6.3 it shows the value of 3.55. The high mean from the first table indicates high value, while the low mean from the second table refers to advanced rank, both of which denote high degree of importance for the domain.

spread. On the contrary, employment and income as well as access to transportation were, respectively, the domains of the highest values of variance and standard deviation and accordingly attracted less agreement in ranking. Regarding housing, it can be noticed that it is among the domains which have the lowest standard deviation and variance, and a more consistent spread in comparison with other domains. Domains with larger variances are believed to represent a wide disparity in people's opinions regarding the significance and degree of influence these domains have on people's QOL, while domains with lower variances are believed to signify narrower disparity in thoughts.

Table 5.5: Mean, standard deviation and variance values of domains

Domain	Mean	Standard Deviation	Variance
Access to Transportation	6.69	2.496	6.228
Culture & Recreation	6.95	2.164	4.684
Education	4.69	2.261	5.114
Employment & Income	**3.88**	**2.518**	**6.338**
Family & Social Life	4.32	2.382	5.672
Health	3.55	2.269	5.148
Housing	**3.89**	**2.233**	**4.987**
Natural Environment	**7.39**	**2.120**	**4.493**
Political Environment	8.74	2.132	4.545
Security & Safety	4.13	2.416	5.846

Figure 5.4 presents box plots for the 10 domains that were examined. Values shown in these diagrams represent the original ranks of the domains where 1 denotes being ranked in the first place, i.e. most important and 10 denotes being ranked in the last place, i.e. least important. The use of box plots provided better understanding of the level of agreement associated with each domain, and made explicit the actual position that each one had attained. It can be seen that housing is among the domains that showed a reasonable level of uniformity in terms of inter quartile range (3). Domains of access to transportation, employment and income, as well as security and safety seemed to be more varied with a wider range of results, which indicates the variations in people's perceptions and evaluation of these aspects.

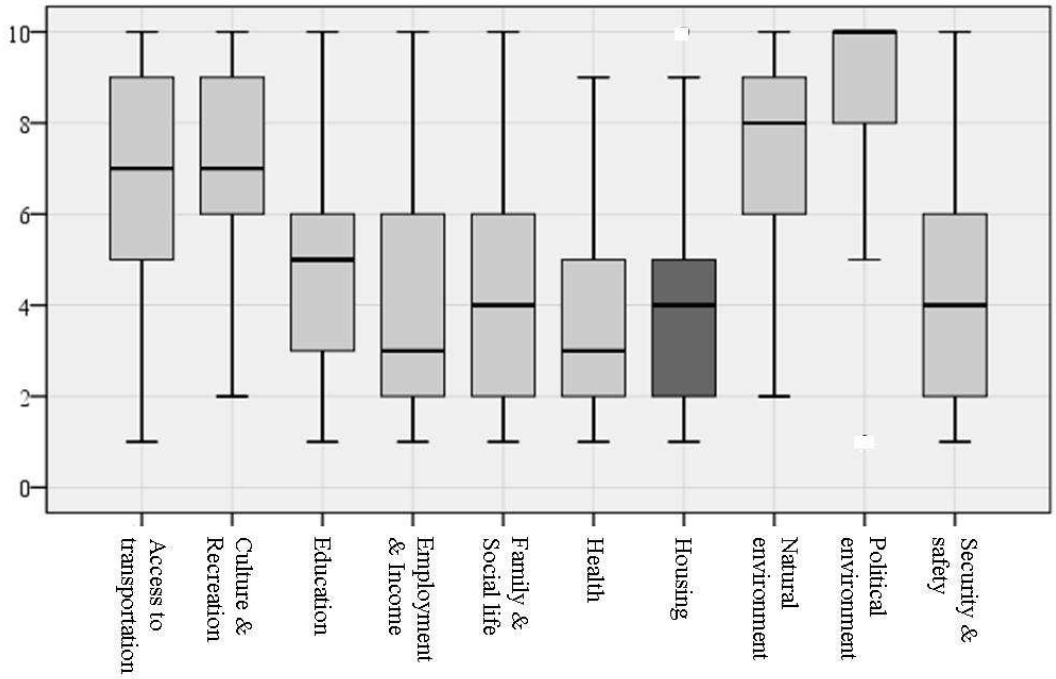


Figure 5.4.: QOL domains' box plots

The domains' ranking was also analysed in relation to assessment of QOL to discover the connections, if any, between the ranks people awarded for each domain and the values given to QOL. Spearman's Correlation (2-tailed) test was applied to inspect any sort of correlation between domain ranks and QOL[3]. Table 5.6 presents results obtained.

Table 5.6: Spearman's Rho results of testing correlations between QOL scores and domains' ranking

Domain	**Spearman's correlation coefficient (Rs)**	**Type of correlation**	**Significant level** (Correlation is significant at the 0.01 level (2-tailed)
Access to Transportation	0.208	positive	0.000
Culture & Recreation	-0.400	-	0.276
Education	-0.108	negative	0.004
Employment & Income	0.104	positive	0.005
Family & Social Life	-0.132	negative	0.000
Health	-0.154	negative	0.000
Housing	0.123	positive	0.001
Natural Environment	-0.047	-	0.207
Political Environment	-0.004	-	0.922
Security & Safety	-0.026	-	0.490

[3] Spearman's Correlation Test was applied because both variables, i.e. QOL and domains' ranks, are ordinal and were found not to be normally distributed.

Significant correlations have been found between QOL and the rankings of access to transportation, education, employment and income, family and social life, health and housing domains. Access to transportation reflects the strongest relationship. However, they all seem to have a weak linear relationship with QOL. Only three of the domains present a positive linear relationship with QOL. These are access to transportation, employment and income, as well as housing. On the other hand, the domains of education, health and family and social life present a negative relationship with QOL. Taking into consideration that high values of domain ranking indicate being less influential or important, it can be said that, regarding the domains with positive correlation, the less important they are the higher QOL will be. Conversely, regarding the domains with negative relationship, the more important they are the higher QOL will be.

One possible interpretation is that people mostly consider the negative sides for the domains of transportation, housing, and employment and income. This includes, for instance, traffic congestion and poor public transportation in the case of transportation, low income and unemployment in the case of employment and income, and lack of affordable housing in the case of housing. In that sense they perceive these domains as negatively affecting their QOL and, therefore, being ranked highly means that these domains are strongly influencing QOL, but in a negative manner. An opposite observation can be made in the case of education, health and family and social life, where people usually look at the positive aspects of these domains, which accordingly are ranked highly meaning that they positively improve QOL. No correlation was found between QOL and the rankings of culture and recreation, natural environment, political environment, or security and safety domains.

Box plots, indicating the relationship between each domain rank and QOL, were used for further investigation. Two apparent relationships were figured out; the first with transportation and the second with housing. As can be seen from Figure 5.5 there seemed to be a kind of inverse relationship between access to transportation and QOL where higher ranks for access to transportation are associated with lower values of QOL. This reflects a negative influence of transportation on QOL where poor

transportation conditions negatively influence QOL. Similarly, housing appears to have an inverse relationship with QOL as illustrated in Figure 5.6, where lower values of QOL can be seen to be associated with higher ranks for housing, expressing the same sort of relationship as the case with transportation.

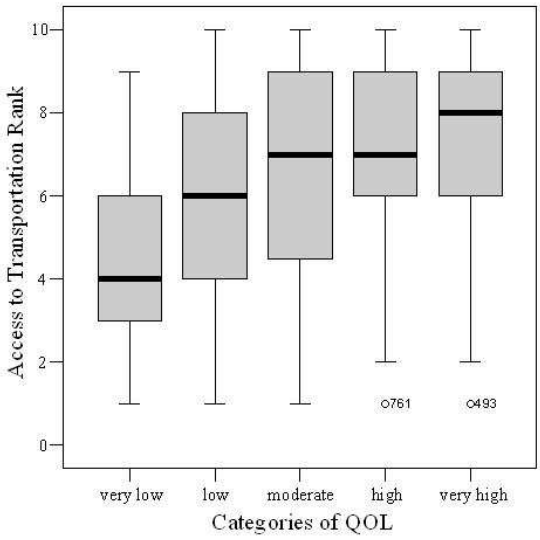


Figure 5.5: Access to transportation vs. QOL box plot

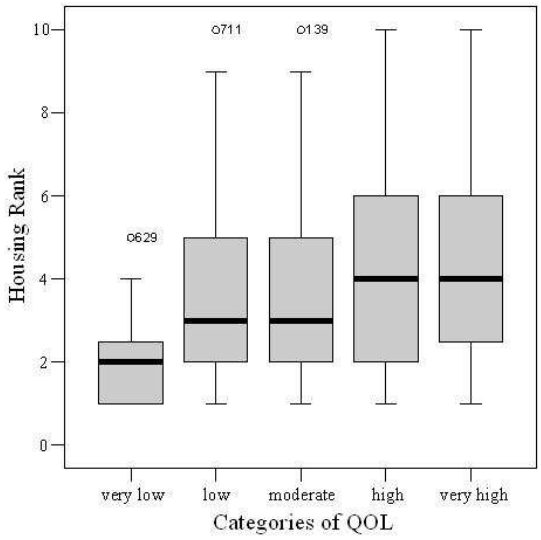


Figure 5.6: Housing vs. QOL box plot

Accordingly, two conclusions can be drawn. The first is that people tend in many cases to identify the main negative effects as significant aspects in their cities. The second conclusion is that housing and access to transportation are the most highly expressed or associated aspects of QOL and the ones that mostly reflect the general pattern of satisfaction with life quality. This in fact matches with the comments made by the majority of interviewed experts who emphasised the influences of transportation and housing in particular on the urban life of Amman.

5.4. Housing Influence - Initial Remarks

Influence of housing on different life aspects is a matter that has been considered in literature within different disciplines and also discussed in previous chapters in the thesis. Information obtained from both the survey and the interviews confirms this argument. Having examined the importance of housing among other life domains, the last step - to confirm such significance of housing and the effect it has on peoples' QOL

- involved asking respondents to directly describe the effect of their housing circumstances on their overall QOL using a scale of 1-10, with 1 denoting no effect and 10 denoting very significant effect. As can be seen from Figure 5.7, nearly 43% of respondents pointed out that their housing circumstances have a strong influence (scoring 8-10) on their overall QOL, where only 8% believed they have a weak influence (scoring 1-3). Although such figures do not indicate what sort of influence housing has - whether it is positive or negative - results clearly indicate that people do consider housing to be an effective factor that shapes their lives and determines the degree of satisfaction they have with their lives.

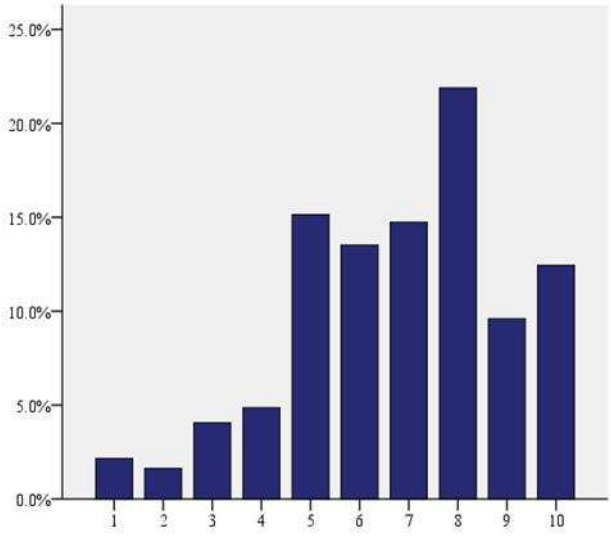


Figure 5.7: Effect of housing circumstances on QOL

In order to explore the type of influence that housing has on other life domains, respondents were asked to state the degree to which they think their housing circumstances affect other aspects in their life. A scale of 1-5 was used for that purpose with 1 denoting strong negative effect, 3 denoting no effect and 5 denoting strong positive effect. Table 5.7 shows participants' responses regarding their perception of the influences of housing circumstances on other life domains. An initial remark is that housing tends to have a positive effect on all other domains. This importance of the effect, however, varies from one domain to another. Family and social life as well as health seemed to be the most positively affected domains with over 60% of respondents saying housing has positive influence on both of them. Access to transportation and

recreation, in turn, are apparently aspects most negatively affected by people's housing circumstances with nearly 30% and 25% of respondents, respectively, stating that housing has a negative influence on them on these areas. On the other hand, housing circumstances seem to have the least effect on political environment. Such outcomes match to a great extent with the actual conditions within which people live. They also correspond with findings obtained from interviews carried out with experts whether explicitly through related comments made by majority of interviewees or implicitly through analysing general arguments made on QOL and housing conditions. The findings reveal, in addition, some features related to the scale and nature of influence that housing has on other aspects of life.

Table 5.7: Influence of housing circumstances on other life domains

Aspect	Extent of effect		
	Negative effect	No effect	Positive effect
Access to Transportation	29.7%	22.9%	47.4%
Recreation	24.6%	32.6%	42.8%
Education	14.9%	28.0%	57.1%
Employment & Income	18.7%	29.0%	52.3%
Family & Social Life	14.2%	20.0%	65.8%
Health	12.8%	25.4%	61.8%
Natural Environment	21.5%	32.0%	46.5%
Political Life	22.5%	57.8%	19.7%

5.5. Satisfaction with Housing

Quantifying residential satisfaction is not always easy. According to Amerigo and Aragones (1997), this might be related to two associated problems - the social desirability generated by the use of direct questions and the difficulty of determining objective levels of residential satisfaction. Using multiple indicators helps gain better insights into what people feel about their residences and to what extent they are satisfied with their housing circumstances. The research employed different types of direct and indirect questions to get a better understanding of the level of residential satisfaction people have and the different factors that shape their living status and ground their perception and assessment. These included some open-ended questions asking respondents to state the things they most like or least like about their housing circumstances and other direct closed-ended questions that ask respondents to state their

level of satisfaction regarding specific housing aspects including satisfaction with neighbourhood and satisfaction with housing unit and basic services. However, the primary question used to examine people's satisfaction with their housing circumstances was an indirect question that asked respondents to state their interest in moving to another house. This was taken as a strong indication of the degree of satisfaction people have regarding their housing circumstances, as shown in several studies.

5.5.1. Likes and dislikes

As part of exploring people's satisfaction with housing, participants were asked to state the things they like most and least about their overall housing circumstances. In that regard, results have shown, as illustrated in Figure 5.8, that proximity to work and public services, tranquillity and security as well as social integration including closeness to friends and relatives and good relations with neighbours were the mostly liked aspects, scoring 31%, 22.2% and 16.3% respectively of the total percentage of all mentioned aspects. On the other hand, noise and congestion, social exclusion and unpleasant environment were the main least liked matters stated scoring 28.3%, 14.2% and 12.1% of the total percentage of all mentioned aspects. As an outcome, this reveals that the majority of aspects of which people referred to when thinking about what they like or dislike about their housing conditions relate to location and contextual factors counting for nearly 80.7% in the case of the mostly liked issues and 74.5% for the least liked ones.

Two possible interpretations can be made. The first is that aspects related to site and location are in such objectively pleasing or adversely disagreeable situations that severely influence people's life and their sense of satisfaction if compared to other aspects including, for example, house design or layout, so that people are more likely to think of these aspects first. The second possibility is that people do consider and subjectively perceive the contextual dimension of their houses and the issues related to location and surrounding environments as the most important factors, and these represent their first priority when assessing housing conditions so that such issues are always the first to come in mind.

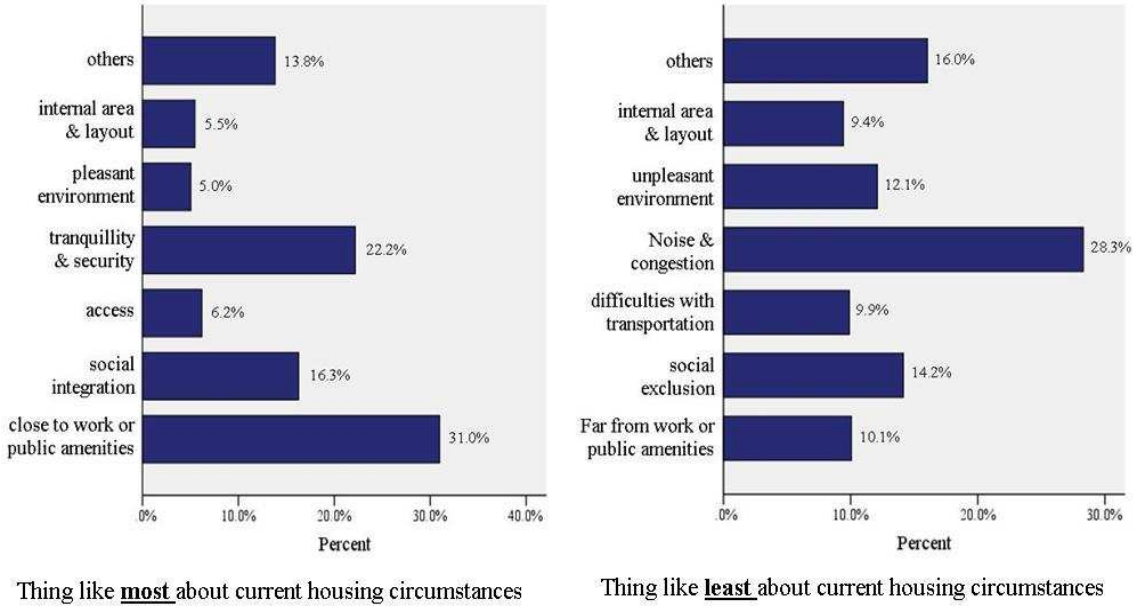


Figure 5.8: Frequencies of the most and least like about current housing circumstances

The remainder included other issues related to site and location including, for example, the lack of green spaces and places for children to play. In addition, it covered aspects of housing quality and conditions of residential units including big floor area and being on lower floors in the case of the likes, while including small floor area, poor environmental quality, conventional design, old construction and being on upper floors with the need to climb numerous flights of stairs in the case of dislikes.

Some participants also referred to issues related to the provision of housing units and the ability to afford suitable houses. Such aspects included ownership and low rents in the case of likes, while including high rents in the case of dislikes. In addition, there were some interesting annotations made by respondents in regard to the two questions, related to what can be labelled as the psychological aspects of housing. In such cases participants did not refer to mere objective attributes but rather to subjective notions and means. These included permanence, autonomy, social outlook, being the place of childhood, and lack of a suitable alternative. Although those answers did not form a large percentage of responses, they represent a number of key issues that solidly link with the broader concept of QOL and provide insights to some vital considerations that were taken into account in the following parts of the analysis.

5.5.2. Interest in moving to another house

Studies often mention that residential satisfaction influences people's intentions to move (Hur & Morrow-Jones 2008). Indeed several studies have found residential satisfaction to be the best predictor of the wish to move and, therefore, use the latter as an indicator of residential satisfaction (Brower 2003; Lee et al 1994; Marans & Rodgers 1975; Mohit et al 2010; Morris et al 1976; Newman & Duncan 1979). When used in this way, the wish to move is seen as associated with negative assessments of housing situation and, conversely, the wish to stay is associated with positive assessment. In light of that, interest in moving to another house was used as the primary indicator of satisfaction with housing in this research, which in turn was used as one of the three primary QOL assessment measures.

Results have shown that around 25% of respondents were very interested in moving to another house and 33% were fairly interested. Regardless of the reasons behind such interest, it can be said that such a relatively high ratio (58%) of people interested in moving from their houses reflects a noticeable degree of dissatisfaction with current housing circumstances to which attention should be paid. This was found to have a significant association with peoples' assessment of QOL as findings denoted that people generally interested in moving were the most likely to negatively assess their QOL. Likewise, people with the least interest in moving from their houses were the most likely to state their QOL to be of high or very high levels. Tables 5.8 and 5.9 provide more clarification of these findings. Table 5.8 shows mean and median scores for QOL associated with interest to move to another house, while Table 5.9 presents results obtained from cross-tabulating interest to move with QOL level.

Both tables reveal the presence of a clear inverse relationship between interest in moving to another house and QOL. It can be seen from Table 5.8 that the mean value of QOL level increases gradually from 5.58 in the case of being very interested in moving to 7.77 in the case of not being interested in moving at all. Similar relationships can be noticed from Table 5.9 where the percentage of respondents stating high or very high QOL levels increases apparently from 33.2% in the case of being very interested to move to 81.1% in the case of being not interested at all, and vice versa. Such results

reflect findings from other studies confirming a strong relation between satisfaction with housing circumstances indicated by the interest to move and QOL.

Table 5.8: Relationship between interest to move to another house and QOL (mean procedures & Krusakal Wallis test)

Interest to move	**Frequencies**	**QOL level**	
		Mean	Median
Very interested	25.1%	5.58	5.00
Fairly interested	33.4%	6.53	7.00
Neutral	10.1%	6.74	7.00
Not very interested	15.1%	7.02	7.00
Not interested at all	16.4%	7.77	8.00

Median Kruskal Wallis H Test Result	Asymp. Sig. = 0.000 < 0.05 (Significant)

Table 5.9: Interest to move to another house vs. QOL cross-tabulation

			QOL level					Total
		No.	very low	low	moderate	high	very high	
Interest in moving to another house	very interested	193 within satisfaction	4.7%	26.4%	35.8%	27.5%	5.7%	100%
		193 within QOL	*69.2%*	*52.0%*	*31.5%*	*16.6%*	*10.4%*	*25.6%*
	fairly interested	250 within satisfaction	0.4%	12.8%	32.8%	41.6%	12.4%	100%
		250 within QOL	*7.7%*	*32.7%*	*37.4%*	*32.6%*	*29.2%*	*33.1%*
	Neutral	77 within satisfaction	1.3%	6.5%	28.6%	57.1%	6.5%	100%
		77 within QOL	*7.7%*	*5.1%*	*10.0%*	*13.8%*	*4.7%*	*10.2%*
	not very interested	113 within satisfaction	0.9%	3.5%	26.5%	54.0%	15.0%	100%
		113 within QOL	*7.7%*	*4.1%*	*13.7%*	*19.1%*	*16.0%*	*15.0%*
	not interested at all	122 within satisfaction	0.8%	4.9%	13.1%	46.7%	34.4%	100%
		122 within QOL	*7.7%*	*6.1%*	*7.3%*	*17.9%*	*39.6%*	*16.2%*
Total		755 within satisfaction	1.7%	13.0%	29.0%	42.3%	14.0%	100%
		755 within QOL	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 5 cells (20.0%) have expected count less than 5 (Accepted)

Results have also shown a significant association between the interest to move to another house and the district in which respondents live. Respondents living in districts of lower social classes (Bader, Marka and Basman) were found to be more interested in moving to another house, while respondents living in districts of high social classes (Tela Ali and AlJubaiha) seemed to be the least interested in moving.

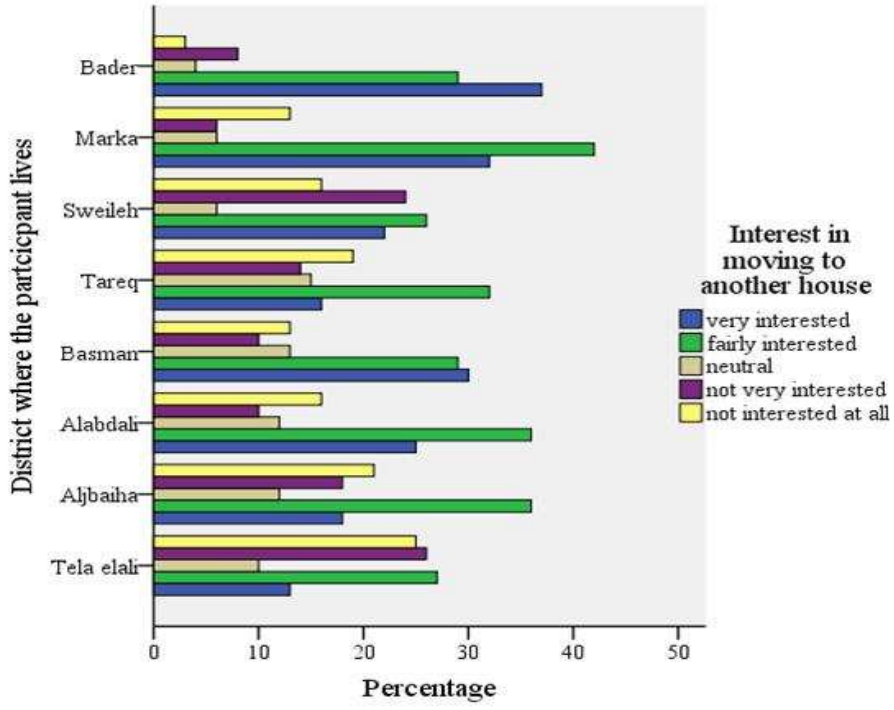


Figure 5.9: Interest to move to another house vs. districts bar chart

Further statistical analysis, including cross tabulations, Chi-Square and Kruskal-Wallis tests, was undertaken to look at the influences of socio-demographic attributes on the interest to move. No proof of significant association was found regarding the influence of sex, employment, household structure and number of people living in house on the desire to move. On the other hand, tests revealed significant associations between interest to move and factors of age, education level, income and number of dependent children. Younger respondents, with ages ranging from 25 to 35 were the most likely to state being interested in moving to another house. In addition, respondents from families with bigger numbers of dependent children were most likely to state being interested. Both findings support arguments of mobility and life course theories reflecting the dynamic nature of the process of residential mobility associated with the

growth of household size as well as the formation of new households creating the need for residential mobility and house change (Clark 2012; Clark & Mulder 2000; Clapham et al 2010; Li 2004; Mulder & Wagner 1998; Smits & Mulder 2008). In such cases the interest to move becomes more a need than a desire, and therefore becomes more influential on QOL.

Regarding the effect of education level, respondents with higher education levels were found to be less likely to move in comparison to those with lower educational levels. Likewise, respondents with higher incomes were found to be less interested in moving than respondents with lower incomes. A reason for that might be that higher incomes and probably higher levels of education retain the abilities to choose and afford better housing conditions and therefore maintain more satisfaction with place of residence and accordingly less interest in moving. Results have also shown significant association with housing provision factors: housing tenure, house type and length of residence. Respondents with short periods of residence (1-5 years) in their houses were found to be more interested in moving than those living in them for long periods of time. This suggests a serious negative connotation regarding the quality of housing supply and the affordability of housing. Further explanations are provided in the following chapter.

Tables 5.10 and 5.11 shows results obtained from cross-tabulating tenure type with interest to move to another house and house type with interest to move to another house respectively.

Table 5.10: Tenure type vs. interest in moving to another house cross-tabulation

		No.	**QOL level**					Total
			very interested	fairly interested	neutral	not very interested	not interested at all	
Tenure type	own outright	321	17.8%	34.0%	9.7%	15.6%	23.1%	100%
	buying with mortgage	77	18.2%	23.4%	15.6%	27.3%	15.6%	100%
	private rental	228	34.6%	35.1%	12.3%	10.1%	7.9%	100%
	family-owned	141	30.5%	35.5%	5.0%	14.2%	14.9%	100%
Total		767	25.2%	33.5%	10.2%	14.9%	16.3%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Table 5.11: House type vs. interest in moving to another house cross-tabulation

		No.	Interest in moving to another house					Total
			very interested	fairly interested	Neutral	not very interested	not interested at all	
House type	flat	578	25.3%	35.6%	10.4%	14.7%	14.0%	100%
	dar	111	17.1%	35.1%	11.7%	17.1%	18.9%	100%
	villa	43	14.0%	16.3%	4.7%	23.3%	41.9%	100%
	other	38	57.9%	13.2%	7.9%	5.3%	15.8%	100%
Total		770	25.1%	33.4%	10.1%	15.1%	16.4%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

As shown in Table 5.10, respondents living in family-owned or private rental accommodation have shown more interest in moving to other houses when compared to home owners or those buying with a mortgage, who seemed to be the least interested in moving. This interest in moving has been noticed to be strongly associated with low QOL levels, which validates once again the strength of the relationship between owning a home and having better QOL. It can be also seen from Table 5.11 that respondents living in flats seemed to be more interested in moving where around 60.9% stated they are interested in moving to another house, which indicates that they are not satisfied with their current housing circumstances. In contrast, the percentage of households living in villas who stated they are interested in moving seems to be half of that in the case of flats' residents, with only 30.2% interested in moving. Unexpectedly, respondents living in dars seemed to be closer in their interest to move with those living in flats than to those living in villas, despite having more similarities with them in terms of housing conditions. This calls for more investigation to find out the cause of this disparity

5.6. Summary of Chapter's Findings

Findings obtained from initial analysis concerning QOL and people's satisfaction with housing circumstances have generated a number of conclusions that underline some key issues which describe the interrelationship between housing and QOL. People seemed to vary in their perceptions and evaluations of QOL. This disparity appeared to be influenced by people's sex, education level and income and is reflected in their

valuation of each of the different determinants of QOL. Material conditions were found to have strong effect on people's life quality resulting in apparent spatial distribution of QOL among different districts in Amman. In addition, factors of housing provision including housing tenure and house type were found to have a significant influence on QOL. Home ownership was found to be strongly associated with achieving better QOL as well as living in single detached houses, particularly villas. A number of explanations were offered for this; however, further clarification is made in the upcoming chapters.

Regardless of signs that indicate deficiency in several objective conditions within the city, results have shown a general tendency towards satisfaction with life quality and residential circumstances among a considerable proportion of respondents. This is believed to represent the case with less developed and developing countries including Jordan where, according to Schuessler and Fisher (1985), people are satisfied with less because they aspire to less. Another explanation is that although people are lacking in many desirable elements of material wellbeing, they preserve to a great extent many of the collective moral elements such as stable family life and social integration.

What such disparity between what the respondents stated, what the actual conditions are, and the findings from different studies show us is in fact one of the key challenges that face research in the field of QOL; this has been confirmed by many researchers. One explanation is that responses to surveys do not adequately reflect how people really feel about their life but rather how satisfied they believe they are expected to be. Another justification is that responses usually reflect subjective life-satisfaction of people by referring to the dominant view on life, rather than actual QOL by referring to the objective dimensions of life. Life satisfaction is seen for many as a judgment that depends to a certain extent on social and culturally specific frames of reference. This, in turn, might influence people's rationale of assessment and hence, will not lead to an accurate representation of QOL. Many studies have shown such kind of results presenting high levels of satisfaction with life in general and with other domains of life according to measuring items or scales which ask the subject directly about their assessment and degree of satisfaction, while the actual objective conditions suggest lower sorts of quality. This, however, does not diminish the usefulness of subjective

assessment measures as they still provide insights about QOL that can be used as a starting point for further investigation.

The role of housing as a determinant of QOL was clearly shown from the findings with glimpses of both direct and indirect impacts. Housing was found to be one of the highest ranked domains with a quite reasonable degree of consistency, reflecting general agreement amongst respondents. In terms of worth, housing seemed to be one of the domains most robustly associated with QOL compared to other domains. On the other hand, findings indicated different sorts of influence through which housing might affect QOL. In that sense, locational attributes of housing appeared to have the most obvious effect.

Overall, results have emphasised the importance of housing and its role as one of the most influential domains of QOL. However, a better understanding of the ways in which housing affects QOL can only be achieved by investigating the effects of the different components of housing. Such components include housing provision and costs, conditions of the site and surroundings and the material, as well as design characteristics of the housing unit. The research assumes that the influence of housing on QOL is dependent upon the collective impacts of its different components. Each of these components is believed to exert explicit influence which directly affects QOL, and has implicit consequences which form part of a more composite network of influences that in turn affect QOL. In this respect, each of the following three chapters addresses one of the housing components, examining the various aspects related to it. The three components are referred to as: Quality of provision, Quality of context and Quality of dwelling. Each has been investigated and analysed using a collection of data sources including primary data obtained from the survey and interviews, secondary data obtained from official documents and statistics, and related information gained from literature.

Chapter Six

Quality of Provision

6.1. Introduction

Having explored people's evaluation of their quality of life (QOL) in Amman, and having verified the importance of housing on QOL and the extent to which people are satisfied with their current housing circumstances, the next step is to investigate the influence of housing on QOL. Such influence is to be examined at three scales or sorts of quality. This chapter explores housing at the widest of the three scales; the level of the market - referred to here as housing provision. In light of that, the chapter attempts to understand the quality of housing provision and examines the attributes of good housing provision, the implications of the current trends in housing supply on the abilities of people to meet their housing needs, and how that is reflected in their satisfaction with housing and QOL.

The chapter starts with defining the term 'quality of provision' and the attributes that comprise good housing provision. This is followed by identifying the indicators used in the research to assess the quality of provision and examine its influence on QOL. After that, an exploration of households' overall satisfaction with housing provision is undertaken, and the connection this has with satisfaction with housing and QOL is also addressed. The chapter then presents detailed investigations for each of the identified indicators and the measures used for their assessment. Doing so it examines the relationship each indicator has with satisfaction with housing and QOL, taking into consideration the impacts of socio-demographic, locational and provision factors. The chapter concludes with a summary presenting the main findings related to the influence of quality of provision on QOL.

6.1.1. Defining quality of provision

Quality of provision is the term used to examine the attributes of housing supply and distribution. It is about the extent to which housing supply fulfils people's housing needs and demands. More specifically, it relates to housing affordability, opportunities and constraints, costs and burdens of acquiring housing, housing types and tenure, rights and benefits associated with housing occupancy, and fair share, as well as the degree of flexibility and choice in having access to proper housing. In light of that, housing is explored from the viewpoint of being a 'noun' or a product referring to the dwelling or the housing unit, and a 'verb' representing the set of actions that comprise the production, financing and allocating of the dwelling, as well as renting or purchasing it.

It can be said that housing provision represents the broader scale of concern when addressing the issue of housing quality and the influence housing has on QOL. In fact, it was found, as mentioned above in the literature review, to be the main area of concern for almost all QOL programmes or studies when examining the domain of housing. This was clearly noted in the extensive number of studies that were reviewed throughout the course of this study[1]. In addition, several interviewees claimed that the issue of housing provision is recently becoming the most vital issue that constitutes a great challenge for the government and a broad range of the population.

6.1.2. Identifying indicators of quality of provision

In order to investigate the influence of the quality of provision on residential satisfaction and people's QOL, it was necessary to develop the indicators and measures to be used as the tool for assessment. Three basic indicators were adopted for that; these are described below:

1. Affordability: is the ability of households to acquire and pay for their housing. In other words, it is the extent to which housing costs are in accord with the financial resources and capabilities of households. It describes and assesses how achievable it is to buy, own, or rent housing.

[1] For evident details refer to Appendix 1 which presents the indicators of housing domain used in more than twenty QOL programmes and case studies, where it can be clearly seen that measures of housing provision are the most frequent in use in the majority of these studies.

2. Fiscal burden: refers to the amount of financial shortfall resulted from acquiring the house and the implications this has on the ability to fulfil other basic living needs and necessities.

3. Suitability of housing supply: presents the extent to which housing supply covers demands and meets the actual needs of households including all population groups from different social classes.

Each of the three components was used as an indicator for assessing the quality of provision and consequently housing quality and QOL, referring to both data obtained from the survey and viewpoints gained from interviews. The relationship between these indicators and satisfaction with housing as well as perceived QOL level was basically examined using three dependent measures, including the two initial measures addressed in the previous chapter which are the interest to move to another house, representing general satisfaction with housing circumstances, and QOL level. The third measure encompasses satisfaction with housing provision. Yet, due to the difficulty in wording a question that asks people directly about the level of satisfaction with their housing provision, an alternative question was used as indication of the satisfaction with housing provision. This included asking respondents to state the extent to which they believe there is enough suitable housing available in the market within their financial constraints.

Both the availability of suitable housing in the market and the interest to move to another house were used as indirect measures of QOL, while QOL level was used as the direct measure. In respect of that, the indicators were considered as independent variables. However, in order to better understand the influence of these indicators and the measures used to assess their influence, relationships between indicators as dependent variables and socio-demographic, locational and housing provision factors as independent variables were also examined as illustrated in Figure 6.1.

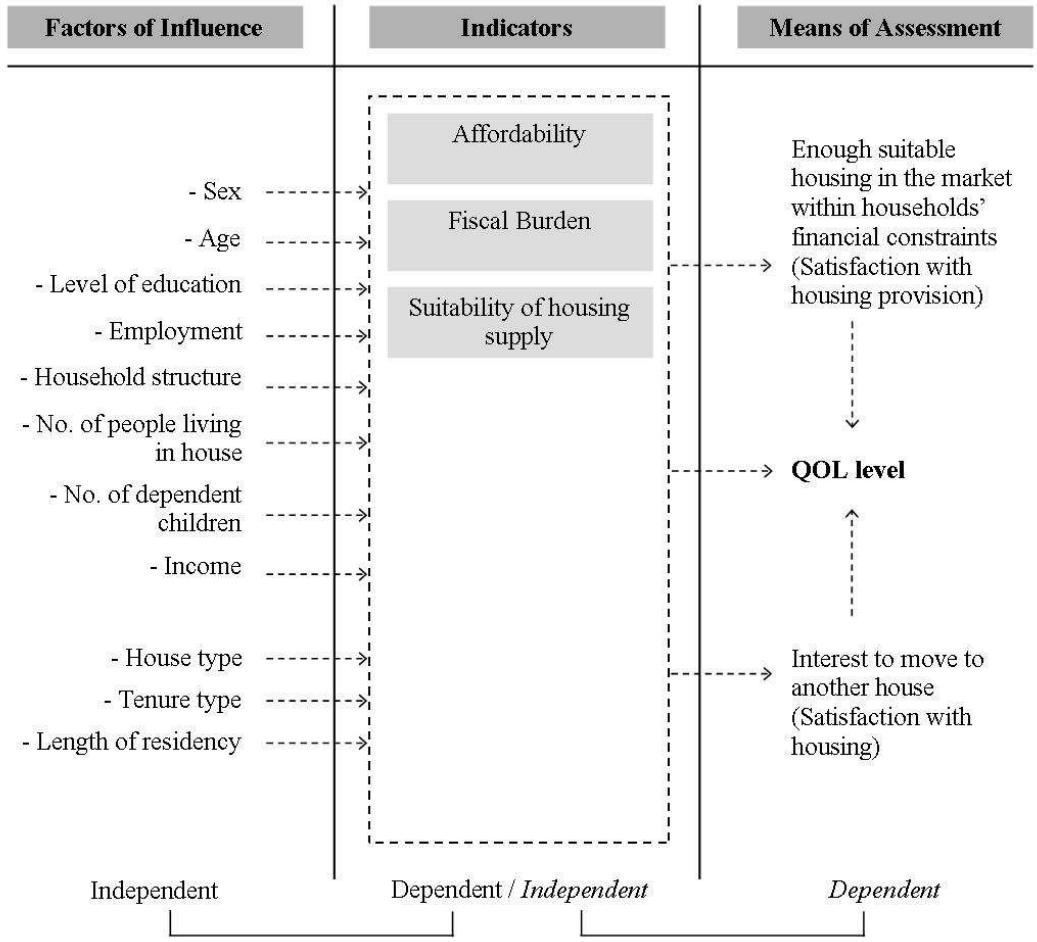


Figure 6.1: Indicators used for quality of provision

6.2. Satisfaction with Housing Provision

Results reflected negative responses regarding satisfaction with housing provision. Only 30% of respondents agreed there is enough suitable housing available in the market within their financial constraints, while more than 50% disagreed, from which around 24% strongly disagreed. Such high levels of disagreement can be seen as an indication of low satisfaction levels with the quality of housing provision, reflecting an under-performance in the overall system of housing supply.

Figure 6.2 shows results' frequency distribution in more detail. Such outcomes suggest that the majority of people suffer, or at least feel they suffer, from a shortage of housing supply that meets with their capacity on one hand, while responding to their demands on

the other hand. This supports arguments made by most interviewees who asserted that there is a deficiency in housing supply targeting particular groups of the population and that the variety of housing options presented in the market cannot be accessed by the majority of the population.

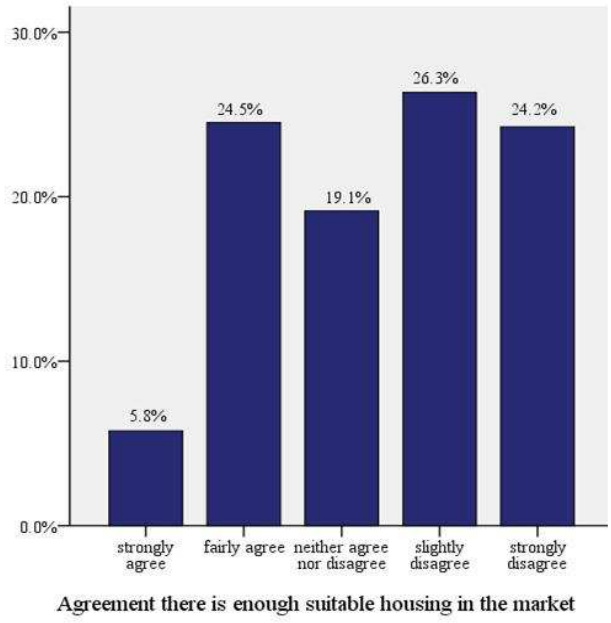


Figure 6.2.: Agreement there is enough suitable housing available in the market within households' financial constraints

Further investigations have shown a significant association between agreement on the availability of suitable housing in the market and QOL level. Table 6.1 shows results obtained from cross-tabulating the two variables. Although results seem to be fluctuating between the two variables, a relationship can still be noticed between stating that there is enough suitable housing available in the market - that is, being satisfied with housing provision, and reporting high levels of QOL. With the exception of the case of strong agreement, it can be seen that percentages of respondents who reported high or very high levels of QOL decrease from 66.8% in the case of fairly agreeing there is enough suitable housing in the market to 48% in the case of strongly disagreeing. This denotes a positive relationship between the two variables.

Table 6.1: Agree there is enough suitable housing available in market within households' financial constraints vs. QOL cross-tabulation

		No.	QOL level					Total
			very low	low	moderate	high	very high	
Agree there is enough suitable housing in the market	strongly agree	44 within satisfaction	6.8%	22.7%	22.7%	29.5%	18.2%	100%
		44 within QOL	*23.1%*	*10.4%*	*4.5%*	*4.1%*	*7.6%*	*5.9%*
	fairly agree	181 within satisfaction	0.0%	6.6%	26.5%	46.4%	20.4%	100%
		181 within QOL	*0.0%*	*12.5%*	*21.8%*	*26.7%*	*35.2%*	*24.2%*
	neither agree nor disagree	142 within satisfaction	1.4%	7.7%	35.2%	43.0%	12.7%	100%
		142 within QOL	*15.4%*	*11.5%*	*22.7%*	*19.4%*	*17.1%*	*19.0%*
	slightly disagree	199 within satisfaction	1.0%	11.6%	31.7%	42.7%	13.1%	100%
		199 within QOL	*15.4%*	*24.0%*	*28.6%*	*27.0%*	*24.8%*	*26.6%*
	strongly disagree	183 within satisfaction	3.3%	21.9%	26.8%	39.3%	8.7%	100%
		183 within QOL	*46.2%*	*41.7%*	*22.3%*	*22.9%*	*15.2%*	*24.4%*
Total		749 within satisfaction	1.7%	12.8%	29.4%	42.1%	14.0%	100%
		749 within QOL	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 5 cells (20.0%) have expected count less than 5 (Accepted)

Results have also shown a significant association between agreement on the availability of suitable housing in the market and overall satisfaction with housing. In this case, though, a curvilinear association was found between the two measures. Table 6.2 shows results obtained from cross-tabulating extent of agreement on the availability of suitable housing in the market and the interest to move to another house as an indication of overall satisfaction with housing. It can be clearly seen that the percentage of respondents stating they are interested in moving to another house decreases gradually from 61.4% in the case of strongly agreeing there is enough suitable housing in the market to 47.3% in the case of neither agreeing nor disagreeing and then rising back up to 70.3% in the case of strongly disagreeing.

Table 6.2: Agree there is enough suitable housing available in the market within household's financial constraints vs. interest to move to another house cross-tabulation

		No.	Interest to move to another house					Total
			very interested	fairly interested	neutral	not very interested	not interested at all	
Agree there is enough suitable housing in the market	strongly agree	44 within satisfaction	40.9%	20.5%	6.8%	4.5%	27.3%	100%
		44 within QOL	*9.4%*	*3.6%*	*4.0%*	*1.7%*	*9.7%*	*5.8%*
	fairly agree	185 within satisfaction	14.1%	42.2%	8.6%	15.1%	20.0%	100%
		185 within QOL	*13.6%*	*30.8%*	*21.3%*	*24.3%*	*29.8%*	*24.4%*
	neither agree nor disagree	144 within satisfaction	16.7%	30.6%	16.0%	20.1%	16.7%	100%
		144 within QOL	*12.6%*	*17.4%*	*30.7%*	*25.2%*	*19.4%*	*19.0%*
	slightly disagree	200 within satisfaction	27.0%	30.5%	10.5%	21.0%	11.0%	100%
		200 within QOL	*28.3%*	*24.1%*	*28.0%*	*36.5%*	*17.7%*	*26.4%*
	strongly disagree	185 within satisfaction	37.3%	33.0%	6.5%	7.6%	15.7%	100%
		185 within QOL	*36.1%*	*24.1%*	*16.0%*	*12.2%*	*23.4%*	*24.4%*
Total		758 within satisfaction	25.2%	33.4%	9.9%	15.2%	16.4%	100%
		758 within QOL	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Despite the contradiction that appears in this relationship, some logical justifications can still be made. For those who agree there is enough suitable housing in the market that suits their financial abilities, a sensible positive relationship can be figured out between the extent of agreement and the intention to move - that is, the more they agree, the higher their capabilities to acquire a house are expected to be, and thus, the more they will be able to move or will be interested in moving. In that sense it can be said that interest to move is a reflection of the ability to acquire another house. On the other hand, for those who disagree there is enough suitable housing in the market, the interest to move represents an actual need to find a better residence. That is, due to the lack of reachable housing alternatives, households were forced to reside in houses that meet their financial capabilities in spite of not properly fulfilling their housing needs. Therefore, the higher their level of disagreement, the worse their housing conditions are expected to be due to the high limitations in the choices they had to make when

selecting their houses. That is why those who neither agreed nor disagreed were found to report lower levels of interest in moving to another house as they seem more satisfied and settled in their houses.

Further investigation was undertaken to explore the influence of socio-demographic and locational factors on respondents' levels of agreement. This included applying the Kruskal-Wallis test, cross-tabulations and Chi-Square tests to identify any relationships between this variable and other factors. No significant relationship was found in relation with respondent's level of education, household structure, number of people living in the house and number of dependent children under 12. On the other hand, a significant relationship was found between extent of agreement and location, represented by districts in which respondents live in. Figure 6.3 presents a clustered bar chart that shows percentages of respondents' level of agreement in relation to districts in which they live.

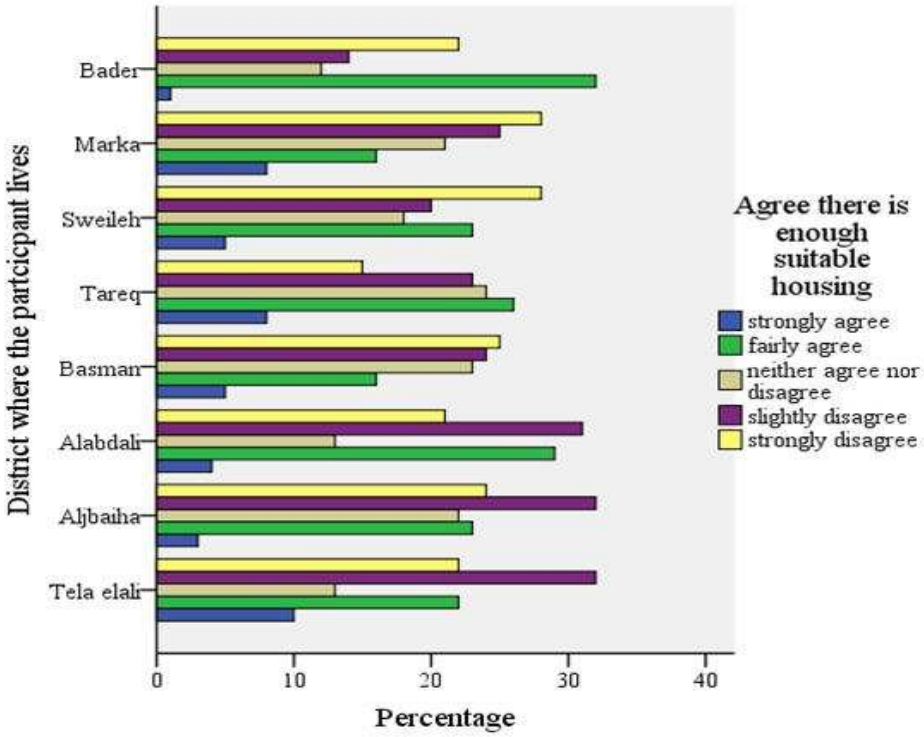


Figure 6.3.: Agree there is enough suitable housing in the market within households' financial constraints vs. districts bar chart

Statistical tests also revealed significant relationships with other factors including gender of respondent, age, employment and income. Females were found to be more likely to disagree on the availability of suitable housing in the market where 58.7% of them stated they disagree in comparison to 47.1% of males who disagreed. Respondents aged from 25-35 were also found to be more likely to disagree if compared to those of older or younger ages. The most likely reason for this is that individuals within this age range are more likely to be in the process of forming new families; thus their demand for housing is higher and therefore their concern about acquiring a house is more apparent. This makes them keener to indicate the lack of suitable housing as a big concern. Regarding the effect of employment, results have shown that respondents who are self-employed were the most likely to agree over the availability of suitable housing in the market, while those employed in the public sector were the least likely to agree. This can be strongly justified on the basis of better financial capabilities associated with those who are self-employed compared to poor financial capabilities associated with those working in the public sector who usually earn lower monthly wages. This was clearly remarked on when exploring the effect of income. Results have shown positive association between having higher income levels and stating there is enough suitable housing in the market, or in other words being more satisfied with housing provision.

Regarding the influence of housing provision factors; i.e. housing tenure, house type and length of residence, significant associations were proved in relation to the first two factors, while no sort of significant relationship was proved regarding length of residence. Respondents who live in family-owned houses reported the highest negative responses where around 64.1% stated they disagree there is enough housing in the market. Respondents living in privately rented houses came in second place, out of which 55.1% disagreed. The least group of respondents who stated they disagree were those who live in owned houses from which 41.0% stated they disagree. Considering the influence of house type, it can be seen from Table 6.3 that respondents living in villas reported the highest percentage of agreement accounting for 38.1% and the lowest percentage of disagreement accounting for 33.3%. Respondents living in apartments were found to come in second place, while those living in dars come in the last place from which 23.9% stated they agree there is enough housing in the market. Such

findings denote a strong impact of income on the level of agreement where for both factors - tenure type and house type - agreement was strongly associated with conditions that reflect strong financial capabilities, i.e. homeownership and residing in villas. This calls into question the likelihood of having a direct impact by any of the two factors on the satisfaction with the quality of housing provision. Instead, it suggests that the real influence is from level of income.

Table 6.3: House type vs. agreeing there is enough suitable housing available in the market with households' financial constraints cross-tabulation

			Agree there is enough suitable housing in the market					
		No.	strongly agree	fairly agree	n. agree n. disagree	slightly disagree	strongly disagree	Total
House type	flat	574	6.6%	24.6%	16.4%	29.3%	23.2%	100%
	dar	110	0.9%	22.7%	32.7%	19.1%	24.5%	100%
	villa	42	4.8%	33.3%	28.6%	9.5%	23.8%	100%
	other	37	8.1%	18.9%	10.8%	21.6%	40.5%	100%
Total		763	5.8%	24.5%	19.1%	26.3%	24.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

Such findings suggest a lack of flexibility and choice available in the housing market, which denotes a defect in the quality of housing provision in Amman. It is strongly argued that the genuine success of housing provision is reflected in the ability of households to select the bundle of housing conditions they wish to live within. The choices households make with regard to type, size, location and tenure of their dwellings largely depends on what is available in the housing market. To have a choice suggests that households are able to select from alternatives and that there are enough options that fit their needs and match with their requirements. The extent to which households have choices in their housing is said to be an important aspect of housing satisfaction and a key feature in interpreting the influence of housing provision on QOL. This has been verified through a number of studies including the work of Nelson et al (2006), Sirgy et al (2005) and Day (2000) who found that residents who believed they have a reasonable amount of choice were more likely to find their dwelling satisfactory than residents who did not believe they had adequate choice. In respect of that, the

availability of only limited housing choices, as the case in Amman, has a negative impact on the satisfaction with housing and QOL in the city.

This finding matches to a large extent the arguments made by most interviewees who asserted that there is a shortage in housing supply targeting particular groups of population, thus leaving many people with a limited range of choice, and that the variety of the housing options presented in the market cannot be accessed by the majority of people. They further claimed that for a large segment of the population including low- and, to a certain extent, middle-income households, the decisions undertaken for housing are shaped by the lack of appropriate housing options. In view of that, many people live in unfavourable housing conditions resulting from 'distorted choices' that are driven mostly by economic necessities. That is because the availability and affordability of housing provided by the market forces them to accept undesirable situations that might include living in sub-standard or ineffective occupancy conditions due to the lack of capabilities to afford what is better. In such cases, people are only able to choose between inadequate housing alternatives. This means that they are not practicing choice in the true sense. This situation does not only apply to low-income households living in Amman, but has begun to include middle-income households who are losing their financial and purchasing capabilities because of the high inflation rates that led to dramatic rises in the costs of living. This resulted in diminishing the range of housing choices that those people have, driving them in turn to choose improper housing conditions that either do not match with their demands and preferences, or which impose significant financial burdens on them. Such an issue is considered an indicator of bad housing quality that negatively influences QOL. Further explanations are provided with the analysis of the adopted quality of provision indicators.

6.3. Affordability

Housing affordability is an extensively researched subject. It ranks among the most pervasive and persistent of housing issues and, therefore, has long been prominent on the agendas of policy makers in most countries (Gallent & Tewdwr-Jones 2007; Harrison 2004; Maliene & Malys 2009). It can be confidently claimed that it is the only measure among all housing domain measures that appears in all QOL studies and

programmes. In spite of that, there seems to be no accepted definition of housing affordability. The definition, measurement and interpretation of housing affordability are ultimately subjective. It is a relative term that is about the capacity to enter the housing market; that is, cost and availability. There is no single correct answer to the question of how much households of different incomes can afford to spend on housing or how spending or income should be measured (Goodman 2001). However the most popular definition of what can be termed as 'affordable housing' is housing that does not consume more than 30% of households' disposable income.

For most people the cost of buying or renting their house, with the associated costs of running it which include heat, light, power and furnishing consumes by far the largest slice of their income. The amount that has to be found not only has a great effect on the reminder of the family budget but also on the quality of housing that is obtained (Markus 1988). That is why housing cost is considered a vital matter in assessing the quality of housing provision. Most of the experts who have been interviewed referred to housing cost as one of the main obstacles that confronts the ability of households to acquire the proper house in Amman, which matches with their needs and preferences. This viewpoint is strongly supported with official objective measures related to housing prices and households' incomes. Outcomes from the survey have also confirmed such a statement. Results have shown that around 41.6% of respondents spend more than 30% of their total monthly income on their basic housing provision. One third of this ratio was found to spend more than 50% of their monthly income on housing provision. Arguments made by interviewees exposed a more negative situation, claiming that the percentage of households who spend more than 50% of their income on housing provision in Amman is above this ratio, which reflects a failure in housing supply.

Literature confirms this viewpoint. According to a study undertaken by Al-Azzah (2005), around 58% of the households have been found not to be able to finance the purchase of a housing unit with minimum specifications and an area of less than 70.0 m^2 depending on price levels and conditions of lending in the market. These findings match to a large extent with official figures obtained from the Housing and Urban Development Corporation (HUDC) regarding the median price of housing to the median

household's annual income. Figures have shown that this ratio had increased from 5.14% in 1994 to reach 8.1% in 2005. That is, an average household will need around eight years to afford the price of a single average house in the case the total annual income is saved, and under the conditions of the stability of prices and purchasing power. This falls behind the world figure, estimated to be 7.3% Taking into consideration other living expenses that have to be covered by the household in line with the accelerated annual inflation and the rise in housing and living costs, this current duration of eight years is expected to increase further. This infers that it might be impossible for many households to be able to purchase their own houses under normal conditions; which is the factor that imposes further financial, social and even psychological strains that can negatively affect their QOL.

In fact, housing has changed much over the past decades and has become more expensive in Jordan. Different factors contribute to the rise of housing costs. The majority of interviewees agreed that the most significant cause of the rise in housing costs is the high expenses associated with acquiring land plots for building. The contribution of land value to the total costs is argued to have escalated from 20-25% before 2004, to reach more than 40% in current times. This sharp rise in land prices has caused a massive increase in construction costs - from 150.0JD per square metre to around 500.0JD, resulting in very high housing prices that the majority of people cannot afford depending only on their regular incomes. This rise in the prices of residential land is caused by an increase in demand which results, according to interviewees, from three main causes: the concentration of people in Amman city; the increased demand for land by housing developers and companies; and the social prestige associated with the location of housing. Others argue that the rises in land price are exaggerated and not necessarily caused by reasonable factors, but rather are due to the greed of land owners who take advantage of people's demand for land. Therefore, it is necessary to achieve a balance in urban growth in order to re-address the cost of land within a more logical price scale.

Other causes suggested by some housing developers include the high costs of construction works and building materials, taxes and registration fees. These also

include delays in registration works and obtaining the required building permits as well as delays in the delivery of public services and amenities, all of which cause financial losses from the developers' point of view and cause in turn, a rise in the housing units' costs. The following quote made by one of the interviewed housing developers clarifies this:

> 'One of the main issues that cause lots of delay and disruption in our housing projects is the official work routines and the length of time required for obtaining building permits and construction licenses. This causes us extra expenses to get things done more quickly and raises the overall construction costs, which in turns, drive us to increase the sale prices of our properties … This is to be added to the additional time and costs required to deliver public services such as water and electricity which also consume exaggerated length of time' (HD 2).

Several interviewees have mentioned high profit margins to be another important cause of the rise in housing costs. Housing developers are said to achieve a high percentage of profit that might reach 40% of the total price. This has prompted, according to a professional who works for the Jordan Engineers Association, many people to invest in housing development and construction even without having the required skills and experience. The interest in obtaining higher profits has been confirmed by some of the housing developers who have been interviewed, who mentioned that they prefer working for high- and middle-income populations as they can increase their prices and maintain higher profit margins when targeting such groups.

> 'We used to work in both east and west Amman targeting different population groups. However, due to the small profits that has been achieved from working in East Amman where people seem to be demanding for higher qualities but with lower prices, causing us extra efforts and burdens, we no more work for such areas. Recently our work is only based in West Amman where people can afford to pay more which increases our profits' (HD 2).

The barrier of cost is usually associated with the challenge of securing the necessary funding. Many interviewees have argued that the availability of sufficient funding forms the most fundamental challenge for both the developer and the purchaser due to the complications of funding policies and regulations that include high restrictions and rising interest rates on loans. It is argued that banks have been given fictional profit

margins on loans that result in escalating the initial costs of purchasing a house, imposing extra financial burdens on households. The difficulty in purchasing a house has driven many households to pursue rental housing instead which in turn has resulted in significant increases in the value of rents. Rental costs are reportedly high, even in the less affluent areas. Furthermore, the difference in the value of rents between different locations is believed to be less than the difference in the value of houses for sale. It can be said accordingly that whichever route is taken to acquire a home, neither is affordable for wide sectors of the population, which negatively influences the ability of many households to acquire proper homes and negatively affects their QOL in whole.

To verify such influence, different statistical tests were carried out to examine the relationship between percentages of income spent on housing provision and satisfaction with housing conditions and QOL level. These include mean procedures, Kruskal-Wallis H Test, cross-tabulations and Chi-Square Test. Table 6.4 presents mean and median scores for QOL associated with percentages of income spent on housing provision. Results reveal significant association between mean and median QOL scores and percentages of income spent on housing. A negative relationship can be noticed between scoring high mean and median QOL values and paying more on housing provision. Although the relationship between QOL level and amount of income dedicated for housing was expected to be more apparent with wider disparities between QOL mean values, it still provides a good indication about the influence of housing costs on QOL.

Table 6.4: Relationship between percentage of income spent on housing provision & QOL (mean procedures & Krusakal Wallis test).

Percentage of income spent on housing provision	**Frequencies**	**QOL level**	
		Mean	Median
<20%	41.4%	6.81	7.00
20-39%	34.8%	6.65	7.00
40-59%	17.8%	6.24	6.00
>60%	6.0%	5.29	5.00

Median Kruskal Wallis H Test Result	Asymp. Sig. = 0.000 < 0.05 (Significant)

Cross-tabulations support such findings and provide more explanations. Table 6.5 presents results obtained from cross-tabulating the percentage of income spent on

housing provision and the extent of agreement that there is enough suitable housing in the market within households' financial constraints. Results show a significant inverse relationship between the two variables, where it can be seen that percentages of respondents who stated they agree there is enough housing in the market decrease in line with the increase in the percentage of income spent on housing. Although this percentage seems to rise again in the case of respondents who spend more than 60% of their incomes on housing, the general trend expresses a strong proportional relationship between the two variables.

Table 6.5: Percentage of income spent on housing provision vs. agreeing there is enough suitable housing available in the market within households' financial constraints cross-tabulation

			Agree there is enough suitable housing in the market					
		No.	strongly agree	fairly agree	n. agree n. disagree	slightly disagree	strongly disagree	Total
What percentage of total income is spent on housing provision?	<20%	308	7.5%	29.9%	18.5%	26.9%	17.2%	100%
	20-39%	254	5.1%	24.8%	17.7%	28.3%	24.0%	100%
	40-59%	133	3.8%	15.0%	22.6%	25.6%	33.1%	100%
	≥60%	43	7.0%	20.9%	18.6%	14.0%	39.5%	100%
Total		738	6.0%	24.9%	19.0%	26.4%	23.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.003 < 0.05 (Significant)
- 1 cell (5.0%) has expected count less than 5 (Accepted)

Cross-tabulations also confirmed the presence of a steady inverse relationship between amount of income spent on housing and QOL. Results have shown a decrease in the number of respondents who reported high or very high QOL levels in accordance with the increase of income spent on housing. This ranges from 63.5% in the case of those who spend less than 20% of their incomes on housing and report high QOL levels to 26.2% in case of those who spend more than 60% of their incomes on housing, and also report high QOL levels.

On the other hand, no significant relationship was proven between percentage of income spent on housing and the interest to move to another house, i.e. satisfaction with housing. No clear pattern was found between values of the two variables. Although this sounds strange, it could possibly be justified. Respondents who spend less than 20% of their income feel satisfied, and thus are not interested in moving to another house. On

the contrary, respondents who spend more than 40% fell unsatisfied, but also believe there is no suitable alternative available in the market that they can better afford, and therefore are not interested in moving. Building on that, it can be said that affordability affects QOL by both direct means through directly affecting the perceived QOL and indirect means by affecting satisfaction with housing provision which in turn affects QOL. Figures 6.4 and 6.5 illustrate the relationship between QOL and the interest to move with percentage of income spent on housing.

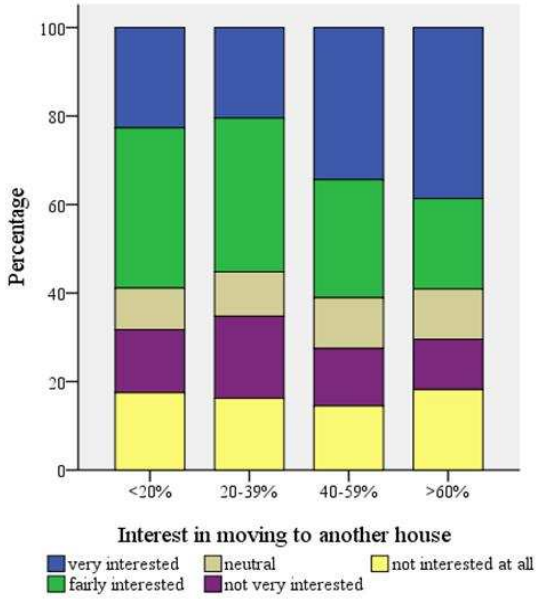


Figure 6.4: Percentage of income spent on housing provision vs. interest to move to another house

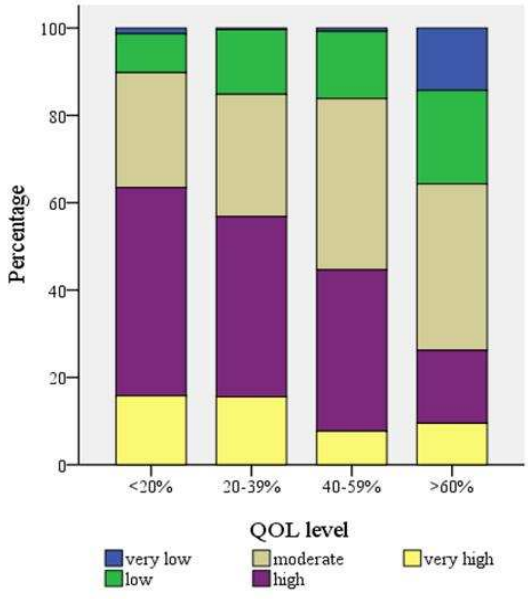


Figure 6.5: Percentage of income spent on housing provision vs. QOL

The percentage of income spent on housing provision was found to be significantly associated with several socio-demographic factors. Sex, household structure and number of people living in the house were, however, found not to have a significant association with percentage of income spent on housing. Regarding the effect of age, respondents of younger age were found to be more likely to spend more on housing provision. Similarly, so were respondents with lower educational level. Education level was noticed to be negatively associated with amount of income spent on housing. The higher the education level, the lower percentage of income spent on housing. This can be justified on the basis of the financial capabilities of respondents which are more

likely to be higher in the case of higher educational levels. Such conclusion can be relied upon in accordance with the relationship to income, which was also found to be negatively associated with the percentage of income spent on housing. The higher the income, the lower the percentage of income spent on housing.

A significant association has been also found with housing provision factors including housing tenure, housing type and length of residence. Respondents living in houses bought with a mortgage and those living in private rented houses were found to be more likely to spend higher percentages of income on housing provision. Nearly 40% of respondents living in housing bought with mortgages stated they spend more than 40% of their income on housing, while approximately 33% of respondents living in private rented houses did so. This can give an indication that monthly instalments as well as rents are generally high if compared to people's incomes, which again confirms that cost is a big obstacle for acquiring housing for the majority of the population. On the other hand, respondents with shorter length of residence in their houses were found to be more likely to spend higher percentages of their incomes on housing.

In reference to house type, respondents living in flats were found to spend more on their housing provision than those living in dars or villas. This can be justified on the basis that respondents living in flats are more likely to acquire their houses by means of private rental, or buying with mortgages, and therefore will be engaged with high housing costs. Results have evidently shown that almost 50% of respondents who live in flats obtain their houses either by private rentals or housing mortgages, while only 2.3% and 17.5% of respondents who live in villas or dars acquire their houses by such means, as they are mostly homeowners. Table 6.6 presents results obtained from cross-tabulating percentages of income spent on housing provision and house type.

As has been noticed, QOL is influenced by the amount of income spent on basic housing provision. Housing cost is strongly related to people's level of satisfaction and the ability to meet other basic needs, and so QOL is hampered when housing prices are so high. Results obtained from the research and from other studies on this subject have confirmed this argument. Some studies, however, seem to show opposing outcomes. An

example is the work of Lu (1999) who argued that housing costs are positively related to satisfaction and thus QOL. The study found out that the higher the percentage of income individuals spent on housing the more likely they reported satisfaction. Lu explained this does not imply that individuals prefer to spend more on housing. Rather, it reflects the fact that in general, high housing costs are associated with better quality housing, which implies having better housing conditions that presumably enhance QOL.

Table 6.6: House type vs. percentage of income spent on housing provision cross-tabulation

			Percentage of income spent on housing provision				
		No.	< 20%	20-39%	40-59%	≥ 60%	Total
House type	flat	576	38.6%	36.7%	18.9%	5.8%	100%
	dar	101	53.5%	28.7%	11.9%	5.9%	100%
	villa	42	52.4%	35.7%	7.1%	4.8%	100%
	other	38	39.5%	21.1%	28.9%	10.5%	100%
Total		748	41.4%	34.8%	17.8%	6.0%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.028 < 0.05 (Significant)
- 2 cells (12.5%) have expected count less than 5 (Accepted

Contrary to Lu's viewpoint, several justifications can still be made to explain the negative impact of high housing costs on QOL, particularly in regard to the case of Amman. Al-Azzah (2005) provided some notable explanations about the influences of high costs and the consequent inability of households to purchase their own houses. The explanations cover implications that act on different scales through which a good understanding can be reached about the influence of costs on QOL. Firstly, as a result of the high costs associated with housing provision by means of purchasing or renting, many families tend to spend on housing provision at the expense of other basic needs. This imbalance might result in a composite impact because of the deficiencies in fulfilling needs like health, education and accessibility, all of which have an impact on QOL. This issue is further discussed when exploring the following indicator. Secondly, in order to fulfil housing needs, by means of ownership, many households might choose to construct their homes on public or private properties of others. This case takes place mostly in deprived and overcrowded areas. This causes encroachment on the property of others, leading to several social problems. Thirdly, many households tend to construct or expand their houses either horizontally or vertically in violation of building

regulations. This results in several urban problems that extend, in their impact, to the direct provision of housing to comprise other aspects of urban and social life which might dramatically influence the quality of urban life. This issue will be discussed further in the coming chapters.

Additionally, on a greater scale, the lack of affordable housing leads to high rental costs and makes home ownership inaccessible for most residents, which again influences the overall satisfaction with housing and QOL. At the same time, according to Yuan et al (2009), unaffordable housing may lessen the ability of employers to recruit and retain employees and may result in long commutes for workers living in more affordable residencies, but ones which are further away. This in turns causes more traffic congestion, and more waste of time and effort, thus imposing higher psychological stresses on people.

6.4. Fiscal Burden

Affordability is a key indicator that widely represents the quality of housing provision and the extent to which it affects people's QOL. However, it is not always capable, on its own, of providing an accurate reflection of the effects of housing costs on people's life unless it was complemented with another indicator that explores the financial burdens that are imposed on the household from acquiring the house on the abilities of that household to meet other vital needs. High housing costs relative to income are often associated with severe financial difficulties, and can leave households with insufficient income to meet other basic needs such as food, clothing, transport, medical care and education.

The influence of high housing costs, however, differs among households according to their incomes and financial capabilities. High outgoings-to-income ratios are not as critical for high-income households as they are for middle- or low-income households, where there is still sufficient income left for other basic needs in the case of having high incomes. When costs are high, people have less residual income to spend on other essential household items. Given its pivotal impact, it was necessary to explore the

influence of the financial burdens as a measure of housing quality on people's satisfaction with housing and QOL.

Respondents were asked to state the extent to which they agree that the percentage of income they spend on housing affects their abilities to meet other basic needs. Results have shown that 61.5% of respondents stated they agree this affects their ability to meet other needs, while 17.6% stated they neither agree nor disagree, and only 20.9% disagreed. These percentages were found to be positively associated with the percentages of income spent on housing. That is, the more respondents spend on housing the more likely they were found to agree this affects their abilities to meet other needs. Such high ratios of agreement suggest that the majority of people suffer from high financial burdens of housing provision.

Furthermore, it can be noticed that findings obtained from this indicator give a higher negative impression if compared to those obtained from the affordability indicator. While almost 30% of respondents were found to spend more than 30% of their incomes on housing provision, more than 60% stated that their abilities to meet other needs are affected by the amount they spend on housing. This means that not only do households who spend more than 30% of their incomes on their housing provision suffer, or feel they suffer, from financial burdens, but also do some of those who spend less than 30%; the factor that reflects poor financial capabilities among a wide range of the population.

Official statistics present some clarification of this outcome. According to the Wages Index for 2010 and the Poverty Situation in Jordan Report, the average monthly wage has been found to be 392.00 JD. The general poverty line per capita has been estimated as 56.7 JD, while the general poverty line for the average family that constitutes 5.7 members has been estimated as 138.7 JD. The average annual household income has been found to be 6166.00JD, while the average annual household expenditure has been found to be 7057.00 JD which is higher than the average income reflecting considerable insufficiency of incomes to meet basic needs and living expenses, including those related to housing. The annual inflation rate increased dramatically from 4.7% in 2007 to 13.9% in 2008; it has increased further in the following years, and continues to do so

(DOS 2012). This rise is not accompanied with an increase in households' incomes, causing additional living burdens.

Several interviewees have confirmed this problem that results from the gap between households' incomes and living expenses. In reference to that, one interviewee stated:

> 'Housing affordability has always been one of the main problems facing households in Amman and will probably continue to be. The main reason for that is the big disparity between people's incomes and housing prices, in the sense that no matter how down the price level goes, the income will remain less than the ability of most people to cover the cost of housing … What makes this more challenging is the difficulty to find a source of funding that acts in line with the financial capabilities of people' (HUDC 5).

Statistical tests reveal the presence of a significant relationship between agreeing amount of income spend on housing affects the ability to meet other needs and QOL measures. Table 6.7 presents mean and median scores for QOL associated with level of agreement. It can be seen that QOL values increase in line with the decrease in level of agreement, reflecting negative relationship between the two variables. This relationship, however, tends to converge after reaching the status of neither agreeing nor disagreeing, where QOL starts decreasing with the increase in the level of disagreement.

Table 6.7: Relationship between agreeing the amount of income spent on housing provision affects ability to meet other basic needs & QOL (mean procedures & Krusakal Wallis test).

Agree amount of income spent on housing provision affects ability to meet other basic needs	**Frequencies**	**QOL level**	
		Mean	Median
Strongly agree	27.7%%	6.15	6.00
Fairly agree	33.8%	6.61	7.00
Neither agree nor disagree	17.6%	7.06	7.00
Slightly disagree	14.3%	6.56	7.00
Strongly disagree	6.6%	6.82	7.00

Median Kruskal Wallis H Test Result	Asymp. Sig. = 0.001 < 0.05 (Significant)

Table 6.8 presents results obtained from cross-tabulating the extent of agreement that the amount of income spent on housing affects ability to meet other needs, and the extent of agreement that there is enough suitable housing in the market within households' financial constraints. Results show a significant relationship between the

two variables, reflecting a relative increase in the satisfaction with housing with the decrease in the amount of income spent on housing and the impact this has on the ability of respondents to meet other needs.

Table 6.8: Agree amount of income spent on housing provision affects ability to meet other basic needs vs. agreeing there is enough suitable housing available in the market within households' financial constraints cross-tabulation

			Agree there is enough suitable housing in the market					
		No.	strongly agree	fairly agree	n. agree n. disagree	slightly disagree	strongly disagree	Total
To what extent do you agree that amount of income you pay on housing affects ability to meet other needs?	strongly agree	208	7.2%	16.3%	13.5%	29.8%	33.2%	100%
	fairly agree	254	3.9%	27.2%	17.3%	31.5%	20.1%	100%
	n. agree n. disagree	132	3.8%	23.5%	37.9%	16.7%	18.2%	100%
	slightly disagree	108	5.6%	33.3%	16.7%	25.9%	18.5%	100%
	strongly disagree	50	14.0%	32.0%	12.0%	12.0%	30.0%	100%
Total		752	5.7%	24.7%	19.4%	26.3%	23.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Figures 6.6 and 6.7 illustrate the relationships between the fiscal burden measure and both QOL and the interest to move to another house. Results show a relatively positive relationship between suffering from high financial burdens caused from housing costs and overall satisfaction with housing. It can be seen that the interest to move to another house is associated with high levels of agreement that the amount of income spent on housing affects the ability to meet other needs. This indicates that respondents who suffer from high financial burdens and accordingly are incapable of meeting their needs are the most interested in moving to another house that would probably be less money-consuming. In other words, the percentage of income spent on housing and the effect this has on people's ability to meet other needs has a strong influence on households' satisfaction with their housing conditions and their interest to move. Relationship with QOL seems to be less apparent where values appear to fluctuate. Nonetheless, they still reflect an association between suffering from high financial burdens and reporting lower QOL levels.

Regarding the influence of socio-demographic factors, results have shown significant relationships with age and employment. Respondents with ages ranging from 35-45 were found to be the most affected by the amount of income they spend on housing. Likewise, respondents working in the public sector were the most likely to agree their abilities to meet other needs are affected with the amount of income they spend on housing. On the other hand, unexpectedly, no significant association was proven with income.

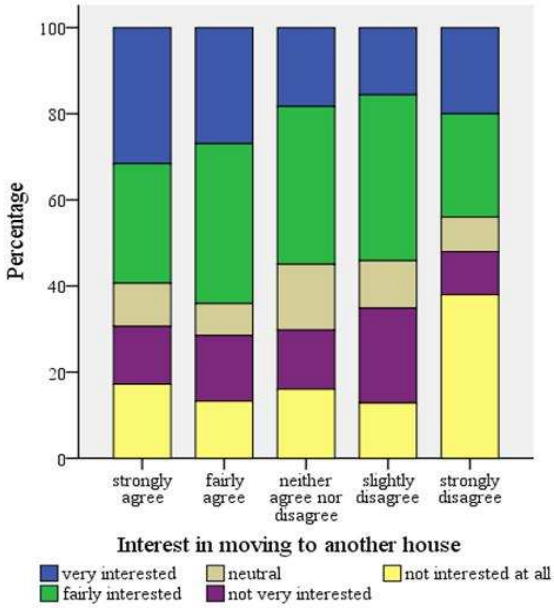


Figure 6.6: Agree amount of income spent on housing affects ability to meet other needs vs. interest to move to another house

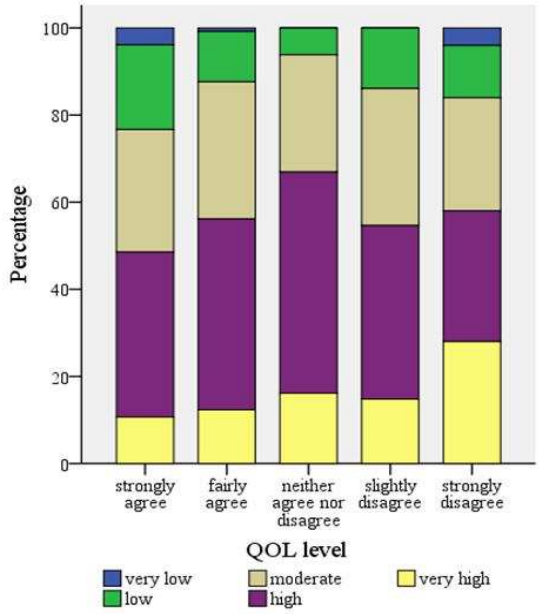


Figure 6.7: Agree amount of income spent on housing affects ability to meet other needs vs. QOL level

Results have also shown significant relationships with all housing provision measures. Regarding tenure type, it was found that respondents living in houses bought with mortgages were the most likely to suffer from financial burdens as a result of high housing costs, followed by those living in rented houses. Nearly 81% and 73.7% respectively of the two groups of respondents agreed the amount of income spent on housing provision affects their ability to meet other basic needs. Unexpectedly, as can be seen from Table 6.9, respondents living in villas were more likely than those living in flats or dars to agree that the amount of income they spend on housing affects their ability to meet other needs. The reason for this surprising finding is that households

living in villas often enjoy high income levels that secure pleasant living conditions including housing, and therefore are not expected to suffer from high financial burdens because of housing. The second reason is that the majority of respondents living in villas own their houses and are arguably less likely to face the high expenses of mortgages or monthly rents as is the case with other households.

Table 6.9: House type vs. agreeing the amount of income spent on housing provision affects ability to meet other basic needs cross-tabulation

		No.	**Agree amount of income spent on housing affects ability to meet other needs**					Total
			strongly agree	fairly agree	n. agree n. disagree	slightly disagree	strongly disagree	
House type	flat	573	28.4%	33.5%	15.9%	15.9%	6.3%	100%
	dar	108	18.5%	35.2%	28.7%	12.0%	5.6%	100%
	villa	42	33.3%	28.6%	19.0%	7.1%	11.9%	100%
	other	37	35.1%	40.5%	10.8%	5.4%	8.1%	100%
Total		760	27.6%	33.8%	17.6%	14.3%	6.6%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.035 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

In respect to the length of residence, results have revealed an inverse association between living for long periods of time in the house and agreeing the cost of housing provision causes financial burdens. New residents and those living in their houses for periods shorter than five years were the most likely to suffer from financial burdens. Two possible justifications can be made for this. The first is that the longer period of living time the more likely respondents are to own their houses, and therefore pay less for housing provision. The second supposition is that the probability of being a newly formed household is higher in the case of living for short periods of time in the house. Such newly formed families often comprise young households that experience low income levels.

6.5. Suitability of Housing Supply

Suitability of housing supply is another indicator for the quality of housing provision as it presents a reflection of the extent to which the need for housing is met. The concern of this measure is basically with the compatibility between housing production rate as

an indication of housing supply and household formation rate as a reflection of housing demand[2]. In that sense, having a shortage of housing is seen as a negative reflection of poor quality of housing provision, while attaining a sufficient surplus or vacancy rate to permit choice and mobility among households is seen as a positive sign of better quality of housing provision, and consequently of QOL. The indicator is also concerned with the extent to which the available housing units meet the actual demands of households and fulfil their different needs.

It has been noticed that Amman suffers from an imbalance between housing supply and demand. Despite the lack of accurate official figures, the most precise estimates denote that there is a relative shortfall in the overall housing supply if compared to demand. The most recent estimates indicate that the annual housing demand all over Jordan is nearly 33,000 units, of which at least 13,000 units are needed in Amman alone (HUDC 2012). The annual production of housing units, on the other hand, is estimated at 20,000 out of which 10,000 units are produced in Amman (DOS 2011). This shortage is more severe in the case of low-income and, probably, middle-income population groups[3], resulting in a failure to meet the actual housing demands among these groups.

Findings obtained from the research have confirmed this reality. Results obtained from the housing provision measures have shown that the majority of survey respondents believed that there are not enough housing units in the market. As noted earlier, only 30% of the survey respondents agreed there is enough suitable housing in the market, denoting a shortfall between what people need or can afford and what is actually provided. Comments made by interviewees confirm such opinion. A responsible officer in the Jordan Housing Developers Association (JHDA 1) declared that current shortfall in the number of housing units is estimated at about 25%. This is estimated at nearly 60,000 housing units distributed around the whole country, constituting a cumulative

[2] Household formation rate: defined as rate of growth of numbers of households or the sum of population growth rate and the estimated percentage decline in household size.

[3] The last three years have witnessed a huge fall in the size of the middle-income population group towards the low- and limited-income groups as the result of the exaggerated rise in the cost of living. According to recent figures the poverty line has risen to around 450.0JD, which is above the monthly income level of more than 70% of the total Jordanian population. Based on that, the financial capabilities of most middle-income groups fell behind their capacity to purchase houses.

deficit in the overall housing supply. The majority of this deficit is among housing for those with low incomes. This shortfall, according to one of the academic interviewees (UA2), has led to a housing crisis in Amman. He stated:

> 'This crisis is not the result of a true fall in the number of housing units, but rather of a poor distribution of produced housing units among population groups. That is, while there is a large segment of population suffering from a shortage of housing supply directed to their needs and capabilities, there is a huge surplus estimated at around 50,000 vacant units directed towards high-income population groups…The market has become oversaturated with up-scale housing units, while still experiencing a shortage in the supply of housing units for considerable population groups' (UA 2).

Other interviewees have referred to the current trend in housing production and supply in Amman as indiscriminate, where surplus and shortage exists in parallel, due to the absence of a clear vision about the needs of the market.

Several justifications have been made for such imbalance. One possible justification is the lack of accurate estimates built in consistence with the actual housing demand built in consistence for all designated income categories of community. The current estimation of housing demand is based on population projections and composition of households without determining preferences in regard to income groups. Another explanation was made by an officer in the HUDC. In her argument about the evaluation of the current trend in housing supply she asserted:

> 'The housing market in Jordan, particularly in Amman, is always in a state of flux between surplus and shortage. This has resulted from the sudden, uncontrolled, waves of population growth taking place from time to time as a result of external immigration. These new migrants impose high and instant housing demand shifting the situation from the state of surplus to that of shortage. Soon as the market started recovering and achieving a balance between supply and demand, another wave of immigrants take place causing another imbalance in the housing market, and so on…' (HUDC 1).

Arguments were also made in relation to the quality of housing supply, or in other words, the extent to which it meets and responds to people's housing needs. Several arguments were made by interviewees on that issue reflecting two opposing opinions.

The first, presented by some interviewees, believes that the current housing supply has succeeded to a considerable extent in fulfilling most housing demands, and that most housing developers work in line with what people look for; accordingly these developers are able to meet the changing housing demands. The interviewees claim that the market provides a wide collection of housing options and alternatives in terms of area, design and quality of finishing that ranges from the very high quality to the relatively low quality. The second opinion, presented by more interviewees, deems that what is supplied in the market does not, in most cases, reflect the actual needs of households or respond to their demands and preferences. Rather, it is what the housing developers are willing to produce, whether because of their financial and technical capabilities or because they feel it is better in terms of marketing[4]. People in turn are forced to accept that and adapt to what is supplied in the market. Some say that in the best cases housing supply matches with the demands of few households; those who represent the higher social classes who can afford to pay. Several arguments were made in reference to that. To borrow the following quote:

> 'Housing projects are often produced in accordance with the vision of housing companies. That is, housing developers or housing companies are in most cases the authors of the initiatives in introducing the design and functional characteristics of the residential units according to their own concerns and estimates. In other words, housing companies produce what they think is suitable and people respond and adapt to what has been produced' (HUDC 3).

This opinion was supported with the notion held by one of the interviewed housing developers (HD1) who said that they usually rely on their own expertise and information gained from inspecting what is available in the market and what is needed to be covered. The reason for that, he said, is the lack of active official bodies that produce actual estimates of what is needed in the market, and therefore each housing company must rely on its own experience and data resources.

Those who adopt this viewpoint do not deny that housing supply corresponds to a considerable extent to general housing demands. Instead, they question the extent to

[4] More clarification about housing characteristics and features that housing developers focus on for marketing reasons is provided when addressing the quality of dwelling in a chapter eight.

which these demands truly reflect the actual needs and desires of people. Many interviewees expressed their belief that housing demands in Amman are not necessarily driven by households' actual needs or desires, but by what they can afford. They claimed that the ability to afford has extensively deteriorated as a consequence of the economic and demographic transformations that have occurred in Amman over the past few decades, and which are still taking place. This has resulted in changing to the nature of housing demand, in terms of housing tenure, housing type and characteristics of residential units. Such changes took place and are still taking place in a manner consistent with the emerging challenges and circumstances that refer in their entirety to the limited financial constraints imposed by the growing costs of living burdens that are associated with the transformations. They gave some examples about some of the changes in housing demand that include:

- Accepting the scheme of living in collective housing represented in apartment buildings, where residents share different sorts of facilities, as an alternative to the detached single family house in which residents experience complete sense of independency.
- Admitting the idea of tenancy as a more approachable alternative for possessing a residence in light of it becoming difficult to buy or own a home.
- Turning towards smaller residential areas ranging from 120-80 m^2 instead of the larger areas ranging from 250-200 m^2 that were formerly desired, due to difficulties in securing and covering their costs.

The majority of these changes can be interpreted as a reflection of low standards of living as they represent a decline in the level of housing needs and ambitions of residents who adapt to living conditions that are believed to be lower if compared with those that were prevalent and accepted in former decades. Such needs do not only relate to the house itself as a mere object of consumption, but also as a vessel within which much consumption takes place, and as a commodity that can generate wealth. Households' preferences are usually built on the desire to maximise fulfilment of all needs, which can lead them to achieve the best they can from their housing that consequently enhances their QOL. What has been inferred from the interviews shows

that instead of acquiring more housing needs and desires, households are losing more and making higher concessions regarding their housing needs in order to cope with their financial capabilities and the set of housing qualities offered in the market. Such concessions include accepting living in houses with smaller floor areas, lower quality of finishing and lack of some services such as central heating, or living far from working areas, and many other things. Otherwise, households have to cope with higher financial burdens that will negatively affect the ability of meeting other needs, as discussed earlier. This has negative implications on their overall QOL due to inability to accomplish various needs. In light of that, it becomes necessary for housing developers to pay attention not only to the revealed preferences reflected in the definite selections households make regarding the type and characteristics of their chosen housing units, but also to the genuine needs they claim from housing.

6.6. Summary of Chapter's Findings

This chapter explored the attributes that constitute the quality of housing provision in Amman and the impacts they have on satisfaction with housing and QOL. Three indicators were used for this purpose - affordability, fiscal burdens and suitability of housing supply. Overall, results have reflected negative impressions in relation to all indicators, denoting poor quality of housing provision. The influences of the three indicators were found to be slightly different. Results have additionally shown variations in the effects of the socio-demographic factors and the effects of housing provision factors. Table 6.10 presents a summary of the survey findings illustrating the level of significance between different factors, quality of provision indicators and QOL measures.

Fiscal burden was found to be the most influential aspect of housing provision on QOL, showing strong associations with the different measures of housing satisfaction and QOL. This was supported with strong arguments made by interviewees. Such a finding indicates that the conventional notion of affordability (paying 30% of income or less on housing) does not in itself represent an actual reflection of the implications of acquiring housing in Amman, unless accompanied with a measure that examines the financial burdens associated with the amount of income spent on housing. This was clearly

noticed from the high percentages of respondents, including a significant part of those who spend 30% or less of their incomes on housing, but carry a heavy financial burden as a result of acquiring housing. This in turn gives a clear negative connotation about the low incomes and limited financial capacities of people living in Amman.

Table 6.10: Summary of quality of provision survey findings

Factors of Influence											Indicator	Measure	Means of Assessment		
Sex	Age	Level of Education	Employment	Household structure	No. of people living in house	No. of children under 12	Income	Tenure type	House type	Length of residence			Satisfaction with Provision	Satisfaction with housing	QOL level
-	x	X	x	-	-	-	X	X	x	X	Affordability	Income spent on housing	x	-	X
-	x	-	x	-	-	x	-	X	x	X	Fiscal Burden	Affect ability to meet other needs	X	X	X
X	X	-	x	-	-	-	X	X	X	X	Suitability of supply	Enough housing in market	X	X	x

Significance of association	X: Significant Association 0.00 < X < 0.025	x: Significant Association 0.025 < x < 0.05	NA: Not applicable
Clarity of relationship with QOL measures	No Association	Apparent Association	Very apparent Association

In reference to the socio-demographic factors, results revealed a relatively finite impact confined basically to three factors - age, employment and income. For almost all indicators, young respondents aged between 25-35, respondents working as public employees and those with low incomes were the most likely to suffer from poor quality of housing provision, reflected in their limited capacities to afford suitable housing. This category of population represents, to a certain extent, households forming new families and seeking to enter the housing market for the first time, or those who have just recently entered the market and are bearing high housing costs and experiencing hard financial consequences. Based on that, it can be concluded that entering the housing market presents a big challenge in light of the high housing costs and low

households' incomes. Such conclusion is supported with findings related to the shortfall of housing supply and a mismatch with households' housing needs and preferences.

The influence of housing provision factors seems more obvious. Tenure type, housing type and length of residence were all found to have significant relationships with housing provision indicators. However the influence of these factors seems to vary among different indicators. For all indicators, short periods of residence were associated with higher likelihood of dissatisfaction with housing provision. This might be the reason of being either a young household with limited financial capabilities and therefore suffering from higher financial burdens, or being under the pressure of paying high rents or housing mortgages. This view is supported with findings obtained in relation to the tenure type, showing that respondents living in rented houses or houses bought by mortgages were the most likely to suffer from housing provision issues. Regarding the influence of house type, results have shown diversified influence. Respondents living in flats were the most likely to spend higher percentages of their income on housing provision. However, together with those living in villas, they were the most likely to suffer from hard financial consequences. Such findings seem odd and need further investigation. On the other hand, respondents living in family-owned houses were the least likely to be satisfied with the adequacy of housing supply and housing provision in general. Nevertheless, given the combined effect of both the socio-demographic factors and the housing provision factors, it can be clearly noticed that the impact of the latter factors, i.e. tenure type, house type and length of residence, is in fact a reflection of the impact of the socio-demographic factors. In other words, the variations that have been reported in response to the different indicators of the quality of housing provision as being associated with the three factors - tenure, type and length of residence - were not in reality derived from these factors, but rather from the socio-demographic factors, primarily income level, that are associated with them. Based on that, it can be inferred that none of these three factors has a real impact on the perception of or satisfaction with housing provision indicators.

In light of the results obtained in this chapter, it can be said that the impact of the quality of housing provision on QOL is highly noticeable. This influence can be

interpreted from several angels encompassing both direct and indirect effects. The direct effects are simply reflected in the high financial burdens imposed by the high costs associated with acquiring the house, and the implications this has on the ability of households to cover other living costs properly, thereby affecting negatively their overall QOL. Another effect can be seen in the inability to acquire the suitable housing that meets the needs of households, in terms of location, area, specifications and physical conditions. The list of adverse effects expected to be associated with that is quite long. This includes experiencing overcrowding in housing, poor quality of construction and finishes, shortage of public services, lack of accessibility, unfortunate surrounding environment and many others. In such circumstances, people are forced to make a number of tradeoffs in order to fulfil the most pressing needs. In the case of poor quality of housing provision, such tradeoffs are believed to be excessive, leading to low satisfaction levels with both housing circumstances and QOL.

Based on the above, it can be argued that the problem of housing provision in Amman is in fact a problem of inequality reflected in the lack of true opportunities and choices among different community members. In general, for most households, the dwelling they occupy is the result of some degree of choice. The extent of this choice varies between wealthy households who have almost no restrictions over where and how to live and those deprived households who have very little choice. This choice of particular dwelling depends on the needs and preferences of households within a choice-set determined by household resources and restrictions and housing market opportunities and constraints. Resources such as income, and opportunities, such as the availability of suitable dwelling, broaden the choice-set for households. Conversely, restrictions such as having to live close to a job, and constraints, such as the lack of finance narrow the choice set for households (Mulder & Hooimeijer 1999, Van Ham 2012). This range of opportunities and resources on the one hand, and restrictions and constraints on the other hand, determines the extent to which households can achieve their housing needs and preferences, and thus influences in a way the set of living conditions within which they live and the level of QOL they achieve or perceive.

Having the ability to choose implies that people are able to make a decision based on preference, and thus distinguish between entities, and that they are able to proffer reasons for the choice they make. In that sense, choice is deemed to be the capability that individuals and households have, whereby they can materially affect their situation. In other words, it is where individuals take control over the decisions that affect them (Brown & King 2005). This capability to act can be said to affect QOL by two means: materialistic and emotional. The first simply implies fulfilling a reasonable proportion of needs and desires through the ability to approach or purchase the most suitable dwelling. The second means refers to the psychological and moral conceptions of QOL, bringing us back to the Relational and Human Development theories of QOL that have been presented earlier in chapter two.

According to the Relational Theory, QOL can be achieved if there is a convergence between opportunities in the environment and receptive properties of respondents. Such properties set up the desire and capability to choose from the offered opportunities. Here lies the defect in the imbalance of housing supply in Amman where the housing supply is not accompanied with actual capability of receiving what the majority of households. This in turn diminishes the amount of real options available for selection despite the fact that there is an oversupply of housing. That is because to consider that someone has meaningful choice should be consistent with adequate capacity.

Human Development Theory denotes that it is important to enhance and sustain human capability in order to achieve better QOL. From that standpoint, QOL becomes strongly determined by the degree to which the surrounding environment provides resources necessary to improve an individual's capabilities to meet their needs. This implies enhancing the capabilities of people to derive valuable benefits from those opportunities, which means that QOL for each individual is dependent on the constraints to their capability to gain. Accordingly, the major concern for a society becomes how to improve the individual's capability and means of control, which enables people to select alternatives that better improve their QOL. Such a conception has been practically applied in a number of housing polices and strategies adopted in developed countries such as the UK.

Good housing quality is about equity and freedom in housing choice. It is about promoting equal housing opportunities to all residents regardless of income, disability, family type, age, or other factors. This does not mean that all people should have the same capabilities and accordingly the range of options to select from. At the end, people with high financial capabilities will always have the advantage of being able to choose and purchase more. What is meant here is that households from different social and economic classes should all have a fair share of housing alternatives: that is to provide them with a real choice that enables them to select a preferred option from distinctive alternatives. Such a share would match their capabilities and meet their demands and preferences in a way that satisfies their need to control and have command over their resources and living conditions to a certain extent. This is believed to foster a higher degree of personal freedom which in a way contributes in enhancing their satisfaction with life. This can be done through developing housing programmes to meet a fair share of the existing and future housing needs for the community, and improving homeownership.

Chapter Seven

Quality of Context

7.1. Introduction

While the previous chapter addressed the influence of housing on quality of life (QOL) by exploring broad-scale issues such as affordability, suitability of supply, as well as flexibility and choice under the notion of 'quality of provision', the next step comprises tackling aspects at a narrower scale or scope of influence. This chapter investigates the quality of the neighbourhood, and the impact it has on overall housing quality and consequently on QOL. It explores the implications of the various elements or components of the urban setting that surrounds the dwelling or housing unit for the overall satisfaction with housing circumstances and QOL in general.

The chapter starts with defining the term 'quality of context' and the several components that constitute it. This is followed by identifying the indicators that have been adopted in the research to comprise quality of context and assess its influence on QOL. The chapter then explores the level of satisfaction of households from different locations in Amman with conditions of their neighbourhoods and the extent to which this satisfaction is reflected in their overall QOL. After that, detailed investigations are undertaken for each of the chosen indicators, and the measures used for assessment are identified. By doing so the chapter examines the relationship each indicator has with QOL taking into consideration the impacts of socio-demographic, housing provision and location factors. Finally, the chapter concludes with a summary that presents the main findings regarding the influence of the quality of context on QOL.

7.1.1. Defining quality of context

Quality of context is used to describe and assess the set of attributes and conditions that comprise the urban setting and neighbourhood in which the dwelling is situated. The term 'context' refers to the environment, in its broader sense, which surrounds the housing unit and identifies its location, status and lifestyle. This encompasses a multiplicity of components that range from physical, social, environmental, aesthetic, cultural and perceptual aspects, and covers vital daily functions and activities that take place in that environment or urban setting. Such components include: streets and pedestrian pathways, infrastructure and public services, basic amenities, open spaces, built form and safety and security, while activities include: commuting, working, socialising, shopping and entertaining. In that sense the term 'quality' refers to different types of quality that are thought of to assess the success and competence of such components in retaining good functioning of residents' activities. These include spatial quality, perceptual quality, social quality, morphological quality, functional quality, visual quality and sustainable quality, all of which contribute towards achieving the overall quality of context.

There seems to be little of any agreement on what constitutes a high quality of context. It can, though, be generally defined according to Lansing and Marans as: *"…One that conveys a sense of well being and satisfaction to its population through its characteristics that might be physical (housing style and condition, landscaping and available facilities); social (friendliness of neighbours, ethnic or economic composition) or symbolic (sense of identity, prestige value)"* (Lansing & Marans 1969, p:195).

Houses are complex and locationally-fixed structures with multiple attributes that are purchased and consumed jointly, in the sense that when choosing residences households make the choice of house type as well as type of residential environment. Therefore, it can be said that the choice of a specific dwelling is inextricably connected with the choice of the desired residential environment. This fact was supported with early findings represented in chapter five where aspects related to neighbourhoods and house surroundings were found to form the key preferences of people when assessing their housing circumstances.

Comments made by interviewees also corroborated such belief; where most of them agreed that house location and surroundings are among the primary priorities of most people when looking for a house. They also asserted that the impact of the environment which accommodates and surrounds the house, whether built, social or natural, clearly affects the life of the residents concerned. Many interviewees argued that the influence of urban context on households and residents is much greater than that of the dwelling itself. Moreover, they claim that in many instances people forgo some of the desired specifications of the housing unit providing that they obtain better characteristics of neighbourhood and context. Some justified this, saying it is much easier for people to adapt to or even upgrade the internal conditions of the dwelling in terms of area, layout and quality of finishing, whereas it is harder to adjust to an unpleasant surrounding environment that it might not be possible to improve or control. Hence, people prefer to guarantee living in a satisfying residential context that is out of their control, than to acquire a controllable internal environment that can be modified at a later time. Given this importance of neighbourhood context, it becomes essential to consider what determines the quality of the neighbourhood.

7.1.2. Identifying Indicators of quality of context

In order to investigate the influence of the quality of housing context on people's satisfaction with housing and the perceived QOL, it was necessary to develop the indicators and measures to be used as the tool for assessment. A set of eight components or indicators was initially adopted to cover the different functional, social, environmental and aesthetic dimensions of the neighbourhood. The list was further extended by adding two more components after the qualitative part of the data collection was conducted. The final list comprised 10 distinct components as follows:

1. Proximity: refers to the availability and ease of access to public facilities needed for daily requirements and activities including shops, schools, health facilities, religious buildings, public spaces, and others.

2. Access and Connectivity: is about the ease of commuting from and to the house and neighbourhood regarding any purpose or type of journey, using any of the different means of travel including public transport, private vehicles and pedestianisation.

3. Efficiency of infrastructure: is the availability of proper infrastructure and public services including streets, pedestrian walkways, street lights, sanitation and water drainage systems that function effectively in such a way that improves the life and public realm in the neighbourhood.

4. Appearance and Orderliness: refers to the aesthetic appeal of the neighbourhood and the organisation of the urban fabric in a sense that provides local distinctiveness and good perception of space.

5. Social integration: is about having good relationships and interactions with neighbours and people in the surrounding area that are free from troubles or nuisances.

6. Privacy: is about being free from the intrusion of disturbance caused by the presence, action or view of others.

7. Security and Safety: is about feeling secure in relation to self, family and property and safe from threats and accidents outside the dwelling.

8. Tranquillity and Pleasantness: refers to the serenity and cleanliness of the neighbourhood or urban setting. This includes retaining a healthy environment free from noise, pollutants and disturbances, providing comfort and peace for residents.

9. Reputation: refers to the social and cultural status of the neighbourhood and the level of prestige and esteem associated with residing in it.

10. Diversity: is the variety of available options including dwelling types and characteristics that produce a healthy mix of households and enables residents to meet their growing housing needs within the same neighbourhood or location.

Each of the 10 components was used as an indicator for assessing the quality of context and consequently housing quality and QOL. The relationship between these indicators and QOL was examined using three dependent measures representing satisfaction with housing and QOL. These comprise, for the case of quality of context, the two initial measures which are the interest to move to another house, representing general satisfaction with housing circumstances, and the perceived QOL level, and a third measure which is the level of satisfaction with neighbourhood and surroundings. Both the level of satisfaction with neighbourhood and interest to move to another house were used as indirect measures of QOL, while the QOL level was used as the direct measure. In respect of that, the indicators were considered as independent variables. However, in order to better understand the influence of these indicators and the measures used to assess their influence, relationships between indicators as dependent variables and socio-demographic and locational factors as independent variables were also examined, as illustrated in Figure 7.1

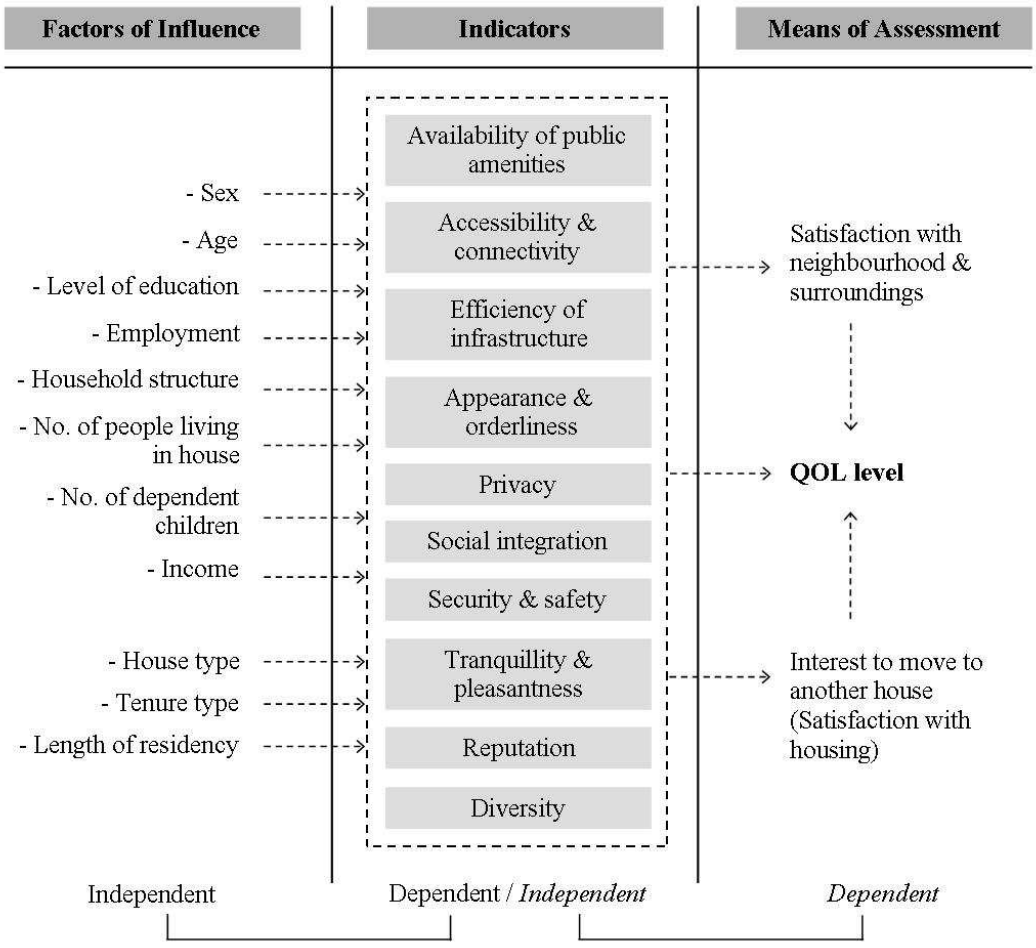


Figure 7.1: Indicators used for quality of context

7.2. Satisfaction with Neighbourhood and Surroundings

Results have shown a relatively high level of satisfaction with neighbourhood conditions and surroundings with an average score of 6.52 using a scale from 1-10, where 1 denotes being strongly dissatisfied while 10 denotes being strongly satisfied. Values of 8 and 5 had the highest frequencies, accounting for 19.3% and 14.3% of the total percentage of responses. Figure 7.2 shows results obtained from the survey in two forms; the first illustrates outcomes in their original form using the scale from 1-10, while the other presents a converted form using five measures, each combining two consecutive measures of the original scale. These range from being strongly dissatisfied comprising values 1 and 2 to being strongly satisfied covering values 9 and 10. Nearly 55% of respondents stated they are satisfied in general with their neighbourhoods in comparison to 21% who stated they are not satisfied. Such results seem to be quite close in terms of values and percentages to those obtained in the case of measuring QOL level, both of which support the widely reported phenomenon called the 'Pollyanna Effect' according to which people tend to respond with more positive ratings than negative ones resulting in higher satisfaction rates. This has been reported in many empirical studies, including the work of Marans (1976), Lipsetz (2000) and Franscescato (2002). In terms of this research, the findings also signify a kind of compatibility and consistency between the two measures of neighbourhood satisfaction and QOL which can be interpreted by the strong relationship they have to each other.

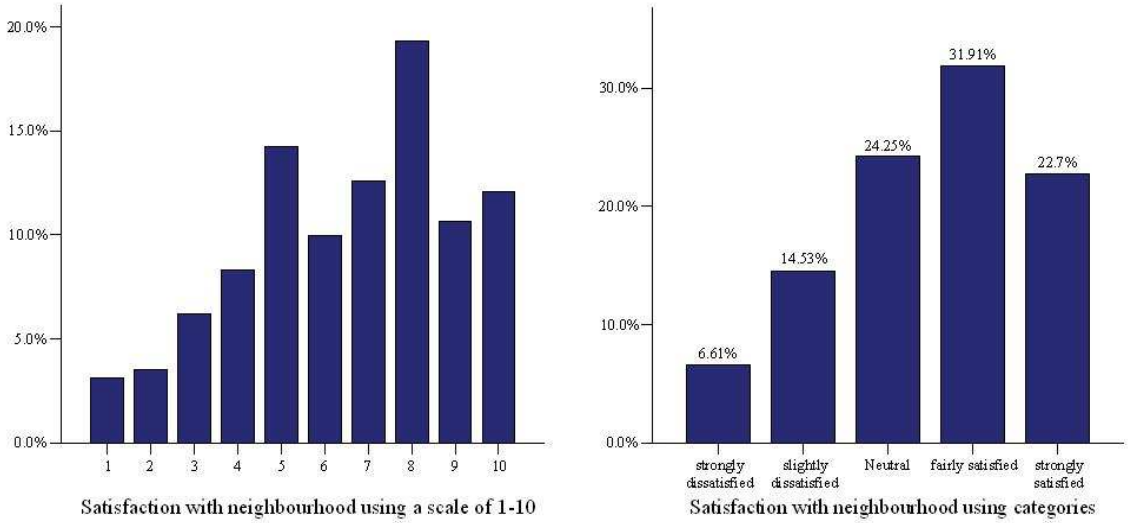


Figure 7.2: Satisfaction with neighbourhood & surroundings

Further investigations have confirmed the presence of a significant relationship between satisfaction with neighbourhood and QOL, as well as satisfaction with neighbourhood and satisfaction with housing in general. Applying different means of statistical tests and procedures, dealing with both the original forms of data and the converted forms, including Spearman Correlation Test, Median Kruskal Wallis H Test, cross tabulations and Chi-Square Test have all shown significant association between satisfaction with neighbourhood and surroundings and the other two measures: satisfaction with housing and QOL level. Figure 7.3 presents a scatter plot diagram reflecting the relationship between satisfaction with neighbourhood and QOL, indicating positive association between the two variables.

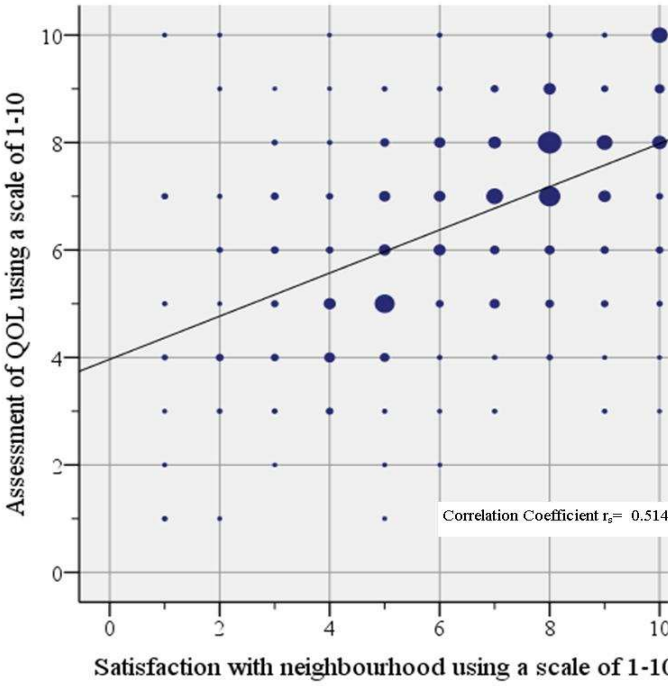


Figure 7.3: Satisfaction with neighbourhood & surroundings vs. QOL scatter plot

Table 7.1 presents results obtained from cross-tabulating satisfaction with neighbourhood and QOL level. Results reflect a moderate positive relationship between the two variables where it can be seen that higher percentages of high QOL levels were associated with greater satisfaction with neighbourhood. Such association can be clearly noticed where ratios of high QOL levels rise significantly from 7.5% in the case of strong dissatisfaction with neighbourhood to 76.1% in the case of strong satisfaction. It

can be noticed that respondents who reported being strongly dissatisfied scored the highest percentages of low QOL values and the lowest percentages of high QOL, and vice versa. Although results show some deviation from this trend, an apparent association between level of satisfaction and level of QOL can still be observed.

Table 7.1: Satisfaction with neighbourhood & surroundings vs. QOL cross-tabulation

			QOL level					Total
		No.	very low	low	moderate	high	very high	
Satisfaction with neighbour-hood and surroundings	strongly dissatisfied	51 within satisfaction	13.7%	39.2%	19.6%	17.6%	9.8%	100%
		51 within QOL	*58.3%*	*20.8%*	*4.5%*	*2.8%*	*4.7%*	*6.7%*
	slightly dissatisfied	109 within satisfaction	0.9%	33.9%	40.4%	22.0%	2.8%	100%
		109 within QOL	*7.7%*	*38.5%*	*19.7%*	*7.5%*	*2.8%*	*14.4%*
	neutral	184 within satisfaction	2.2%	11.4%	46.2%	34.8%	5.4%	100%
		184 within QOL	*30.8%*	*21.9%*	*38.1%*	*20.1%*	*9.4%*	*24.3%*
	fairly satisfied	240 within satisfaction	0.4%	4.6%	22.1%	58.8%	14.2%	100%
		240 within QOL	*7.7%*	*11.5%*	*23.8%*	*44.3%*	*32.1%*	*31.7%*
	strongly satisfied	172 within satisfaction	0.0%	4.1%	18.0%	26.5%	31.4%	100%
		172 within QOL	*0.0%*	*7.3%*	*13.9%*	*25.2%*	*50.9%*	*22.8%*
Total		756 within satisfaction	1.7%	12.7%	29.5%	42.1%	14.0%	100%
		756 within QOL	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 5 cells (20.0%) have expected count less than 5 (Accepted)

On the other hand, a clearer positive relationship has been noticed between satisfaction with neighbourhood and satisfaction with housing in general. Table 7.2 shows results obtained from cross-tabulating satisfaction with neighbourhood and interest to move to another house as an indication of satisfaction with housing. Results show that 90.5% and 91.1% of respondents, who reported respectively they are strongly dissatisfied and slightly dissatisfied with their neighbourhood, stated they are very interested in moving to another house. Results also show that the interest in moving gradually decreases with the increase in level of satisfaction, and vice versa. Such extremely high ratios reflect a strong degree of association between satisfaction with neighbourhood and general

satisfaction with housing conditions. This suggests that the impact of housing context is fundamental in shaping the overall satisfaction of people with their housing circumstances. In respect of that, it can be said that satisfaction with neighbourhood has a direct influence on QOL. It also has an indirect influence via elevating the satisfaction with the overall housing circumstances which in turn contributes to raising levels of QOL.

Table 7.2: Satisfaction with neighbourhood & surroundings vs. interest to move to another house cross-tabulation

			Interest to move to another house					Total
		No.	very interested	fairly interested	neutral	not very interested	not interested at all	
Satisfaction with neighbour-hood and surround-ings	strongly dissatisfied	51 within satisfaction	74.5%	15.7%	2.0%	3.9%	3.9%	100%
		51 within interest	*19.8%*	*3.1%*	*1.3%*	*1.7%*	*1.6%*	*6.7%*
	slightly dissatisfied	112 within satisfaction	53.6%	37.5%	3.6%	3.6%	1.8%	100%
		112 within interest	*31.3%*	*16.4%*	*5.2%*	*3.5%*	*1.6%*	*14.6%*
	neutral	185 within satisfaction	29.2%	43.2%	9.7%	10.8%	7.0%	100%
		185 within interest	*28.1%*	*31.3%*	*23.4%*	*17.4%*	*10.3%*	*24.2%*
	fairly satisfied	244 within satisfaction	11.5%	36.5%	13.5%	25.4%	13.1%	100%
		244 within interest	*14.6%*	*34.8%*	*42.9%*	*53.9%*	*25.4%*	*31.9%*
	strongly satisfied	174 within satisfaction	6.9%	21.3%	12.1%	15.5%	44.3%	100%
		174 within interest	*6.3%*	*14.5%*	*27.3%*	*23.5%*	*61.1%*	*22.7%*
Total		766 within satisfaction	25.1%	33.4%	10.1%	15.0%	16.4%	100%
		766 within interest	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Such findings match with numerous studies that refer to the relationship between neighbourhood satisfaction and the intention to move. Examples include the work of Brower (2003), Oropesa and Kanan (1994), Onaka and Clark (1983), Newman and Duncan (1979), and Marans and Rodgers (1975) all confirming that high satisfaction among residents encourages them to stay on and also induces others to move in, while low satisfaction with neighbourhood environment motivates residents to move out.

Marans and Spreckelmeyer (1981) provided more clarifications about this relationship and its impact on QOL. They stated that the relationship between satisfaction with neighbourhood, decision to move, and QOL is a sequential process where satisfaction predicts mobility which in turns affects QOL. This gives more backing to the investigation undertaken in this part of the research.

It is well known that there are differences in the way residents perceive and use their environments and consequently the way they assess them. Therefore, it was necessary to investigate the influence of the various factors that differentiate respondents from each other. A significant statistical relationship (Chi-Square = 0.00<0.05) has been noticed between the level of satisfaction and location, represented by the district. This variable represents a proxy factor that captures a collection of attributes that influence people's satisfaction with residential context including physical conditions, social and economical status, geographical location and topography. Regarding the influence of location, results match to a great extent with conventional expectations where districts representing higher social and economical community classes (Tela elali and Aljubaiha) scored the highest ratios of satisfaction and the lowest of dissatisfaction. Districts of moderate status scored lower satisfaction ratios, while districts of lower levels and more deterioration (Bader and Marka) were the ones to score lowest levels of satisfaction.

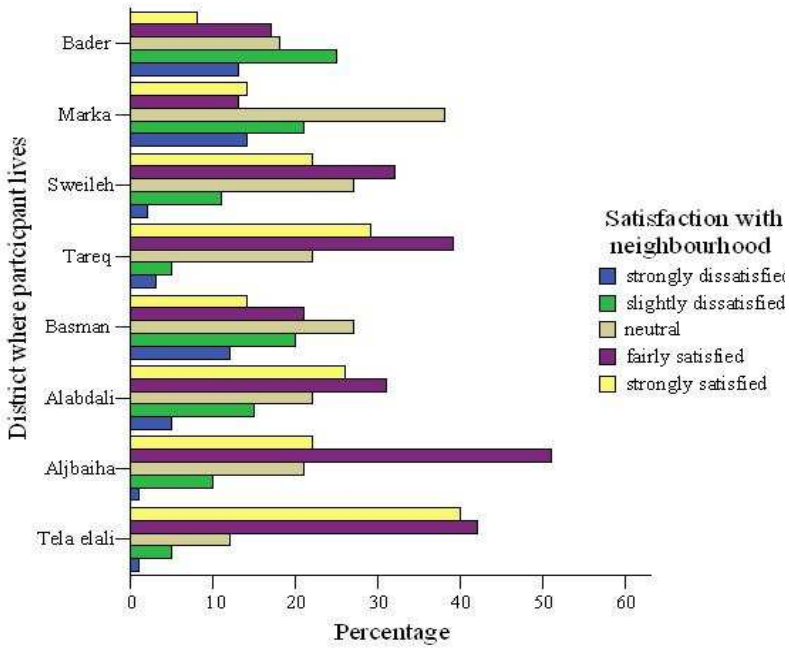


Figure 7.4: Satisfaction with neighbourhood & surroundings vs. districts bar chart

Statistical tests also revealed significant relationships between satisfaction with neighbourhood and socio-demographic characteristics of respondents including sex, level of education and income as well as housing provision attributes including tenure type, house type and length of residence. On the other hand, no significant influence on satisfaction had been proven from factors of age, employment, household structure and number of residents in dwelling. In general, respondents with higher income levels and those with higher educational levels were found to be more likely to be satisfied with their residential neighbourhoods. Likewise, female respondents seem to be more satisfied with their neighbourhoods than male respondents. Additionally, respondents living in owned houses of houses bought with mortgages were more likely to be satisfied with neighbourhoods and surroundings than those living in family houses or privately rented houses. Considering, in particular, the influence of house type it can be seen from Table 7.3 that respondents living in villas reported the highest percentage of satisfaction with neighbourhood conditions, at 79.1% and the lowest of dissatisfaction accounting for 4.7% only. Respondents living in dars ranked second regarding level of satisfaction followed by residents of flats. Within this category 53.6% reported they are satisfied with their neighbourhood conditions and 21.4% reported they are not satisfied.

Table 7.3: House type vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
House type	flat	580	6.2%	15.2%	25.0%	31.9%	21.7%	100%
	dar	110	7.3%	11.8%	24.6%	32.7%	23.6%	100%
	villa	43	4.7%	0.0%	16.2%	37.2%	41.9%	100%
	other	38	13.2%	28.9%	21.0%	23.7%	13.2%	100%
Total		771	6.6%	14.5%	24.3%	31.9%	22.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.008 < 0.05 (Significant)
- 2 cells (20.0%) have expected count less than 5 (Accepted)

Such findings suggest that residents of flats and apartment buildings experience poorer neighbourhood quality if compared to those living in single detached family houses (dars or villas). This might be to some extent linked to the geographical distribution of each type of housing where single detached family houses, particularly villas, are always located in what can be called high class areas that enjoy good physical and

social conditions. On the other hand, residential flats are spread over different locations that comprise all social classes and different physical conditions. Alternatively, it might be suggested that the impact of neighbourhood attributes is greater in the case of apartment buildings where residents are closer in proximity to one another and more exposed to social and physical components of the surrounding environment. Therefore, their sensitivity towards poor quality increases, which results in them becoming more harsh in their judgement about their neighbourhoods. This is believed to influence their degree of satisfaction with their residential context. Both justifications sound reasonable due to the nature of this type of housing which is associated with higher population densities, further social contact and excessive load and consumption of public services and amenities, all of which can lead to a deterioration in the quality of the residential environment resulting in lower levels of satisfaction. This supports findings of other researchers including, for instance, Abu-Ghazzeh (1999) who referred to a similar connotation, particularly in the case of middle-class residents in Jordan, where people are more likely to be in a continuing position of potential violation because of living in close proximity to each other. This -he claims- poses an immediate threat to the households' abilities to have full control over life, thus resulting in lower degrees of satisfaction.

7.3. Proximity

Proximity or availability of public amenities is one of the most influential issues that usually attract people to a certain residential location or neighbourhood. Moreover, it is among the most common issues that planners and urban designers consider when assessing the quality of a particular residential environment. Early findings of this research revealed that being close to public amenities was the most frequently mentioned issue respondents refer to when stating the things they most like about their overall housing circumstances. This strongly signifies the importance of such an issue in determining the level excellence of housing circumstances and life in general.

In order to assess the influence of proximity on QOL as well as satisfaction with housing and residential context, respondents were asked to state their level of agreement of it being easy for them to reach amenities they need to use in their daily life. Four

additional detailed measures were used to assess the influence of proximity. These included stating whether respondents suffer from the lack of any of the following basic amenities: basic shopping facilities, health care facilities, schools for children and green space and playing areas within their house surrounding. Frequencies distribution reveals a high level of agreement regarding the primary measure, where 71.5% agreed it is easy to reach basic amenities around them, while only 12.5% disagreed and 15.9% neither agreed nor disagreed. This suggests that lack of public amenities does not constitute a problem for a large proportion of respondents. Table 7.4 shows detailed frequency distributions and mean as well as median scores for QOL and satisfaction with neighbourhood associated with the extent of agreement about the ease of reaching public amenities.

Table 7.4: Relationship between ease to reach amenities needed for daily life and satisfaction with neighbourhood & QOL (mean procedures and Krusakal Wallis test)

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	26.1%	7.35	8.00	7.56	8.00
Fairly agree	45.4%	6.39	7.00	6.62	7.00
Neither agree nor disagree	15.9%	6.03	6.00	6.31	6.00
Slightly disagree	9.3%	6.03	6.00	6.74	7.00
Strongly disagree	3.2%	5.32	5.00	6.48	7.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Statistical tests reveal significant associations between agreeing it is easy to reach public amenities and scoring high mean values of satisfaction with neighbourhood and QOL level. An apparent positive relationship can be noticed between ease of reaching public amenities and being more satisfied with the neighbourhood as well as attaining higher levels of QOL. In the case of QOL level, however, the relationship seems to be somewhat confusing where mean values fluctuate from falling with the decrease in level of agreement, then rising, before falling again. This indicates that the relationship between the ease of reaching public amenities and satisfaction with neighbourhood is more obvious than that with QOL level, and therefore, it can be said that the influence in the first case is greater and more obvious.

Cross-tabulation supports such findings and provides more exploration. Table 7.5 presents outcomes obtained from the cross-tabulation between the agreement of it being easy to reach public amenities and satisfaction with neighbourhood. It can be noticed that the largest attained percentage, 70.8%, of respondents who reported being satisfied with their neighbourhoods was among those who strongly agreed about it being easy for them to reach surrounding amenities. This percentage drops off steadily in line with the decrease in level of agreement, falling to 32%, among respondents who strongly disagreed. Such ratios indicate that the ease of reaching public amenities has a strong impact on households' satisfaction with their neighbourhoods.

Table 7.5: Ease of reaching amenities vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent do you agree it is easy to reach amenities you need to use in your daily life?	strongly agree	202	6.9%	7.4%	14.9%	32.2%	38.6%	100%
	fairly agree	348	4.9%	15.2%	28.7%	34.2%	17.0%	100%
	neither agree nor disagree	123	6.5%	21.1%	26.8%	28.5%	17.1%	100%
	slightly disagree	71	9.9%	16.9%	25.4%	32.4%	15.5%	100%
	strongly disagree	25	20.0%	24.0%	24.0%	12.0%	20.0%	100%
Total		767	6.6%	14.6%	24.3%	31.9%	22.6%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 3 cells (12.0%) have expected count less than 5 (Accepted)

Likewise, statistical tests reveal a significant association between ease of reaching public amenities and interest to move to another house, and hence satisfaction with housing in general. As can be seen from Figure 7.5, the interest to move to another house decreases with the ease to reach public amenities. Results have shown that 49.8% of respondents who strongly agreed it is easy to reach public amenities have stated they are interested in moving to another house, in comparison to 70.8% who stated they are interested in moving to another house in the case of strong disagreement. The same trend can be noticed from Figure 7.6 regarding the relationship between QOL and the ease of reaching public amenities. A positive relationship can be also noticed in this case, as results have shown that high percentages of scoring high QOL levels were associated with strong agreement about the ease to reach public amenities, and vice

versa. In respect of that it can be said that proximity has a strong relationship with the three measures of housing satisfaction and QOL: satisfaction with neighbourhood, satisfaction with housing in general and QOL level.

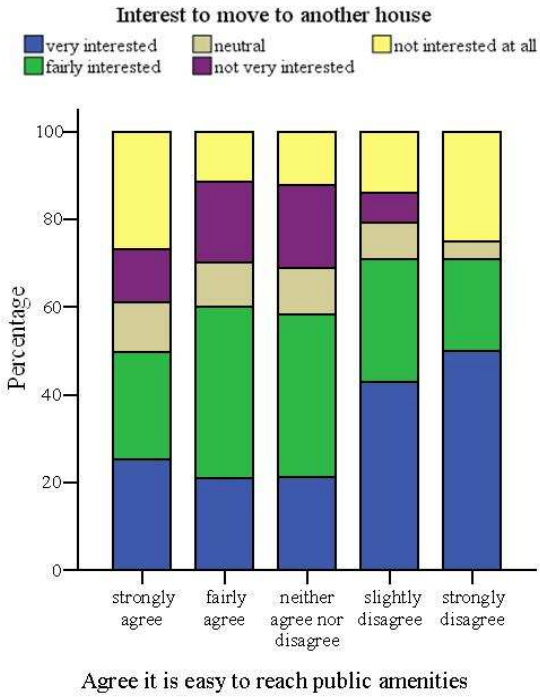


Figure 7.5: Easy to reach public amenities vs. interest to move to another house

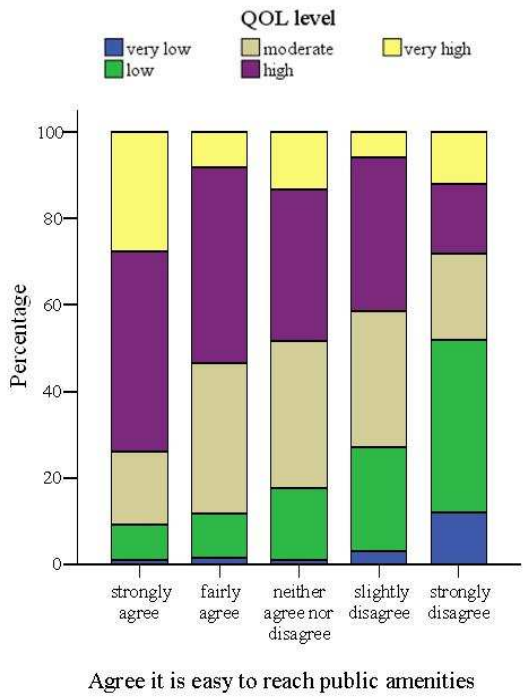


Figure 7.6: Easy to reach public amenities vs. QOL level

Regarding the influence of socio-demographic factors, results have shown significant association between agreeing it is easy to reach amenities and factors of sex, level of education, type of employment and income. Females were found to be more likely to agree than males, as well as respondents with higher educational levels and self employed respondents. Likewise, respondents with higher incomes were seen to be more likely to agree that it is easy to reach basic amenities. Higher level of education and self employment are attributes often associated with high income levels. Therefore, being connected with higher agreement levels of having good public services may be justified on the basis of good financial status that makes it possible for respondents to live in high-status neighbourhoods that are served with good and accessible services. No statistical significant association, however, has been found with factors of age, household structure, number of people living in the house and number of dependent children.

No significant relationship was found between the ease of reaching basic amenities and house type. Taking into consideration that a large proportion of respondents have replied positively on this measure, it can be said that having no significant relationship with house type, which is to some degree linked with the geographical location, indicates that public amenities are efficiently distributed over different locations. On the other hand, significant association has been found with tenure type and length of residence. Respondents living in owned houses or houses bought with a mortgage scored higher percentages of agreement accounting for 77.2% in both cases, than the case of respondents who reside in rented houses accounting for 63.4%. Regarding length of residence, results have shown strong association between agreeing it is easy to reach basic amenities and living for a short period in the neighbourhood.

Regarding the other four detailed measures of the proximity indicator, results have shown satisfactory responses for three of them in terms of not being extensively reported as problems. Table 7.6 shows frequency distributions for the four measures. It can be clearly seen that percentages of respondents who stated lack of basic shopping facilitates, lack of health care facilities and lack of schools for children as problems in their neighbourhoods did not exceed 25% for the worst case. This suggests that the majority of respondents are not negatively affected by any of those three types of basic amenities. This supports findings obtained from the general proximity measure - that is, ease of reaching basic amenities - and gives a good sign regarding positive influence of proximity measures towards satisfaction with neighbourhood, satisfaction with housing and QOL. Yet regarding lack of green space and children's play areas, it can be seen that nearly 70% of respondents considered it as a problem, which indicates this is a general problem that the majority of people suffer from, and therefore would have a negative effect on the satisfaction with housing and the perceived QOL.

Table 7.6: Frequency distributions for the four proximity measures

Measure	No.	Frequencies	
		yes	no
Lack of basic shopping facilities	775	19.4%	80.6%
Lack of health care facilities	775	19.1%	80.9%
Lack of schools for children	775	24.6%	75.4%
Lack of green space and children's play areas	775	69.5%	30.5%

Further statistical tests revealed significant association between most of these measures and levels of satisfaction with neighbourhood and QOL. Table 7.7 presents results obtained from cross-tabulating the four measures with satisfaction with neighbourhood and surroundings. Except for lack of shopping facilities, the three other measures show significant association between being considered as problems and lower levels of satisfaction. Similar findings have been obtained regarding the relationship of the four measures with interest to move to another house and QOL level, with the exception of the lack of schools for children where no significant association has been proved with the interest to move. Additionally, for the three QOL measures, the strongest relationship seems to be with the lack of green space and children's play areas.

Table 7.7: Lack of shopping facilities, lack of health care facilities, lack of schools for children & lack of green space and children's play areas vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Lack of shopping facilities	yes	149	6.7%	16.1%	28.9%	30.2%	18.1%	100%
	no	622	6.6%	14.1%	23.2%	32.3%	23.8%	100%
Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.433 > 0.05 (Insignificant)								
Lack of health care facilities	yes	148	9.5%	19.6%	26.4%	34.5%	10.1%	100%
	no	623	5.9%	13.3%	23.8%	31.3%	25.7%	100%
Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.001< 0.05 (Significant)								
Lack of schools for children	yes	191	6.3%	19.9%	30.4%	27.7%	15.7%	100%
	no	580	6.7%	12.8%	22.2%	33.3%	25.0%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.003< 0.05 (Significant)								
Lack of green space and children's play areas	yes	537	7.4%	17.1%	24.4%	32.2%	18.8%	100%
	no	234	4.7%	8.5%	23.9%	31.2%	31.6%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

In respect to socio-demographic factors and factors related to house and tenure types, the first three measures show a considerable amount of similarities. No sort of significant association has been proven between any of the three measures and factors

comprising tenure type, house type and length of residence. Moreover, factors of age, employment and household structure were found not to have a significant impact, while income has a significant relationship with all of them. Level of education was found to have a significant association with considering lack of basic shopping facilities and lack of health care facilities as problems, but no relationship has been found in the case of lack of schools. Number of dependent children under 12 years seems to be of influence in the case of lack of health care facilities as well as lack of schools, which appears logical.

Regarding the lack of green space and children's play areas, results have shown different sorts of association. Significant associations have been found with age, level of education, household structure and number of dependent children under 12 years. As expected, families with children were more likely to consider the lack of green space as a problem. Tenure type and house type were both found to have a significant association with stating the lack of green space as a problem. Respondents living in flats mentioned this as a problem the most, as well as respondents living in private rented houses. Such findings match to a great extent with the official records regarding number, size and distribution of green space in the city. They also reflect findings from other studies undertaken on the availability of open and green space in Amman and with comments made by interviewees, all of which agree that there is a big shortage of green spaces in the city.

Most interviewees, including those working in governmental institutions such as Greater Amman Municipality, considered the lack of green spaces and children's areas as one of the major problems that not only affects housing quality but the whole of urban life in the city. The reason for this lack, as some of them have said, goes back to the inefficient zoning system that to any great extent the provision of green areas and public open spaces, in addition to investors who are interested in making the maximum use of land in investment at the expense of open areas. This lack of green areas leads to negative implications for residents especially in the case of those who live in residential flats where children can find no place to play and socialise except for on the street, thereby running the risk of accidents and adopting anti-social behaviour.

Regarding other types of public amenities, most interviewees agreed, as found from the survey, that there is a good coverage of services over most places and neighbourhoods and that the shortages of such services do not form a big problem for many people. Accordingly, this might not be a source of dissatisfaction with housing context. Some interviewees, however, argue there is an inefficient distribution of services including basic amenities, particularly when considering housing developments on the fringes of the city. They justify this as the result of the lack of integration in the planning and housing development processes that leads in many cases to build housing projects in locations far away from services.

7.4. Access and Connectivity

Access and connectivity is an aspect that is frequently considered in residential satisfaction and QOL studies. It is usually addressed as a separate domain or under the broader domain of transportation. However, due to its vital role in establishing the quality of neighbourhoods and residential environments, it was considered in this research as part of the quality of housing context.

Three measures were used to investigate the influence of this indicator. These include: lack of parking areas, lack of access to public transport and travelling long distances to work. Respondents were asked to reply to each of these measures by stating whether they consider themselves affected by them because of living in their neighbourhoods. Table 7.8 illustrates the frequency distributions of responses regarding the three measures.

Table 7.8: Frequency distributions for the three access measures

Measure	No.	Frequencies	
		yes	no
Lack of parking areas	775	44.0%	56.0%
Lack of access to public transport	775	31.6%	68.4%
Travelling long distances to work	775	32.3%	67.7%

In general, the frequency distributions show relatively high percentages of respondents reporting the three aspects being problematic within their neighbourhoods, with lack of parking areas scoring the highest. Such high ratios suggest that the aspect of access and connectivity, represented by its three measures, represents a source of negative impact

for at least one third of the population on their satisfaction with housing context. Further investigations reinforce this.

Statistical tests including Mann-Whitney, Chi-Square and cross-tabulations reveal significant associations between stating lack of parking as a problem and reporting lower levels of satisfaction with neighbourhood, higher interest in moving to another house and low QOL. For instance, 30% of respondents who stated this as a problem reported being dissatisfied with their neighbourhood, compared to only 15% who reported being dissatisfied in the case of not reporting it as a problem. Similar results have been obtained in relation to satisfaction with housing in general and QOL level. Table 7.9 presents cross-tabulations between the three access measures and satisfaction with neighbourhood and surroundings, while Figures 7.7 and 7.8 presents diagrams illustrating the relationship between the three access measures and both QOL level and interest to move to another house.

Table 7.9: Lack of parking areas, lack of access to public transport & travelling long distances to work vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Lack of parking areas.	yes	338	9.8%	20.4%	27.5%	24.0%	18.3%	100%
	no	443	4.2%	9.9%	21.7%	38.1%	26.1%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)								
Lack of access to public transport.	yes	248	6.6%	12.7%	27.9%	34.8%	18.0%	100%
	no	527	6.6%	15.4%	22.6%	30.6%	24.9%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.135>0.05 (Insignificant)								
Travel long distances to work.	yes	249	10.4%	17.3%	26.1%	30.9%	15.3%	100%
	no	522	4.8%	13.2%	23.4%	32.4%	26.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.001<0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Stating the problem of travelling long distances to work was also found to be significantly associated with lower levels of satisfaction with neighbourhood, higher interest to move to another house and low QOL level. Several interpretations from

literature can be applied to that. Long commutes may adversely affect personal lives, hindering people from spending less time with families or from getting health benefits of walking, and affecting worker productivity due to the time lost in transit (Yuan et al 2009). Nevertheless, in the case of this study, it can be seen that lack of parking areas as a measure reflects, to some degree, a more apparent relationship with QOL and satisfaction than the measure of travelling long distances to work. Such findings support the outcomes of Stubbs' (2002) study; that residents often attribute a distinct, positive value to parking provision even if they do not really use it, as it raises levels of satisfaction with their neighbourhoods.

Unexpectedly, no significant association has been found between the lack of access to public transport and any of the three measures of QOL, which suggests that this does not have a substantial impact on people's judgments about the factors that influence their life.

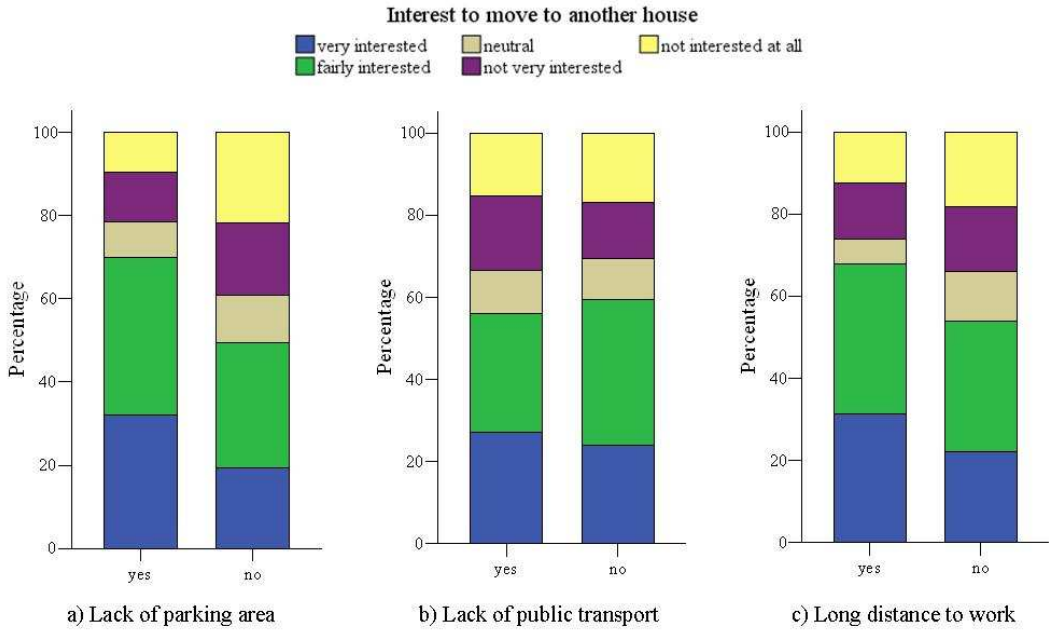


Figure 7.7: a. Lack of parking area vs. interest to move to another house, b. Lack of access to public transport vs. interest to move to another house, c. Long distance to work vs. interest to move to another house

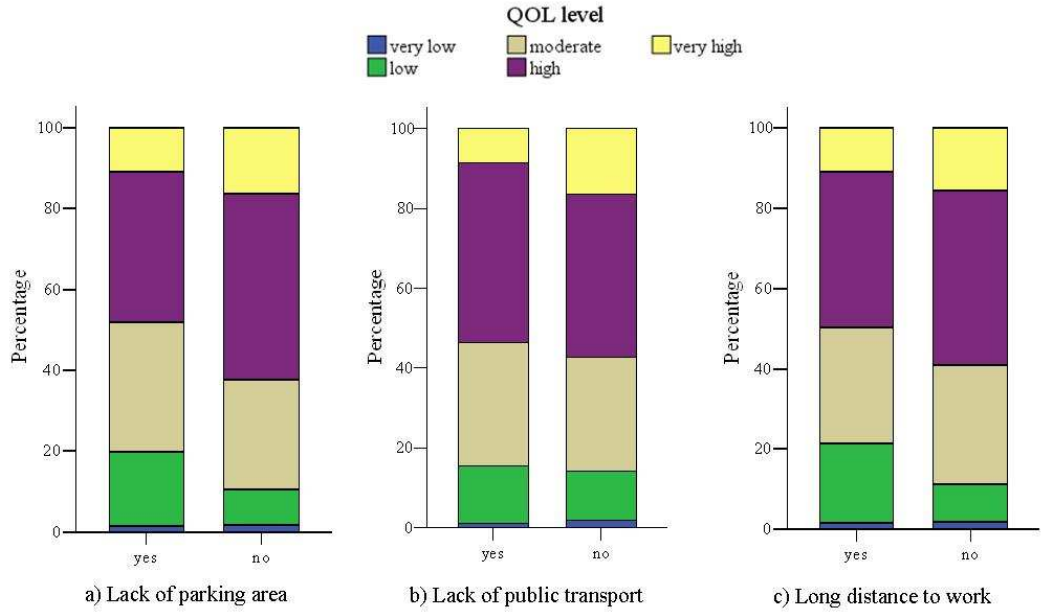


Figure 7.8: a. Lack of parking area vs. QOL level, b. Lack of access to public transport vs. QOL level, c. Long distance to work vs. QOL level

Results have shown no significant relationships between different measures of access and all socio-demographic factors. This indicates that access forms a general concern for all people within different neighbourhoods and locations. Such interpretation supports the opinions of most interviewees who deemed that access and transportation form a serious problem that faces all community groups in Amman, regardless of their distinct social, demographic or even economic characteristics. Two cases of significant associations, however, have been found with factors of tenure and house type, both were linked to the measure of lack of parking areas. Results have shown a strong association between private rental and the lack of parking areas. Respondents who stated they are living in rented houses obtained the highest ratio accounting for 52.4% in reporting lack of parking areas as a problem in their neighbourhoods.

Regarding house type, it was found that those living in flats reported higher ratios of stating the lack of parking area as a problem than those living in dars and those living in villas. Nearly half of the respondents living in flats stated this as a problem, compared to around 43% and 25.6% respectively of those living in dars and villas, which indicates that this problem is more associated with apartment buildings than with single family houses. The logical explanation behind this might be the higher population densities in

neighbourhoods that are mainly comprised of apartment buildings, which raises the demand for parking areas.

Comments made by interviewees provided more support regarding the influence of access and connectivity on satisfaction with housing and QOL. All of them, including those representing official and governmental institutions such as Greater Amman Municipality, agreed that Amman suffers from crucial transportation problems including, in particular, lack of parking areas and absence of efficient public transportation systems capable of providing broad geographical coverage and offering an efficient and comfortable service. This results in further dependence on private cars causing intense traffic congestion and higher demand for parking, making it often difficult to find a proper parking place even within residential areas. Most interviewees attributed this problem to the uncontrolled urban growth of the city and the absence of a well-developed transportation strategy that is capable of providing sufficient commuting services. To borrow the expression of one of the interviewees:

> ‘Transportation in Amman is a calamity. It is weak and not well planned or studied, characterised as being random, floundering, deficient and suffering from a short of coverage for all regions in the city’. (UA2)

Part of this problem is also related, according to interviewees, to faults in the zoning regulations and building legislations, particularly when considering apartment buildings. Many argue this has a lot to do with the problem of traffic congestion and the lack of parking areas, due to the lack of consistency and comprehension of the requirements imposed by this type of housing in terms of volume and density of population, and amount of service consumption and use.

Part of the parking problem is also due to the failure of the current instructions for the parking required for each building being unresponsive to the growing number of users of private cars in every household resulting in a lack of sufficient number of parking per building. Adding to that is the poor design of parking in buildings, making them ineffective and uncomfortable in use. Figures 7.9 shows some examples illustrating the problem of traffic congestion and the lack of sufficient parking areas.

Figure 7.9: Examples of traffic congestions and lack of sufficient parking areas

7.5. Efficiency of Infrastructure and Public Services

In order to assess the influence of infrastructure on QOL as well as satisfaction with housing and residential context, respondents were asked to state their level of agreement with having good infrastructure in the neighbourhoods where they live. The frequency distribution of respondent agreement shows that almost 65% agreed they have good infrastructure, while 21% disagreed. This suggests that inefficiency of infrastructure does not form a problem for a large proportion of respondents, and thus infrastructure can be expected not to have a negative impact on satisfaction with housing and QOL, at least for the majority of people. However, having around one third of respondents not agreeing is still a big proportion that has to be taken into consideration. Table 7.10 shows mean and median scores for QOL and satisfaction with neighbourhood associated with extents of agreement about having good infrastructure.

A clear positive relationship exists between having good infrastructure and feeling more satisfied with neighbourhood conditions. However, this positive association is not as apparent with the QOL measure particularly in the case of the lowest mean and median values. This does not mean that there is no sort of influence from efficiency of

infrastructure on QOL; rather, it suggests that efficiency of infrastructure is more likely to affect QOL indirectly via satisfaction with neighbourhood. There is no evident explanation for such finding, but it is consistent with the fact that infrastructure rarely appears as a distinct domain in QOL research. Instead, it usually falls under other domains which might be taken as an indication that its influence on QOL is, probably, more indirect.

Table 7.10: Relationship between agreement neighbourhood has good infrastructure and satisfaction with neighbourhood & QOL (mean procedures & Krusakal Wallis test).

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	12.8%	8.02	9.00	7.56	8.00
Fairly agree	51.8%	6.92	7.00	6.95	7.00
Neither agree nor disagree	14.1%	5.60	5.00	6.08	6.00
Slightly disagree	14.7%	5.32	5.00	6.56	7.00
Strongly disagree	6.6%	5.04	5.00	6.85	7.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Cross-tabulation supports such findings and provides further exploration. Table 7.11 presents outcomes obtained from the cross-tabulation between the agreement of having good infrastructure and satisfaction with neighbourhood. It can be seen that the largest attained percentage, accounting for 73.7%, of respondents who reported being satisfied with their neighbourhoods was among those who strongly agreed having good infrastructure in their areas of residence. This percentage drops off steadily in line with the decrease in level of agreement, reaching 26.6%, among respondents who strongly disagreed that they have good infrastructure in their areas of residence.

Likewise, cross-tabulating agreement of having good infrastructure with interest in moving to another house, indicating satisfaction with housing in general, reveals a positive relationship between the two variables. Results have shown that 49% of respondents who strongly agreed there is good infrastructure in their neighbourhoods stated they are interested in moving to another house. This percentage rises to 74.5% for respondents who strongly disagree they have good infrastructure in their neighbourhoods.

Table 7.11: Neighbourhood has good infrastructure vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent you agree your neighbourhood has good basic infrastruct-ure	strongly agree	99	4.0%	3.0%	19.2%	22.2%	51.5%	100%
	fairly agree	397	5.0%	8.6%	21.7%	41.1%	23.7%	100%
	neither agree n. disagree	108	7.4%	25.9%	28.7%	29.6%	8.3%	100%
	slightly disagree	113	11.5%	29.2%	29.2%	15.0%	15.0%	100%
	strongly disagree	50	12.0%	28.0%	34.0%	20.0%	6.0%	100%
Total		767	6.6%	14.6%	24.2%	31.8%	22.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

A steady positive relationship can also be seen in this case, despite the high overall percentages of respondents who reported they are interested in moving. Such high percentages indicate the presence of other factors that affect people's interests in moving to another house, but do not deny the influence of infrastructure as a factor. Regarding QOL, cross-tabulation confirms also a positive relationship between QOL and infrastructure. Results have shown that 73.5% of respondents who strongly agreed there is good infrastructure in their neighbourhoods have reported high levels of QOL while only 7.1% have reported low levels of QOL. These percentages tend to drop in terms of high QOL levels to 40.9% in the case of respondents who slightly disagreed. Figures 7.10 and 7.11 illustrate the relationships between QOL and interest to move with agreement of having good infrastructure.

Although statistical tests have proven a significant association between infrastructure and the three QOL measures, a closer look at the figures shows a more consistent relationship with the satisfaction with context. This indicates a stronger impact of the change in respondents' attitudes towards having good infrastructure on the associated level of satisfaction with context in comparison to the impact it has on satisfaction with housing or QOL.

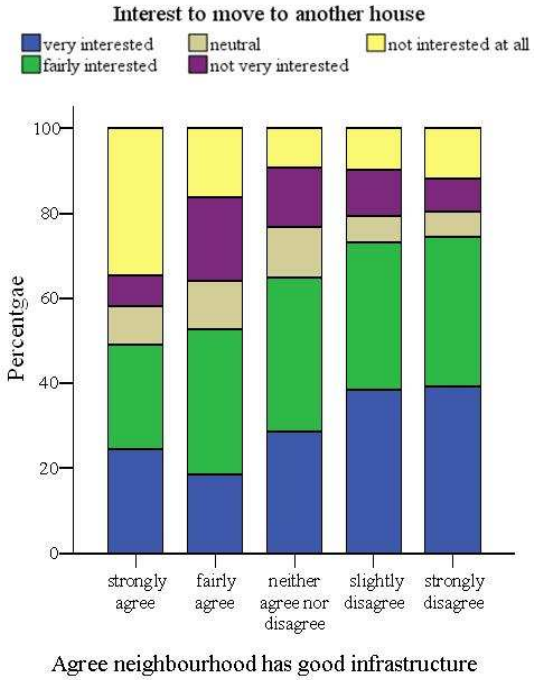


Figure 7.10: Neighbourhood has good infrastructure vs. interest to move to another house

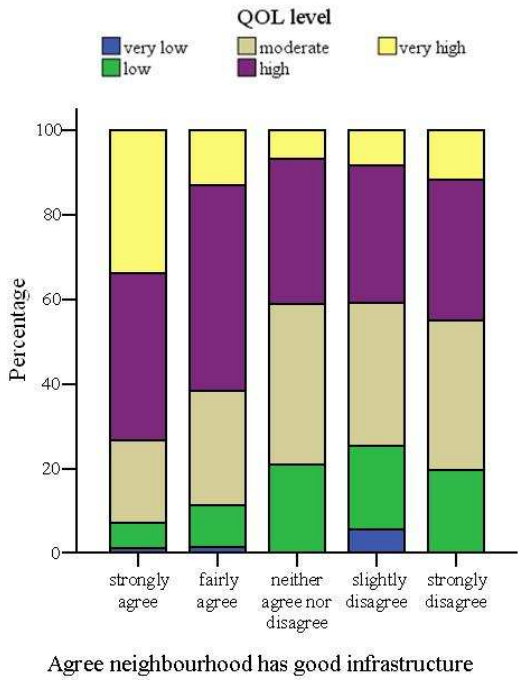


Figure 7.11: Neighbourhood has good infrastructure vs. QOL level

Further exploration reveals virtually no impact of any of the socio-demographic and housing provision factors on the attitudes of respondents towards valuing infrastructure except for three factors: employment, income and tenure type. The percentage of respondents who agreed they have good infrastructure was found to be associated with high incomes and home ownership, both of which reflect the ability to choose and reside in good neighbourhoods, thus enjoying good quality infrastructure. On the other hand, unemployed respondents were the most likely to report having good infrastructure in neighbourhoods. No reasonable justification can be made about that in relation to housing conditions. More in-depth specialised research, out of the scope of this study, may be able to cast more light on this.

Few comments were made by interviewees regarding the quality of infrastructure, most of which reflected the general conviction that there is relatively poor infrastructure and this has negative impacts on people's QOL. This viewpoints conflicts to a certain extent with the positive attitudes that a large number of respondents stated about having good infrastructure in their neighbourhoods, but matches with complaints that arise on a daily basis in media and press related to defects in infrastructure. Two issues were mentioned

by interviewees; the first is the deficiency in the coverage of some basic infrastructure services in many residential neighbourhoods, and the second is the poor quality of the existing infrastructure including pavements, roads, water drainage networks, and many others, which diminishes the quality of living environment. Figure 7.12 provides examples of deficiencies in infrastructure in some locations including poor drainage and inappropriate pavements.

Figure 7.12: Examples of deficiencies in infrastructure in some locations

7.6. Appearance & Orderliness

The visual setting of any residential neighbourhood is an important component of resident satisfaction. Many studies have shown attractiveness to be a major factor influencing the overall satisfaction with housing environments (Marcus & Sarkissian 1986). Examples include the work of Hur and Morrow-Jones (2008) who found satisfaction with general appearance and density of housing are the most significant factors for satisfactory neighbourhoods. To assess the influence of appearance and orderliness on the satisfaction with housing and residential context as well as QOL, respondents were asked to what extent they agree that they live in beautiful and well organised neighbourhoods. Frequency distribution shows that 55% agreed they live in beautiful and well organised neighbourhoods, in comparison to 24% who disagreed, while 21% of respondents neither agreed nor disagreed. Having around half of the respondents not agreeing indicates that there is a big proportion of the population that is not satisfied with the general appearance of their housing contexts either because of poor design or organisational quality, or not meeting with their own aesthetic standards. Further explorations provide more insight about the impact of this issue on people's QOL. Table 7.12 shows mean and median scores for QOL and satisfaction with

neighbourhood associated with the extent of agreement or disagreement about living in a beautiful and well organised neighbourhood.

Table 7.12: Relationship between agreement of living in beautiful & well organised neighbourhood and satisfaction with neighbourhood & QOL (mean procedures & Krusakal Wallis test)

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	11.5%	8.28	9.00	7.31	8.00
Fairly agree	43.8%	7.49	8.00	6.97	7.00
Neither agree nor disagree	20.7%	5.92	6.00	6.54	7.00
Slightly disagree	14.6%	4.80	5.00	6.36	7.00
Strongly disagree	9.4%	3.83	4.00	6.89	7.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.001 < 0.05 (Significant)	

Results show significant relationships between living in beautiful and well organised neighbourhoods and both satisfaction with neighbourhood and QOL level. A clear positive relationship can be noticed between living in a beautiful neighbourhood and feeling more satisfied with neighbourhood conditions: the higher the level of agreement, the higher the level of satisfaction, and vice versa. Such association can be noticed with QOL level but to a much weaker extent, where mean values of QOL do not seem to change at the same magnitude as in the case with mean values of satisfaction with neighbourhood, in response to change in level of agreement. This suggests that appearance and orderliness has a stronger, more obvious relationship with satisfaction with neighbourhood than with QOL level.

Table 7.13 presents outcomes obtained from the cross-tabulation between the agreement of living in a beautiful neighbourhood and satisfaction with neighbourhood, confirming what was found earlier. For instance, results show that 80% of respondents who strongly agreed their neighbourhoods are beautiful reported they are satisfied with their neighbourhoods. This percentage drops off sharply in line with the decrease in level of agreement, falling to 12.5% in the case of strongly disagreement. A strong relationship can be said to exist between living in a beautiful neighbourhood and being satisfied with that neighbourhood, indicating a sound impact of this indicator.

Table 7.13: Neighbourhood is beautiful & well organised vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent do you agree that the neighbourhood you live in is beautiful and well organised?	strongly agree	89	2.2%	2.2%	15.7%	21.3%	58.4%	100%
	fairly agree	339	0.6%	5.3%	20.9%	44.0%	29.2%	100%
	neither agree nor disagree	158	2.5%	24.7%	29.1%	34.2%	9.5%	100%
	slightly disagree	112	15.2%	27.2%	35.7%	16.1%	5.2%	100%
	strongly disagree	72	34.7%	30.6%	22.2%	8.3%	4.2%	100%
Total		770	6.5%	14.5%	24.3%	31.9%	22.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Regarding satisfaction with housing in general, cross-tabulation has shown a similar strong association between living in a beautiful neighbourhood and the interest to move to another house. Among respondents who strongly agreed they live in beautiful and well organised neighbourhoods, 30.7% reported they are interested in moving compared to 59.1% who reported they are not interested. These percentages tend to dramatically change with the change in the level of agreement, as 90.4% of respondents who disagreed they live in beautiful neighbourhoods reported they are interested in leaving. This indicates that appearance and orderliness as a factor has a strong and direct influence on people's satisfaction with their housing in general.

Cross-tabulation shows significant association between living in a beautiful neighbourhood and having better QOL in a clearer and more consistent manner than what has been revealed from the mean tests. Respondents who agreed they live in a beautiful neighbourhood were more likely to report high levels of QOL than those who disagreed. As an example, 78.2% of those who strongly agreed stated a high QOL level, while only 30.1% who strongly disagreed stated a high QOL level. Figures 7.13 and 7.14 clarify this further. Hence, it can be said that, unlike some other indicators, appearance and orderliness has an evident direct impact on all three measures of QOL. This concurs to a great extent with findings from other studies, including those undertaken in the context of Jordan including studies of Abu-Ghazzah (1996) and

Tomah 2006 who mentioned the image or appearance of the neighbourhood and surrounding environment as an important factor in making residents feel good about their residential settings and life in general.

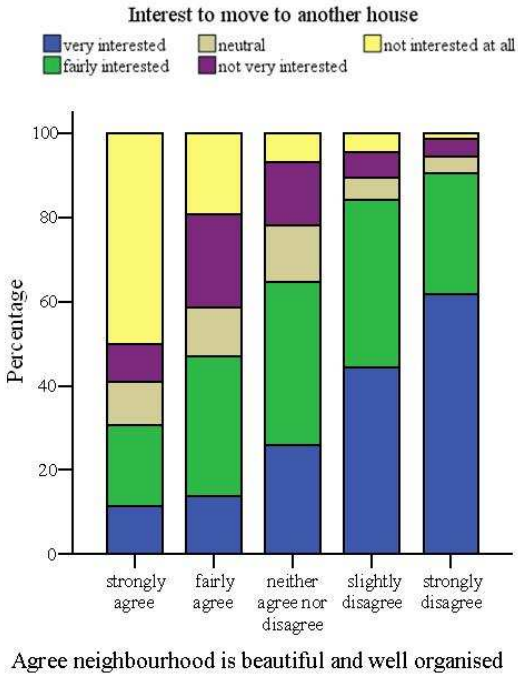


Figure 7.13: Neighbourhood is beautiful & well organised vs. interest to move to another house

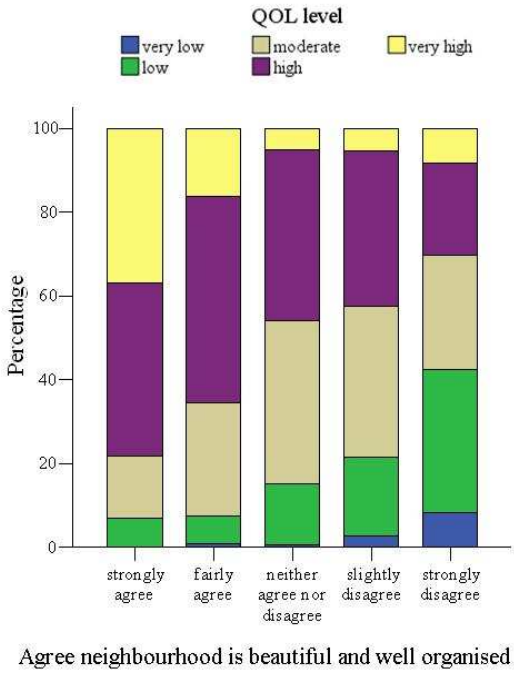


Figure 7.14: Neighbourhood is beautiful & well organised vs. QOL level

Five factors were found to have a significant association with agreement of living in beautiful and well organised neighbourhoods. These are: level of education, income, tenure type, house type and length of residence. Results show a positive relationship between level of education and income on one hand and agreement about living in beautiful and well organised neighbourhoods on the other hand. Respondents with higher educational levels and higher incomes were found to report higher percentages of agreement regarding the beauty and organisation of their neighbourhood. These percentages tend to decrease as income levels as well as education levels decrease. A reasonable justification is that people with higher incomes and higher levels of education are more likely to live in neighbourhoods of better design and built quality due to their financial capabilities that allow them to choose what can be defined as better residential environments. This can be further confirmed knowing that among the

districts that have been addressed in the survey those defined as being finest and of upper social status recorded higher percentages of dwellers with higher education levels and incomes.

Regarding tenure type it was found that higher percentages of agreement were associated with owned outright as well as buying with mortgages while the lowest was associated with house rental. Moreover, respondents living in villas reported the highest percentages of agreement, accounting for 69.8%, regarding beauty and organisation of neighbourhoods. This was followed by respondents living in flats among which 56.9% stated they agree that their neighbourhoods are beautiful. Table 7.14 provides better insight about the influence of house type on QOL.

Table 7.14: House type vs. agree neighbourhood is beautiful & well organised cross-tabulation

			Agree neighbourhood is beautiful & well-organised					
		No.	strongly agree	fairly agree	n. agree n.disagree	slightly disagree	strongly disagree	Total
House type	flat	582	10.7%	46.2%	21.1%	13.4%	8.6%	100%
	dar	111	9.9%	36.0%	21.6%	23.4%	9.0%	100%
	villa	43	27.9%	41.9%	16.3%	4.7%	9.3%	100%
	other	38	10.5%	31.6%	15.8%	18.4%	23.7%	100%
Total		774	11.5%	43.8%	20.7%	14.6%	9.4%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.001 < 0.05 (Significant)
- 4 cells (20.0%) have expected count less than 5 (Accepted)

Commentaries made by key informants, i.e. interviewees, support results obtained from the survey in terms of the influence that appearance and orderliness has on QOL and satisfaction with housing context. However, most interviewees were more rigorous regarding the impact this aspect has on the overall QOL within the city, believing it is a key cause of several problems that affect not only housing but overall urban life in the city. In fact, this subject was among the most discussed issues related to the effect of housing circumstances on people's QOL, to which almost all interviewees had referred. Doing so, they took the subject a step further by considering not only the aesthetic dimension but also addressing the factors that have resulted in the physical outcome of the urban setting and the different implications these factors have on the housing and QOL in the city.

Unlike the case with survey respondents, nearly all interviewees were not satisfied with the overall appearance and orderliness of residential neighbourhoods in Amman; at least of most neighbourhoods. They stated a number of defects which they believe have led to a decline in the quality of appearance and orderliness of the urban setting in the city. These include unplanned mixing of housing types, repetition and stereotyping, and the fact that these defects in turn disrupt the general pattern and skyline of the city. The main reason for such defects is, according to all interviewees, an ineffective planning system in the city. Different arguments have been made in reference to that. Some argue that the planning system in Amman suffers from an imbalance and a lack of understanding of the nature of the city and the needs of its people and this is mainly linked with the subject of housing. The following statement by one of the interviewees explains part of the problem:

> 'The process of secretion and land classification of the categories is not grounded on a scientific base that comprises studies of the needs of the population and the nature of the social and topographical characteristics of the city. There is a lack of a comprehensive vision that addresses issues of housing development and growth in an integrated way. Rather, partial studies and plans are undertaken by developers that only focus on the very small scale…' (APC2)

In addition, other interviewees have argued that the human dimension in planning is in many cases overlooked. Likewise is the case with the urban dimension where the element of urban design is always missing in housing developments. Other criticism included a greater focus on financial revenues of licencing than on the technical and quality matters related to the planning outcome. What is worse still, according to the opinion of one of the interviewees who is an academic and a former official in the HUDC (UA1), is the absence of the concept of neighbourhood in the overall planning system of the city. According to his argument, the concept of neighbourhood remains only theoretically addressed in Amman, and is not yet applied in terms of actual rules and regulations that are required to establish a true residential neighbourhood. What is termed as a 'neighbourhood' is rather a collection of administrative divisions that lack the unique attributes of a neighbourhood. Reasons given for these observations included

shortage of experiences and resources, but more evidently the encroachment of rules and regulations, corruption and the lack of good governance.

One of the negative outcomes that were mentioned a great deal is the small land secretions that have imposed serious constraints on housing development resulting in a kind of repetitive form or prototype that limited potential richness in the urban and architectural context. Together with the inefficient planning and space organisation, this was found also to prevent the creation of liveable urban open spaces, as can be seen from Figure 7.15, which in turn diminishes the quality of the urban setting. More clarification is provided in this quote by one of the interviewees:

> ‘The current planning and regulation system including the set of provisions and legislations among which are those related to building setbacks leads to the fragmentation of urban fabric and spacing housing units from each other, emphasising the sense of individuality and isolation from surrounding neighbours. Conversely a compact urban fabric that considers the urban and human dimension more than the individual dimension leads to achieving greater harmony between people resulting in a more peaceful coexistence. Amman is in more need of such compact urban form.’ (APC1)

Figure 7.15: Small land secretions result in the lack of proper liveable urban space

This issue is probably worth considering, as it has been the focus of research undertaken on the quality of residential urban space. A multitude of surveys and empirical studies has establishes that life in residential streets and public spaces is a major attraction and a very highly valued amenity in relation to the quality of residential environment (Gehl

1986). Such an active life is however, hindered by the haphazard forming of the spaces between buildings and the neglect of the human dimension resulting in the reduction of opportunities for life and activities. Such opportunities would have important roles for strengthening the overall policies for friendly, human, democratic and safe societies, which in turn helps achieving better QOL (Abu-Ghazzeh; 1996Gehl 2004).

Another outcome is the widespread growth in the apartment building as a main type of housing development. These have reportedly ruined the urban fabric of the city, being constructed in line with the geographical and topographical nature of Amman city, resulting in a prejudice to the distinct identity and character of the city. Other negative implications of the planning system include disorder in the organisation of neighbourhoods and road networks. This has been demonstrated by one of the interviewees as follows:

> ‘You can find all over Amman some weird things related to streets’ networks especially when considering minor and sub roads within residential neighbourhoods. You may suddenly find that you have moved from one grid to another without any reboot, and you can find yourself at the end in the face of a dead end or unexpectedly steep. This can be noticed in some areas more than others. Some areas are too complex for someone to be directed when searching for a place or the definite way. This is contrary to good planning.’ (APC2)

Many interviewees had argued that the planning system in Amman is clearly in need of a major overhaul. As an alternative, some call for the need to work within different experimental studies and scenarios to exploring the possibility of achieving rational means of development capable of absorbing the successive growth over the city while understanding the nature and characteristics of Amman city.

Overall, strong arguments have been made regarding the negative implications of the planning and regulating system on the appearance and orderliness of residential neighbourhoods in Amman and the impact this has on people’s satisfaction with their housing contexts and QOL. Such impacts were seen to also affect other aspects of life

including infrastructure and public services, transportation, environment, social interaction and means of privacy.

Figure 7.16: Appearance of (rich) Amman districts vs (poor) Amman districts

7.7. Social Integration

Social integration is another key issue that is often addressed in literature related to housing and neighbourhood satisfaction, as well as literature related to QOL. It is usually considered an essential quality for a house to have in order to be experienced as a 'home' (Hayward 1977; Smith 1994). In this sense, it is considered as an outcome of good housing design. Regarding QOL, social integration is usually addressed as a separate domain encompassing wider aspects of concern that surpass the scope of the neighbourhood or housing context. Several studies have supported the correlations between social aspects and neighbourhood satisfaction. Moreover, it is argued that many of the positive factors that are usually studied regarding neighbourhood satisfaction and quality of place are closely associated with issues of social interaction and psychological dynamics among residents (Galster 1987; Hur & Morrow-Jones 2008). It has been also found in some studies that residents consider social factors more important in judging neighbourhoods, and thus in determining level of satisfaction (Lansing & Marans 1969). Accordingly it was presumed that this factor would have significant associations with measures of housing satisfaction and QOL.

In order to investigate the influence of this indicator, respondents were asked to state the amount of interaction they have with neighbours and people living around them on a scale of five measures ranging from having lots of interaction to having no interaction at

all. This was taken as a representative measure for social integration, where having lots of interaction was seen as an indication of having good social integration within the housing context[1]. Frequencies distribution shows that 51% of respondents stated they have considerable amount of interaction ranging from lots to some interaction; 29% stated they have very little interaction, while 12.3% and nearly 8% stated they almost have no interaction, or do not have any interaction at all.

Statistical tests presented inconsistent outcomes in terms of the relationship between interaction with neighbours and the three measures of QOL which satisfaction with neighbourhood, satisfaction with housing and QOL level. Means and Krusakal Wallis test show insignificant association with satisfaction with neighbourhood while barely denoting a significant association with QOL level, as illustrated in Table 7.15 In respect of that it can be said that social integration does not have, as an indicator of quality of context, a sound effect on QOL.

Table 7.15: Relationship between social interaction with neighbours and satisfaction with neighbourhood & QOL (mean procedures & Krusakal Wallis test)

Amount of interaction	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Lots of interaction	13.5%	6.85	7.00	6.99	7.00
Some interaction	37.4%	6.53	7.00	6.43	7.00
Very little interaction	28.9%	6.55	7.00	6.71	7.00
Almost no interaction	12.3%	6.25	7.00	6.44	7.00
No interaction at all	7.9%	6.25	7.00	6.33	7.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.367 > 0.05 (Insignificant)		Asymp. Sig. = 0.05 = 0.05 (Significant)	

Nevertheless, applying the nominal variables test (Chi-square) has shown significant associations between social interaction and the three QOL measures, where cross-tabulations have shown fluctuating relationships. Table 7.16 demonstrates this issue. A positive link can be noticed between having lots of interaction with neighbours and

[1] This statement was based on the assumption that people usually interact a lot with people (neighbours) they know and have good relationships with them, while avoiding interaction with those people they do not feel comfortable with when dealing with them. Cases where people are forced to deal in a frequent manner with troublesome neighbours do not present a prevalent situation in the Jordanian community, especially within the study population. Several studies have also used this measure including, for instance, Adriaanse (2007).

being strongly satisfied with the neighbourhood in which one lives. This level of satisfaction tends to gradually fall in line with the decrease in the amount of interaction reported. A negative connection can be noticed, on the contrary, in the case of being fairly satisfied, where level of satisfaction tends to increase due to the decrease in the amount of interaction. This reflects a kind of weak, although significant, and unclear influence of social interaction on people's level of satisfaction with neighbourhood.

Moreover, it can be seen that the highest percentages of respondents who stated they are dissatisfied overall with their neighbourhood, accounting for 32.8%, as well as those satisfied, accounting for 57.4%, are both associated with the case of not having interactions with neighbours at all. This reflects two viewpoints: the first considers interaction with neighbours as an advantage and thus, having more interaction results in higher levels of satisfaction, while the second considers interaction with neighbours as a source of trouble or disturbance and that, accordingly, having less interaction results in higher levels of satisfaction. Also, people living in high-status neighbourhoods tend to have lower interaction with neighbours and fewer contacts with the immediate surroundings.

Table 7.16: Social interaction with neighbours vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
How would you describe your social interaction with neighbours and people living around?	lots of interaction	104	7.7%	12.5%	26.0%	16.3%	37.5%	100%
	some interaction	289	5.2%	16.6%	23.5%	31.1%	23.5%	100%
	very little interaction	221	5.0%	13.1%	26.7%	36.2%	19.0%	100%
	almost no interaction	93	10.8%	9.7%	28.0%	37.6%	14.0%	100%
	no interact-ion at all	61	11.5%	21.3%	9.8%	36.1%	21.3%	100%
Total		768	6.6%	14.6%	24.2%	31.8%	22.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

This duality reflects the contradictory effect of social integration that has been mentioned on many occasions in the literature relating to neighbourhood satisfaction. This includes, for instance, the work of Brower (2003) who found that having good

relations with neighbours as well as having friends and relatives living nearby increases neighbourhood satisfaction. Lipsetz (2000) on the contrary found this has a largely negative effect on satisfaction, particularly in urban settings. Such divergent relationships makes it hard to establish a clear understanding about the type of influence that social interaction has on people's satisfaction and QOL.

Similar findings have been generated from cross-tabulating social interaction with the interest to move to another house and with QOL level. Figures 7.17 and 7.18 clearly illustrate this. One major comment, however, can be made on the relationship of social interaction with the three QOL measures regarding the pattern of outcomes. For the three cases there is a general trend in the relationship between social interaction and levels of satisfaction or QOL where percentages of high levels of satisfaction keep rising alongside the decrease in the amount of interaction, until the category of 'very little interaction' is reached, after which it starts dropping. The opposite is the case with levels of dissatisfaction. This suggests that for the majority of respondents it is neither having a lot of interaction nor having no interaction at all that is considered the most pleasant situation regarding the relationship with neighbours. Rather, it is having moderate levels of interaction that maintain a sort of control and do not exceed the boundaries of what is considered appropriate in terms of interaction.

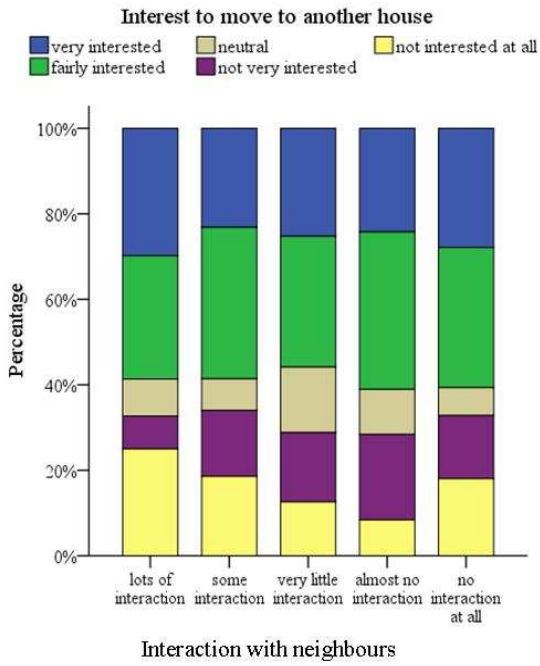


Figure 7.17: Social interaction vs. interest to move to another house

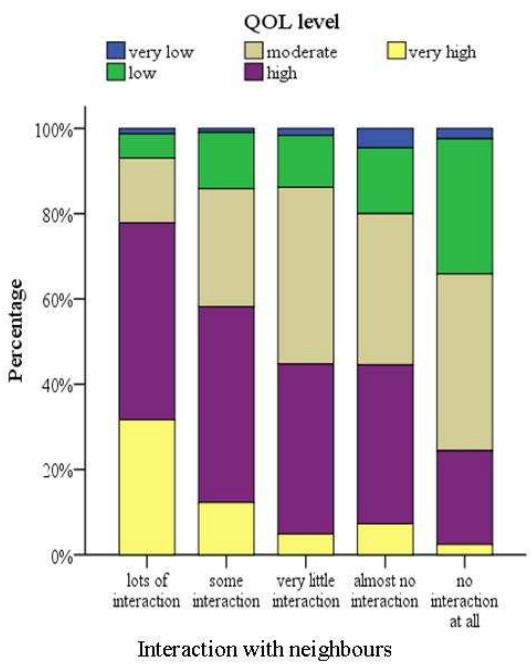


Figure 7.18: Social interaction vs. QOL level

Unlike other measures, social interaction was found to have significant relationships with almost all socio-demographic factors and factors related to housing provision. Only employment and income were found not to have a significant influence on amount of social interaction. Males seem to have more interaction with neighbours, as well as respondents aged from 20-40. Respondents of lower educational levels reported higher levels of interaction and so did respondents related to families comprising of a single adult with children. Likewise, individuals related to families consisting of 4-6 members were more likely to report higher levels of interaction. Several explanations can be made for such findings. Regarding the influence of sex and age, young males represent the social category that is usually more willing and capable, in terms freedom level, to interact with the outer community and spend long time with friends and neighbours, unlike females or children and teenagers who are usually kept under higher levels of family control, especially in conservative societies. In respect of the education level, it is assumed that people with higher education levels are usually more attached to their working community and therefore, their level of social interaction is more associated with the work rather than the residential environment. On the other side, families of a single adult and children usually feel the need for the presence of friends and neighbours as an important factor in achieving higher levels of security and intimacy factor that might be lost because of missing the second partner.

One the other hand, results have shown that the highest levels of interaction were associated with self or family home ownership. Around 60% of respondents who stated they live in their owned homes had reported they have a reasonable amount of interaction with neighbours ranging from lots of interaction to some interaction. Respondents living in family owned properties scored 56.4%. The lowest ratio was associated with respondents who live in private rented houses among whom 35.5% stated they have either lots or some interaction with neighbours. These results match with findings of some studies who claim that people owning their homes are more likely to engage with a social life in their home surroundings, while contradicting other studies that present an opposite viewpoint (Saunders 1989).

Regarding length of residence, results have shown contradictory outcome to what is conventionally asserted, where higher levels of interaction were associated with shorter length of residence in the neighbourhood. The longer the length of residence, the less amount of interaction with neighbours has been reported. In respect of house type, results have shown a mismatch with findings from literature but a strong agreement with interviewees' opinions. Table 7.17 shows the results of cross-tabulating house type with social interaction with neighbours. As can be seen, the highest proportions of respondents having considerable interaction with neighbours are associated with those living in dars and housing types other than villas and flats, accounting for 58.5% and 68.4% respectively, while the lowest proportion is associated with respondents living in flats, accounting for 48.3%. Comments made by interviewees justify such results.

Table 7.17: House type vs. social interaction with neighbours cross-tabulation

		No.	**Amount of social interaction with neighbours**					Total
			lots of interaction	some interaction	very little interaction	almost no interaction	no interaction al all	
House type	flat	580	9.7%	38.6%	29.1%	14.0%	8.6%	100%
	dar	111	26.1%	32.4%	26.1%	9.9%	5.4%	100%
	villa	43	20.9%	30.2%	37.2%	4.7%	7.0%	100%
	other	38	26.3%	42.1%	23.7%	2.6%	5.3%	100%
Total		772	13.5%	37.4%	28.9%	12.3%	7.9%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 3 cells (15.0%) have expected count less than 5 (Accepted)

Referring to interviewees, the majority emphasised the importance of the social dimension in housing and the vital impact it has on raising the quality of the housing environment and the overall QOL of residents. Their main focus, though, was on the implications associated with the domination of apartment building as the primary housing type. In general, most interviewees agreed that the social integration is weakening amongst people as a result of different factors, including housing. Some argue that the current housing pattern, as an output of the applied zoning and building regulations, has impacted negatively on the social cohesion and level of interaction among people. Moreover, it has become a clear element of discrimination and segregation between community members, particularly in Amman. This, according to

some interviewees, was a result of the absence of the concept of community life within which the social requirements of residents can be fulfilled when developing such regulations.

Beside the implications of land values and construction costs that determine the abilities of households to acquire houses and distinguish the properties of the type of dwelling they can afford, all of which helps in widening the gap of social differentiation, the spread of flats has contributed in weakening the bonds of interdependence between people. This was explained in that such a type of dwelling increases contact opportunities between residents of the same building as well as the nearby ones. This contact increases possibilities of privacy intrusion and interferences in the personal life of households, posing the threat of disturbance that might lead households not to feel comfortable and satisfied in their homes. In addition, sharing some basic facilities such as the lift, the staircase and the main entrance with other residents of the buildings has often resulted in trouble. In many cases residents do not comprehend or agree on how to manage or run such shared facilities, which results in the deterioration of these facilities. This in turn makes it difficult to achieve solidarity in the maintenance and sustainability of shared facilities, which negatively impacts the social integration between neighbours and consequently affects their satisfaction with their housing circumstances.

Some interviewees claim that this presents an unhealthy situation that should not be the case. They refer to the vanishing of the norms that used to govern people's lives due to the changes in contemporary lifestyle and the imposition of new housing types that, traditionally, people did not live in, in previous times. This was not accompanied with the establishment of rules or instructions that guide people and define the responsibilities of each resident or household towards the co-maintenance of the property, or their responsibilities to each other. One interviewee commented on that saying:

> "… Moving away from applying appropriate designs that reply to our own culture and environmental conditions which enable us to live in a healthy community atmosphere played a major role in intensifying the negative side and impact of housing…With the proliferation of new types of housing

> including, in particular, residential apartments, the chances for friction and interaction between residents increased and new social lifestyles that did not previously exist started taking place. These patterns need to be be adjusted and guided through the imposition of a set of rules or instructions that govern the relations between residents and define their duties and responsibilities towards the building itself and the general population" (UA3).

Some, however, argue that such regulations do exist; it is just that they are not applied or adhered to, and most people concerned do not know about them, which mean that these rules or regulations are need of activation. One of the interviewees provided further justification for the social problem of housing. He justified that the stress that people living in apartment buildings experience is the result of not adapting correctly with this type of collective housing. He stated:

> "…Moving towards the idea of collective housing by means of flats and apartment buildings was not accompanied with the increase of awareness required to deal with such collective life that entails sharing some common services and facilities and showing special manners in dealing with close neighbours" (UA1).

In respect of this, it can be said that the effect of social integration is confounding to some extent. In spite of the negative impressions that several interviewees have delivered, it cannot be generalised that the current housing pattern, particularly residential flats, have led to negative implications on social interaction and accordingly on satisfaction with housing context and QOL in general. Still there are signs that indicate a positive role.

7.8. Privacy

Privacy and the ability to control interaction with others is an important characteristic of home environment that permits feelings of comfort and relaxation resulting in higher levels of satisfaction. Discussion about privacy is strongly associated with that of social integration as well as appearance and orderliness of the neighbourhood due to their causality and interactive relationships. One measure has been adopted for this indicator. This involved asking respondents to state the extent to which they feel their house environment fulfils their need of privacy. Frequency distributions of respondents'

replies show that around 67% agreed in general that their houses fulfil their need of privacy, which can be seen as a quite reasonable ratio; 21.4%, however, disagreed with this. Hence, it can be said that lack of privacy does not constitute a problem or a cause of dissatisfaction for the majority of respondents. This might lead to a preliminary conclusion that intrusion of privacy is not a major aspect that weakens social integration among residents as has been presumed earlier, at least for a big proportion of the population. Furthermore, it can be argued that it forms a positive factor of satisfaction for 35% of respondents considering those who stated they strongly fulfil their privacy need. Table 7.18 shows mean and median scores for QOL and satisfaction with neighbourhood associated with extents of agreement about fulfilling privacy need.

Table 7.18: Relationship between fulfilment of privacy need and satisfaction with neighbourhood & QOL (mean procedures & Krusakal Wallis test)

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	34.2%	7.65	8.00	7.37	8.00
Fairly agree	31.9%	6.61	7.00	6.67	7.00
Neither agree nor disagree	11.9%	6.12	6.00	5.93	6.00
Slightly disagree	14.5%	4.89	5.00	5.61	5.00
Strongly disagree	6.8%	4.69	4.00	5.28	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Results show a statistically significant association between agreement of fulfilling privacy need and stating high levels of QOL and satisfaction with neighbourhood. This is strongly reflected in mean scores related to satisfaction with neighbourhood and QOL levels, where highest means for both measures were obtained in the case of strongly agree. Mean scores tend to decrease gradually until reaching their lowest value in the case of strong disagreement. A clear positive relationship can consequently be noticed between fulfilling privacy needs and feeling more satisfied with neighbourhood conditions as well as a high QOL level.

Cross-tabulation supports such findings. Table 7.19 presents outcomes obtained from the cross-tabulating agreement of fulfilling privacy need and satisfaction with neighbourhood. A steady positive relationship can be observed between the extent of agreement and level of satisfaction, indicating that privacy has a strong impact on

households' level of satisfaction with their neighbourhoods. As an example, it can be seen that the lowest attained percentage, accounting for 8.3% of respondents who reported being dissatisfied with their neighbourhoods was among those who strongly agreed that their privacy needs are met. This percentage increases steadily in line with the decrease in level of agreement, reaching 52% among respondents who strongly disagreed that their privacy needs are fulfilled. The same sort of relation can be noted in the case of satisfaction, which confirms the presence of a strong association between privacy and satisfaction with neighbourhood and surroundings.

Table 7.19: Fulfilment of privacy need vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent you agree your house fulfils your need of privacy.	strongly agree	264	3.8%	4.5%	19.3%	29.2%	43.2%	100%
	fairly agree	245	4.5%	12.7%	23.7%	41.6%	17.6%	100%
	neither agree nor disagree	92	2.2%	19.6%	35.8%	33.7%	8.7%	100%
	slightly disagree	111	14.4%	31.5%	28.8%	20.7%	4.5%	100%
	strongly disagree	52	21.2%	30.8%	17.3%	21.2%	9.6%	100%
Total		764	6.5%	14.7%	24.0%	31.9%	22.9%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

The same sort of relationship has been noticed in relation with satisfaction with housing and QOL level. Cross-tabulating agreement of fulfilling privacy need with interest in moving to another house, indicating satisfaction with housing in general, reveals a clear positive relationship between the two variables. Results have shown that 90.4% of respondents who strongly disagreed they fulfil their privacy need have stated they are interested in moving to another house, in comparison to 48.3% in the case of strong agreement. Although these percentages still reflect a general tendency in being less interested in moving to fulfil privacy, it also indicates that there are other factors other than those which influence respondents' interest to move to another house.

Regarding QOL, cross-tabulation confirms a significant relationship between QOL and fulfilment of privacy. However, this relationship seems to be less apparent than in the case with satisfaction with neighbourhood and interest to move. Figures 7.19 and 7.20

illustrate the relationships between QOL and interest to move with agreement of fulfilling privacy need. As a result, it can be said that privacy has a significant relationship with the three QOL measures. Nevertheless, the relationship it has with the measures of satisfaction and interest to move seem to be more noticeable. This suggests that the indirect impact of privacy on QOL through satisfaction with neighbourhood and satisfaction with housing in overall is stronger than its direct impact.

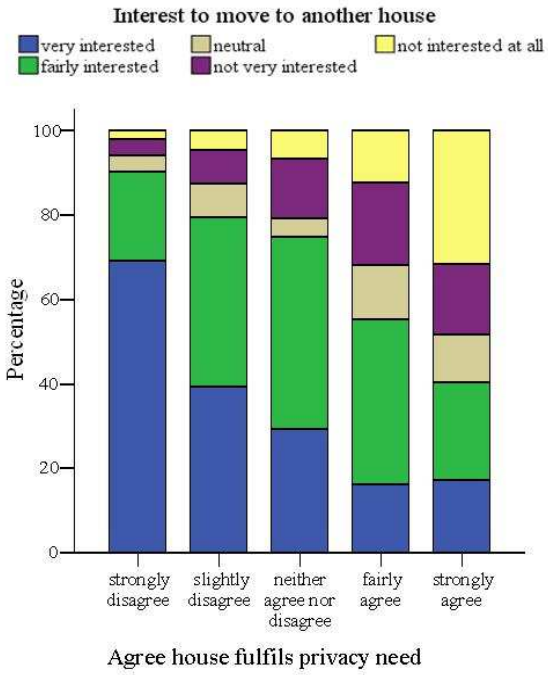


Figure 7.19: Fulfilling privacy need vs. interest to move to another house

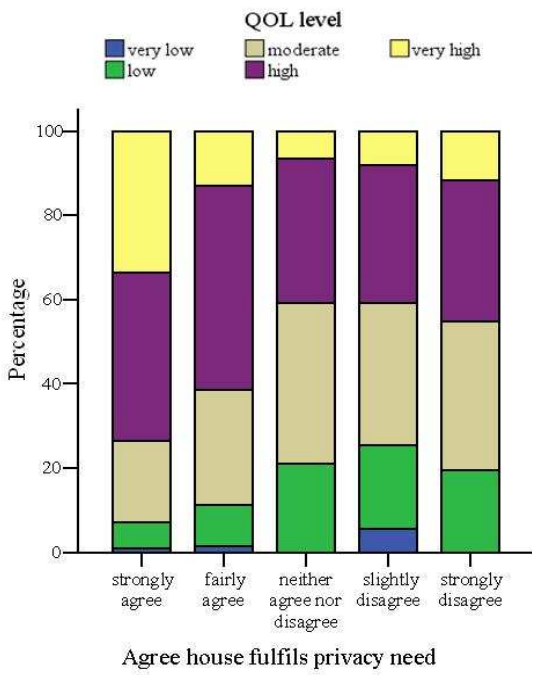


Figure 7.20: Fulfilling privacy need vs. QOL level

No significant relationship was found between fulfilling privacy need and socio-demographic factors except for income and level of education. Results have shown that respondents with lower education and income levels were more likely than others to state that their privacy needs are not fulfilled. This might be the result of the crowded living conditions within which low income groups live which force a lack of privacy. In respect of that, Tomah (2011) presents a somewhat contradictory viewpoint. He argue that because of living in such crowded living conditions, privacy norms become much less stringent among low income groups than found in high income groups. In addition, affluent population may have extra visual privacy demands in that they may desire seclusion from economically deprived groups of population. In that sense, higher

income groups seek higher privacy levels and thus, might be less likely to be satisfied with their residential privacy levels.

Results have also shown significant association between fulfilling privacy needs and tenure type, house type, and length of residence. Regarding tenure type, respondents living in owned outright houses were more likely to state they feel the privacy in their homes where 75% of them stated they agree they fulfil privacy need. Respondents living in family-owned and private rented houses scored the lowest percentages of agreement, accounting for 54% and 63% respectively.

In reference to house type, it can be noted from Table 7.20 that respondents living in villas are most likely to fulfil their privacy needs. Around 88% of respondents living in villas reported they agree they fulfil their privacy need. Respondents living in dars and flats were extremely close in terms of percentages of agreement regarding fulfilling of privacy needs, scoring 67.3% and 65.9% respectively. Such results make sense and corroborate the common findings in literature.

Table 7.20: House type vs. fulfilment of privacy need cross-tabulation

			Agree house fulfils privacy need					
		No.	strongly agree	fairly agree	n. agree n.disagree	slightly disagree	strongly disagree	Total
House type	flat	578	33.9%	32.0%	12.1%	15.2%	6.7%	100%
	dar	110	31.8%	35.5%	14.5%	11.8%	6.4%	100%
	villa	42	66.7%	21.4%	7.1%	4.8%	0.0%	100%
	other	38	15.8%	36.8%	7.9%	23.7%	15.8%	100%
Total		768	34.5%	32.2%	12.0%	14.6%	6.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.001 < 0.05 (Significant)
- 3 cells (15.0%) have expected count less than 5 (Accepted)

Interviewees presented a slightly opposing viewpoint from that obtained from the survey. While survey results reveal a general level of satisfaction with privacy among the majority of respondents, most interviewees deemed the lack of privacy as one of the negative outcomes of the current housing pattern in Amman. However, they agree with survey outcomes in that the problem of privacy is more noticeable in the case of apartment buildings. In that sense they stated that most of the housing projects do not

take into account the issue of privacy as a considerable aspect of design. The most common practice, they claim, is to construct the apartment buildings next to each other no matter what sort of privacy intrusion might be caused due to the allocation of openings; i.e. doors and windows. Housing developers are always looking for easier and cheaper solutions and do not strive in many instances to address the issue of privacy by delivering better designs that might cost more.

This lack of privacy, respondents argue, goes beyond the boundaries of the residential unit or the building. It also extends to the outdoor space where there could be no clear control on the semi private and public space adjacent to or surrounding the residential buildings. This in turn results in several social problems caused from the intrusion of privacy, especially when it exceeds the limits of control and endurance. All this affects to a large extent the level of comfort people can attain, not only within their neighbourhood or surrounding environment, but even inside their houses; they are obliged to give up some level of privacy in order to get natural light or fresh air for example, or the other way around.

Some interviewees also referred to the intrusion of privacy as a problem that has recently begun to affects households living in detached houses and villas. They argue that the 'uncontrolled' spread of apartment buildings is becoming a cause of threat and disturbance to the occupants of many detached houses dwellers, due to the abuses to and changes in land and building regulations that result in the construction of multi-storey apartment buildings adjacent to one- or two-storey detached houses, causing obvious encroachment on privacy. Several cases have been cited that reflect this growing problem; in some cases, residents resorted to raising their fences by several metres in order to maintain as much privacy within their houses and in their private gardens as possible. This cost them additional expenses and reduced to a certain extent the quality of pleasantness of their private open space. In other cases, the solution was to leave the house and sell it for a cheap price resulting in a considerable capital loss for the owner. In this respect, it is argued that the current urban planning and design practices as well as the applied building regulations do not adequately meet the residents' desired levels of privacy. In line with that, one interviewee stated:

> ‘One of the main factors that affect privacy is the distance of setbacks. This distance depends on the type of the category. The same plot area and the same setbacks for each plot make the residential units stand exactly parallel to one another. This means in most cases, that windows and balconies will be situated facing each other. In addition, closely built, outwardly oriented houses provide a lesser degree of achieved visual privacy than to closely place inwardly oriented homes. Similarly, constructing residential units of different heights next to one another, as is often found in modern-style neighbourhoods, may result in the unwanted exposure of residents living in low-rise housing by high-rise residents … There is no distinction at all between the streets separating neighbourhoods and the width of streets within the neighbourhood itself. This results in unclear boundaries between neighbourhoods within the city of Amman. It is often impossible to distinguish between different neighbourhoods owing to these unclear man made boundaries’ (UA2)

Such adhesion between residential buildings and the confusion of different housing patterns has lead to the intrusion of residential privacy and the decline of individuals’ abilities to have control over interpersonal interactions within their residential environment. This in turn, hinders individuals’ capabilities to undertake their daily life activities in a proper manner; the factor that negatively affects their satisfaction with housing and the overall perceived QOL.

Strong adhesion between residential buildings leads to invading privacy inside houses

The uncontrolled spread of apartment buildings hinders achieving privacy in detached houses including villas, leading dwellers to undertake remedial actions including the exaggerated rise of fences

Figure 7.21: Illustrative examples about the problem of privacy

7.9. Security & Safety

This has been one of the most popular criteria mentioned in the literature of neighbourhood satisfaction particularly when talking about crime which is often considered a crucial variable that strongly influences the quality of any neighbourhood (Hur & Morrow-Jones 2008). Despite failing to make significant statistical contribution to satisfaction in many studies (Lipsetz 2000; Petra 2003), this measure is still considered a key component for achieving satisfaction with residential environments and life in general. It is one of the aspects that are frequently examined in QOL studies. However, as is the case with transportation and social integration, security and safety is often addressed as a separate domain that stands alongside other domains such as the economy, health, education and housing. However, this does not mean that it is not one of the components that affect the level of satisfaction with residential environment, and thus, can be studied under the overarching umbrella of housing.

Although several measures have been used to examine this indicator in the literature, only one simple measure has been used to assess the influence of security and safety in this research. This comprised asking respondents whether they think the neighbourhood or the place where they live lacks security and safety, and examines the relationships of their answers with the three housing satisfaction and QOL measures. Results show that only 12.1% of respondents stated this as a problem in their neighbourhood. This represents quite a low ratio compared to responses related to other issues and problems that have been assessed, which indicates that the majority of people are satisfied with the level of security and safety within their environment. This also suggests that the influence of security and safety on people's satisfaction with their housing context and QOL can be seen to be positive for the case of Amman, taking into consideration that this component was ranked third in terms of importance towards people's lives as has been shown in an earlier chapter. Therefore, feeling safe contributes positively towards people's QOL in Amman. This supports several studies that have shown a positive correlation between security and low crime rates and high levels of satisfaction.

Statistical tests support such outlooks. Table 7.21 shows mean and median scores for QOL and satisfaction with neighbourhood associated with suffering from lack of

security and safety in neighbourhood. Results show significant relationships between variables where respondents who stated they suffer from lack of security and safety reported lower mean scores for both satisfaction with neighbourhood and QOL levels. It could be noticed, however, that the influence on satisfaction with neighbourhood seems to be greater than that on QOL level.

Table 7.21: Relationship between lack of security & safety and satisfaction with neighbourhood & QOL (mean procedures & Mann-Whitney test)

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
yes	12.1%	5.50	5.00	5.48	5.00
no	87.9%	7.42	8.00	6.73	7.00
Mann-Whitney Test		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Cross-tabulation provides more support and exploration. Table 7.22 presents outcomes obtained from the cross-tabulation between lack of security and safety and satisfaction with neighbourhood. It can be clearly seen that higher levels of satisfaction is associated with the case of secured neighbourhood; 58% of respondents who stated they do not suffer from problems of security reported they are satisfied with their neighbourhood, while nearly half of this ratio of respondents who suffer from lack of security and safety in their neighbourhoods reported they are satisfied. Similar outcomes have been obtained in the case of the interest to move to another house and QOL levels but with narrower differences, which indicates that the influence on satisfaction with context is more obvious than on satisfaction with housing in general and on QOL level. Figures 7.22 and 7.23 illustrate these findings.

Table 7.22: Neighbourhood lacks security & safety vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Does your neighbourhood lack security & safety?	yes	93	12.9%	29.0%	28.0%	18.3%	11.8%	100%
	no	678	5.8%	12.5%	23.7%	33.8%	24.2%	100%
Total		771	6.6%	14.5%	24.3%	31.9%	22.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

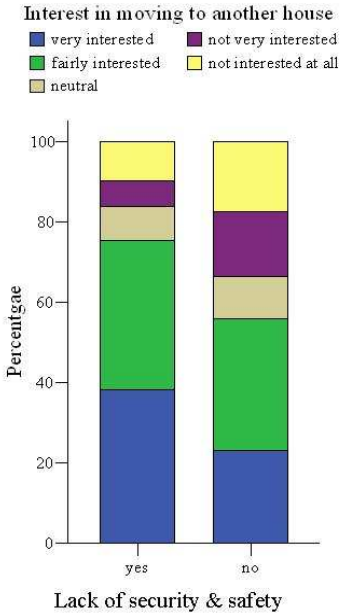


Figure 7.22: Lack of security vs. interest to move to another house

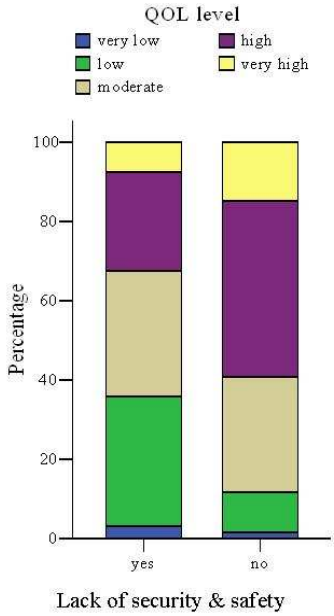


Figure 7.23: Lack of security vs. QOL level

Tests have not proved any significant association between stating security and safety as a problem in the housing context and factors like sex, age, household structure and income. Likewise, no significant relationship exists with either tenure or house type. This does not, however, contradict the common belief that homeownership offers more sense of security among households, as the concern here is not with social or psychological security but with security from crime and hostile activities and safety in the light of potential accidents.

Weak association has been noticed between stating security as a problem and the employment of correspondence, while significant association has been noticed with level of education, number of people living in house and length of residence. Results have shown that respondents with lower education levels were more likely to report they suffer from lack of security and safety in their neighbourhoods than those with higher levels of education. This might be because they belong to lower social classes that typically reside in degraded neighbourhoods which often suffer from lower levels of safety and security. Regarding length of residence results, in contrary to expectations, these have shown a strong relation between not reporting lack of safety as a problem and living in the house for a short period of time of less than seven years.

Results obtained from the survey are supported to a great extent from feedback provided by interviewees who agreed that most neighbourhoods enjoy high levels of security and safety particularly in regard of crimes and hostile activities. The main concern that has been raised by some interviewees is the issue of safety from accidents, particularly car accidents, due to the deficiency in proper pedestrian pathways in the presence of reckless driving and non-compliance with traffic laws. This makes it unsafe for people and particularly young children to walk or commute within the neighbourhood. Otherwise, there is a general conviction that safety contributes positively towards increasing people's satisfaction with their housing contexts. It is worth mentioning, however, that recent evidence shows a rise in the number of incidents of theft within different neighbourhoods, although currently this does not seem to have a big influence on people's judgement about the overall safety condition. One possible reason is that people feel security and safety as a grace that they still enjoy in the country, compared to the case in many other neighbouring countries which suffer from disturbances and lack of security which may pose a threat to life.

7.10. Tranquillity & Pleasantness

The importance of this indicator comes from being one of the issues that strongly contributes to comfort, health and calmness within housing environments. Besides being addressed in several studies related to neighbourhood satisfaction and QOL (Bonaituo et al 1999; Das 2008; Hur & Morrow-Jones 2008; Lansing & Marans 1969; McMahon 2002; Parkes et al 2002 and Sirgey & Cornwell 2002)[2], this indicator presents some of the issues that were frequently mentioned by interviewees and survey respondents when asked about the things they most or least like about their housing circumstances. Many respondents referred to aspects like pleasant environment, nice views, quiet and cleanliness as issues they most appreciate about their overall housing circumstances, while others mentioned issues like noise and pollution as issues they most dislike about their housing circumstances. Such concern denotes the significant impact this feature has on the quality of housing context as well as QOL.

[2] The majority of these studies have not used the term 'tranquillity and pleasantness' specifically, but addressed issues related to it, including noise; and issues that are extensively examined in such studies, such as cleanliness and waste disposal, air pollution and quietness.

Four measures have been used to investigate the influence of this indicator. These include noise, air pollution, litter and rubbish in the street and the presence of unpleasant facilities that might cause any sort of annoyance or disorder. These include noisy cafes and clubs that cause disturbances until late at night, government institutions of frequent use that cause high traffic congestion, workshops and light industrial estates and many others. Respondents were asked to reply on each of these measures by stating whether they consider any of them a problem they suffer from in their neighbourhoods or not. Table 7.23 illustrates frequency distributions of responses regarding the four measures.

Table 7.23: Frequency distributions for the four tranquillity & pleasantness measures

Measure	No.	Frequencies	
		yes	no
Noise	775	47.1%	52.9%
Air pollution	775	28.3%	71.7%
Litter and rubbish in the street	775	26.8%	73.2%
Unpleasant facilities	775	15.1%	84.9%

Frequency distributions show disparities in responses regarding the four measures. Noise seems to be the most considered issue where nearly half of the respondents agreed it forms a problem in their housing surroundings. This is a relatively high proportion which promotes noise as one of the most serious influential aspects that negatively affects the quality of housing context and therefore, needs to be solved. Air pollution as well as litter and rubbish seem to be in a quite similar situation where 28.3% and 26.8% of respondents, respectively, considered them as problems. Although these lower percentages suggest that their negative impact is probably less than that of noise, at least in terms of number of affected households, they still affect a substantial portion of the population and, thus, also need to be addressed. Unlike other aspects, presence of unpleasant facilities appears to affect a small ratio of respondents compared not only to other measures of tranquillity and pleasantness but also to measures used for other indicators, with the exception of that related to security and safety.

Results reveal significant relationships between the four measures of tranquillity and pleasantness and satisfaction with neighbourhood and surroundings. Table 7.24 presents cross-tabulations between the measures and satisfaction with neighbourhood. Strong

association can be noticed between stating any of the measures as a problem and reporting lower levels of satisfaction. For example, 34.6% of respondents who stated noise as a problem reported they are satisfied with their neighbourhood, compared to 72.2% who did not consider noise as a problem and reported being satisfied. Likewise, 35.5%, 27.3% and 31.0% of respondents stating air pollution, litter and rubbish, and unpleasant facilities respectively as problems reported they are satisfied with their neighbourhoods, in comparison to 62.1%, 64.4% and 58.8% who did not consider these as problems and reported being satisfied with their neighbourhood. It can be seen, however, that the difference is the highest in the case of litter and rubbish which indicates a more obvious influence of this aspect on level of satisfaction.

Similar associations have been noticed regarding the relationship between these measures and interest to move to another house and QOL level. Figures 7.24 and 7.25 illustrate the relationship between the four tranquillity and pleasantness measures and both QOL level and interest to move to another house.

Table 7.24: Problems of noise, air pollution, rubbish & litter and unpleasant facilities in neighbourhood vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with neighbourhood & surroundings					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Do you have the problem noise in neighbourhood?	yes	361	10.5%	23.3%	31.6%	23.5%	11.1%	100%
	no	410	3.2%	6.8%	17.8%	39.3%	32.9%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)								
Do you have the problem of air pollution in neighbourhood?	yes	217	12.9%	21.7%	30.0%	24.9%	10.6%	100%
	no	554	4.2%	11.7%	22.0%	34.7%	27.4%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)								
Do you have the problem of litter and rubbish in neighbourhood?	yes	205	16.6%	26.8%	29.3%	20.5%	6.8%	100%
	no	566	3.0%	10.1%	22.4%	36.0%	28.4%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)								
Do you have unpleasant facilities in your neighbourhood?	yes	116	16.4%	21.6%	31.0%	22.4%	8.6%	100%
	no	655	4.9%	13.3%	23.1%	33.6%	25.2%	100%
- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)								
- 0 cells (0.0%) have expected count less than 5 (Accepted)								

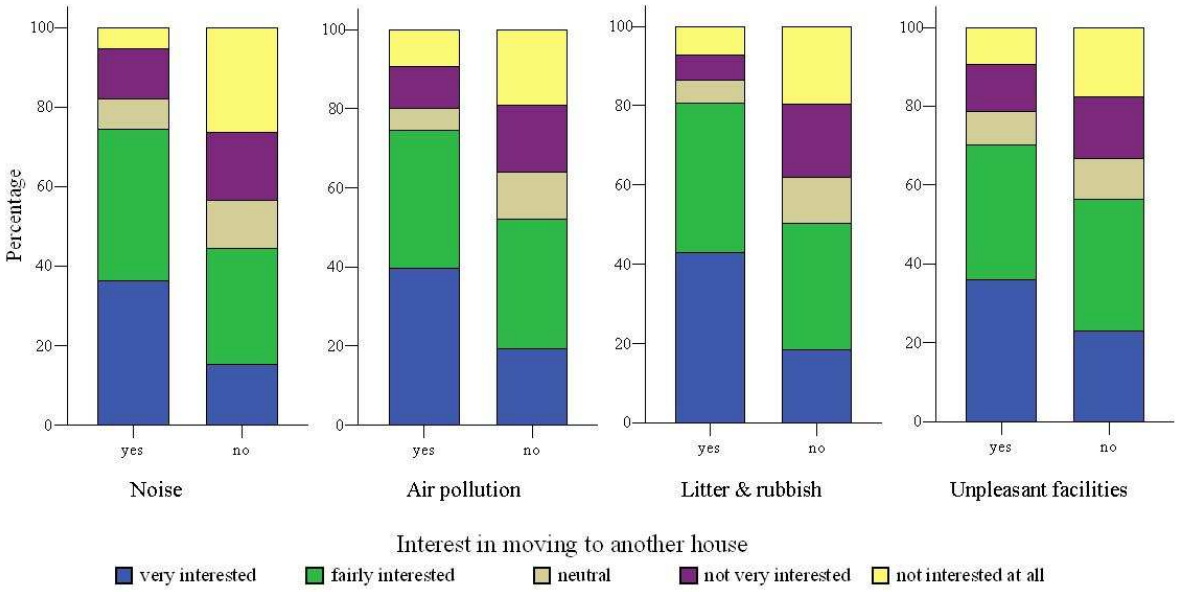


Figure 7.24: a. Noise vs. interest to move to another house, b. Air pollution vs. interest to move to another house, c. Litter & rubbish vs. interest to move to another house, d. Unpleasant facilities vs. interest to move to another house

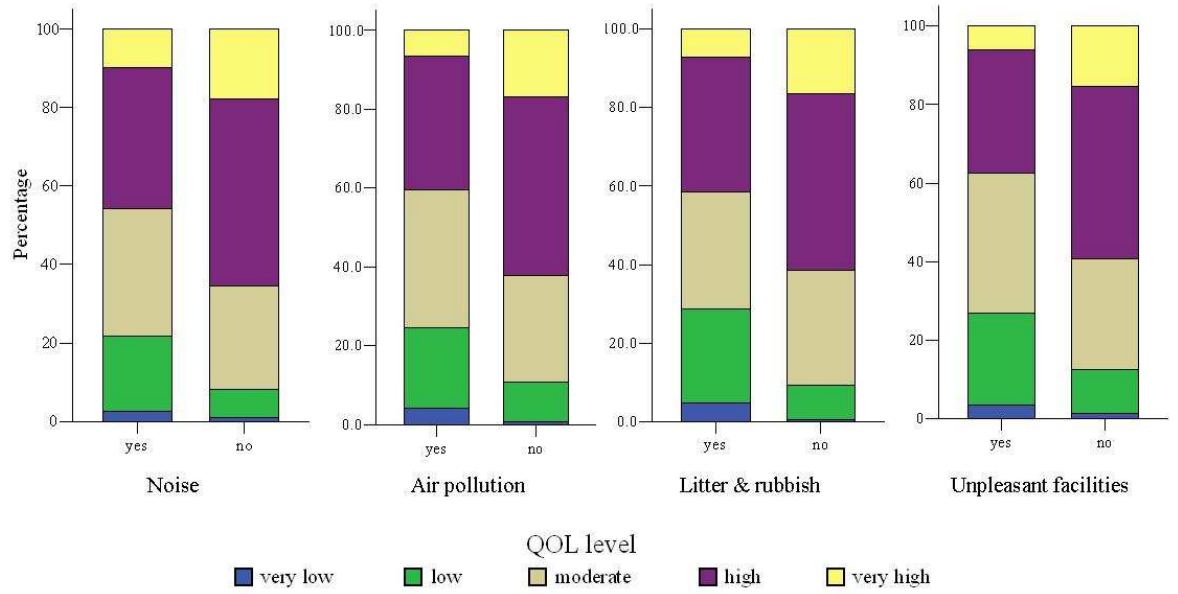


Figure 7.25: a. Noise vs. QOL level, b. Air pollution vs. QOL level, c. Litter & rubbish vs. QOL level, d. Unpleasant facilities vs. QOL level

Regarding socio-demographic factors, results have shown dissimilarities in terms of their influence on measures of tranquillity and pleasantness. No significant association has been found between any of the four measures - noise, air pollution, litter and rubbish and unpleasant facilities - and age or employment. Sex was found not to have a

significant relationship with any measure except litter and rubbish, where males seemed to be more likely to report it as a problem than did female respondents. The number of dependent children also seems to not have a significant association with most of the measures. Household structure was also found not to have a significant relationship except with air pollution. Number of people living in the house was found to be significantly associated with two of the measures; litter and rubbish and unpleasant facilities. On the other hand, a significant association was found between level of education and stating noise, litter and rubbish as well as unpleasant facilities as problems. Respondents of lower levels of education were found to be more likely to report these as problems. Likewise, income was found to have a significant effect on the measures including noise, air pollution and litter and rubbish.

Length of residence was found to have a significant association with all of the four measures. Respondents with short periods of residence appeared to be more likely to state the four aspects as problems in their neighbourhoods compared to those with long periods of residence. Tenure type and house type were found to also have a significant impact but only on three of the measures. No sort of effect has been shown regarding the influence of tenure or house type on stating unpleasant facilities as a problem.

Table 7.25 presents the results of cross-tabulating house type with measures of tranquillity and pleasantness: noise, air pollution and litter and rubbish. It can be seen for the three measures that the highest percentages of respondents stating them as problems is associated with those living in forms of housing other than flats or single family detached houses. Respondents living in flats seem to be more likely to report these problems than those living in villas or dars, which indicates that in general they enjoy less tranquillity and comfort in their residential environments. Considering tenure type, it was found that respondents living in private rented houses were more likely to report the three aspects as problems than those living in owned outright houses or houses bought with mortgages.

Table 7.25: House type vs. measures of tranquillity & pleasantness cross-tabulation

		No.	Noise		Air pollution		Litter & rubbish		Total
			yes	no	Yes	no	yes	no	
House type	flat	583	48.9%	51.1%	27.8%	72.2%	26.8%	73.2%	100%
	dar	111	45.0%	55.0%	27.9%	72.1%	25.2%	74.8%	100%
	villa	43	16.3%	83.7%	18.6%	81.4%	11.6%	88.4%	100%
	other	38	60.5%	39.5%	47.4%	52.6%	50.0%	50.0%	100%
Total		775	47.1%	52.9%	28.3%	71.7%	26.8%	73.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant); 0.031 < 0.05 (Significant); 0.001 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Results obtained from the survey correspond with comments made by interviewees as well as findings from earlier studies including for instance the work of Lansing and Marans (1969), who stated that people who cannot find or think of anything pleasant or beautiful are less likely to report they like their neighbourhoods and accordingly are satisfied with it. They also found that people are likely to rate their neighbourhood more highly if they consider it quiet, and lower if they think it is noisy.

Interviewees mostly agreed with the different outcomes related to the tranquillity and pleasantness indicator in terms of the significance of the used measures including noise, air pollution, rubbish and litter and unpleasant facilities and the fundamental impact they have on the satisfaction with housing context and QOL in general. However, their main concern was with the subject of unpleasant facilities as they believe it has a drastic effect on the satisfaction with residential environmental. Several examples were presented showing realistic cases where households were driven to leave their neighbourhood and search for another house due to some unpleasant facilities or features that caused great nuisance, and made it hard for people to live next to them. Examples include governmental institutions, wedding halls, cafes and clubs, all of which cause noise, traffic congestion, lack of parking areas, blockage of nice views and perhaps pollution. The presence of such uses was described by an interviewee as: *'spoiling the balance made in the residential neighbourhood'* (APC3), while another one described one of the developments that took place in one of the neighbourhoods as *'converting the place into something like a circus with lot of noise, overcrowding and obstruction'* (UA3). Such an issue has a strong negative impact on the satisfaction with

neighbourhoods. They further argue that it has been recently spreading in an uncontrolled manner, becoming a phenomenon that impacts on people's residential conditions and in some cases the investment they made in their houses. Social, economical and environmental impacts are all to be considered within this area.

Figure 7.26: Examples of some disturbances and source of pollutants in residential neighbourhoods

7.10. Reputation

Although reputation has not been initially considered as a key component in determining quality of context, and thus was not addressed in the quantitative part comprising the household survey, it emerged as being frequently mentioned during interviews. Interviewees from different disciplines have referred to the social status and prestigious level of residential location as a factor that affects people's choices when searching for a house and influences to a great extent their level of satisfaction with their housing circumstances and life in general. Residing in a neighbourhood of high reputation is probably a common interest of people everywhere. People believe that such locations are usually provided with good public services and pleasant urban fabric, offering opportunities for an easier and more comfortable life. However, the issue that appeared of broadest concern among many interviewees is the practice of overestimating reputation of a place at the expense of fulfilling other basic housing needs. Several arguments have been premised on that. The sturdiest statements, however, were made by architects and those involved in professional practice who referred to some real cases they had experienced during their practice. An expressive statement to start with is the one made by an architect (APC 4) reflecting his

professional experience in addressing issues of site selection for residential projects, particularly for private villas and houses:

> ‘In many instances it is not the distinct characteristics and the exceptional features of location such as accessibility, availability of good public services and amenities or even pleasant environment and landscape that justifies the significance of a particular neighbourhood or location in the eyes of people. Rather, it is the psychological or perceptual impressions that people have about that location – that is its status’ (APC 4).

This statement was supported with arguments posed by other architects who stated that most people state the issue of pride and showing off as a priority over other important aspects related to housing site and location. This drives them in many instances to abandon other influential aspects related to the site such as proximity to basic amenities, or to the housing unit such as area and layout. They further argued that some people might take the burden of bearing high purchase instalments or loans with high interest rates to fulfil their desires of residing in a prestigious residential neighbourhood or location. One of the interviewees (APC 2) commented on that, saying:

> ‘For a large segment of people, if choice was given to select among a highly comfortable accommodation that meets the majority of their needs but is located in an ordinary place; or less comfortable accommodation matching less needs but located in a spectacular area of high prestigious value, they will choose the one with less level of comfort and high level of reputation’ (APC 2).

He recalled a case that he had personally experienced where a customer asked him to design a house on a piece of land that he was particularly proud of and satisfied with due to its proximity to some important premises. The land was ‘extremely bad’, according to the interviewee, in terms of price, area and topography, and the fact that it was located far below street level. This required excessive costs and efforts and the construction of extra basements and retaining walls as well as additional areas in order to address the poor conditions of the site and construct a high quality design. Such expenses would have been saved resulting in a better and more comfortable design if another site, that might be quite close, was chosen. In spite of all that, the customer was

very pleased simply because of being a neighbour of some distinguished society members.

Some suggest that this might be the result of the growing class differentiation between community groups, which is apparently reflected in the perceived status of residential neighbourhoods. This is accompanied by a negative impression that certain social groups have built upon particular locations making them less desired places to live in regardless of any advantages these locations might have. This was explicitly stated by a member of an NGO (NGO 1) working in the field of community service and capacity building who claimed, on the basis of her experience, that negative public impressions do really affect the reputation of residents of such locations and might further diminish their opportunities to get proper jobs that would help improve their living circumstances in general. Such social outlook leads people to focus more on the nominal or social values of the place than on the geographical or the functional values it has. Hence, many people endeavour to move to live in desirable residential locations or neighbourhoods even with lower housing quality in terms of site and dwelling, in an attempt to define themselves within the higher and more respected social classes. This in turns contributes in developing their sense of complacency and satisfaction leading to better QOL.

Such arguments are supported with findings from literature that include, for instance, the work of Abu-Ghazzeh (1997). Abu-Ghazzeh considers location of home among the elements that present to others the unique, idiosyncratic, and individual qualities of residents, and thus it is a mean of expressing oneself and identifying status within society. Several studies have referred to the quality of residence in assisting individual development of the self throughout self-expression and personal identity. Malkawi and Al-Qudah (2002) stated that the house is not only the most valued status object but also the most important arena of status display. It can be said that location is a key part of such display and, therefore, living in a location of good reputation is a positive message about the self and social status that a household sends to others. Findings from the work of Gram-Hanssen and Bech-Danielsen (2004) further confirm the results from interviews in this study. In their work about the value of neighbourhood reputation and what it means to residents, they provided stories about how residents of certain

neighbourhoods feel very conscious because of living in the ‘best neighbourhood of the city’ and that they often mention some of the famous people who live there. They additionally show that in the case of special circumstances where households choose to live in a neighbourhood with a lower status than the group to which they belong, there will be a need to justify both to themselves and to others why they have done so, as this choice will influence their status.

Further justification was made by one of the interviewees (APC 2) who provided a kind of basic premise to explain people’s exaggeration in valuing site reputation as a key aspect in defining the quality of residential location. He stated that people usually believe in what he called ‘the competitive advantage’ rather than ‘the distinct advantage’ of the site. This drives people to build their assessment about a residential neighbourhood or location referring to its status and characteristics compared to those of other locations rather than to various standards or ideal forms. This tendency, he argues, is also entrenched in the mentality of most of the active housing companies who depend on comparison or imitation with the housing products of other companies as the basis for their own production, instead of being inventive and trying to produce unique housing standards or schemes. As a result, they do not contribute in achieving true developments in the housing sector in terms of housing type and quality. This issue is further discussed in the coming chapter.

Commenting on that, it can be said that reputation, as an indicator, has a strong positive relationship with satisfaction with the residential context and consequently with QOL, in the sense that the better reputation or status the house location or neighbourhood has within the community, the more satisfied residents of that location will be with their lives. It can be expected therefore, that people living in neighbourhoods of higher status enjoy higher satisfaction and QOL levels in reference to this indicator. Yet, there are contradicting arguments made by a number of interviewees, that overestimating the issue of reputation has resulted in other negative implications for people’s QOL. Such implications include the irrational boost in land and property prices that make the issue of purchasing or acquiring a house a burden that many households cannot handle. Thus,

while reputation is seen as a positive attribute regarding quality of context, it is believed to be a negative issue when considering quality of provision.

7.11. Diversity

Diversity is another issue that has been addressed solely through the qualitative part of the data collection procedures. In fact it seems to be the indicator of the quality of context that has caused the most difficulty due to its multifaceted influence on other aspects related to context, some of which are believed to be positive while others are seen to be negative.

In general, diversity has been broadly considered as an important quality component in several guidelines, strategies and works of literature related to quality of urban design, housing design quality and sustainable housing development. Examples include work of Carmona (2001), CABE (2003) and Sassi (2006). In spite of this, diversity does not seem to yet be an issue of big concern regarding housing policy and production in Amman, at least in practice. Two evident remarks have led to such a conclusion. The first is that among all those interviewees who represent official and governmental institutions or those representing housing developers, only one referred to the issue of diversity and in a very brief manner. This indicates that the idea of producing a mix and variety of housing types does not form part of the planning and legislation system related to housing provision in Amman nor does it constitute an interest in the agenda of housing developing companies. The second remark is that within the group who had discussed the issue of diversity, the majority had discussed the issue of providing a variety of housing types in general within the scale of the city without paying a great deal of attention to the scale of the neighbourhood. Most of those who had addressed the issue of diversity were either professional or academic architects who suggest that the matter is still a matter of design and theory.

Discussion about diversity is strongly associated with the quality of appearance and orderliness. All interviewees who had talked about diversity considered the lack of variety in housing types as a main housing problem in Amman. They referred to this as a negative outcome of the inefficient planning and regulating system that results in

unbalanced housing provision, as explored earlier. They argued that the rigidity in land and building regulations has resulted in a limited range of dwelling types represented mainly by detached residential buildings in the forms of villas and single family houses or apartment buildings of four storeys in most cases. One of the interviewees (APC 3) explained why this is the case, stating that the current land zoning and secretions regulations demarcate building plots of limited small areas that makes it hard to undertake big housing development projects which comprise a multiplicity of housing types and specifications. This is in addition to the restrictions of building regulations, the high land prices and the modest financial capabilities of housing companies. This has led to the production of prototype or stereotype housing units that do not match the diversity of housing needs at both the city and neighbourhood scales. Even for the cases where a variety of housing types, particularly apartment buildings and detached houses, occur within one residential setting the outcome according to the expression of one of the interviewees (HUDC1) is *'a harsh mix'* that results in a deterioration of the residential setting or neighbourhood instead of improving its quality. This mixture, she claimed, is the outcome of overriding building regulations or amending planning legislations in a sense that does not take into consideration maintaining homogeneity and integration among houses. Negative implications can be seen, as stated earlier. These include privacy intrusion, nuisance, lack of built form order, traffic problems and many others.

There is an agreement among interviewees that housing diversity has not been achieved yet in residential neighbourhoods in Amman in terms of types, design styles and even appearance and image in a manner that meets the desires of all community groups. This, according to interviewee APC5, has made it difficult for households to maintain integrity and sustain a permanence of living in the same neighbourhood over their lifetimes, due to the lack of choices that can meet, and adapt to, the changing demands of households within the same apartment building, as a case, or even the neighbourhood as a whole. This drives households to accept having to live with unsatisfactory dwelling conditions in order to retain integration with their original surroundings, or leave their neighbourhoods searching for houses that better fit their new needs but which means

they lose their means of connection with their surroundings. Both cases are seen to negatively influence people's QOL.

Some referred to a number of big housing projects completed in Amman during the late 1970s and early 1980s that can be considered as successful examples in producing vibrant residential environments comprising a variety of housing types and a multiplicity of land uses. They also referred to some experiments in the form of analytical studies and architectural competitions to introduce alternative housing types and ideas such as row housing that can be constructed of the strict buildings regulations. They claim that such attempts offered creative solutions that if applied would result in liveable dwelling environments. Nevertheless, none of the successful live projects or proposed solutions was repeated, followed or adopted in later housing production work. An interviewee commented on that:

> "…I presented my concerns regarding this matter on several occasions trying to find some reasonable justifications for not repeating such successful models, but I could not get any convincing explanation. For me this is still a mystery that needs to be solved…" (APC1).

Some interviewees stated that this might be the result of the rigidity of thinking that did not embrace the idea of diversity and inclusion, which dominated the housing planning and legislation process until recent time. Another reason is the tendency of housing developers to impose conventional and common designs and prototypes that are more accepted among people. This they claim, offer housing companies better marketing for their housing units and reduces the costs and expenses of producing the housing units. They further claim that people usually are more receptive of types and design that they are familiar with, and therefore any attempt to introduce new unconventional alternatives will be met with firm refusal.

The issue of diversity is strongly associated with the ability to choose, which is a prime attribute of QOL. Because choice is a predictor of residential satisfaction, increasing the range of choices within a given neighbourhood increase the range of choices overall;

with greater diversity, there is greater choice. The range of choices can be increased by varying lot sizes and types and dwelling types. Integrating a variety of dwelling types including attached units and accessory units for detached houses into the same neighbourhood allows people at different life stages to live near each other (Day 2000).

7.12. Summary of Chapter's Findings

It is strongly argued that houses or homes cannot be assessed simply on their own terms, as if separate from their own surroundings, and that the context in which houses are situated has a valuable effect on the evaluation of people's QOL. It is also asserted that even if households do like their own homes, but are not happy with the surroundings, their overall evaluation of both housing and QOL will be negatively affected (Garcia-Mira et al 2005). Such allegations have been supported by this research. Data analysis, comprising quantitative survey and qualitative interviews, revealed significant associations between different indicators of quality of context and measures of QOL, including satisfaction with neighbourhood, satisfaction with housing and QOL level. This strongly denotes the vital role of housing context over QOL which supports findings of several studies that have emphasised the fundamental role that neighbourhoods and surroundings play in people's lives.

Nevertheless, the results have shown that the influence of different indicators is not the same in terms of range and magnitude in the case of Amman city. Some aspects were found to be more influential than others. Unlike the case with housing provision, some indicators were seen to positively affect QOL, while others were seen to have negative impacts. Results have equally shown differences in the effects of socio-demographic, location and housing provision factors on the different measures and indicators used for quality of context. Table 7.26 presents a summary of the survey findings illustrating the level of significance between factors, quality of context indicators and QOL measures.

Table 7.26: Summary of quality of context survey findings

Factors of Influence											Indicator	Measure	Means of Assessment		
Sex	Age	Level of Education	Employment	Household structure	No. of people living in house	No. of children under 12	Income	Tenure type	House type	Length of residence			Satisfaction with Neighbourhood	Satisfaction with housing	QOL level
X	-	x	X	-	-	-	X	X	-	x	Proximity	Easy to reach amenities	X	X	X
-	-	X	-	-	-	-	X	-	-	-		Lack of shopping facilities	-	-	-
X	-	X	-	-	x	X	X	-	-	-		Lack of health facilities	X	X	X
-	-	-	-	-	x	X	X	-	-	-		Lack of schools	X	-	x
-	X	x	-	X	-	X	-	X	X	-		Lack of green space	X	X	X
X	-	-	-	-	-	-	-	X	X	X	Access & Connectivity	Lack of parking area	X	X	X
-	-	-	-	-	-	-	-	-	-	X		Lack of public transport	-	-	-
-	-	-	X	-	-	-	-	-	-	-		Long distance to work	X	X	X
-	-	-	x	-	-	-	X	X	-	-	Infrastructure	Good infrastructure	X	X	X
-	-	X	-	-	-	X	X	X	X	X	Appearance	Neighbourhood is well organised	X	X	X
X	X	X	-	x	X	-	-	X	X	X	Social Integration	Interaction with neighbours	X	X	X
-	-	X	-	-	-	X	X	X	X	X	Privacy	Fulfilment of privacy need	X	X	X
-	-	X	x	-	X	x	-	-	-	x	Security & Safety	Lack of security & safety	X	X	X
-	-	X	-	-	-	-	X	X	X	X	Tranquillity & Pleasantness	Noise	X	X	X
-	x	-	-	X	-	-	X	x	x	X		Air pollution	X	X	X
x	-	X	-	-	X	X	X	X	X	X		Litter & rubbish	X	X	X
-	-	X	-	-	x	-	-	-	-	X		Unpleasant facilities	X	X	X
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Reputation	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Diversity	NA	NA	NA	NA

Significance of association | **X**: Significant Association 0.00 < X < 0.025 | **x**: Significant Association 0.025 < x < 0.05 | **NA**: Not applicable

Clarity of relationship with QOL measures | No Association | Apparent Association | Very apparent Association

As can be seen from the table, tranquillity and pleasantness as well as security and safety seem to have the most apparent influence on QOL among all quality of context indicators. One possible reason for this is that aspects related to this indicator are usually in close contact with residents, so that they can experience their effects even inside their dwellings, so that it is difficult to separate themselves from them. Regarding security and safety, people normally consider these as vital aspects for achieving a better life not only in the context of housing, but everywhere. Results have also shown a strong influence of access and connectivity, particularly in relation to the lack of parking areas and long distances to work. The impact of social integration on all QOL measures seems to be less apparent, albeit significant, than that of most indicators. Proximity also seems not to be influential except in relation to the lack of green areas and to some extent, the ease with which public amenities can be reached.

In reference to the socio-demographic factors, results revealed a strong impact of level of education and income, both of which were found have a significant association with most of the indicators. Both measures are commonly associated with financial capability which in turn helps, in the case of this capability of being high, in acquiring houses in improved neighbourhoods that provide a range of decent housing attributes, or the opposite. On the contrary, age of respondents and household structure seem to have the least influence on aspects related to the quality of context. Measures of access and connectivity were the least affected by socio-demographic factors, while social integration was the most affected.

The influence of housing provision factors is also obvious. Tenure type, housing type and length of residence were all found to have significant relationships with most housing context indicators. The influence of these factors, however, varies among different indicators. In general, both length of residence and tenure type were found to be more influential than house type, in terms of the number of measures affected by both. This concurs with several findings from literature that emphasise the influence of home ownership as well as long periods of residence in achieving higher levels of satisfaction with housing and QOL.

For all indicators, short periods of residence were associated with higher likelihood of dissatisfaction with housing provision. As mentioned earlier, this might be the reason of being either a young household with limited financial capabilities and therefore suffering from higher financial burdens, or being under the pressure of paying high rents or housing mortgages. This view is supported with findings obtained in relation to the tenure type, showing that respondents living in rented houses or houses bought by mortgages were the most likely to suffer from housing provision issues. Regarding the influence of house type, results have shown different levels of influence. Respondents living in flats were the most likely to spend higher percentages of their income on housing provision. However, together with those living in villas, they were the most likely to suffer from hard financial consequences. Such finding seems odd, and requires further investigation. On the other hand, respondents living in family-owned houses were the least likely to be satisfied with the adequacy of housing supply and housing provision in general.

Findings from analysing survey data triangulate to a certain extent with comments made by interviewees. This similarity in responses was found to be very clear considering some aspects such as security and safety, infrastructure and proximity, particularly in relation to the lack of green space and children's play areas. There were, however, some issues of contradiction with arguments made by key interviewees and outcomes obtained from the public. Such disagreement comprised disparities in determining the sort and amount of influence regarding some indicators. While survey responses reflected a positive or even no influence obtained from measures like lack of public transport, unpleasant facilities, fulfilment of privacy as well as appearance and orderliness, interviewees claimed that such aspects are very influential and that the actual situation of most of them contributed negatively towards satisfaction with housing context and consequently towards achieving better QOL. As a final outcome it can be said that the most influential factors of housing context on QOL in relation to findings from households' survey and arguments made by interviewees are privacy, appearance, lack of green areas, lack of parking areas and noise.

In addition to providing confirmation of and comprehension for the survey results, arguments posed by interviewees were useful in explaining the reasons behind the current situation of the different aspects related to quality of housing context. In fact, these drew attention to the causes rather than the symptoms. In that sense, these arguments opened the way for understanding the influence of housing on QOL in a relatively different manner, not only as one of the domains that contributes to a definite extent in affecting and shaping the overall QOL, but also as a factor that drives all other domains and affects their outcome. While the first focuses on housing in terms of an outcome, the second deals with housing as a planning process or tool through which QOL is shaped. Based on that, it can be said, as in the case of housing provision, that the quality of housing context has direct and indirect influences on people's QOL. Direct influences include the range of benefits that can be achieved from living in a pleasant housing environment including good services, good social relations, security, recreation and many others. These might also include psychological benefits, including, for instance, self esteem and satisfaction that one can fulfil from living in a neighbourhood of high reputation. Indirect influences on the other hand can be seen on the wider scale where housing can be considered as a factor that influences other domains of life quality such as access and transportation as well as recreation.

In respect of all these findings it can be confidently said that understating the quality of the housing context is a fundamental step towards grasping the influence of the overall housing quality on QOL. For their size and impact on daily life, neighbourhoods are ideal unit within which to study and assess QOL as they combine a multiplicity of scales comprising physical, social, economical and environmental scales. However, as has been stated by Madanipour et al (1998), '*whilst it is acknowledged that neighbourhoods act as important sources of opportunity and provide a sense of identity, they can also act as a constraint on personal life chances'*.

Chapter Eight

Quality of Dwelling

8.1. Introduction

Having explored the influence of housing on QOL at two hierarchal scales; the scale of housing provision and the scale of housing context, this chapter investigates the influence of housing at the narrowest scale or scope of influence – the dwelling. This comprises tackling aspects or components enclosed, for the most part, within the boundaries of the housing unit. In light of that, this chapter attempts to explore the quality of the housing unit itself and the different aspects that shape the internal environment of it.

As with the previous two chapters, the chapter starts by defining the term ‘quality of dwelling’ and the components that constitute it. This is followed by identifying the indicators adopted to constitute quality of dwelling and examine their influence on QOL. After that, the chapter explores the satisfaction of households with housing in general and with the residential built form, i.e. in specific, and the extent to which this satisfaction is reflected in their perceived QOL. The chapter then presents detailed investigations for each indicator and identifies the measures used for assessment to examine the relationship each indicator has with QOL taking into consideration the impacts of socio-demographic, locational and housing provision factors. Finally, the chapter concludes with a summary of findings that presents an overall assessment of the quality of dwelling and the main outcomes regarding the influence it has on QOL.

8.1.1. Defining quality of dwelling

Quality of dwelling is an idiom that refers to the attributes which formulate dweller's life inside the house. It is about the distinguishing properties of the dwelling unit that promote a degree of excellence which helps fulfil household's needs and achieve higher level of residential satisfaction. These include a variety of physical attributes and conditions related to the design and construction of the house, such as layout and interior space design, number of rooms and amount of usable space, quality of structure and finishes as well as environmental comfort. It also includes the presence of basic amenities including water connections, sewerage, electricity, land line phone and central heating, and the efficiency of fittings of lighting and sanitary. Adding to that is the quality of facades and exterior design of the dwelling unit. In brief, it is about appraising the physical conditions and material characteristics of the house in terms of appearance, function, technical and construction components. In that sense, it reflects the conventional understanding of housing quality that has been extensively adopted in official surveys such as the English House Conditions Survey and the American Housing Survey, and in both academic and professional research including for instance: Mahmud et al (2012), Karn & Sheridan (1996) and Van Bogerijen (1989).

Many proposals have been developed by researchers to identify elements of dwelling quality and define the criteria that can be used to distinguish between a good and bad dwelling. Referring to Sassi (2006), a quality home is one that provides sufficient space for the residents to undertake their day to day activities. It is a visually attractive dwelling that provides comfortable accommodation and pleasant living environment for prospective occupants. A good or decent home is also one that is above the statutory minimum standard for housing, in a reasonable state of repair, has reasonably modern facilities and services and provides a reasonable degree of thermal comfort. It also maintains visual privacy and provides good means of sound and thermal insulation, in addition to providing sufficient internal separation to allow each household member enough private space and sufficient storage space adequate to living space standards.

8.1.2. Identifying indicators of quality of dwelling

Seven indicators were adopted to investigate the influence of the quality of dwelling on residential satisfaction and people's QOL. These were drawn, as mentioned earlier in the methodology chapter, from the reviewed studies on housing quality, residential satisfaction and QOL. The indicators were developed so as to cover all aspects, related to the quality of residential built form and the integrity of residents' lives in it comprising both the objective and subjective dimensions. Such aspects include fulfilment of physical needs of residents, health and hygiene, contentment, comfort and relaxation, safety, functionality of space, joy and entertainment, caring of children and sociability.

The list of indicators includes:

1. Overcrowding: is about the shortage of volume of space available to people living in the accommodation, in the sense that residents feel the house is congested and they do not have enough space to properly fulfil their physical and psychological needs.

2. Appropriateness of interior configuration: is about how good is the interior design and layout of the house or the extent to which household feels the distribution and organisation of the different functions and spaces within the house is convenient in relation to their daily life.

3. Interior comfort: is about feeling restful and comfortable inside the house within a pleasing ambience and a healthy internal environment.

4. Quality of construction: is about the durability of construction and the quality of structure and finishes. This includes the house being well maintained and free from inadequate utilities and deficiencies such as poor insulation, damp in walls and roofs or shortages of toilets.

5. Adaptability: is the ability of the internal dwelling space to accommodate the various purposes of households and to adjust for changes and alterations to meet the changing needs along the life course of occupants.

6. External appearance: is about satisfaction with the exterior configuration and design of the dwelling and the extent to which households feel pleased with its aesthetic appearance. This refers to both the shape of the house in the case of detached or attached houses and the shape of the building in the case of residential flats.

7. Quality of basic amenities: is about the availability and efficiency of basic amenities supply including fresh water, electricity, telephone, sewage and central heating and the costs associated with running and sustaining these services.

Each of the seven components was used as an indicator for assessing the quality of dwelling, housing quality and QOL referring to data obtained from the survey and viewpoints gained from interviews. As the case with the two previous qualities: quality of provision and quality of context, the relationship between quality of dwelling indicators and QOL was examined using three dependent measures representing QOL. These include, for the case of quality of dwelling, the two basic measures which are the interest to move to another house representing general satisfaction with housing circumstances and QOL level. The third measure encompasses satisfaction with residential built form. Both the satisfaction with residential built form and the interest to move to another house were used as indirect measures of QOL, where QOL level was used as the direct measure. Relationships between indicators as dependent variables and socio-demographic, locational and housing provision factors as independent variables were also examined. Figure 8.1 illustrates the different indicators used to explore quality of dwelling and the different socio-demographic and housing provision factors as well as QOL means of assessment.

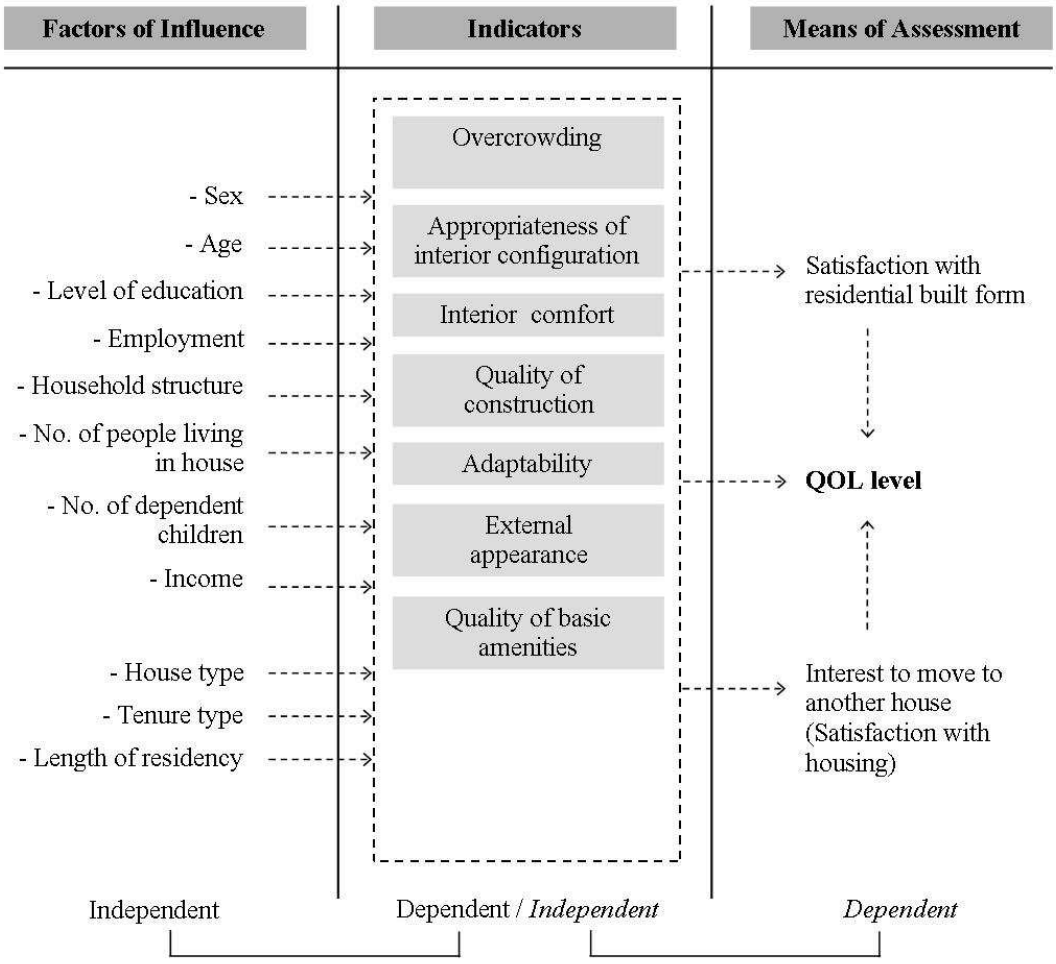


Figure 8.1.: Indicators used for quality of dwelling

8.2. Satisfaction with Residential Built Form

Results have shown a fairly high level of satisfaction with residential built form, i.e. dwelling, with an average score of 6.37 using the scale of 1-10, which seems to be quite close to that obtained in the case of satisfaction with neighbourhood which was 6.52. As the case with satisfaction with neighbourhood, values of 8 and 5 had the highest frequencies, but with higher ratios accounting for 21.5% and 16.1% of the total percentage of responses respectively. Figure 8.2 shows results obtained from the survey in two forms, the first representing outcomes using the scale from 1-10, while the other presents the converted form using the five measures' scale ranging from strong dissatisfaction to strong satisfaction. In accordance with this scale around 51% of respondents stated they are satisfied with their dwellings compared to almost 19%

stated they are not satisfied. Although these ratios appear to be similar to ratios of satisfaction with neighbourhood, it can be noticed that the percentage of respondents who stated neutral level of satisfaction with dwelling is slightly higher. In other words, percentages of respondents who drew definite assessments, either negative or positive, seem to be higher in the case of satisfaction with neighbourhood than the case of satisfaction with dwelling. This could be taken as an indication of the greater and more obvious impact neighbourhood and surrounding has on households if compared to the dwelling or housing unit. A possible reason for that is that people often have less control over their neighbourhoods than over their dwellings, which makes them more sensitive and probably influenced by aspects of neighbourhood. In spite of this, results still show a clear consistency with satisfaction with neighbourhood and also with QOL level, suggesting a strong relationship between the three measures.

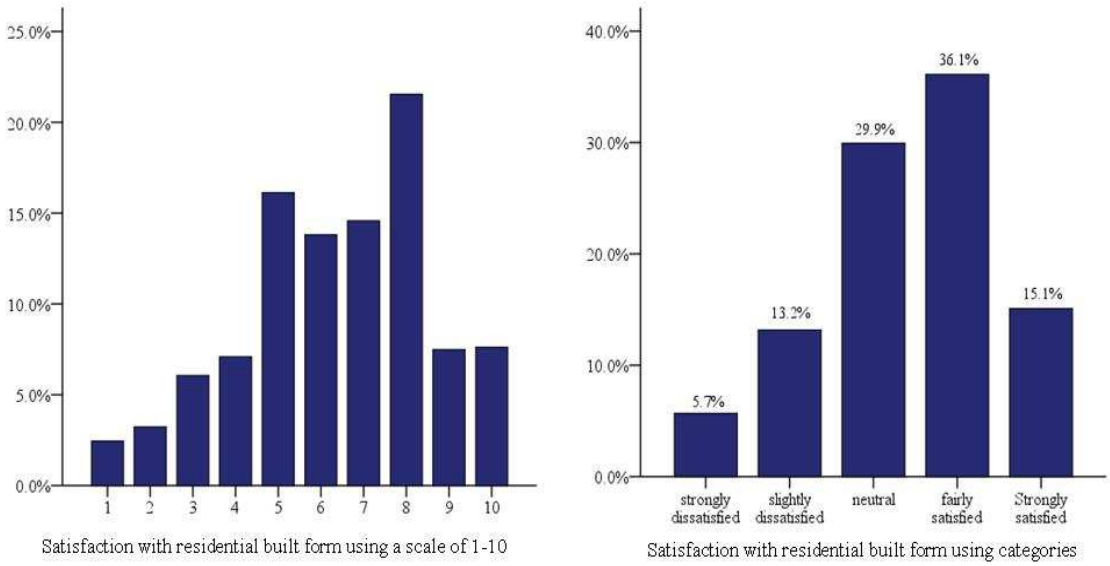


Figure 8.2.: Satisfaction with dwelling

Statistical tests confirmed the presence of significant relationships between satisfaction with dwelling, and QOL as well as satisfaction with housing in general. Figure 8.3 presents a scatter plot diagram reflecting the relationship between satisfaction with residential built form, i.e. dwelling, and QOL where it can be seen that QOL is positively related to satisfaction with dwelling with a coefficient of r_s= 0.554 and a significance value less than 0.01. This shows a moderately strong positive linear

relationship between the two variables indicating a considerable effect of satisfaction with dwelling on QOL.

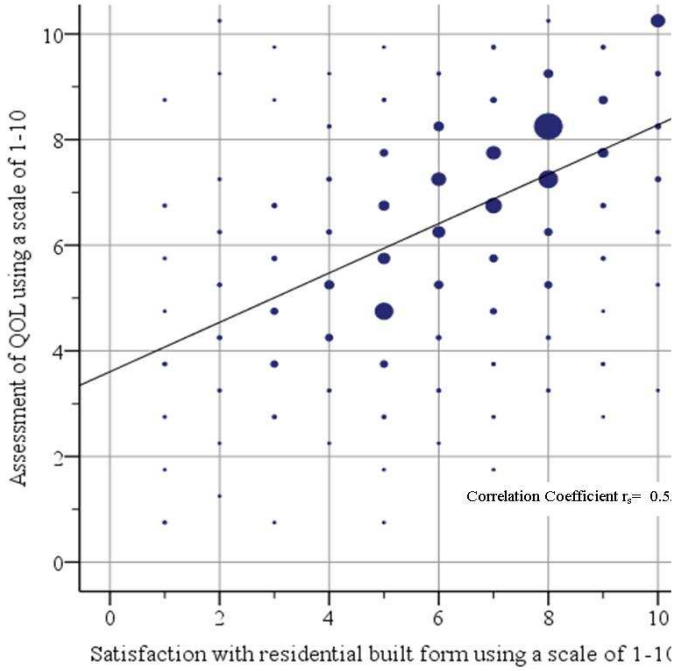


Figure 8.3: Satisfaction with dwelling vs. QOL scatter plot

Table 8.1 presents results obtained from cross-tabulating satisfaction with dwelling and QOL level. Results confirm the presence of a positive association between reporting high satisfaction level with residential built form and high QOL level. As can be seen from the table, respondents who were strongly satisfied with their dwellings were the most likely to report high or very high QOL levels. Among those respondents 86.1% reported high or very high QOL level. This percentage tend to decrease in line with the decrease in satisfaction with residential built form until reaching 22.8% in the case of strong dissatisfaction with residential built form of their dwellings.

Regarding satisfaction with housing in general, results reflected an inverse relationship between satisfaction with dwelling and the interest to move to another house. Respondents strongly satisfied with their dwellings were the least likely to be interested in moving to another house. Among this group of respondents, only 27.3% were interested in moving to another house compared to 81.8% in the case of those who were strongly dissatisfied with their dwellings. This substantial rise reflects a strong

association between being satisfied with the dwelling or housing unit and being less interested in moving to another house, which in turn indicates being more satisfied with housing conditions in general. This supports findings of Altas and Ozsoy (1998) stating that residential satisfaction and quality of the housing unit are two mutually related concepts in housing evaluation. Table 8.2 presents results obtained from cross tabulating satisfaction with dwelling and the interest to move to another house.

Table 8.1: Satisfaction dwelling form vs. QOL cross-tabulation

			QOL level					Total
		No.	very low	low	moderate	high	very high	
Satisfact-ion with dwelling	strongly dissatisfied	44 within satisfaction	13.6%	36.4%	27.3%	11.4%	11.4%	100%
		44 within QOL	*46.2%*	*16.3%*	*5.4%*	*1.6%*	*4.7%*	*5.8%*
	slightly dissatisfied	100 within satisfaction	2.0%	34.0%	44.0%	17.0%	3.0%	100%
		100 within QOL	*15.4%*	*34.7%*	*19.7%*	*5.3%*	*2.8%*	*13.2%*
	neutral	229 within satisfaction	1.3%	13.1%	45.9%	36.2%	3.5%	100%
		229 within QOL	*23.1%*	*30.6%*	*47.1%*	*25.9%*	*7.5%*	*30.1%*
	fairly satisfied	272 within satisfaction	0.7%	4.8%	18.8%	63.6%	12.1%	100%
		272 within QOL	*15.4%*	*13.3%*	*22.9%*	*54.1%*	*31.1%*	*35.8%*
	strongly satisfied	183 within satisfaction	0.0%	4.3%	9.6%	36.5%	49.6%	100%
		183 within QOL	*0.0%*	*5.1%*	*4.9%*	*13.1%*	*53.8%*	*15.1%*
Total		749 within satisfaction	1.7%	12.9%	29.3%	42.1%	13.9%	100%
		749 within QOL	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 5 cells (20.0%) have expected count less than 5 (Accepted)

More investigation was made to explore the influence of socio-demographic and locational factors on respondents' levels of agreement. Tests revealed a significant relationship (Pearson Chi Square = 0.00) between districts in which respondents live and their satisfaction with residential built form. As can be seen from Figure 8.4, respondents living in districts representing high social classes (Tela elali & Aljubaiha) were more likely to be satisfied with their dwellings if compared to those living in districts representing lower social classes (Basman, Marka & Bader).

Table 8.2: Satisfaction dwelling vs. interest to move to another house cross-tabulation

		No.	Interest to move to another house					Total
			very interested	fairly interested	neutral	not very interested	not interested at all	
Satisfact-ion with dwelling	strongly dissatisfied	44 within satisfaction	68.2%	13.6%	6.8%	2.3%	9.1%	100%
		44 within interest	*15.5%*	*2.3%*	*3.8%*	*0.9%*	*3.2%*	*5.7%*
	slightly dissatisfied	102 within satisfaction	47.1%	35.3%	7.8%	7.8%	2.0%	100%
		102 within interest	*24.9%*	*14.0%*	*10.3%*	*6.9%*	*1.6%*	*13.2%*
	neutral	230within satisfaction	30.4%	40.9%	8.3%	11.7%	8.7%	100%
		230 within interest	*36.3%*	*36.6%*	*24.4%*	*23.3%*	*15.9%*	*29.9%*
	fairly satisfied	277 within satisfaction	14.1%	34.3%	14.1%	22.0%	15.5%	100%
		277 within interest	*20.2%*	*37.0%*	*50.0%*	*52.6%*	*34.1%*	*36.0%*
	strongly satisfied	117 within satisfaction	5.1%	22.2%	7.7%	16.2%	48.7%	100%
		117 within interest	*3.1%*	*10.1%*	*11.5%*	*16.4%*	*45.2%*	*15.2%*
Total		770 within satisfaction	25.1%	33.4%	10.1%	15.1%	16.4%	100%
		770 within interest	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

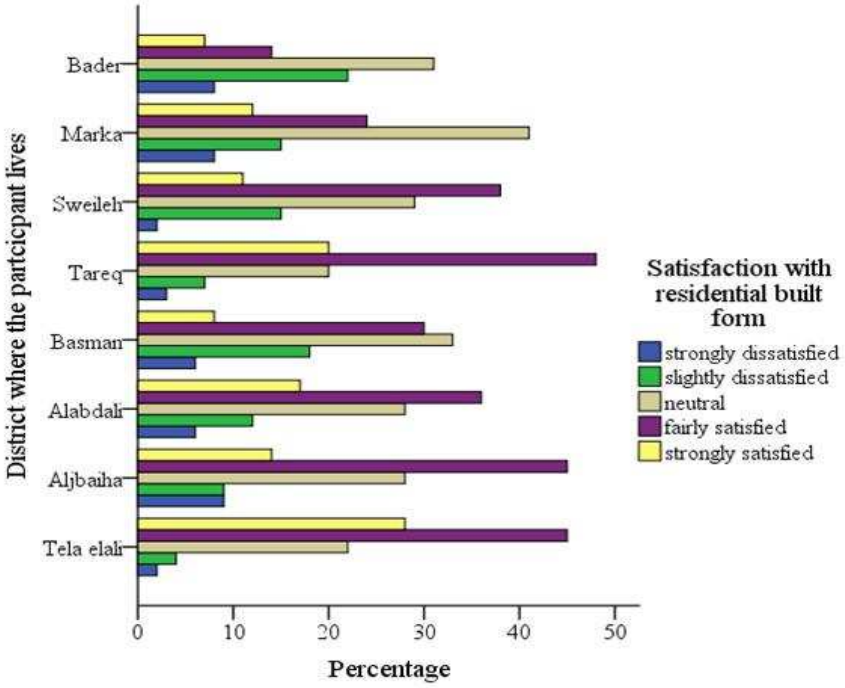


Figure 8.4: Satisfaction with dwelling vs. districts bar chart

Significant associations were also found with socio-demographic factors including sex, education level, number of children under 12 and income. Female respondents were more likely to be satisfied with their dwellings than male respondents. Likewise, respondents with higher levels of education as well as respondents with higher incomes were found to be more satisfied with their dwellings. In that sense, clear positive association can be noticed between gaining high income and holding higher educational degree and being more satisfied with dwelling. On the other hand, the number of children under 12 living in the house was found to have a negative relationship with satisfaction with dwelling – that is the more number of children under 12 living the house, the less likely the respondent is to be satisfied with his/her dwelling. This is probably, due to space limitations that can be more felt in the case of having young active children. Bearing in mind that the majority of survey respondents live in flats, it is more likely that those with young children will be suffering from scarcity of space, causing higher degrees of dissatisfaction with dwelling.

Statistical tests (Chi-Sqaure) have also shown significant association between satisfaction with dwelling and tenure types as well as house type. Homeowners were found to be the most likely to be satisfied with their dwellings where 65.5% of them stated they are satisfied with the residential built form of their dwellings. On the contrary respondents living in privately rented houses seemed to be the least likely to be satisfied, where only 32.2% of them stated they are satisfied with their dwellings. This can be justified, according to Elsinga & Hoekstra (2005) as well as Saunders (1989), on the basis that homeowners enjoy autonomy and property rights in their homes. This advantage gives them the ability to maintain, decorate and even modify or adjust their homes to fit their needs and match with their own tastes. Such privilege can rarely be obtained in its full capacity with other forms of tenure. In addition, homeownership is often attributed with good financial capabilities, which help acquiring dwellings with better spatial and constructional quality, which leads in turn to higher levels of satisfaction. Such advantages are also associated with living in villas. Results revealed, as shown in Table 8.3, that respondents living in villas reported the highest percentage of satisfaction with residential built form counting for 76.6%. Respondents living in apartments as well as living in dars reported quite similar percentages of satisfaction

counting for 51.1% and 50.4% respectively. Those living in other housing forms (including for instance housing compounds and complexes) were found to be the least satisfied with their dwellings.

Table 8.3: House type vs. satisfaction with dwelling cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
House type	flat	583	5.7%	13.7%	29.5%	37.0%	14.1%	100%
	dar	111	2.7%	12.6%	34.2%	36.9%	13.5%	100%
	villa	43	7.0%	0.0%	16.3%	37.2%	39.5%	100%
	other	38	13.2%	21.1%	39.5%	18.4%	7.9%	100%
Total		775	5.7%	13.2%	29.9%	36.1%	15.1%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

8.3. Overcrowding

Residential overcrowding is one of the most frequent housing indicators used in housing quality and QOL research. It has long been identified as an important housing problem. Such problem is said to be highly complex, involving household structure, racial and cultural diversities, housing availability and consumer preferences. Several studies have been carried out to explore the effects of overcrowding on the health and well-being of households. Many of these studies have come out with the conclusion that effects of overcrowding are deleterious to people's physical and mental health, leading to poor health outcomes such as respiratory and infectious diseases (Myers et al 1996). Perhaps, one of the most comprehensive studies undertaken on the effect of overcrowding is: "The Impact of Overcrowding on Health and Education: A Review of the Evidence and Literature" referred to as the UK ODPM report which was carried out in late 2003.The report identified the known impacts of overcrowding on people's health and education, and dispelled some common misconceptions focusing mainly on physical and mental health, childhood growth, development and education, in addition to personal safety and accidents (Blake et al 2007).

In spite of being an issue directly related to the physical characteristics of the dwelling, overcrowding is usually taken as an indicator of housing affordability, providing that people on lower incomes share their living environments with others as a way to reduce overall housing costs. In this sense, overcrowded dwellings can reflect lack of affordable housing and residents' incapacity to rent or own housing, both of which hinder QOL. Overcrowding is also used as an indicator of housing need, providing information on the suitability of a dwelling for the people occupying it (QOL PRT, New Zealand 2011).

There is no one standard definition of residential overcrowding, and therefore multiplicity of measures can be noticed in the literature. Yet, the most common measure of overcrowding is persons-per-room in a dwelling unit. Other measures include the total number of persons in a unit, regardless of unit size; the ratio of persons to floor space in square feet; and the person-to-size ratio adjusted for household composition, structure type, location, or lot size (Blake et al 2007). Nevertheless, as the purpose of this part of the research was not solely to measure overcrowding in dwellings, but rather to assess the effect of overcrowding on QOL, as well as satisfaction with housing and residential built form, a more subjective measure was used. This included asking respondents to what extent they agree that their houses are overcrowded and in need of additional space. It was found that 41.3% of respondents agreed they feel their houses are overcrowded. Nearly the same ratio of respondents accounting for 43.8% disagreed. Having such a big ratio of respondents feeling they live in overcrowded houses indicates that overcrowding does form a problem for a big proportion of population, and therefore, should be considered carefully. Further explorations were made to get more insight about overcrowding and the impact it has on people's QOL. Table 8.4 shows detailed frequency distributions as well as mean and median scores for QOL and satisfaction with dwelling associated with extent of agreement about living in overcrowded houses.

Table 8.4: Relationship between agreeing house is overcrowded and needs additional space and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Extent of agreement	Frequencies	Satisfaction with dwelling		QOL level	
		Mean	Median	Mean	Median
Strongly agree	17.1%	5.05	5.00	5.63	6.00
Fairly agree	24.2%	5.95	6.00	6.28	6.00
Neither agree nor disagree	14.9%	6.13	6.00	6.22	6.00
Slightly disagree	28.0%	6.97	7.00	7.04	7.00
Strongly disagree	15.8%	7.68	8.00	7.51	8.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Statistical tests reveal significant relationships between living in overcrowded houses and both satisfaction with dwelling and QOL. A clear inverse relationship can be noticed between agreeing that the house is overcrowded and therefore, needs additional space and feeling more satisfied with dwelling as well as reporting higher levels of QOL. Cross-tabulations provide further clarifications. Table 8.5 presents outcomes obtained from the cross-tabulation of agreeing the house is overcrowded and satisfaction with dwelling. Results show that 42.4% of respondents who strongly agreed their houses are overcrowded reported they are dissatisfied with their dwellings, compared to 30.3% reported they are satisfied. These percentages seem to change with the decrease in the level of agreement. A strong relationship can accordingly be said to occur between living in overcrowded houses and being dissatisfied with residential built form.

Table 8.5: Agree house is overcrowded and needs additional space vs. satisfaction with dwelling cross-tabulation

			Satisfaction with dwelling					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent you agree your house is crowded and needs additional space?	strongly agree	132	18.2%	24.2%	27.3%	23.5%	6.8%	100%
	fairly agree	187	4.3%	15.5%	37.5%	37.4%	5.3%	100%
	n. agree, n. disagree	115	1.7%	14.8%	41.8%	31.3%	10.4%	100%
	slightly disagree	216	1.4%	9.3%	26.8%	44.0%	18.5%	100%
	strongly disagree	122	4.1%	3.3%	16.4%	38.5%	37.7%	100%
Total		772	5.4%	13.2%	30.2%	36.1%	15.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Likewise, statistical tests reveal significant association (Pearson Chi-Square= 0.00) between overcrowding and interest to move to another house, as a reflection of satisfaction with housing in general, and significant association between overcrowding and QOL level. Referring to Figure 8.5 it can be seen that the interest to move to another house increases when feeling overcrowded in dwelling. Results have shown that 78.6% of respondents who strongly agreed their houses are crowded were interested in moving to another house. This ratio drops extensively with the decrease of agreement down to 33.7% in the case of strongly disagreeing. The opposite have been also noticed in the case of not being interested in moving to another house.

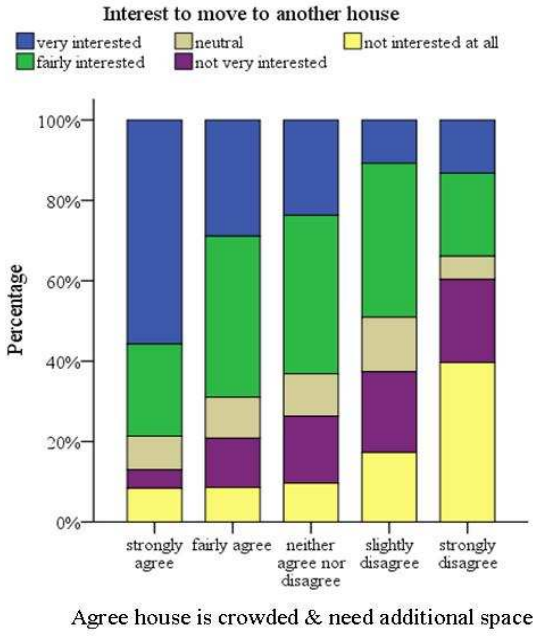


Figure 8.5: Agree house is crowded vs. interest to move to another house

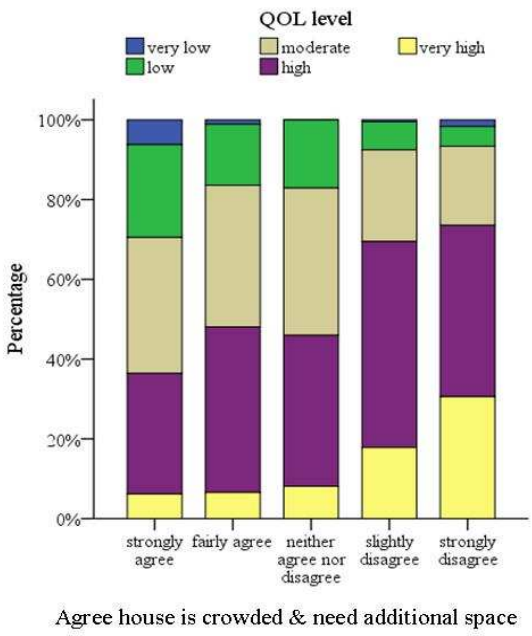


Figure 8.6: Agree house is crowded vs. QOL

Regarding the impact on QOL, it can be seen from Figure 8.6 that overcrowding has also a negative relationship with QOL level. Respondents strongly agreeing their houses are overcrowded seem to be less likely to report high QOL levels if compared to those who disagree. Results have shown that 36.4% of respondents who stated they strongly agree their houses are overcrowded and need extra space reported high or very high QOL level. This percentage was found to rise with the decrease in the level of agreement reaching 73.6% for respondents who strongly disagreed their houses are overcrowded. Several explanations can be obtained from the literature to justify such

influence of overcrowding on residential satisfaction and QOL. The work of Reynolds (2005) is probably a good example. In his research about how overcrowded housing affects families, Reynolds verified the presence of negative effects of overcrowding on family relations, education and child development and health of family members. Such negative impacts were found to be the result of a number of problems associated with overcrowding that might hinder the well-being and thus the QOL of the family. Examples of these problems are: stress and tension; anxiety and depression; lack of privacy; accidents around the home; mental disorders; difficulties in study and emotional problems leading to developmental delays for children. Researchers also established a strong link between privacy, personal space, territoriality and overcrowding, asserting that the number of people present in the house affects the control over their presence. In reference to this, overcrowding retracts people's life chances and the possibilities of maintaining the needed privacy levels and therefore, impedes undertaking personal daily activities in a proper way (Lund 1996; Oseland & Donald 1993).

Three socio-demographic factors were found to have statistical significant associations with overcrowding; the number of people living in the house, the number of dependent children under 12 and income. Both the number of residents and number of children were found to have a positive relationship with overcrowding - that is the more residents and children living in the house, the more likely respondents were to state they agree their houses are overcrowded. On the contrary, results have revealed an inverse relationship between household income and overcrowding. Respondents gaining higher household incomes were less likely to agree their houses are overcrowded. This might be due to their abilities to acquire dwellings of larger floor areas and more rooms that helps raising the share of per inhabitant of the area making them fell less crowded.

All housing provision factors were found to have significant associations with residential overcrowding. Considering tenure type, respondents living in family owned houses were the most likely to feel their houses are overcrowded, as around 55.0% of them stated they agree their houses are crowded and need additional space. Respondents living in privately rented houses came in the next place from which around 46.0%

agreed their houses are overcrowded, while those living in their owned houses were found to be the least likely to feel overcrowded where only 32.0% of them stated they feel their houses are overcrowded. Regarding house type, it can be seen from Table 8.6 that respondents living in villas were the least to agree their houses are overcrowded. Respondents living in other housing types reported high percentages of agreement that ranges from 57.8% in the case of other forms of houses to 41.8% in the case of flats. This suggests that except the villa type, all other housing forms suffer from shortage of area and therefore, high levels of residential overcrowding.

Table 8.6: House type vs. agreeing house is crowded and needs additional space cross-tabulation

			Agree house is crowded and needs additional space					
		No.	strongly agree	fairly agree	n. agree, n. disagree	slightly disagree	strongly disagree	Total
House type	flat	582	17.2%	24.6%	14.9%	28.9%	14.4%	100%
	dar	111	17.1%	26.1%	20.8%	18.0%	18.0%	100%
	villa	41	4.9%	9.8%	4.8%	53.7%	26.8%	100%
	other	38	28.9%	28.9%	7.9%	15.9%	18.4%	100%
Total		772	17.1%	24.2%	14.9%	28.0%	15.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Comments made by interviewees regarding the issue of overcrowding in Amman were in some way conflicting. Some argue that people nowadays live in less crowded dwellings if compared with those during the seventies and eighties from the last century. They attributed this to the cultural and social changes taking place in the society, represented in the shift from the concept of the extended family that lives in the same family house to the nuclear family that lives in its own house, as part of converting from the rural to the urban life style. Such argument was supported with statistics that show an increase in the per capita dwelling area over the last fifteen years, rising from 14.9m^2 per capita in 1994 to nearly 20.0m^2 in 2008 (HUDC 1). In respect to this opinion, people are said to enjoy more residential space, which reflects positively on other aspects of their lives.

Other interviewees, on the other hand, stated that overcrowding is a growing problem that should be thought of. They argue that the available statistics do not accurately

reflect the actual situation as they provide average estimates of overcrowding in housing which is far below overcrowding levels in the large urban centres of the city. They additionally claimed that recent observations reveal an increased demand for houses with small floor areas as a result of high housing costs, joint with the weak financial aptitudes of most people. In many cases, such houses do not fulfil the spatial needs of the residents resulting in an overcrowded living environment which negatively affects the stability of the family, the behaviour of its members and the ability to carry out their daily activities. They referred to the increase in the number of young children and teenagers spending their most time in the streets, outside their houses, as an obvious consequence of the problem of overcrowding. This they claim, is the only available option among many parents and adult family members to dispose from the nuisance of their kids and enjoy quietness and relax in their houses, especially with the lack of public open spaces. However, this solution by itself causes another sort of nuisance over the whole neighbourhood, carrying over the problem from inside the dwelling to the whole surrounding residential environment. Apart from that, such an act puts the children under high risks that can be faced in the street, including traffic accidents, fights, and the possibility of gaining unpleasant social morals that can lead to complicated social problems.

8.4. Appropriateness of Interior Configuration

Layout is one of the most important characteristics that determine the quality for housing units. It provides closer insight about the interior configuration of residential space and the impact it has on satisfaction with housing and QOL. In spite of being influential in determining satisfaction with residential built form, overcrowding measures including size of dwelling and number of rooms do not always provide a full picture about the appropriateness of residential space. Geometry of space and room distribution are two factors that dramatically shape the quality of interior space and the nature of activities that can take place in it. They also play an important role in enabling households to express their social and cultural identities within the house. In light of this, it is argued that space use and furniture arrangements in conjunction with dwelling layout, are considered two interrelated indicators of housing quality (Ozsoy & Gokmen 2005).

There is considerable amount of research on the arrangement of domestic space as a quality factor revealing the social identity of its dwellers (Ozsoy & Gokmen 2005). Nevertheless, according to Lawrence (2000) there are very few studies that address the morphological or spatial dimensions of housing space. One of these is the study undertaken by Hiller and Hansen (1984) in which they provided a geometrical classification of internal layouts of houses and social interaction associated with them. Yet, their study did not cover the impacts of the different types of layout on satisfaction with housing. Another example includes the work of Stamps (2011) who explored the effects of area, height and elongation on the perceived spaciousness of space, providing more insight about the impact of the characteristics of residential space on feeling satisfied with the dwelling in general.

To explore the influence of interior layout and spatial distribution, i.e. the interior configuration of space, on QOL and satisfaction with housing, respondents were asked to describe their level of satisfaction with the interior layout of their houses. Out of all respondents 63.4% responded positively stating there are strongly or fairly satisfied with the interior layout of their houses, 16.7% provided a neutral response, while almost 20.0% appeared to be dissatisfied. Further investigations provide more insight about the impact of satisfaction with interior layout on QOL. Table 8.7 presents mean and median scores for QOL and satisfaction with dwelling associated with satisfaction with interior layout of dwelling.

Table 8.7: Relationship between satisfaction with interior layout of house and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Level of satisfaction	**Frequencies**	**Satisfaction with residential built form**		**QOL level**	
		Mean	Median	Mean	Median
Strongly satisfied	20.8%	8.01	8.00	7.61	8.00
Fairly satisfied	42.6%	6.63	7.00	6.59	7.00
Neutral	16.7%	5.82	6.00	6.15	6.00
Slightly dissatisfied	14.5%	4.77	5.00	6.05	6.00
Strongly dissatisfied	5.40%	4.15	5.00	5.34	6.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Statistical tests reveal significant relationship between satisfaction with interior layout and satisfaction with dwelling as well as with QOL. Positive association can be seen between being satisfied with the interior layout of dwelling and being satisfied with residential built form and scoring high QOL values. Cross-tabulations provide more support and explanation. Table 8.8 shows outcomes from cross-tabulating satisfaction with interior layout and satisfaction with residential built form, i.e. satisfaction with dwelling.

Table 8.8: Satisfaction with interior layout of house vs. satisfaction with dwelling cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
How would you describe your level of satisfaction with the interior layout of your house?	strongly satisfied	159	2.5%	2.5%	12.6%	37.7%	44.7%	100%
	fairly satisfied	326	1.8%	9.5%	33.8%	42.6%	12.3%	100%
	neutral	128	0.8%	21.9%	40.6%	33.6%	3.1%	100%
	slightly dissatisfied	111	18.0%	27.0%	28.9%	25.2%	0.9%	100%
	strongly dissatisfied	41	29.3%	19.5%	34.2%	14.6%	2.4%	100%
Total		765	5.6%	13.2%	29.8%	36.1%	15.3%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

It can be clearly seen that satisfaction with residential built form declines with the decrease of satisfaction with interior layout. Among those who were strongly satisfied with interior layout 82.4% stated they feel satisfied with the residential built form of their houses. This percentage drops down dramatically in line with the fall in satisfaction with interior layout until reaching 17.0% among those who felt strongly dissatisfied with the interior layout of their dwellings.

Likewise, results revealed the presence of a significant statistical relationship between satisfaction with interior layout and the interest to move to another house as an indication of satisfaction with housing in general. Respondents strongly satisfied with the interior layout of their houses were found to be the least likely to be interested in moving to another house, where only 32.2% of them reported they are interested in moving to another house. The interest to move tends to increase gradually with the

decrease of satisfaction with the interior layout, until reaching the percentage of 82.5% in the case of respondents who are strongly dissatisfied with the layouts of their dwellings and are accordingly, interested to move to another house. This extensive rise in the interest to move in relation to the decrease in satisfaction with interior layout suggests a substantial impact of the interior layout of a dwelling on satisfaction with housing. In other words, it can be said that dissatisfaction with interior configuration of residential space is among the main drivers of residential mobility.

The same sort of relationship has been noticed between satisfaction with interior layout and QOL. Respondents satisfied with interior layout of their houses seem to be more likely to report high QOL levels than those dissatisfied. Among those strongly satisfied, 77.8% reported high QOL levels. This percentage tends to fall down until reaching 24.4% in the case of those strongly dissatisfied. In respect of these outcomes it can be confidently said that the interior configuration of residential space has both direct and indirect effects on QOL. Figures 8.7 and 8.8 provide more clarifications on the relationships between satisfaction with interior layout and interest to move to another house and with QOL level.

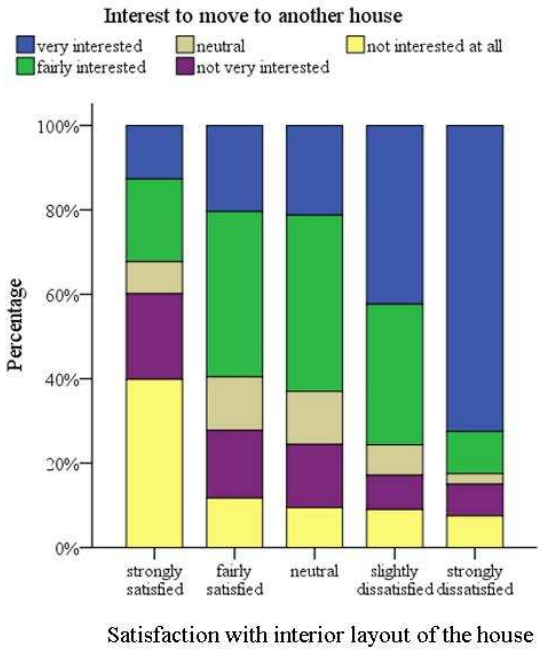


Figure 8.7: Satisfaction with interior layout of house vs. interest to move to another house

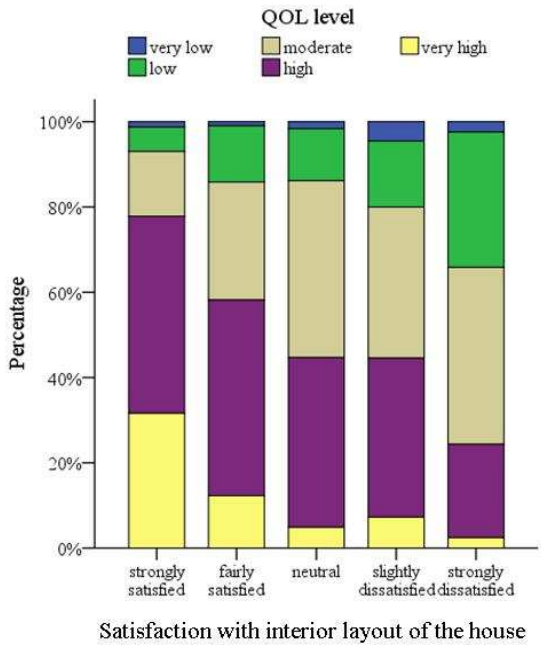


Figure 8.8: Satisfaction with interior layout of house vs. QOL

Four socio-demographic factors were found to have statistical significant influence on the satisfaction with interior layout; age of respondent, number of residents, number of dependent children under 12 and income level. It can be seen that these are almost the same factors that were found to affect satisfaction with overcrowding. Outcomes obtained from analysing the influence of these factors have shown similar patterns and trends as in the case of overcrowding. This confirms the existence of a strong relationship between these two indicators, i.e. overcrowding and interior layout.

Regarding housing provision factors, tenure type and house type were both found to have significant statistical association with satisfaction with the interior layout of the house. Results have shown that respondents living in owned houses and houses bought with mortgages were more likely to be satisfied with the internal layout of houses than respondents who live in privately rented houses. This presents another advantage of homeownership over renting.

Considering house type it can be seen from Table 8.9 that respondents living in villas seem more satisfied with the interior layout of their houses than those living in other forms of housing. It can be also seen that respondents living in dars reported less levels of satisfaction if compared to those living in flats. This seems anomalous at first as dars normally have bigger floor areas than flats and are usually built according to the needs and preferences of households. The reason behind that might be a poor quality of internal space design in the case of dars. It is worth mentioning here, that unlike the case of villas, living in dars is not always a reflection of good financial capabilities of households. This type of singly family housing is often built to fulfil the desire of living in an owned and independent house, despite the relatively limited financial capabilities. In Such cases people tend to forgo some of the quality issues related to the quality of design and finishes in order to be able to cover the expenses of the construction work.

Table 8.9: House type vs. satisfaction with interior layout of house cross-tabulation

			Satisfaction with external appearance of house					
		No.	strongly satisfied	fairly satisfied	neutral	slightly dissatisfied	strongly dissatisfied	Total
House type	flat	576	20.5%	43.1%	16.7%	14.1%	5.6%	100%
	dar	110	16.4%	41.8%	21.8%	17.3%	2.7%	100%
	villa	43	41.9%	41.9%	2.2%	14.0%	0.0%	100%
	other	36	13.9%	38.9%	16.6%	13.9%	16.7%	100%
Total		765	20.8%	42.6%	16.7%	14.5%	5.4%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.002 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

Comments made by interviewees support such findings. Most interviewees considered interior configuration, particularly layout, among the aspects people usually look at when searching for a house. They asserted it forms a fundamental quality that significantly determine the overall quality of dwelling and therefore, affects people's satisfaction with their houses. Two aspects were addressed when talking about the appropriateness of interior configuration, or in other terms the quality of interior layout. These included: the number and type of spaces provided within the dwelling and the spatial distribution comprising the geometry of space by which different spaces are connected. Both aspects were said to be strongly related to the quality of the design. The first issue regarding the type and quantity of space was the need to understand and rethink the real use of the different spaces in the dwelling. Several arguments were made about the waste of substantial square metres of residential floor area on functions that are not under extensive use. This issue was said not to be only related to apartments built by housing developers, but also with single detached houses; i.e. villas and dars, that are built by homeowners. An Interviewee who works for the Jordan Housing Developers Association commented on that saying:

> 'People usually seek to acquire houses of big floor areas. They bear heavy financial burdens which might include loans and high premiums that could have negative reflections on their lives just to live in a big house of which up to 40.0% of its area, devoted to spaces such as halls and guest rooms, is not in real use. This in turns lessens their capabilities to afford other basic needs including food, health and education.' (JHDA 1)

Several statements were made within the same context. The following statement made by an experienced architect reflecting on this issue provides more clarifications:

> '…In many cases customers seem to have unclear vision or improper assessment of the efficient use of residential space. As an example, many people still insist to have spacious guest and dining rooms that consume large floor area probably to show off, while they rarely use them. I consider this as a wasted space that occupies a distinct location in the house and a substantial floor area that is not in use. This area if used for another vital function that is in frequent use will help make better use of space and perhaps make residents feel more satisfied in their homes…' (APC 2)

The main viewpoint that can be drawn from such quotes is that the 'unwise' use of residential space might result in loosing many benefits that could have been gained from a better use of space. Allocating wide areas for rarely used functions such as the guest room usually comes at the expense of having small living or bedroom areas that are much more in use, leaving the whole family suffering from overcrowding and lack of space affecting their sense of comfort and privacy, while they have extra unused area. This also applies to the provision of bigger number of rooms that might include a maid or laundry room with very small areas that do not even meet the standards, in order to attract people and raise the value of the house. This results in gaining bigger quantity of spaces but with smaller areas that are hardly used.

Regarding the distribution of space, it was said that the absence of a good layout design diminishes the effective use of residential space. Several interviewees criticized the poor quality of interior design that can be seen in many housing units, specifically flats, produced by housing developers. They argued that inadequate design can lead to big loses in space and make it hard for households to achieve their needs in line with their cultural and social characteristics. An interviewee commented on that saying:

> 'Everyone seeks to achieve certain requirements from his/her house. These requirements are strongly shaped by the set of cultural and social norms that a household holds, as well as by the characteristics of the family to which he/she belongs to and live with. Such attributes impose a particular vision for the interior layout of the house that can meet the requirements of the

> household and his/her family members that include for example a clear definition and separation between the semi-private spaces including the guest and dining rooms and the private spaces that include the living and bed rooms. Failing to meet these requirements as the case, for example, when joining both the guest room and living room, or opening the kitchen to the living rooms cause significant nuisance to residents which in turn reduces their satisfaction with their house'. (UA2)

Such nuisances include penetrating the privacy of residents especially within a community of a majority of conservative households. They might also include an overlap between different contradictory activities undertaken by different family members such as playing, studying and sleeping. Such an overlap makes residents feel uncomfortable and unable to perform their duties or activities in such a good way.

8.5. Interior Comfort

Feeling comfortable and relaxed is an essential requirement people demand from their houses. This implies the provision of a healthy atmosphere that provides the sense of liveliness and cosiness within the residential space (Heijs 1987). Research related to defining and assessing appropriate comfort conditions in buildings has a long history most of which was guided by the search for a universally applicable set of optimum comfort circumstances based solely on physiological models. The key dimensions of comfort according to these models are thermal, visual, acoustic and air quality (Frontczak et al 2012; Cole et al 2008; Humphreys 2005). This approach forms the core driver of environmental design that is flourishing nowadays. Yet, there are other approaches that look at comfort as a psychological and behavioural matter that might has socio-cultural dimensions. In such approach, comfort is associated with themes such as personalisation, freedom of choice and warmth (Chappels & Shove 2005; Pineau 1982)[1].

[1] In many instances the concept of residential comfort is used as a self-evident term. For many people it is a term that symbolises everything which makes life agreeable. It is an idea that has meant different things at different times. In the seventeenth century comfort meant intimacy and domesticity. In the eighteenth century more importance was attributed to leisure, to convenience, and in the nineteenth century to elements where mechanics intervened: light, heat and ventilation. Along this period of time the idea of comfort kept almost all the previous meanings, where each new meaning adds up to the previous meanings (Simoes 2010; Heijs 1987). Nevertheless, in this study the term is used to refer primarily to the physical or environmental attributes.

In respect of this bilateral notion of comfort, more than one measure was used for this indicator. The first measure required respondents to state the extent to which they agree their houses fulfil their need of comfort. This was taken as a direct subjective measure to assess households' perception of comfort. Three additional measures were used. These included stating whether respondents suffer from any of the following three environmental design aspects: lack of natural lighting, lack of natural ventilation and poor heat or sound insulation. All these measures were analysed in relation to satisfaction with residential built form, i.e. dwelling, overall housing quality and QOL.

As can be seen from Table 8.10, results have shown that around 57.0% of respondents agreed their houses fulfil their need of comfort, in comparison to 22.5% who disagreed. Statistical tests reveal significant association between this measure and residential built form as well as QOL. A positive relationship can be seen between agreeing the house fulfils need of comfort and scoring high values of satisfaction with dwelling and high values of QOL.

Table 8.10: Relationship between agreeing house fulfils need of physical comfort and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Extent of agreement	**Frequencies**	**Satisfaction with residential built form**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	23.1%	7.56	8.00	7.33	8.00
Fairly agree	34.0%	6.87	7.00	6.99	7.00
Neither agree nor disagree	20.4%	6.13	6.00	6.42	7.00
Slightly disagree	15.7%	4.55	5.00	5.50	5.00
Strongly disagree	6.8%	4.77	5.00	5.22	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Looking at Table 8.11 it can be seen that respondents strongly agreeing their houses fulfil their need of comfort were the most likely to be satisfied with the quality of their dwellings, as more than three quarters of them stated they are either strongly or fairly satisfied with the residential built form of their dwellings. This degree of satisfaction tends to decrease in line with the decrease in the extent of agreement about fulfilling comfort need, but with some fluctuations in ratios, in the case of strong disagreement.

Table 8.11: House fulfils need of physical comfort vs. satisfaction with dwelling cross-tabulation

			Satisfaction with dwelling					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent do you agree your house fulfils the need of physical comfort?	strongly agree	177	4.5%	5.6%	14.1%	37.9%	37.9%	100%
	fairly agree	260	2.3%	5.8%	30.3%	48.1%	13.5%	100%
	n. agree, n. disagree	156	1.3%	16.0%	39.8%	36.5%	6.4%	100%
	slightly disagree	120	15.8%	33.3%	32.5%	16.7%	1.7%	100%
	strongly disagree	52	17.3%	23.1%	38.5%	17.3%	3.8%	100%
Total		765	5.8%	13.3%	29.4%	36.3%	15.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Likewise, results revealed the presence of a significant association between agreeing the house fulfils the need of comfort and satisfaction with housing in general. As can be seen from Figure 8.9 an association is revealed between the extent of agreement and the interest to move to another house. Respondents who agreed their houses fulfil their need of comfort were less likely interested in moving to another house. Analysis in relation to QOL has also proved a significant association between agreeing the house fulfils need of comfort and reporting high QOL levels as can be seen from Figure 8.10.

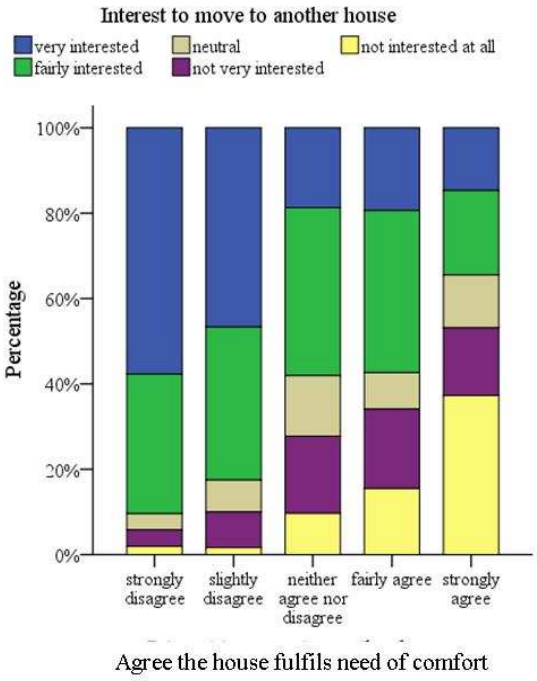


Figure 8.9: Agree house fulfils need of comfort vs. interest to move to another house

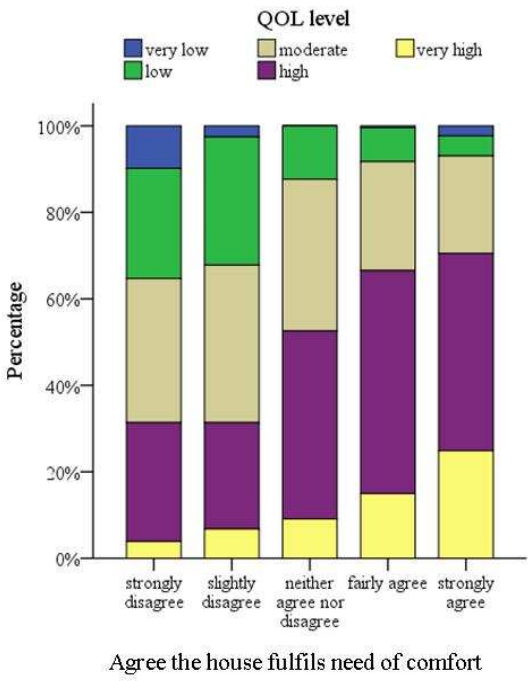


Figure 8.10: Agree house fulfils need of comfort vs. QOL

In respect to socio-demographic factors, statistically significant associations were found between agreeing the house fulfil need of comfort and factors including sex, education level, number of dependent children under 12 and level of income. Female respondents were found to be more likely to respond positively than male respondents. Among all female respondents 68.2% agreed their houses fulfil their comfort needs compared to 52.1% of males respondents who agreed. On the other hand, respondents with high educational degrees were also the most likely to agree their houses fulfil their need for comfort where a positive relationship seems to appear between level of education and extent of agreement. As the case with other indicators, number of children under 12 was found to have a negative association with feeling comfortable, while income level appeared to have positive association with feeling comfortable.

All housing provision factors show statistically significant association with agreeing the house fulfil the need of comfort. Homeowners were found to be the most likely to feel comfortable in their houses followed by those buying their houses with mortgages, and then those living in privately rented houses. Respondents living in family owned houses were found to be the least to agree their houses fulfil their need of comfort. This might be the reason of living in crowded houses sharing facilities with large number of residents, causing them not to feel comfortable and relaxed. In reference to house type, as in most cases respondents living in villas were the most likely to respond positively followed by those living in flats and dars where no big difference was found between them.

Table 8.12: House type vs. agreeing house fulfils need of physical comfort cross-tabulation

			Agree house fulfils need of physical comfort					
		No.	strongly agree	fairly agree	n. agree, n. disagree	slightly disagree	strongly disagree	Total
House type	flat	574	22.0%	34.8%	20.0%	16.9%	6.3%	100%
	dar	110	22.7%	34.5%	22.8%	13.6%	6.4%	100%
	villa	43	44.2%	37.2%	9.2%	4.7%	4.7%	100%
	other	38	18.4%	15.8%	31.6%	15.8%	18.4%	100%
Total		765	23.1%	34.0%	20.4%	15.7%	6.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.002 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

Considering the other three detailed measures of comfort, results have shown highly positive responses for the first two measures. As can be seen from Table 8.13, 82.0% and 83.4% of respondents did not consider the lack of natural lighting and lack of natural ventilation as problems in their houses. This indicates that the majority of respondents are not negatively affected by any of these two elements. On the other hand, more than 50.0% of respondents reported poor heat and sound insulation as a main problem in their dwellings which denotes the negative impact it has on the quality of their dwellings.

Table 8.13: Frequency distributions for the three comfort measures

Measure	No.	Frequencies	
		yes	no
Lack of natural lighting	775	17.2%	82.8%
Lack of natural ventilation	775	16.6%	83.4%
Poor heat or sound insulation	775	50.4%	49.6%

Statistical tests revealed significant relationships between these three measures and measures of QOL including satisfaction with residential built form, satisfaction with housing and QOL level. Table 8.14 presents results obtained from cross tabulating the three comfort measures with satisfaction with residential built form.

Table 8.14: Lack of natural lighting, lack of natural ventilation, and poor heat and sound insulation vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Lack of natural lighting	yes	133	9.0%	25.6%	32.3%	29.3%	3.8%	100%
	no	639	4.9%	10.6%	29.4%	37.6%	17.5%	100%
Lack of natural ventilation	yes	128	12.5%	30.5%	36.7%	16.4%	3.9%	100%
	no	644	4.2%	9.8%	28.6%	40.1%	17.4%	100%
Poor heat or sound insulation	yes	389	7.7%	17.7%	34.2%	32.6%	7.7%	100%
	no	383	3.4%	8.6%	25.6%	39.7%	22.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000< 0.05 (Significant); 0.000< 0.05 (Significant); 0.000< 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

As can be seen, all the three measures show positive association with satisfaction with quality of dwelling – that is respondents who did not consider these issues as problems in their houses were more likely to report high levels of satisfaction with the residential built form than those who considered them as problems. Similar findings have been obtained in relation to QOL and satisfaction with housing. Yet, the relationship with satisfaction with housing seem to be much clearer, as percentages of respondents who stated they are interested in moving to another house among those suffering from any of the three problems were found to be much higher than percentages of respondents who reported lower QOL levels.

No proof of any significant relationship was found between lack of natural lighting and any of the socio-demographic or housing provision factors except for tenure type. Results have shown that respondents who live in privately rented houses were the most likely to consider lack of natural lighting as a problem, while homeowners were found to be the least to do that. On the contrary, lack of natural ventilation seems to have significant association with many of the socio-demographic and housing provision factors, including sex of respondent, education level, income, tenure type, house type and length of residence. Female respondents seemed to be less likely to report lack of natural ventilation as a problem if compared to male respondents. On the other hand, education level seems to have positive influence in reducing the occurrence of this problem. The percentage of respondents who reported the lack of natural ventilation as a problem was found to decrease with the increase in the level of education. The same sort of relationship was also found with income level - that is the higher income the less likely respondents were to consider lack of natural ventilation as a problem. Considering housing provision factors, home owners and those living in villas were the least likely to report this problem, while those living in flats of privately rented houses seems to be more likely to suffer from this problem.

Trying to explain these findings, bearing in mind the high percentages of respondents who did not consider the lack of natural lighting or ventilation as a problem, it can be said that availability of natural lighting is an advantage that almost all households enjoy and that except for specific cases or unless the house is in a deteriorated physical

condition, this feature is offered for all. This can be read as a positive sign which constructively contribute towards offering higher comfort levels in the houses. Unlike the case of natural lighting, lack of natural ventilation seem to be an issue that is less likely to be met in all houses. Despite the very high percentages of respondents who did not consider this as a problem, the presence of significant relationships with many of the socio-demographic and housing provision factors suggests that the availability of proper natural ventilation is not a common feature that all households have. All the relationships that have been explored can be interpreted on the basis of the financial capabilities that make it possible to attain better dwelling's conditions including better natural ventilation. Another valuable explanation can be based not only on the characteristics of the dwelling, but also on the context in which the dwelling or housing unit is located. As mentioned in a previous chapter households with lower financial capabilities have fewer choices. For most of them the most common solution is to live in a privately rented flat, with smaller floor area. Such condition is usually situated in crowded apartment buildings neighbourhoods where people suffer from lack of privacy. This might be the reason, as mentioned by more than one interviewee, to keep all the windows and curtains closed in order not to be exposed. As a result no natural ventilation can pass in.

In reference to poor heat and sound insulation, results revealed significant associations with sex of respondents, household's structure, number of children, tenure type and house type. Unexpectedly no significant relationship was found with income level. Male respondents were found more likely to report this as a problem. This might be because females are more likely to stay and home taking care of children and undertaking daily house activities. This makes them accustomed to the surrounding noises, as well as the ones caused by children inside the house, and less sensitive to the efficiency of sound insulation compared to males you usually seek rest and calmness at home. Families comprising couple with children, particularly those with a larger number of children, were also the least likely to consider this as a problem, probably because they might be the cause of the noise. Additionally, homeowners, and those living in villas were also the least likely to consider this as a problem.

8.6. Quality of Construction

Assessment of physical conditions, housing defects and the need for repairs is probably one of the most common approaches in examining housing quality[2]. Several studies and surveys and even indexes have been developed and carried out to appraise the physical conditions and quality of construction of existing housing stocks, especially in developed countries. Examples include the work of Georgiou (2010), Olubodun (2000), Georgiou et al (1999) and Duncan (1971). Very few studies however, have linked their findings with households' residential satisfaction or QOL. Among these some have come to the conclusion that the level of overall satisfaction with accommodation reflects the quality of housing conditions and the extent of reported problems and defects (Anderson et al 2009). Several interviewees have referred to this component as the most influential in determining the quality of dwelling. In fact, most of them agreed that the quality of construction comes as a first priority when talking about the quality of residential built form.

To give more insight about the influence of the quality of construction on satisfaction with housing and QOL, four measures were used to explore the impact of this indicator. These included one general and three detailed measures. The general measure implied describing level of satisfaction respondents have with the quality of construction of their houses, while the detailed measures comprised reporting the presence of any of the following defects: rot in doors, windows or floors; damp or leak in walls or roof and need for major repairs. These were selected in light of the findings of Olubodun & Mole (1999) who deemed rot and damp among the five components most influenced by construction. Considering the first measure, it can be seen from Table 8.15 that only 57.4% of respondents were satisfied with physical conditions and quality of construction of their houses. Statistical tests have shown significant association between quality of construction and QOL measures. A Strong positive association can be noticed between being satisfied with the quality of construction and scoring high levels of satisfaction with dwelling and with QOL. This seems to be amongst the most apparent associations when compared with other quality of dwelling indicators as can be noticed

[2] Housing quality here refers to the conventional definition of the terms that refers mainly to the quality of the housing unit itself.

from the variation of mean values related to QOL level and satisfaction with residential built form in accordance with the variation in satisfaction with quality of construction.

Table 8.15: Relationship between satisfaction with the quality of house construction and finishes and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Level of satisfaction	Frequencies	Satisfaction with dwelling		QOL level	
		Mean	Median	Mean	Median
Strongly satisfied	15.4%	8.00	8.00	7.72	8.00
Fairly satisfied	42.0%	6.93	7.00	6.81	7.00
Neutral	21.1%	5.94	6.00	6.16	6.00
Slightly dissatisfied	14.4%	4.78	5.00	5.97	6.00
Strongly dissatisfied	7.1%	3.96	4.00	5.15	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Cross-tabulations provide more clarifications. As can be seen from Table 8.16 satisfaction with dwelling extremely falls with the decrease in satisfaction with quality of construction. In respect of that, respondents strongly satisfied with the quality of construction of their houses were seemed to be the most likely to be satisfied with the quality of their dwellings where almost 80.0% of them stated they are satisfied either fairly or strongly with their dwellings' residential built form. This percentage falls to 9.3% in the case of those strongly dissatisfied with the quality of construction of their houses.

Table 8.16: Satisfaction with the quality of house construction and finishes vs. satisfaction with dwelling cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
How would you describe your level of satisfaction with the quality of house construction and finishes?	strongly satisfied	118	3.4%	1.7%	15.2%	30.5%	49.2%	100%
	fairly satisfied	321	2.2%	5.6%	26.8%	52.0%	13.4%	100%
	neutral	161	2.5%	18.6%	38.5%	34.2%	6.2%	100%
	slightly dissatisfied	110	12.7%	28.2%	43.7%	12.7%	2.7%	100%
	strongly dissatisfied	54	25.9%	37.0%	27.8%	7.4%	1.9%	100%
Total		764	5.6%	13.0%	30.2%	36.1%	15.1%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Likewise, satisfaction with housing was found to be positively associated with satisfaction with quality of construction. Results have shown that only 29.1% of respondents satisfied with quality of construction of their houses stated they are interested in moving to another house. This percentage rises dramatically up to 90.7% in the case of strong dissatisfaction. Such considerable ratio signifies the substantial impact this component has on satisfaction with housing and driving households to leave their houses. Similar results were obtained regarding the relationship with QOL, which denotes that quality of construction has a strong impact on QOL both directly through affecting QOL level and indirectly through affecting satisfaction with dwelling and satisfaction with housing in general. Figures 8.11 and 8.12 provide more description about the relationship between quality of construction and the interest to move to another house as well as QOL.

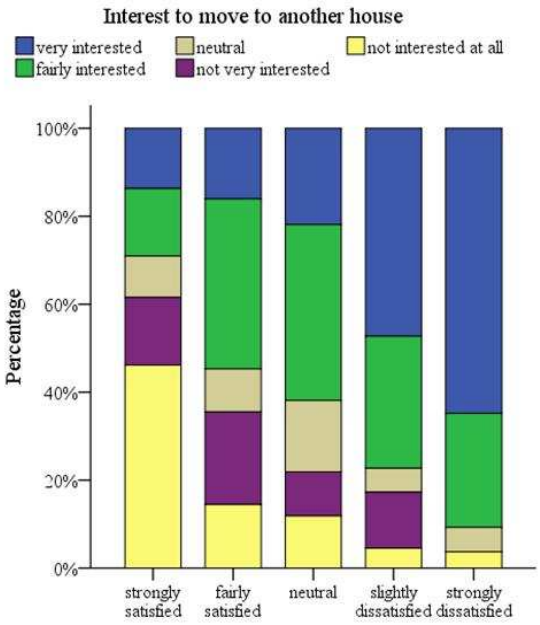


Figure 8.11: Satisfaction with construction and finishes of the dwelling vs. interest to move to another house

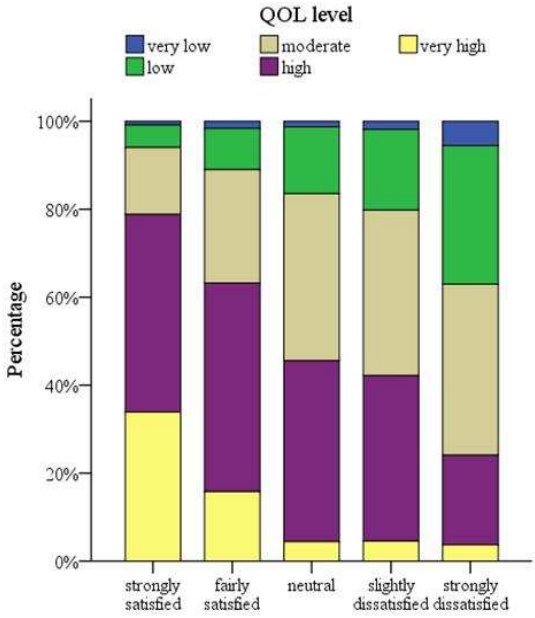


Figure 8.12: Satisfaction with construction and finishes of the dwelling vs. QOL

The influence of socio-demographic factors seems to be minimal in relation to the quality of construction. No significant association was found with any of the tested factors except with income. The higher the income the more satisfied respondents seemed to be. This absence of influence regarding all other factors can be interpreted as

an indication of the commonality of the problem of poor quality of construction and finishes that almost all people face. This viewpoint was supported with comments made by several interviewees as will be shown later.

It might also be that unlike other quality components, quality of construction is a universal objective issue that every individual can feel and experience despite any social and demographic variation. On the other hand, it is not surprising that the experience of problems with housing construction is consistently associated with income. Cost constraints generally favour the functional minimum or even lower standards and also influence the choice of fittings and services which in turns affects the overall quality of the dwelling's physical conditions making people with higher incomes enjoy better housing conditions than those with lower incomes.

Significant associations were also verified between quality of construction and both tenure type and house type. Results have shown that homeowners were the most likely to be satisfied with the quality of their houses where 71.4% of them were found to be satisfied in comparison to 42.0% of tenants who seemed to be the least likely to be satisfied. Apart from the financial capabilities that make homeowners more likely to acquire housing on better construction and physical conditions, several justifications can be obtained from literature in respect of the impact of tenure type on the quality of physical conditions. Lots of studies have shown that owner occupiers of housing take care of their dwellings more than renters and that the owner occupied homes are visibly better maintained (Dietz & Haurin 2003; Gurney 1999, Mayer 1981). The reason for that is the stronger sense of belonging associated with homeownership that drives occupiers to be more sensitive and cautious against any damage or fault in the property. In addition to that, homeowners are said to have higher financial interests in ensuring that their units are optimally repaired to uphold their values. Such motives do not appear in the case of private rentals.

Regarding house type, it can be seen from Table 8.17 that respondents living in villas were the most likely to be satisfied with the construction and finishes of their houses. Respondents living in flats, dars and other forms of houses were close in terms of

satisfaction with the quality of construction of their houses.

Table 8.17: House type vs. satisfaction with house construction and finishes cross-tabulation

			Satisfaction with quality of construction and finishes					
		No.	strongly satisfied	fairly satisfied	neutral	slightly dissatisfied	strongly dissatisfied	Total
House type	flat	575	14.6%	41.9%	20.5%	15.3%	7.7%	100%
	dar	110	15.5%	38.2%	31.8%	10.0%	4.5%	100%
	villa	43	34.9%	51.2%	9.2%	4.7%	0.0%	100%
	other	36	5.6%	44.4%	11.1%	25.0%	13.9%	100%
Total		764	15.4%	42.0%	21.1%	14.4%	7.1%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 2 cells (10.0%) have expected count less than 5 (Accepted)

Considering the other three quality of construction measures (rot in doors, windows or floors, damp or leak in walls or roof and need of major repairs) results have shown positive responses as the majority of respondents did not consider them as problems in their dwelling, especially for the first and third measures as can be seen from Table 8.18. Furthermore, statistical tests confirmed the presence of significant relationships between the three measures and measures of QOL, which support findings related to the first measure of construction quality.

Table 8.18: Frequency distributions for the quality of construction measures

Measure	No.	Frequencies	
		yes	no
Rot in doors, windows or floors	775	7.3%	92.7%
Damp or leak in walls or roof	775	32.8%	67.2%
Need of major repairs	775	17.6%	82.4%

No statistical significant relationship was found between reporting rot in doors and windows and any of the socio-demographic or housing provision factors. On the other hand, factors including number of residents, number of children under 12, income, tenure type and length of residence were all found to have significant association with reporting damp as a problem. Living in houses with more family members or more children and gaining lower incomes were factors associated with reporting greater likelihood of suffering from damp. Additionally, they are factors that are often associated with low financial capabilities. This matches findings obtained from different

studies including Stewart (2001), where damp and cold are seen to be intrinsically linked with poverty. In the case of the need to major repairs, factors including education, income, tenure type, house type and length of residence seemed to be of influence.

Table 8.19: Rot in doors, windows or floors, damp or leak in Walls or roof & need of major repairs vs. satisfaction with neighbourhood cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
Rot in doors, windows or floors	yes	56	26.8%	21.4%	28.6%	17.9%	5.4%	100%
	no	715	3.9%	12.4%	30.1%	37.6%	15.9%	100%
Damp or leak in walls or roof	yes	253	9.1%	21.7%	33.2%	26.9%	9.1%	100%
	no	519	3.9%	9.1%	28.3%	40.7%	18.1%	100%
Need of major repairs	yes	136	16.2%	22.1%	36.0%	22.8%	2.9%	100%
	no	635	3.3%	11.2%	28.7%	39.1%	17.8%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant); 0.000< 0.05 (Significant); 0.000< 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Lots of arguments were made by interviewees to describe the impact of quality of construction on satisfaction with housing, most of which supports findings obtained from the survey. It can be assertively said, that quality of construction was an issue extensively mentioned by interviewees when discussing quality of dwelling. Most of these discussions reflected the existence of a common conviction among all interviewees about the impact quality of construction has on defining quality of dwelling and determining the degree of satisfaction people have against their houses, especially when talking about Amman.

In general, the majority of interviewees, with the exception of housing developers, have shown high levels of dissatisfaction with the poor quality of construction in dwellings, reflecting on its negative impacts on people's QOL and satisfaction with housing. This can be especially noticed in the case of residential apartments produced by housing developers and also by public associations. Doing so, they considered it as one of the

major problems that face households when looking for or residing in a house. In this sense, one of the interviewee stated:

> '…the quality of housing construction is generally not good. Many problems often appear in a very short time of residence. Such problems include faults in finishes such as painting and carpentry works, sanitary and electrical fittings, and many others… in fact we suffer here from poor workmanship and bad maintenance …' (APC 4)

Similar quotes were made by other interviewees, all emphasising on the poor quality of finishes. In respect of that, several arguments were made to distinguish between the quality of the structural works and the quality of finishing works. Almost all interviewees agreed that the main problem is not with the core structural works, but rather with the finishing works. Very limited cases have been reported about main structural collapses in housing projects, compared to numerous complaints made regarding faults in finishing works.

Several reasons were put to explain the deficiency in the quality of construction, considering mainly finishing works. Most of these explanations were centred on the absence of patent and approved mechanisms to adjust specifications and assure quality. These include the lack of quality definition and classification criteria and the absence of a supervisory authority that provides quality control over construction works especially those related to finishes. The following quote made by an engineer officer working for the Jordan Engineers Association (JEA) provides more explanation:

> 'Controlling the quality of the construction work usually falls into two phases: the first is the design stage and is subject to high adjustment process over the quality of design and specifications. Several authorities take part in this phase including for instance JEA, the civil defense and the concerned municipality. The second phase comprises design implementation and construction works. Apart from the core structural works, this suffers from significant shortcoming in terms of quality assurance and control. No hand has the authority during this stage, i.e. finishing works, to adjust this process…' (JEA 2).

Many interviewees stated that violations and errors can take place during this period. They additionally commented that lots of housing developers use low quality materials in order to reduce costs. Such materials are usually used in hidden places such as the case with electrical fittings or come in attractive appearance, which can be considered as a sort of dishonesty. Another reason includes the low level of workmanship, where contractors rely on cheap and unqualified labour due to the absence of vocational training in the field of building construction. This is negatively reflected in the excellence of construction works, leading to the production of housing units suffering from poor construction and finishes. Figure 8.13 illustrates examples of some common deficiencies in the quality of construction.

Figure 8.13: Examples of some common deficiencies in the quality of construction

The implications of poor construction quality can be felt in many aspects, all of which reduce the sense of satisfaction with housing and diminish the overall QOL of residents or households. Some direct implications include extra financial burdens directed towards maintenance and repair works, poor hygienic quality of the residential space resulting in health problems among residents as well as disturbances and feeling uncomfortable. Yet there are other hardships that are not necessarily explicit but, can

have worse effects on QOL. These include, according to some interviewees, social and psychological hardships resulted from the stress caused by the frequent need to carry out maintenance work inside the house – the thing that negatively affects psychological and family stability in the house. Adding to that is the lack of trust and security when searching or purchasing a house making it a risk that requires lot of time and effort that could have been spent in other issues.

8.7. Adaptability

Housing needs of a resident or a household are defined by a complex matrix of interrelated factors that change over the course of time. Therefore, in order for a house to be able to support the multiplicity of different activities that take place during its life time, adaptability becomes a prime quality that the house must attain. This adaptability implies the provision of a flexible internal layout that makes it possible for households to carry out any changes or alternations in their dwellings to solve their emerging spatial or functional needs.

Several studies have looked at this quality and explored its implications on residential satisfaction and the overall housing quality. Altas & Ozsoy (1998) claimed that residential satisfaction gradually decreases over time with the changing spatial needs of occupants and that users raise satisfaction by changing the physical characteristics of their environments to create more adaptable and flexible spaces. Therefore, adaptability and flexibility are considered quality characteristics of a space. Another example includes the work of Ozsoy & Gokmen (2005) who applied the concept of ‘fitness for use’ in defining quality of residence in their study about the impact of space use and dwelling layout on housing quality. They pointed out that the quality of dwelling space is related with the potential to meet the needs of the users, and that flexibility in residential space design is a key factor for that. Such flexibility allows people to carry out essential alterations for their housing units to adapt the dwelling to their lifestyles and family structures meeting number of needs that include improvement of space use; security of the dwelling and betterment of aesthetic quality. In accordance to that they have concluded that space use, related with the dwelling layout do has strong influence on assessing housing quality.

To ensure the validity of such outcomes and further explore the influence of dwelling adaptability on residential satisfaction and QOL, respondents were asked to what extent they agree it is easy to adapt their houses to the dynamics of the family structure or any physiological needs. In respect to that, results have shown that 56.4% of respondents agreed it is easy to adapt their houses to meet their emerging needs, in comparison to 24.1% who disagreed, while 19.5% of respondents neither agreed nor disagreed. Having less than 20.0% of respondents disagreeing suggests that the majority of population do not have a problem with house adaptability either because they believe their houses are adaptable enough to accommodate any emerging need, which is a good point, or that they did not come or do not feel they will come to such necessity of making any changes to their houses and therefore, the issue of adaptability does not form a main concern for them. Further explorations were made to get more insight about adaptability of houses in Amman and the impact it has on people's QOL. Table 8.20 shows detailed frequency distributions as well as mean and median scores for QOL and satisfaction with dwelling associated with extent of agreement about the ease of adapting house to meet with changing needs.

Table 8.20: Relationship between ease to adapt house to changes of needs and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Extent of agreement	**Frequencies**	**Satisfaction with neighbourhood**		**QOL level**	
		Mean	Median	Mean	Median
Strongly agree	13.2%	7.59	8.00	7.48	8.00
Fairly agree	43.2%	6.81	7.00	6.83	7.00
Neither agree nor disagree	19.5%	6.03	6.00	6.19	6.00
Slightly disagree	18.4%	5.46	5.00	6.19	6.00
Strongly disagree	5.7%	4.60	5.00	5.47	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Statistical tests reveal significant relationships between house adaptability and both satisfaction with dwelling and QOL. A clear positive relationship can be noticed between agreeing it is easy to adapt house to changing needs and feeling more satisfied with dwelling as well as reporting higher levels of QOL. Cross-tabulations provide further clarifications on that. Table 8.21 presents outcomes obtained from cross-tabulating agreement on the ease of house adaptation and satisfaction with dwelling. Results show that 73.0% of respondents who strongly agreed their houses can be easily

adapted reported they are satisfied with their dwellings' built form. This percentage drops off extremely in line with the decrease in level of agreement reaching nearly 21.0% in the case of strong disagreement. Building on that it can be said that adaptability has a sound impact on satisfaction with residential built form.

Table 8.21: Agree it is easy to adapt house to changes of needs vs. satisfaction with dwelling cross-tabulation

			Satisfaction with residential built form					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
To what extent you agree it is easy to adapt your house to dynamics of family structure and changes in needs?	strongly agree	100	6.0%	9.0%	12.0%	26.0%	47.0%	100%
	fairly agree	326	1.8%	9.9%	26.1%	47.5%	14.7%	100%
	n. agree n. disagree	147	3.4%	15.6%	40.9%	31.3%	8.8%	100%
	slightly disagree	139	10.1%	18.0%	39.5%	28.8%	3.6%	100%
	strongly disagree	43	23.3%	23.3%	32.5%	18.6%	2.3%	100%
Total		755	5.4%	13.1%	29.9%	36.4%	15.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Regarding satisfaction with housing in general, cross-tabulation has shown a similar strong association between agreeing it is easy to adapt house and being less interested in moving to another house. Out of those who agreed it is easy to adapt their houses, 39.0% of respondents reported they are interested in moving to another house compared to 52.0% who reported they are not interested. These percentages tend to apparently change with the change in the level of agreement reaching 86.0% being interested to move to another house and 9.3% not interested in the case of strong disagreement about the ease to adapt the house. Such findings reflect a quite logical relationship between adaptability and interest in moving to another house, providing that being able to carry out alterations on the house design and built form retains more stability in the house and accordingly less interest to search for an alternative. This matches to a big extent with the previously mentioned findings obtained by Altas & Ozsoy (1998) and Ozsoy & Gokmen (2005) proving the presence of a sound influence of adaptability on residential satisfaction.

Cross-tabulation has also shown a significant association between agreeing it is easy to adapt house and reporting higher levels of QOL. Respondents who agreed it is easy to adapt their houses to meet changing needs were more likely to report high perceived QOL levels than those who disagreed. Among those who strongly agreed 73.0% reported high or very high QOL levels. This ratio decreases in the case of respondents who fairly agree reaching 6.4% and keeps decreasing until reaching 39.6% in the case of respondents who strongly disagree it is easy to adapt their houses. This reflects a positive relationship between adaptability and QOL level. Figures 8.14 and 8.15 provide more clarifications about the relationship of adaptability with QOL and the interest to move to another house.

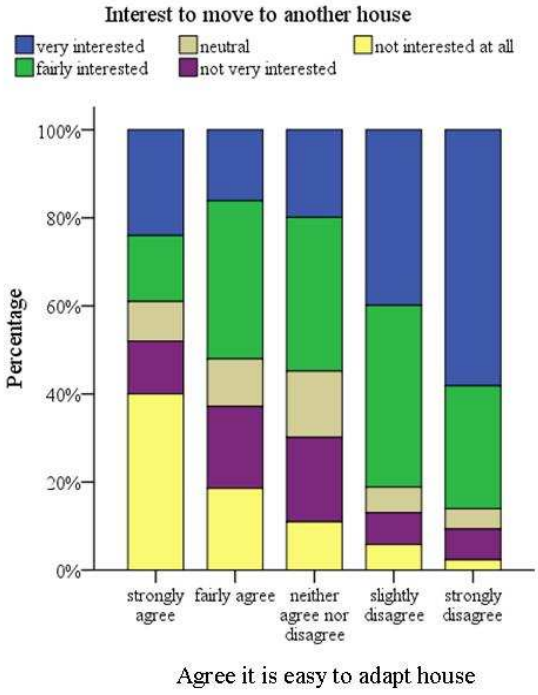


Figure 8.14: Agree it is easy to adapt house to meet changing needs vs. interest to move to another house

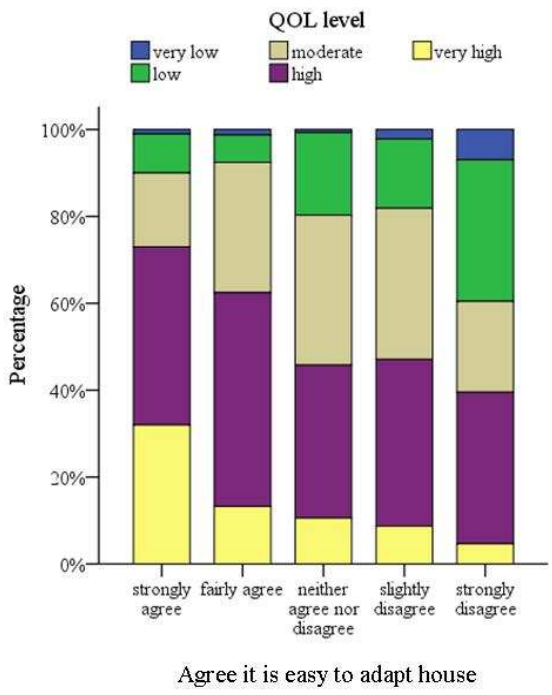


Figure 8.15: Agree it is easy to adapt house to meet changing needs vs. QOL

Several interpretations can be given to justify this positive relationship between adaptability and residential satisfaction as well as QOL. The simplest is that adaptability provides the possibility to fulfil household's growing needs and hence, makes them more satisfied, especially when they lack the economic power to change their dwelling to a bigger or more adequate one. In addition to that, being able to resolve all the

emerging needs during the life course of the family within the same house provides the sense of stability and security, and helps maintaining the strong ties developed with the surrounding community and facilities, which positively adds to the sense of satisfaction with housing and life. Goodchild (1997) mentioned also that the amount of organisation and flexibility of dwelling space can be seen as an indicator of long term economic value and is intimately related to the idea of a house as a shelter and place of comfort.

Unexpectedly, no significant relationship was found between agreeing it is easy to adapt house to meet changing needs and most of the socio-demographic factors, particularly household's structure, number of residents and number of dependent children under 12. These were expected to have strong association with the issue of adaptability as they are key determinants in shaping housing needs. Results have only showed significant association with age of respondent and income of household. Respondents with ages ranging from 30-35 were found to be more likely to agree if compared to those with older ages. This might be the result of not facing yet the challenges of the need to fulfil the emerging needs resulted from the increase of family size or the special requirements of elderly and old people that might require certain adjustments of the dwelling's layout and space. Regarding the effect income, a positive relationship was found between gaining higher income and stating higher levels of agreement. Respondents with higher incomes were found to be more likely to agree their houses can be easily adapted than those with lower income. The reason behind that is probably, due to the financial capabilities that allowed households with higher incomes to acquire houses of better conditions and bigger floor areas that make it easy for them to carry out any required change or adjustment.

Unlike the case with socio-demographic factors, housing provision factors showed stronger associations with agreeing it is easy to adapt house to meet changing needs. Results revealed significant relationships between level of agreement and factors including tenure type, house type and length of residence. Respondents living in owned houses were found to be more likely to agree if compared to those living in privately rented houses. Two justifications can be given on that. That first is that when purchasing a house, people, whenever they can, look for bigger floor areas and better

conditions that to cover as much requirements as possible making it easier for them to carry out any emergent adjustments. The second reason is that home owners usually enjoy higher levels of flexibility and control over their houses which makes them feel more capable and willing to adjust their houses in accordance to their needs if compared to those living in private rented houses who might find it easier to search for another houses than to apply changes to the houses which they rent.

Likewise, as can be seen from Table 8.22 respondents living in villas seem also to be more likely to agree if compared to those living in flats for instance. Around 81.0% of respondents living in villas agreed they live in easily adapted houses, while 58.7% of those living in dars did so. For the case of flats, 54.8% of respondents agreed with that. This makes it clear that adaptability is an advantage that is more enjoyed in single detached houses, especially villas.

Table 8.22: House type vs. agreeing it is easy to adapt house to changes of needs cross-tabulation

			Agree it is easy to adapt house to changes of needs					
		No.	strongly agree	fairly agree	n. agree n. disagree	slightly disagree	strongly disagree	Total
House type	flat	569	12.0%	42.8%	19.0%	20.2%	6.0%	100%
	dar	109	12.8%	45.9%	22.0%	16.5%	2.8%	100%
	villa	42	28.6%	52.4%	14.2%	2.4%	2.4%	100%
	other	35	17.1%	28.6%	25.7%	14.3%	14.3%	100%
Total		755	13.2%	43.2%	19.5%	18.4%	5.7%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.006 < 0.05 (Significant)
- 3 cells (15.0%) have expected count less than 5 (Accepted)

In respect of the length of residents, results have shown that residents with short periods of residence ranging from 1-5 years were more likely to agree on the ease of adapting their houses in comparison to those with longer periods of residence. This might be the result of the fact that they have moved recently to their houses that presumably cover their immediate needs, providing that they still do not face the need to do any adjustments to cope with any emergent need. Yet, it is essential to be aware that alterations might occur at earlier stages not because of emergent or growing household's needs, but rather to adjust the residential space to the immediate needs. To

further explore this issue, respondents were asked to state whether they had applied any changes to the original design of their houses and if so, what sort of change was made. In respect of that, results have shown that around 26.0% of respondents reported they had undertaken changes on the original design of their houses.

Figure 8.16 presents the type of changes undertaken by households, where it can be seen that the majority of adjustments were related to issues of floor area expansion and rearrangement of interior layout. This suggests that for many households, inadequacy of area and interior space configuration is an issue of main concern, even for households who moved recently to their houses as results have shown. Figure 8.17 presents some examples of actions taken by households, particularly those living in flats, to expand the areas of their houses.

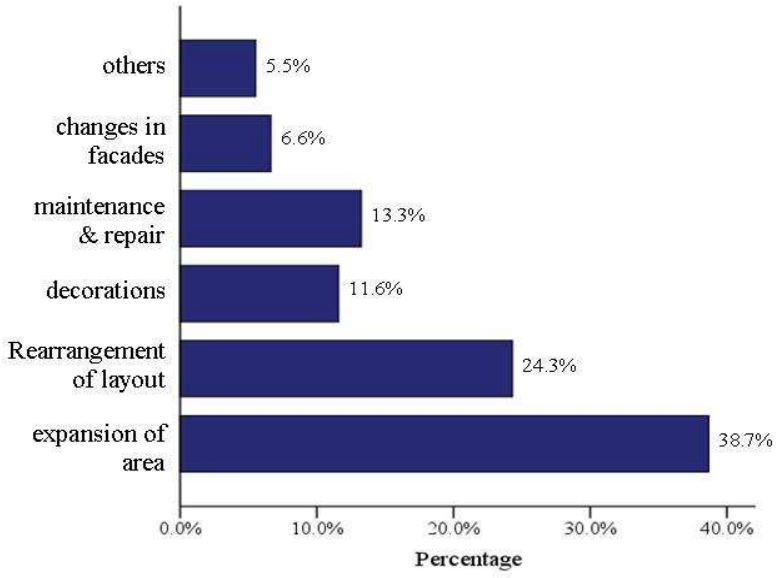


Figure 8.16: Frequencies of the type of changes undertaken by households

Figure 8.17: Examples of actions taken to expand residential area in flats

When investigating the influence of house type, it was found as illustrated in Table 8.23 that respondents living in flats were the least to undertake any change to their houses if compared for instance, to those living in villas. This sounds logical and matches with what has been noticed earlier regarding the flexibility in terms of space and the capability in terms of finance to carry on changes that are associated with villas more than flats.

Table 8.23: House type vs. applying changes to the original design of the house cross-tabulation

		No.	**Applying changes to the original design of house**		Total
			Yes	No	
House type	flat	578	22.7%	77.3%	100.0%
	dar	110	30.0%	70.0%	100.0%
	villa	42	45.2%	54.8%	100.0%
	other	36	38.9%	61.1%	100.0%
Total		766	25.7%	74.3%	100.0%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.001< 0.05 (Significant)
- 0 cells (0.0%) have expected count less than 5 (Accepted)

Table 8.24: Type of change by house type

		Type of change						
		expansion of area	rearrange layout	decoration	maintenance & repair	changes in facades	other	Total
House type	flat	35.3%	26.9%	12.6%	15.2%	5.0%	5.0%	100%
	dar	46.7%	20.0%	10.0%	10.0%	10.0%	3.3%	100%
	villa	44.4%	11.1%	16.7%	11.1%	11.1%	5.6%	100%
	other	42.9%	28.6%	0.0%	7.1%	7.1%	14.3%	100%
Total		38.7%	24.3%	11.6%	13.3%	6.6%	5.5%	100%

Table 8.24 presents the type of undertaken change in relation to house type. Looking carefully at the figures, it can be noticed that adjustments including expansion of area and decoration were most taken in villas and dars. On the other hand flats have scored the highest ratios in rearranging layouts and interior configuration as well as maintenance and repair works if compared to other types of housing. This, somehow, provides further confirmation to the arguments made within former indicators regarding

the poor quality of interior configuration and finishes work associated with the production of apartment buildings.

Several interviewees mentioned that the issue of adaptability has not been yet taken as a main consideration in the design of residential units produced by both the public and private sectors. Some argue that tendency towards producing typical housing units of smaller sizes that barely meets the requirements of households came at the expense of the flexibility and adaptability of these units. Although, households seem to adapt with their housing conditions no matter what needs they still miss, it is said that this adaptation is associated with negative feelings and lower levels of satisfaction. This can be deduced from the following quote made by one of the interviewees:

> ‘People usually adapt with conditions of their dwellings, despite being not fulfilling their needs, bearing in their minds the financial constraints that hinder them from affording better housing conditions. This, however, does not mean that such situation can be considered healthy or proper as it is commonly associated with means of stress and strain that affect satisfaction with housing and life in general’ (APC1).

The principle of enabling physical change and social change in housing appear self evidently sensible. Several interviewees argue that flexibility, and consequently adaptability, in housing design gives the users the choice to how they can use the residential space instead of architecturally predetermining their lives. In this sense, it allows users to take control of their environments post-occupation. This concurs with several arguments made in literature, including for instance the viewpoint provided by Schnieder and Till (2005), that flexible housing provides the private domain that fulfils occupants expectations. According to that, it is not deigning allegedly good or correct residential layouts that only matters, but also providing a space which can accommodate the vicissitudes of everyday use of occupants over the long term. This can be seen as a key measure in assessing the quality or success of design.

8.8. External Appearance

Housing appearance has been a factor strongly related to residents' satisfaction that affects their attitudes and behaviours, and therefore has strong implications on housing quality (Reis 2001; Lay & Reis 1994; Selby et al 1987). Research on housing and environmental behaviour have seen substantial studies directed at the symbolic and self expression aspects of housing, most of which referred to the external appearance as a main channel of self, status and cultural expression. Examples include the work of Malkawi & Al-Qudah (2003), Abu Ghazzah (1997) and Sadalla & Sheets (1993). All such studies have come up to the conclusion that aesthetics and appearance are important in defining the identity and individual character of the home, and therefore form a significant part in evaluating the quality of any home.

In view of this, external appearance was taken as an indicator of the quality of dwelling, supposing it has an influence on residential satisfaction and QOL. To explore the influence of external appearance on residential satisfaction and QOL respondents were asked to state their level of satisfaction with the external appearance of their houses. Among all respondents 64.2% stated they are satisfied with the external appearance of their houses in comparison to 15.4% who stated they are dissatisfied. Regarding the relationship with measures of QOL, results revealed the presence of significant association between being satisfied with the external appearance of the house and being satisfied with residential built form, satisfied with housing in general and reporting high QOL levels. Table 8.25 shows mean and median scores for QOL and satisfaction with dwelling associated with satisfaction with external appearance of dwelling.

Table 8.25: Relationship between satisfaction with external appearance of house and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Level of satisfaction	**Frequencies**	**Satisfaction with dwelling**		**QOL level**	
		Mean	Median	Mean	Median
Strongly satisfied	19.7%	8.09	8.00	7.57	8.00
Fairly satisfied	44.5%	6.67	7.00	6.79	7.00
Neutral	20.5%	5.79	6.00	6.13	6.00
Slightly dissatisfied	10.0%	4.39	4.00	5.49	6.00
Strongly dissatisfied	5.40%	3.59	3.00	5.07	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

It can be clearly seen that a strong positive association occurs between being satisfied with the external appearance of the dwelling and scoring high values of satisfaction with residential built form, i.e. dwelling, and QOL. It can be noticed from both the mean and median values of satisfaction and QOL that this indicator reflects one of the most apparent relationships with QOL measures, as their values seem to change substantially in line with the change of satisfaction with external appearance. For instance, the mean value of satisfaction with residential built form changes from 8.09 in case of being strongly satisfied with external appearance of house to 3.59 in the case of being strongly dissatisfied. Such transition rarely appeared in other indicators related to the quality of dwelling. Cross tabulation supports also such findings providing more exploration. Table 8.26 presents outcomes obtained from cross-tabulating satisfaction with external appearance of house and satisfaction with dwelling. The table shows a big drop in the level of satisfaction with dwelling associated with the decrease in satisfaction with the external appearance of it. Around 83.0% of respondents who stated they are satisfied with the external appearance of their dwellings reported they are satisfied with their dwellings in overall. This percentage falls extensively until reaching 7.3% only for respondents who strongly disagreed with that.

Table 8.26: Satisfaction with external appearance of house vs. satisfaction with dwelling cross-tabulation

			Satisfaction with dwelling					
		No.	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	Total
How would you describe your level of satisfaction with the external appearance of your house?	strongly satisfied	150	2.7%	2.0%	12.0%	34.7%	48.6%	100%
	fairly satisfied	339	1.5%	7.1%	33.6%	48.4%	9.4%	100%
	neutral	156	5.8%	19.2%	38.5%	30.1%	6.4%	100%
	slightly dissatisfied	76	14.5%	38.2%	34.2%	11.8%	1.3%	100%
	strongly dissatisfied	41	34.1%	34.1%	24.5%	7.3%	0.0%	100%
Total		762	5.6%	13.1%	29.9%	36.2%	15.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 2 cells (8.0%) have expected count less than 5 (Accepted)

Considering satisfaction with housing in general, it can be seen from Figure 8.18 that the interest to move to another house, as an indication of dissatisfaction with housing, increases with the decrease of satisfaction with the external appearance of house. A

quite similar relationship can be also noticed from Figure 8.19 between satisfaction with external appearance and reporting higher QOL levels. All such findings indicate that the external appearance of houses has a strong impact on QOL and satisfaction with housing.

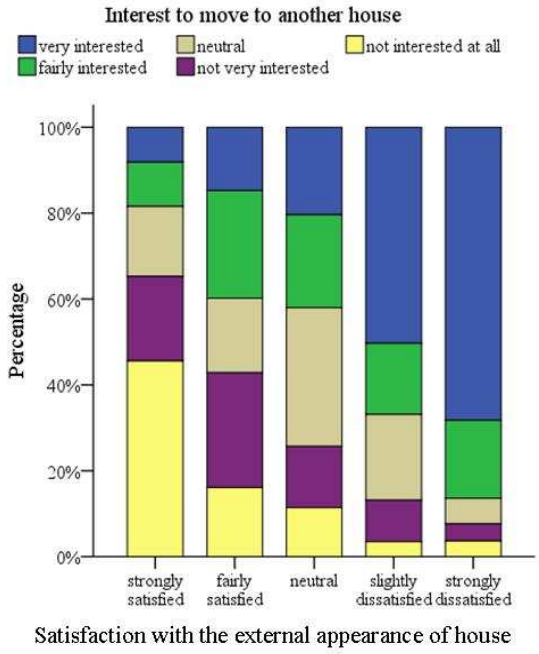


Figure 8.18: Satisfaction with external appearance of dwelling vs. interest to move to another house

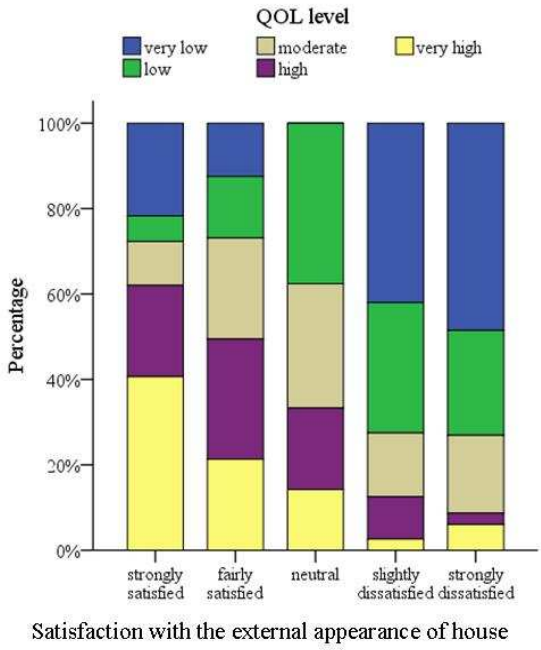


Figure 8.19: Satisfaction with external appearance of dwelling vs. QOL

In spite of being an influential component of the quality of dwelling, no sort of significant relationship was found with socio-demographic factors of respondents except for level of education and income. As the case with most indicators, satisfaction with external appearance of house was found to be associated with higher levels of education and income. On the other hand, all housing provision factors were found to have significant association with satisfaction with external appearance of dwelling. Regarding tenure type, respondents living in owned houses were found to be more likely to be satisfied with their dwellings' external appearance where 75.8% of them stated they feel either strongly or fairly satisfied. Respondents living in houses bought with mortgages came in the second place from which 74.7% stated they feel satisfied with the external appearance of their houses, while those living in privately owned houses seemed to be the least to be satisfied.

In reference to house type, as can be seen from Table 8.27 results have shown very high levels of satisfaction associated with living in villa type. 97.6% of respondents living in villas stated they are satisfied with the external appearance of their houses, half of which stated they are strongly satisfied. Respondents living in flats came in the second place from which 54.0% stated they are satisfied with the appearance of their houses. This can be evidently justified taking into consideration that the majority of people who live in villas were involved in the design of their houses and therefore, were able to impose or place their own preferences on the design scheme to reflect what their identities and aesthetic flavours[3]. Such advantage is not obtainable in the case of flats as in most cases apartment buildings are built by housing developers and then sold to people. In this case households have only the opportunity to choose among what is available in the market and matches with their needs and constraints. These outcomes match findings obtained from other studies including for instance the work of Reis (2001) who noted the impact of housing type on the satisfaction with the design and appearance of the house. In explaining that Reis states: *'…the most satisfied with their housing appearance were, precisely those which personalised more and gave meaning and identity to their housing, namely, the residents of detached houses…'* (Reis 2001, pp:69).

Table 8.27: House type vs. satisfaction with external appearance of house cross-tabulation

			Satisfaction with external appearance of house					
		No.	strongly satisfied	fairly satisfied	neutral	slightly dissatisfied	strongly dissatisfied	Total
House type	flat	575	18.6%	45.2%	21.3%	9.7%	5.2%	100%
	dar	108	16.7%	42.6%	26.8%	9.3%	4.6%	100%
	villa	43	48.8%	48.8%	0.0%	0.0%	2.4%	100%
	other	36	11.1%	33.3%	13.9%	27.8%	13.9%	100%
Total		762	19.6%	44.5%	20.5%	10.0%	5.4%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 4 cells (20.0%) have expected count less than 5 (Accepted)

[3] In most cases villas are not purchased but rather, built by households, which gives them the opportunity to present their needs, thoughts and desires to the designers. Taking into consideration that people living in villas usually enjoy high income levels, it become more achievable for them to build houses that suits their tastes and express their identities.

Comments made by interviewees support findings from the survey in several aspects. Most interviewees agreed that the external appearance of the house, particularly the facade, is among the key aspects that people consider when building or searching for a house. They believe that people are usually attracted with houses that look distinctive in their external appearance and rich in terms of architectural details and the use of precious materials, particularly stone, as part of feeling pride of their houses. Moreover, they claimed that people have built a common conviction over the time about some design features whose existence in any house is seen as a sign of luxury. These include for example, the use of cornice, stone or marble columns, brick tiling and obviously stone cladding. This matches with findings of Abu-Ghazzeh (1997) in his study about the dialectic dimensions of homes as an expression of identity in Amman in which he stated: *'In the contemporary Jordanian Society, a premium is put on originality, on having a house that is unique and somewhat different from others in the street; the inhabitants who identify with these houses are struggling to maintain some sense of personal uniqueness…'* (Abu-Ghazzeh 1997, pp:250). Figure 8.20 presents examples of different apartment buildings facades emphasising the great attention given to facade design as a way to attract people.

Figure 8.20: Examples of different apartment buildings facades

Findings of Reis (2001) and Sadalla and Sheets (1993) provide additional support to the influence of the external appearance of the house. In his study about housing appearance as an indicator of housing quality, Reis claimed that facades with certain visual richness with a certain number of architectonic elements taking part in the composition produce a more positive effect over residents, than those facades with minimum elements. Sadalla and Sheets on the other hand, argue that the materials from which houses are constructed convey more meaning to people than simply the physical properties of materials. They argue, through a series of studies, that building materials employed on exterior facades have a function of defining the social identity of home owners.

In light of that, it was widely agreed among interviewees that the external appearance of house has a big impact on the satisfaction with the residential built form and satisfaction with housing as a whole. Many of them also agreed that the external appearance is among the issues that are heavily considered by housing developers especially when talking about residential buildings. Yet, the criticism that was presented by some of interviewees, is that this attention towards the external appearance of the building usually comes at the expense of the quality of some other aspects such as finishes that are sometimes more important. Under this meaning, one interviewee stated:

> ‘Housing developers are usually concerned in achieving the greatest possible profit-making. Therefore, they usually try to find ways to cut costs and provide more savings without prejudicing the marketability of their housing projects. One of the commonly used solutions is to focus on the external skin of the building providing it with rich details and attractive features to draw the attention of buyers while paying less attention to the quality of construction and finishes from which they can secure some additional savings…’ (UA 5).

Some other interviewees, particularly architects, have even questioned the quality of the produced facades:

> ‘I realize it is difficult to give a common judgement about the beauty of the design or appearance of a building as this is a subjective matter that differs from person to another depending on his perception and sense of beauty. Yet,

> there are some obvious things that can be difficultly accepted as being beautiful or of pleasing appearance. In the case of residential buildings that are produced by housing developers we can see that in many cases what is introduced as an attractive or pleasing façade is rather, a collection of a number of architectural elements attached to the external skin of the building without being originated from or linked to the overall design. This cannot be considered as a real aesthetic value, but a blend that draws the attention of people and stimulate them to buy… Unfortunately, this approach has proven itself to be successful.' (APC2).

Regardless, of these opposing opinions, it can be said that the external appearance of houses form a central issue in people's satisfaction with their houses and consequently is said to have influence on their overall QOL.

9.9. Quality of Basic Amenities

In order to assess the influence of quality of basic amenities on QOL and satisfaction with housing, respondents were asked to mention what basic services they have inside their dwellings and state their level of satisfaction with those services. Table 8.28 shows frequency distribution results regarding the availability of basic services.

Table 8.28: Availability of basic services

Service	Frequencies	Service	Frequencies
Fresh water	99.7%	Land line phone	66.7%
Electricity	99.7%	Broadband	63.7%
Connection to sewage	92.9%	Central heating	40.1%

As can be seen, the three basic services (water, electricity and sewage) are almost available in almost all houses. The least available service is central heating where many people rely on other types of heating due to high costs associated with the use of central heating systems.

Regarding satisfaction with services, results have shown that almost 60.5% of respondents seem to be satisfied with basic services available in their houses, while 17.6% seemed to be dissatisfied. This level of satisfaction was found to have significant association with satisfaction with dwelling as well as QOL. Table 8.29 shows mean and

median scores for QOL and satisfaction with dwelling associated with satisfaction with basic services, both of which reflect the presence of positive relationship.

Table 8.29: Relationship between satisfaction with basic services and satisfaction with dwelling & QOL (mean procedures & Kruskal Wallis test).

Level of satisfaction	Frequencies	Satisfaction with dwelling		QOL level	
		Mean	Median	Mean	Median
Strongly satisfied	24.5%	7.76	8.00	7.58	8.00
Fairly satisfied	35.4%	6.73	7.00	6.78	7.00
Neutral	22.5%	5.57	5.00	5.96	6.00
Slightly dissatisfied	12.4%	4.84	5.00	5.54	5.00
Strongly dissatisfied	5.20%	4.56	4.00	5.74	5.00
Median Kruskal Wallis H Test Result		Asymp. Sig. = 0.000 < 0.05 (Significant)		Asymp. Sig. = 0.000 < 0.05 (Significant)	

Further clarifications were made using cross-tabulation. As can be seen from Table 8.30 respondents strongly satisfied with basic services seem to be the most likely to be satisfied with their dwellings. Almost 81.0% of respondents who stated they are satisfied with basic services in their houses reported they are satisfied with their dwellings. This percentage tends to dramatically drop until reaching 23.0% among respondents who stated they are strongly dissatisfied with basic services in their houses.

Table 8.30: Satisfaction with basic services in the dwelling vs. satisfaction with dwelling cross-tabulation

		No.	Satisfaction with residential built form					Total
			strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	
To what extent are you satisfied with basic housing services (water, electricity, sewage,.)?	strongly satisfied	184	4.9%	4.3%	9.9%	38.0%	42.9%	100%
	fairly satisfied	266	2.6%	8.6%	27.1%	53.4%	8.3%	100%
	neutral	169	5.3%	14.2%	55.0%	20.8%	4.7%	100%
	slightly dissatisfied	93	7.5%	37.6%	34.5%	17.2%	3.2%	100%
	strongly dissatisfied	39	25.6%	25.6%	25.8%	17.9%	5.1%	100%
Total		751	5.6%	13.2%	30.0%	36.0%	15.2%	100%

- Pearson Chi-Square: Asymp. Sig. (2-sided) = 0.000 < 0.05 (Significant)
- 1 cell (4.0%) has expected count less than 5 (Accepted)

Similar results were obtained when exploring the relationship between satisfaction with basic services and satisfaction with housing in general. As can be seen from Figure 8.21

respondents who were strongly satisfied with basic services were the least interested in moving to another house. This interest in moving was found to increase with decrease in level of satisfaction. Such tendency was also found with QOL as illustrated in Figure 8.22. This leads us to conclude that the quality of basic services has both direct and indirect impacts on QOL.

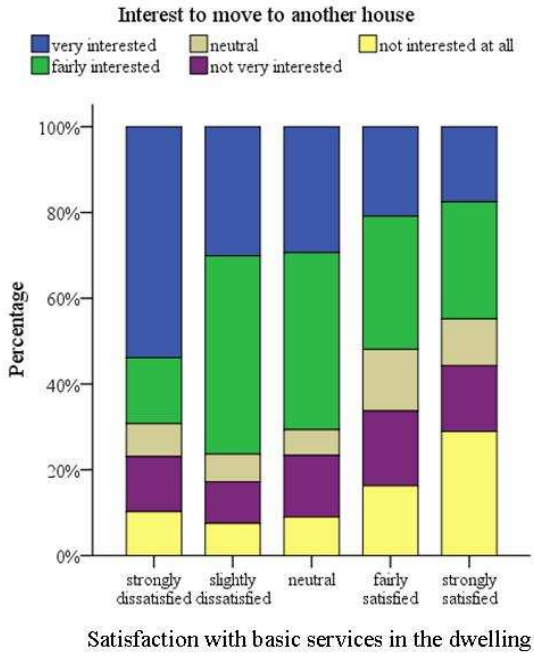


Figure 8.21: Satisfaction with basic services in the dwelling vs. interest to move to another house

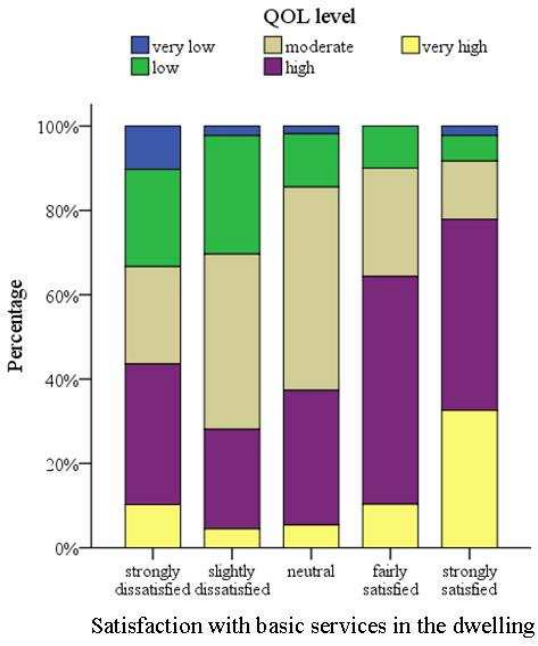


Figure 8.22: Satisfaction with basic services in the dwelling vs. QOL

Detailed investigations provided more insight about satisfaction with quality and cost of each service. As can be seen from Table 8.31 respondents were less satisfied with cost of services than with quality of service. Results show higher levels of satisfaction with service quality if compared to the cost of service. It can be seen that only 36.4% of respondents seem to be satisfied with cost of electricity, in comparison to 82.0% satisfied with the quality of this service. Similar findings were obtained regarding other services, suggesting that costs of basic services negatively affect people's satisfaction with housing and QOL. Taking into consideration the massive rise taking place recently in the costs of services, the impact of this issue is expected to be more negative on QOL.

Table 8.31: Satisfaction with basic services in the dwelling – break down

Service	Level of satisfaction					Total
	strongly dissatisfied	slightly dissatisfied	neutral	fairly satisfied	strongly satisfied	
Quality of service						
Fresh water supply	8.3%	16.1%	11.7%	39.2%	24.7%	100.0%
Electricity	2.1%	5.4%	10.5%	37.6%	44.4%	100.0%
Sewage	6.3%	7.9%	11.8%	36.5%	37.5%	100.0%
Land line telephone	10.3%	5.8%	11.3%	25.0%	47.5%	100.0%
Cost of service						
Fresh water supply	13.6%	24.0%	15.5%	31.7%	15.1%	100.0%
Electricity	18.9%	31.8%	12.8%	26.6%	9.8%	100.0%
Sewage	10.6%	15.0%	23.2%	33.2%	18.1%	100.0%
Land line telephone	15.1%	16.5%	19.9%	20.3%	18.3%	100.0%

Four factors were only found to have significant association with satisfaction with public services. These included, sex of respondent, level of education, income level and tenure type. Female respondents seemed to be more likely to be satisfied among which nearly 70.0% stated they are satisfied compared to 56.0% of males who stated they are satisfied. On the other hand, education and income were found to have positive association with satisfaction with services - that is, the higher education and income levels, the higher satisfaction with basic services is. This can be justified on the bases of financial capabilities that make the burdens of covering the costs of basic services less in the case of respondents who are of better financial situation, providing that satisfaction with services is strongly affected by their costs. Regarding tenure type, respondents living in privately rented houses were found the least satisfied with services while homeowners seemed to be the most satisfied.

9.10. Summary of Chapter's Findings

This chapter aimed at exploring the attributes that constitute the quality of dwelling in Amman and the implications it has on the satisfaction with housing and QOL. Seven different indicators were used for this quality. Data analysis revealed significant associations between these different indicators and measures of QOL. Yet, results have shown that they vary in the degree of influence on those measures. Some indicators were found to be more influential than others, As well, some were found to have positive influence, while others seem to have negative influence. Table 8.32 presents a summary of the survey findings illustrating the level of significance between socio-

demographic and housing provision factors, quality of dwelling indicators and QOL measures.

Considering the surveyed population, the findings of the research showed that interior configuration, quality of construction and external appearance were found to be the most influential factors on satisfaction with dwelling, satisfaction with housing in general and QOL. With the exception of quality of construction, they all seem to have a relatively positive influence among a large segment of the surveyed population. On the contrary, quality of construction appears to have a more negative impact, denoting that the majority of people suffer from issues related to construction in their dwellings. Overcrowding and interior comfort, on the other hand, were found to be less influential on satisfaction with dwelling and QOL.

In reference to the socio-demographic factors, results revealed a strong impact confined with income level. With the exception of few measures, income was found to have significant associations with almost all measures of the quality of dwelling. The logical outcome is that higher income levels were always associated with higher level of satisfaction with quality of dwelling indicators. Unlike the case of the quality of context measures the majority of socio-demographic factors were found to be significantly less influential. Number of children less than twelve years old comes in the second place after income in terms of influence, followed by sex of respondent and level of education. Factors including age, household structure, employment and number of people living in the house have very limited influence with very few measures. Apart from the influence of income, it was found that having more children under the age of twelve was always associated with lower levels of satisfaction in relation to the quality of dwelling. Additionally, female respondents seem to be in many instances more satisfied with the quality of dwelling than male respondents. Based on these findings, it can be said that male respondents with more family members, particularly children aged under 12, with less income and lower education level are the least likely to be satisfied with their dwellings, and therefore, will be their QOL will be the most negatively affected from that.

Table 8.32: Summary of quality of dwelling survey findings

Factors of Influence											Indicator	Measure	Means of Assessment		
Sex	Age	Level of Education	Employment	Household structure	No. of people living in house	No. of children under 12	Income	Tenure type	House type	Length of residence			Satisfaction with Dwelling	Satisfaction with housing	QOL level
-	-	-	-	-	X	X	X	X	X	X	Overcrowding	House is crowded	X	X	X
-	X	-	-	-	x	X	X	X	X	-	Interior configuration	Satisfaction with interior layout	X	X	X
X	-	X	-	-	-	X	X	X	X	X	Interior comfort	Fulfilment of comfort need	X	X	X
-	-	-	-	-	-	-	-	X	-	-		Lack of natural light	X	X	X
x	-	X	-	-	-	-	X	X	X	X		Lack of natural ventilation	X	X	X
X	-	-	-	x	-	x	-	X	X	-		Poor heat or sound insulation	X	X	X
-	-	-	-	-	-	-	X	X	X	-	Quality of construction	Satisfaction with construction	X	X	X
-	-	-	-	-	-	-	-	-	-	-		Rot in doors, windows or floors	X	X	X
-	-	-	-	-	X	X	X	X	-	X		Damp or leak in walls or roof	X	X	X
-	-	X	-	-	-	-	X	X	X	X		Need of major repairs	X	X	X
-	X	-	-	-	-	-	X	X	X	X	Adaptability	Ease to adapt house to needs	X	X	X
-	-	-	-	-	-	-	X	X	X	X	External appearance	Satisfaction with external appearance	X	X	X
X	-	X	-	-	-	-	X	X	-	-	Basic services	Satisfaction with basic services	X	X	x

Significance of association	X: Significant Association 0.00 < X < 0.025	x: Significant Association 0.025 < x < 0.05	NA: Not applicable

Clarity of relationship with QOL measures	No Association	Apparent Association	Very apparent Association

The influence of housing provision factors seems in the case of the quality of dwelling more obvious. Tenure type was found to be the most influential with nearly all indicators. In all cases homeowners were the most likely to be satisfied with indicators related to the quality of dwelling. The list of reasons behind that is quite long and has been referred to earlier. Housing type and length of residence were found to have significant relationships with several indicators. Yet, the influence of these factors seems to vary among different indicators. For all indicators, short periods of residence were associated with higher likelihood of satisfaction with dwelling. Regarding the influence of house type, results have shown that in all related cases that respondents living in villas were always the most likely to be satisfied with their dwellings followed mostly with those living in flats. This indicates that in reference to most quality of dwelling indicators flats reflect better living conditions if compared to other types of housing except villas.

Based on such findings, it can be said that the most influential factors of the quality of dwelling are the interior comfort and the quality of construction. The influence of these two components as well as with other quality of dwelling components can be interpreted from several facets referring to direct and indirect effects. Direct effects include the explicit advantages that can be gained from good housing conditions in terms of fulfilling basic human needs such as body care and physical comfort, relax, sleeping, personal hygiene, health and many others. Living in a dwelling of good physical conditions also implies, lower expenses associated with maintenance work, and service provision such as heating. It also means carrying out daily activities more efficiently. On the contrary, living in poor quality dwelling is carried out the threat of losing most or at least part of these advantages. Indirect effects include, in the case of having good quality of dwelling higher levels of satisfaction associated with control, command over resources and personal empowerment. All such aspects results in achieving of better QOL.

Chapter Nine

Conclusions

9.1. Introduction

Over the last five decades the world has witnessed dramatic urbanisation and urban growth across the globe. The majority of the world's population nowadays resides in cities. This rapid urbanisation, particularly in the case of less developed countries, has created a host of problems that weaken the role of cities in providing decent living conditions for the majority of urban dwellers. Pervasive poverty, inequality, inadequate housing, lack of urban services, transportation problems, and environmental degradation are all negative aspects of this rapid urbanisation that contribute to dreadful living conditions for many urban dwellers. For most countries, urban growth has always been accompanied with severe housing problems (Drakakis-Smith 1995; Hall & Barrett 2012; UN Habitat 2008). As more people are drawn into cities, as a result of the perceived opportunities available to them, the ability of cities to meet the housing needs of growing and changing urban populations has become increasingly problematic. The world's cities face growing problems of housing affordability, with a rise in the numbers of urban dwellers who occupy sub-standard or illegal housing, or who are homeless. No city is free of housing problems, yet the nature and scale of these problems is highly varied around the world. The severe problems that are facing the fulfilment of housing demands and the provision of good quality housing have overt destructive implications for the life quality of urban dwellers (Jenkins, et al 2006; Pugh 1990).

A significant body of research has addressed the significance of housing and the influences it has on people's lives. The majority of housing studies, particularly in the case of the developing countries, has, however, explored these influences from narrow

angles that fall short of allowing those concerned to grasp the overall impact of housing. In light of this, it is argued that the most appropriate measure to look at the influence of housing is, alternatively, the holistic overarching concept of quality of life (QOL).

This study has employed this comprehensive approach by studying the case of one of the capital cities of the developing world. It aimed at investigating the contribution of housing quality towards QOL, particularly in Amman, Jordan as a representative city of the developing world. In doing so, the research identified four main objectives. Each objective sought to assess the current housing situation in Amman and reveal part of the relationship and the means by which housing affects QOL. The objectives of the research were to:

- Critically examine the existing conceptualisations of housing quality and QOL.
- Assess the state of QOL in Amman and determine the factors that affect people's perceptions and judgements of their QOL.
- Identify the significance of housing on QOL in relation to other factors influencing QOL.
- Examine the impacts of the diverse aspects of housing quality on perceived QOL of residents.

The research adopted an integrated conception of housing quality that poses three types of qualities - quality of provision, quality of context and quality of dwelling, and explored the implications of each of these qualities, to provide an overarching understanding of the influences of housing on QOL. Such understanding implies identifying the most influential aspects within each of the three types of qualities, and interpreting the impact of these aspects or components on QOL, taking into consideration the impact of the socio-demographic and housing provision factors.

This chapter synthesises outcomes of the research objectives that have been addressed in previous chapters. It concludes the study and discusses the main findings derived from the empirical analysis. The chapter starts with a critical evaluation of literature on housing quality and QOL and the necessity of applying an integrated vision of housing

quality, followed by disclosing the basic inferences made about housing and QOL in Amman. After that, the main findings obtained in regard to the three housing qualities is summarised in order to, detect the most influential quality components and the means by which they affect QOL, reflecting on theories and concepts related to QOL. This is followed by detailed interpretations about some key cross-cutting aspects detected in the research in reference to the impact of the socio-demographic and housing provision factors and the heterogeneity of experiences associated with them. Finally the chapter ends with a brief discussion about the limitations of the research and directions for future research that could be complementary to the present investigation.

9.2. The Three Qualities of Housing - An Integrated Vision

In response to the first objective, i.e. *the critical analysis of conceptualising housing quality and QOL*, the study makes a key contribution to housing research by introducing and applying the integrated conception of housing quality. It also presents a vision of how to link between the subjects of housing quality and QOL, and how to make use of the different theories and conceptions of QOL as a basis to examine and assess the quality of housing.

Housing and QOL are two valuable subjects that capture the attention of many researchers. They are fundamentally interrelated and share a huge set of commonalities in both the theoretical and empirical backdrops, as has been noted from the review of literature. Nevertheless, the linkages between these two fields of research are seen to be inconsistent with the strength of the relationship between them. In spite of its importance, housing still does not form a core interest in QOL research if compared to other domains of life quality such as economy and health. Likewise, QOL is rarely employed as an assessment tool for exploring the influence of housing on people's lives. A few number of studies have merely searched for the relationship between housing and QOL in reference to the theoretical bases of these two aspects, most of which have engaged with specific features or aspects rather than with the holistic viewpoint of housing.

In relation to research on housing quality, there seems to be a scarcity in studies that cover the broad dimensions of the subject. Most of the studies undertaken either to define or assess housing quality were found disjointed, and largely subject to the disciplines from which they were employed. Research from different bases has had difficulties connecting with each other due to the different concepts, theories, methods and languages adopted by each discipline. Each of the alternative approaches of exploring housing quality has shown a degree of insufficiency in covering all aspects that constitute the overall notion of housing quality, either by focusing on the subjective dimensions of housing quality as is the case with studies of residential satisfaction, or by addressing mere objective attributes, but within narrow scopes that look primarily at the housing supply and affordability, or residential built form, or the neighbourhood. Only a few studies have covered a multiplicity of housing quality components. In respect of that, a reappraisal of the concept of housing quality is needed towards an integrated approach that covers all related aspects and dimensions. This implies the development of a contextual understanding based on the identification and aggregation of the contingent factors that pays attention to the different aspects of housing, including provision and affordability of housing. This helps in developing effective housing policies by employing a comprehensive vision that has sturdy relationships to general land policies, to the development of housing finance systems, and to the broader economic, social and institutional conditions for enhancing the qualities of housing supply, particularly in developing countries like Jordan.

In response to that, the study adopted an integrated approach that proposes three types of housing quality: quality of provision, quality of context and quality of dwelling. Each sort of quality represents a distinct level or scope of interest by which housing quality can be assessed. Together they offer a holistic vision that takes into consideration the different aspects that might be of concern when examining housing quality including, for instance, physical, aesthetic, economic, social and environmental matters. Additionally, each of these different matters can be explored and examined from both the objective and the subjective dimensions, which gives the opportunity to build an assessment of housing quality that is closer to reality. This, in turn, helps draw up

housing policies that are more efficient and better able to meet the actual needs of people.

Regarding research on QOL, investigation in literature has shown that most QOL indices and programmes include measures of housing quality as part of an overall scheme that encompass other domains of life quality, although it has been found that the majority of these studies have only covered partial attributes of housing quality encompassing mainly measures of housing provision such as housing affordability, value, formation and tenure type and some measures related to the residential built form in some instances. It has been also found that subjective measures are rarely used in such programmes as the focus is often on objective measures. Additionally, it was noted that the variation in the quantity and type of measures used to assess housing quality reflects different contextual circumstances among different programmes, and a diverse degree of significance given to housing as a domain in comparison to other QOL domains. This, in turn, confirms the argument that QOL is indeed a context-based subject that can be best explored at the local scale. In respect of that, the integrated conception of housing quality, denoting the three qualities of housing, provides a reliable approach through which housing can be addressed within QOL research.

On the broader scale of QOL research it has been noted that, so far, there has been a relative separation between studies dealing with the interpretation and understanding of QOL and those assessing QOL. In spite of the substantial amount of literature undertaken on theorising QOL and drawing the conceptual base for synthesising and grasping its influence, it was found that studies engaged in measuring and assessing QOL have rarely made use of QOL-theorising studies. Several theories have been put forward to interpret QOL, some of which have been referred to in this research. Many of these theories provide useful basis for undertaking QOL measurement research, and therefore, offer the potential to explore the different attributes of it from different viewpoints: yet their actual use in empirical QOL studies remains uncommon. The divergence between these two types of QOL narrows down the amount of benefits that can be gained from QOL research studies.

9.3. Basic Inferences on Housing and QOL in Amman

Results have shown a general tendency towards satisfaction with QOL and residential circumstances where nearly 56% of respondents considered their life to be of high quality. This presents the case with developing countries such as Jordan where people are usually satisfied with less because they aspire to less. Material conditions were found to be of strong influence on people's QOL in Amman resulting in apparent spatial distribution of QOL among different districts and locations in the city. Results have emphasised the significance of housing and its influence in shaping QOL. Satisfaction with housing circumstances reflected in the lack of interest to move to another house was found to be strongly associated with high QOL level. Moreover, the role of housing as a determinant of QOL was clearly explored. Results have shown that housing was one of the highest ranked domains of QOL (ranked fourth, after health, employment and income, as well as security and safety) with a high degree of consistency and agreement among survey respondents and key interviewees. Referencing this, results reflected a general tendency among people living in Amman towards perceiving aspects that are of more personal or individual manner such as health and safety over those of more collective or public concerns such as transportation and politics. Such findings suggest that, from an individual viewpoint, individuals are more concerned with perceptual perspectives than with environmental ones.

Three domains were perceived as negatively affecting QOL; these are access to transportation, employment and income, and housing. Conversely, education, health, and family and social life were found to be positively affecting QOL. This, in turn, reflects defective conditions of these three domains, and suggests that they are in need of much more attention. Research findings revealed a strong impact of housing on all other life domains. Family and social life as well as health were found to be the most positively influenced by housing conditions, while access to transportation and recreation seemed to be the most negatively influenced by current housing conditions in Amman. Findings also indicated different sorts of influence through which housing affects QOL on the different scales, the provision scale, the context scale and the dwelling scale, by means of both direct and indirect effects. In respect of that, locational attributes of housing, reflected in what has been called 'quality of context', appeared to

have a noticeable effect on QOL. An initial inference with which to build on this is that the impact of housing as a QOL domain is probably unfavourable on the broad contextual scale.

People seem to vary in their perception and evaluation of QOL and housing quality. This disparity is influenced by socio-demographic factors including income level, level of education, number of children in the household, age of respondent and number of people living in the house. Housing provision factors including tenure type, house type and length of residence were also found to have a significance influence on perceptions about housing quality and QOL. In respect of that, home ownership was found to be strongly associated with high levels of satisfaction with housing quality and QOL. The impact of apartment buildings and residential flats as a dominant housing type was also confirmed. This type of housing was found to be strongly associated with certain types of housing quality but also linked with other sorts of housing deficiencies.

In addition, research findings have revealed an inconsistent relationship between quantitative data obtained from the survey and secondary data resources and qualitative data obtained from interviews. There seem to be several consensus points; but also many points where opinion vary. This was found to be associated with the subject under concern, as findings show strong levels of agreement on some housing quality issues and considerable levels of disagreement on other quality issues. This disparity confirms the initial assumption made by the research and supported by extensive literature made on QOL and housing quality about the importance of triangulating both subjective and objective data in QOL research in order to obtain a better insight about the QOL subject under investigation.

9.4. The Three Qualities of Housing and the Influence on QOL

In order to gain better insight about the present condition of housing quality in Amman and the means by which it affects people's QOL, in regard to the three identified types of quality - quality of provision, quality of context and quality of dwelling - it was important to undertake an in-depth analysis to assess each quality, and to attempt to interpret the outcomes of such a robust analysis. Having identified the three qualities

and segregated them gives the possibility of quantifying the impact each quality has on the satisfaction with housing and QOL. The following subsections provide some key interpretations that help build an overarching understanding of the influence of housing quality on QOL in regard to the three qualities of housing adopted in the research.

9.4.1. Quality of provision

Quality of provision presents the broader scale against which the impact of housing quality on QOL was investigated. This entailed examining the attributes of housing supply, and exploring the extent to which it fulfils people's housing needs and demands. Three indicators were use to examine this quality; affordability, fiscal burden and suitability of housing supply. Results revealed a broad dissatisfaction with the quality of housing provision among survey respondents and interview participants, as the majority in both groups admitted there is no enough affordable suitable housing, in terms of quality and quantity, on the market. Among all the survey respondents, only 30% agreed there is enough suitable housing in the market. In respect of that, it can confidently be said that there are limitations in the housing options and choices which are available to people; at least for a big portion of the population. This in turn reflects an underperformance in the system of housing supply in Amman and a failure in meeting the housing needs of the majority of city dwellers. Such deficiency is said to be the result of the rise in housing costs accompanied by low income levels and purchasing power, uncontrolled rapid urban growth, ineffective housing policies and lack of understanding and acting on the actual housing needs.

This shows that housing cost poses a main obstacle to people acquiring proper housing in Amman. Nearly half of the survey respondents were found not to live in affordable houses, i.e. paying more than 30% of their income on housing, while almost two thirds deemed they suffer from hard fiscal burdens caused from acquiring their houses. Such findings concur with outcomes obtained from secondary data resources, reflecting the week financial capacity of a broad sector of the population. This was found to be strongly associated with low perceived QOL and housing satisfaction levels. Several explanations have been given for this. The first comprises the shortfall in fulfilling other materialistic life needs such as food, clothing, health and transportation because of the

high costs of housing. The second explanation refers to the decline in the level of housing ambitions among residents as they are losing more and making higher concessions regarding their housing needs in order to cope with their financial capabilities and the set of affordable housing qualities offered in the market. This can be further interpreted in relation to the 'Gap Theory' of QOL, where QOL is affected by the variance between the actual and the desired living circumstances. In light of that, the more compromises people are making in their housing demands, the less satisfied they become with their housing circumstances and with QOL in general.

Another explanation can be posed based on the 'Human Development Theory' of QOL. According to the theory, QOL is substantially affected by the set of opportunities available for people to act upon. In respect of that, QOL becomes determined by the degree to which the surrounding environment provides resources to improve individuals' capabilities to meet their needs. Reflecting on the quality of housing provision, it can be argued that the current housing supply system in Amman diminishes such capabilities through the obstacles of high costs, weak financing schemes, undersupply and lack of adequate housing alternatives. This in turn limits the capability of the majority of city dwellers to act in a way that accomplishes their housing needs, which as a result reflects negatively on their overall QOL.

Other explanations address broader dimensions of influence. These include illegal actions undertaken by some households to attain their housing needs through the infringement on the property of others, or the violation of building regulations, all of which have negative implications on the community's QOL.

9.4.2. Quality of context

Quality of context explores attributes of the urban setting and neighbourhood in which the dwelling is situated. It presents the second scale against which the influence of housing quality on QOL was investigated. Ten indicators were used to explore the impact of this quality; these were proximity, access and connectivity, efficiency of infrastructure, appearance and orderliness, social integration, privacy, safety and security, tranquillity and pleasantness, reputation, and diversity. The results from this

have shown a relatively high level of overall satisfaction with neighbourhood conditions, as 55% of respondents stated they are satisfied with their neighbourhoods and surroundings in comparison to 21% who stated they are not satisfied. This was found to be strongly associated with high perceived QOL levels, confirming a valuable effect of the housing context on the evaluation of people's satisfaction with housing and QOL. The influence of the different quality of context components, however, seems to vary in terms of form and magnitude. Privacy, tranquillity and pleasantness, as well as security and safety were found to be the attributes that have the most obvious impact on QOL of residents living in Amman. This was justified on the basis that such components are naturally in close contact with residents, such that their impact can be felt even inside the dwellings, and therefore cannot be overlooked. However, while outcomes from both the quantitative survey and the qualitative interviews reflected positive impressions in relation to the influence of security and safety (82% of survey respondents reported they feel safe and secure in their neighbourhoods), suggesting an affirmative impact of this component on QOL, Lack of privacy along with lack of tranquillity and pleasantness were perceived to have a more negative impact on QOL. This indicates that both attributes are not well achieved by the majority of people and that the current housing settings do not create the required ambience to maintain these two valuable features.

Further explanations for this can again be offered in relation to the 'Human Development Theory' of QOL. This theory deems that in order to enhance the capability of individuals to make use of their surroundings they must have command over their resources. This, in turn, is reflected by means of control that fosters a higher degree of freedom in regulating and dealing with various life events. In light of this, privacy intrusion, or annoyances caused by noise or unpleasant actions in the surrounding environment attack this freedom and create the feeling of having less control over the most exclusive and important individual site - that is, the house. This can cause negative emotional and psychological stresses among households in addition to hindering the efficient and comfortable use of residential space and the performance of basic residential activities.

Appearance and orderliness is another aspect that was found to have a strong impact on satisfaction with housing and perceived QOL. Results obtained from both the survey and the interviews confirmed such a finding. However, while survey outcomes revealed a relatively positive response regarding this indicator, as 55% of respondents were pleased with the appearance and order of their neighbourhoods, key informants, i.e. interviewees, were all dissatisfied with this aspect, arguing it is a main cause of several problems that affect the overall experience of urban life in the city, including those related to transportation and traffic congestion, environmental degradation and many others.

Results have also revealed a considerable influence of access and connectivity on satisfaction with housing and QOL: yet such influence seems to be negative in the case of Amman, which can be seen as an indication of poor transportation conditions. On the contrary, the impacts of social integration, efficiency of infrastructure and public services, as well as proximity on QOL were found to be less apparent. All of these aspects were found to have a relatively positive impact on the satisfaction with housing and QOL, indicating that they are well addressed. Apart from the broad consideration of the attributes or indicators of the quality of provision, two particular aspects appear to have a strong negative impact on satisfaction with housing and QOL. These are the lack of green public open spaces and the lack of proper parking areas. Both aspects were perceived by survey respondents and interview participants as drawbacks that almost all neighbourhoods in Amman suffer from, and therefore, are in need of significant attention. Among all the surveys almost 70% and 45% respectively reported the lack of green public spaces and the lack of parking areas as problems.

Overall, the quality of housing context can be said to be a key component of the overall quality of housing and, therefore, a strong determinant of satisfaction of housing and QOL. Implications of the quality of housing context include direct gains comprised of the benefits gained from living in a pleasant housing environment such as efficient services, good social relations, connectivity, security and safety as well as recreation. They also include psychological benefits such as satisfaction and self-esteem that can be gained from the reputation of the residential neighbourhood.

9.4.3. Quality of dwelling

Quality of context explores attributes which formulate the dweller's life inside the house. It refers to aspects related to the quality of the interior space and design that help to fulfil the household's needs and desires. In that sense, it presents the third and finer scale of investigation. Seven indicators were used to assess this quality: overcrowding, appropriateness of interior configuration, interior comfort, quality of construction, adaptability, external appearance and quality of basic amenities. Results have shown a fairly high level of overall satisfaction with the dwelling, which seems to be quite similar to the case of the satisfaction with neighbourhood and surroundings. Almost 51% of respondents seemed to be satisfied with their dwellings compared to 19% who were dissatisfied. High levels of satisfaction with dwellings were found to be strongly associated with high QOL and overall housing satisfaction levels.

In addition, results revealed significant associations between the different components and measures of the quality of dwelling and QOL levels; however results have shown that they vary in the degree of influence on those measures. Some indicators were found to be more influential than others, and some were found to have a positive influence, while others seem to have negative influence. In respect of that, research findings have shown that interior configuration and quality of construction followed by adaptability were found to be the most influential factors on satisfaction with dwelling, satisfaction with housing in general, and QOL. With the exception of quality of construction, they all seem to have a relatively positive influence among a large segment of the surveyed population, as nearly 65% and 60% of survey respondents reported, respectively, they are satisfied with the interior configuration of their houses and agree it is easy to adapt them to their changing needs. On the contrary, quality of construction appears to have a more negative impact, where almost 60% of survey respondents seemed to be dissatisfied with the quality of construction in their houses. This infers that the majority of people suffer from issues related to construction in their dwellings. Overcrowding and interior comfort, on the other hand, were found to be less influential on satisfaction with dwelling and QOL.

The influence of these components on the satisfaction with housing and the perceived QOL can be interpreted from several facets referring to direct and indirect effects. Direct effects include the explicit advantages that can be gained from good housing conditions in terms of fulfilling basic human needs such as body care and physical comfort, relaxing, sleeping, personal hygiene, health and many others. Living in a dwelling of good physical conditions also implies lower expenses associated with maintenance work, and service provision such as heating. It also means being able to carry out daily activities more efficiently. On the contrary, living in a poor quality dwelling is associated with the threat of losing most or at least part of these advantages. Indirect effects include, in the case of having good quality of dwelling, higher levels of satisfaction associated with control, command over resources and personal empowerment. Enjoying such aspects, results in the achieving of better QOL. It is worth mentioning here that the impact of housing quality attributes in reference to both the provision and dwelling scales are primarily felt on the individual or household scale, unlike the case with the quality of context where the impact of its different attributes reaches the whole community.

9.5. Disparities in Experiencing the Three Housing Qualities

In addition to assessing and exploring the impact of the different housing quality attributes on satisfaction with housing and QOL, the research has come up with some valuable and noteworthy findings in regard to the influence of the socio-demographic and housing provision factors. This concurs with findings of different studies including for instance Elsinga and Hoekstra (2005), Li and Song (2009) and Parkes et al (2002). Overall, results have shown strong influence of these factors in reference to most housing quality measures. However, the experience of the components of the three housing qualities was found not to be equal among residents of Amman in response to the dissimilarities in these factors; essentially, there are both winners and losers. Understanding the differences of such experiences will help in targeting future housing policies, and will provide better understanding of the ways in which the three adopted qualities of housing affect QOL.

Results revealed apparent influences of socio-demographic factors on the assessment of QOL and housing quality components. Income and level of education were found to be the most influential factors in reference to the majority of housing quality attributes. On the other side, the impact of employment type and household structure seemed to be minimal. The impacts of age, sex and number of residents in home seem to be less than that of income and education level and vary in reference to housing quality measures. Factors of housing provision were found to be more influential than almost all socio-demographic factors. Despite that, their influences tend to vary in relation to the scale of investigation. They were found to be more influential with measures related to the quality of dwelling. Tenure type, particularly home ownership, seems to be always associated with higher levels of residential satisfaction and QOL. This lends additional support to the vast body of literature which emphasises the positive impact this attribute has on well-being and QOL.

The following sub-sections provide more explanations regarding the influence of the socio-demographic and housing provision factors. They draw out the heterogeneity of people's experiences in relation to the various socio-demographic factors and issue of housing tenure, form and length of residence.

9.5.1. Inequality

High incomes and high education levels were always associated with positive responses, reflecting high satisfaction levels with housing quality and QOL. Both attributes present advantaged materialistic capabilities that grant the opportunities to select and acquire the most desired and appreciated housing conditions, which positively affect QOL. This apparently is a reflection of a high level of inequality among the city dwellers, which indicates significantly that meeting or fulfilling the different housing needs and desires, including the basic ones, is subject to the financial abilities of households. This means that continuing with such trend over the time will result in the case where the majority of population is unable to fulfil their housing demands or desires, due to the general deterioration of living conditions and the weak purchasing power of the majority of population which is increasing nowadays. This calls for revisiting current housing policies and searching for possible alternatives to

reduce housing costs on the one hand, and securing reasonable housing funding opportunities on the other.

9.5.2. Key moments in the household life cycle

Research findings revealed the presence of a noticeable connection between factors of age and family size on the one hand and certain degrees of dissatisfaction with particular housing quality attributes on the other hand. Results have shown that young respondents aged 25-35 were the most likely to be dissatisfied with the quality of housing provision in Amman, being the most in need, but incapable of entering the housing market and acquiring suitable housing conditions. On the other hand, older respondents were found to be the least likely to be satisfied with the interior configuration of houses and the difficulties in adapting them to their needs and requirements. Additionally, families with more children were found more likely to be dissatisfied with issues of overcrowding, interior configuration, proximity and privacy. Such observations indicate clearly that the current housing provision system does not act efficiently in response to the changing needs of different population segments, in respect to both access to housing and housing design, which means that, in some instance, households may be faced with housing problems that hinder their capabilities to fulfil their housing needs properly.

What makes this issue important and worth investigating is the fact that it reflects the absence of an important concept in the current policies and procedures of housing supply in Amman - that is the concept of ‘life cycle’. This in turn, highlights the need to deal with the issue of housing supply in a more flexible and responsive way, by maintaining a diversity of housing types and designs, as well as, providing more opportunities and means by which young households can approach the housing market. This should be done in regard to the three qualities of housing.

9.5.3. Experiencing apartment living

The interest behind exploring the impact of residential flats comes from the fact that residential flats present the dominant housing type in Amman, and the means by which the majority of city dwellers meet their needs for house and shelter. In respect of this,

research findings revealed a strong, but negative, impact of this type of housing on the majority of QOL and housing quality indicators used in the research, particularly on the contextual and dwelling scales. On the scale of the context, residential apartments were more likely to be associated with disadvantages that include lack of privacy, lack of parking areas, lack of orderliness and noise. On the scale of the dwelling they were found to be more associated with poor construction quality, higher dissatisfaction levels with interior configuration and interior comfort, as well as limited adaptability options, if compared to other housing types, particularly villas. Such findings reflect to a certain extent, that the provision of this type of housing was not, so far, supplemented with efficient policies and plans that regulate and control the distribution of this type of house on the urban scale, and with innovative design solutions that provide more liveable places on the architectural scale. This resulted in various drawbacks and limitations in both the scale of the context and the scale of dwelling that, according to several opinions presented in the study extend -via their influence- the direct impact of housing on individual households to factors that negatively affect other life domains and the QOL of the whole community. In light of that, this vital sector is in need of a reappraisal in terms of the policies and procedures that control it to ensure it meets households' demands and desires more efficiently.

9.5.4. The privilege of homeownership

It was remarkable that homeownership is strongly associated with high levels of residential satisfaction and perceived QOL, in respect to the majority of assessed indicators. This strongly supports findings from literature and provides a new addition to the group of studies that emphasise the positive impact of homeownership on the perception of housing quality and the satisfaction with housing conditions. Results have shown that homeowners were more satisfied with the level of privacy in their houses as well as the tranquillity of pleasantness in their neighbourhoods. They were also more satisfied with the interior configuration of their homes, the quality of construction, the external appearance and the interior comfort inside their houses. In overall they were more likely to be satisfied with the three qualities of housing. The majority of people in Jordan aspire to homeownership as they believe it grants them higher levels of security and control. However, due to the deterioration of the economic conditions and the

financial capabilities of people, a big shift has been made towards private rental, denoting a big lose in the set of advantages associated with homeownership. This is seen to negatively affect people's satisfaction with housing and QOL in general. Therefore, it is strongly recommended that housing finance policies be reconsidered in order to offer financing solutions that are more flexible and responsive to households' capabilities.

9.5.5. Sharing the neighbourhood experience

The impact of socio-demographic factors was found more obvious in relation to the quality of housing context. Unlike the case with the quality of provision and the quality of dwelling, the disparities in respondents' answers seemed to be attributed to a greater diversity of socio-demographic factors in the case of the quality of context. In other words, more factors were found to have significant impact among households when responding to issues related to the quality of the neighbourhood and surrounding. In respect of that, it is not only income that has a major effect, although its impact is greatly considered, but also factors including sex of respondent, education level, household structure, number of dwellers and number of children were all found to have significant associations with indicators related to the quality of context. On the contrary, the impact of housing provision factors seemed less obvious in the case of the quality of context. Differences in both tenure type and housing type have not always resulted in dissimilar responses in regard to neighbourhood and surroundings attributes. In other terms, respondents living in collective housing, i.e. flats or single family houses, i.e. villas and dars as well as respondents living in privately rented houses or owned outright houses or even family owned houses seem to share the same concerns and perceptions in relation to some quality of context aspects.

Two important conclusions can be built on that. The first is that the assessment of the quality of context attributes is more likely to be subjective, as it is not always subject to the material conditions of households, i.e. wealth and income. According to that, examining the quality of context requires extensive use of subjective measures. The second conclusion is that the context presents an ideal scale within which policy makers and governmental institutions can intervene in order to improve the quality of housing

and QOL in general for the whole population, including all community groups as they are equally affected by the contextual attributes. What supports this idea is the fact that quality of context was found to have the most obvious impact on the perceived QOL of respondents. This calls for revisiting the current land use and urban design policies and regulations, in a sense that truly employs the concept of the neighbourhood and adjust the rising growth of housing projects.

9.6. Conclusion

Having explored the implications of the different qualities of housing, the following two sub-sections provide some concluding remarks and recommendations followed by directions for future research.

9.6.1. Research outcomes

Increasing interest is now shown towards the study of how people think of their housing and how it affects their lives. Therefore, measuring the housing quality has become an important tool to assess the efficiency of housing provision and the extent to which people are satisfied with it. The research employed an integrated model of housing quality that poses three types of qualities: quality of provision, quality of context and quality of dwelling, and explored the implications of each of these qualities, in order to provide an overarching understanding of the influences of housing on QOL. In respect of this, results revealed a variation in the extent and nature of influence posed by the different housing quality components, i.e. indicators. Financial burden associated with the costs of housing was found as the most influential aspect, in terms of the quality of provision. Regarding the quality of context privacy, appearance and orderliness as well as tranquillity and pleasantness were found to be the most influential aspects. In reference to the quality of dwelling, interior configuration and quality of construction were the components that have the most significant impact on the level of satisfaction with housing and the perceived QOL.

Results have also shown a disparity in the response of households towards these components attributed to the differences in the socio-demographic and housing acquiring factors. Some groups were found much more likely to make use and benefit

from the current housing provision, achieving accordingly higher levels of satisfaction and perceived QOL, in comparison to others that can barely find a chance to attain their housing needs and desires. It is argued that the perception of good QOL can be strongly derived from good housing quality and the set of material, social and psychological benefits obtained from it. In light of that, it is suggested that the current housing provision system in Amman is in need of a reappraisal, in order to come out with a responsive housing provision scheme that provides more flexibility, equity, diversity and capability to choose among different community groups. This means according to the 'Human Development Theory' of QOL, to enable the households to increase their perceived and actual control over the different aspects related to housing through the processes and opportunities associated with acquiring housing. This suggests, according to Nelson et al (2007), that the processes related to the delivery of housing services and the housing form itself enhance feelings of efficacy and satisfaction with one's life.

9.6.2. Policy implications

The primary objective of undertaking QOL studies is to lead to actions that contribute towards the betterment of living conditions and human life. These actions are built on findings that are commonly transformed into policies and guidelines. Translating such policies into actions is usually confronted by a set of available potentials on one hand, and a number of challenges and constraints on the other hand, depending on the scope of these policies and the magnitude of interventions associated with them.

In reference to research findings and in regard with the current planning system in Amman, it can be said that applying a holistic multi-scale planning procedures is far beyond reality. What can be done instead is carrying out fragmented but interrelated actions within different levels and sorts of intervention. It is worth mentioning here that Amman is in the process of implementing a new plan for its metropolitan growth that has been produced in 2009[1]. Although this might make it difficult to propose some large scale policies that deal with the housing provision system or the zoning regulations and land division, it provides real opportunities in terms of narrow scale policies and interventions that can be undertaken within the detailed action plans, some of which are

[1]Further details about the new Amman Plan and the general planning system in Amman can be obtained from Appendix 5, pp: 411

still in the process of production. In that sense, findings of the research might be presented as guidelines for planners and policy makers involved in those action plans to encourage the production of responsive plans that improve the quality of housing both on the scale of neighbourhood and the scale of housing unit. This could take the form of revised building regulations, particularly in relation to residential buildings to maintain a distinctness and homogeneity of the urban fabric but also to provide enough room for architectural creativity in order to address issues of privacy and interior space design in a more flexible manner.

Moreover, providing equity in relation to housing among different community groups does not necessarily mean that they should all receive the same level of service which is strongly determined by their financial capabilities. Rather it means that they all deserve to gain what can be called a good quality of service. This applies to the quality of construction as it should be the right of all people to get a sufficient and good quality of residential built form in response to what they pay for acquiring a housing unit. This is not about having luxurious attributes of interior space or including distinct decorations for instance. It is about getting a house with proficient and robust construction and finishes. In respect of that, there should be a stricter control provided by the municipality and all related authorities over the quality of construction. There should be also an agreement on a set of minimum obligatory standards that defines what a good quality of construction means to which all housing developers must abide.

On the context scale, the quality of housing and QOL in general essentially depends on zoning and land use policies, and how effectively these policies are implemented. Accordingly, it is recommended that the new action plans should take into consideration the provision of more pleasant home environments that are built on an actual understanding of the concept of neighbourhood and the need to maintain a diversity of services and a healthy combination of housing types. This applies particularly, to newly developed areas, where there is a possibility to revisit the former zoning system. Although this might not be easy to do and will probably face strong resistance as it collides with the interest of many landowners, previous such experiences undertaken in Jordan confirms the applicability and success of such procedures.

Another procedure to think of is revisiting the current fining system applied in the municipality in a spatially based manner. That is, fines that are collected as a result of the contravention of building regulations in one area should be employed towards the benefit of the same area. This will reduce the negative impact from such excesses and provides a sort of compensations that will improve the quality of that area, and therefore, will help solving many of the urban problems within a local scale.

There should be a distinction between existent built up areas, or what have been defined in the new Amman Plan as 'Stable neighbourhoods' where new developments are mostly not possible, and areas that are still under development and offer a future potential of growth. Due to limitations in government interventions in such stable neighbourhoods, efforts should be directed towards improving the management of these areas to upgrade quality. This can be achieved, for instance, by providing much care to the maintenance for urban facilities. On the contrary, developing areas offer a wider range of physical interventions and the application of better regulations that serve the achievement of better housing quality on both the context and residential unit scale.

Finally, there should be a reappraisal of the current practice of urban planning in Jordan that in reality is so centralised. Municipalities need to be given real authority, and people need to be able to fully express their viewpoints. If the authority given to municipalities is limited to matters such as issuing permits, as the case is now, people will vote for those who will make it easier for them to obtain those permits. This applies even if the permitting process results in decisions that are clearly against the public good. Alternatively, if the municipalities have authority over issues such as housing, education and public transport, people will think differently and those who are not close in terms of personal ties, but who are able to deliver better services. Municipalities will then have better control over the urban setting and will be able to apply a vision that put forward the public interest which will help improving QOL.

9.6.3. Directions for further research

Perhaps the importance of this research lies not only in the perceptions it provides on the relationship between housing and QOL but also how this rapport can be investigated

and analysed. Likewise, it is not merely in the set of outcomes and explanations that have been achieved in this regard, but also in the questions and issues that have been raised that need to be further considered and investigated. The claim that this research offers a complete explanation about the influence of housing on QOL would be an exaggeration. Rather, it provides an initial step towards developing an elaborative and profound understanding about the influential relationship between housing and QOL. Additional research is needed to acquire a better insight into the process that underlines the relationships that were observed in this research and to discover additional area of association. Following are issues that form potential for future research, some of which might be seen as complementary to the present research while others are, in some way, more discrete.

- Each of the three qualities of housing adopted in this research (quality of provision, quality of context and quality of dwelling) can be a subject for further investigation. Supplementary research can be undertaken on each of these three qualities employing different measures, and probably indicators. This will help in providing more insight regarding each housing quality, which will also help in further validating results obtained from the present research. Detailed investigation can be also made on each indicator, within each housing quality, using more measures. This will add positively towards a greater understanding of the different components or elements of each quality, and would provide more explanations about the findings of this research.

- Further research can be also carried out in reference to different community groups, including for instance, youth, elderly or housewives, or in reference to particular socio-demographic factors such as education level, income level and family size. Research can also focus on housing or on other life domains.

- Undertaking QOL research based on spatial analysis is also important as it provides the opportunity to explore the distribution of public services and urban deterioration, and accordingly, will help direct urban development efforts towards the more needy areas. Such studies are currently taking place in many developed countries, but are still

needed in developing countries such as Jordan, where resources are scarce and development efforts need to be more efficiently distributed.

- Defining QOL as the degree of control one has on his/her living circumstances might provide a valuable scope from which to study QOL. It might be exciting to know how people feel about their ability to control what is going on around them, and to what level they are satisfied with and can handle their living situations.

- In terms of policy implications, extensive amount of research can be undertaken to explore the means by which research findings can be translated into policies that lead to actions. Such kind of research needs to understand the adopted planning system, particularly in relation to housing, and analyse the legal and administrative background of it in order to develop the most relevant and feasible mechanisms by which the proposed policies can be implemented. This should take into consideration the scale of intervention, the bodies responsible for taking actions, the phases or time frames of actions, the groups that are targeted or can be affected by such interventions or actions and the capability, either technical or financial to carry out these actions. Some perceptions were presented in the previous section, though there is still a large area of work that is needed in relation to this subject.

- Despite being a representative of Jordan and of cities in developing countries, Amman has its unique character that needs to be taken into consideration in order to build a deeper understanding of its QOL and housing conditions. Each district or neighbourhood in Amman might have its own character that requires further investigation in order to reach into the best means by which its QOL can be improved. This applies also to the cases of squatter settlements and refugee camps that are distributed in different locations in the city, which are in need of their own QOL and housing research. Further possibilities for future research include the comparison between Amman and other cities in Jordan or probably in the region to identify the differences or probably the similarities between them and determine their QOL levels.

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Appendix 1

Measures of Housing Domain in QOL Case Studies

Measures of Housing Domain in QOL Case Studies

Study / Programme	Year	Quality of Housing Measures
City of Winnipeg Quality of Life Indicators	1997	1. Average household size
		2. Household formation rate
		3. House price-to-income ratio
		4. House rent to income ratio
		5. Mortgage affordability
		6. Excessive housing expenditure (proportion of households in the bottom 40% of incomes who are spending more than 30% of their incomes on housing)
		7. Inadequate housing
Level of Living & Quality of Life for Urban Centres in Southern Manitoba	1998	1. % housing owned
		2. % dwellings single detached
		3. Average number of rooms
		4. % dwellings crowded
		5. % dwellings with running water
		6. % dwellings with flush toilets
Metropolitan King County Countywide Planning Policies Benchmark Program	1998	1. Supply and demand for affordable housing
		2. Percent of income paid for housing
		3. Homelessness
		4. Home purchase affordability gap for buyers with (a) median renter household income and (b) median household income
		5. Home ownership rate
		6. Apartment vacancy rate
		7. Trend of housing costs vs. income
		8. Public dollars spent for low income housing
		9. Housing affordable to low-income households
The Federation of Canadian Municipalities (FCM) Quality of Life Reporting System	2001	1. Income relative to housing costs
		2. Rental affordability:% renters paying 30% or more of income for rent
		3. Substandard dwellings: % of houses needing major repairs
		4. Real estate per capita
		5. Vacancy rates
Quality of Life Indicators for Bristol	2002	1. Demand for re-housing
		2. Homeless households
		3. Number of unfit homes
		4. Housing affordability
Comox Valley Quality of Life Report	2002	1. Available affordable housing
		2. Social housing
		3. Number of people receiving home support
		4. Emergency shelter use
		5. Homelessness
Quality of Life in Romania	2004	1. Inhabitable area per capita (sq.m)
		2. Average number of persons per room
		3. Power consumption in households
		4. Proportion of dwelling having tap water installations
		5. Dwelling comfort (assessment)

Northwest Indiana Quality of Life Council - QOL Indicators Report	2004	1. Housing Profile
		a. Vacancy rates
		b. Number of new housing units (Residential Building Permits Issued)
		c. Home ownership (Homeownership vs. Renting)
		d. Number of individuals living in group settings, i.e. nursing homes, jails, etc.
		2. Cost of housing:
		a. Median Value of Owner-Occupied Housing
		b. Median Rent
		c. % of household income spent on housing
		d. % of Renters Paying More Than 50% of household income on rent
		e. Median income of home owners vs. renters
		3. Housing quality
		a. Age - Median year housing units were constructed
		b. Crowdness (number of occupants per room)
		c. Number of homes that lack basic amenities
Quality of Life in British Columbia Capital Region	2005	1. Housing Tenure
		2. Rental Vacancy Rate
		3. Owner and Renter Affordability
		4. Dwelling Condition
		5. Core Housing Need
		6. Social Housing
		7. Homelessness (within the domain of community affordability)
Madison Region's Quality of Life Indicators	2005	1. Housing affordability
		2. Shelter for homeless
		3. Affordable high speed internet access
Quality of Life in Canada - A Citizens' Report Card	2005	1. % of population living in housing requiring major repairs
		2. Average number of persons per room
		3. % of household incomes with owner's major payments (or gross rent) for shelter being greater than or equal to 30% of household income
Carver County Quality of Life Indicators	2006	1. Residential building permits issued
		2. Average home value
		3. Home ownership
		4. Affordable housing (% of monthly income to rent + % of monthly income to housing)
Local Indicators For Excellence (L.I.F.E.) in Fond du Lac County	2007	1. Number of housing units
		2. Residential Building Permits
		3. Cost of a Home
		4. Age of Housing Stock
		5. Home Owners and Renters
		6. Fair Market Rent
		7. Rental Assistance
		8. Shelter for the Homeless
Hillsborough County Quality of Life Indicators	2007	1. Affordability index
		2. Home ownerships rates
		3. Quality of affordable housing from year to year
		4. Perception of affordability
		5. Perception of affordability for low income

Quality of Life in Twelve of New Zealad's Cities	2007	*A. Housing Tenure*
		1. Percentage of Private Dwellings owned and rented
		2. Percentage of population within each ethnic group who own their own home
		3. Number of people living in temporary private dwellings
		B. Housing costs & affordability
		4. Medium residential dwelling sale price
		5. Home mortgage affordability as a percentage of the national average
		6. Percentage of households that are couple only or single persons aged 65 years and over who own their home with a mortgage.
		7. Median weekly rents
		8. Rent to income ratio
		9. Percentage of households owning their dwelling by income bracket
		10. Percentage of net household income spent on housing costs
		11. Proportion of population receiving an Accommodation Supplement.
		C. Household Crowding
		12. Percentage of people in private dwellings living in crowded households
		D. Urban housing intensification
		13. Number of new apartments and apartments as a percentage of all new residential buildings
		14. Number of apartment bonds lodged and proportion of all tenancy bonds lodged per year
		E. Government housing provision
		15. Percentage of local and central government provided social housing as a proportion of all rented private dwellings
		F. Housing accessibility
		16. Number of households waiting for a Housing New Zealand house
		17. Housing New Zealand Corporation waiting list size, cities with more than 500 on list
Hillsborough County Quality of Life Indicators	2007	1. Affordability index
		2. Home ownerships rates
		3. Quality of affordable housing from year to year
		4. Perception of affordability
		5. Perception of affordability for low income
Northwest Indiana Quality of Life Council - QOL Indicators Report	2008	*1. Housing stock:*
		a. Market size (new housing starts)
		b. Age of housing stock
		c. Location of housing
		d. Vacancy rates
		e. Housing values (owner occupied homes values)
		2. Home ownership
		3. Housing affordability
		a.% of homeowners whose housing payments exceeds 30% of household income
		b. % of renters whose rental payments exceeds 30% of household income
		4. Homelessness

Quality of Life in Hawai‘ Report	2009	*a. Affordable housing*
		1. Rental cost burden: Spending 30% or more of household income on rent, % of renter occupied housing units
		2. Housing cost burden: Spending 30% or more of household income on selected monthly owner costs, % of owners with a mortgage
		3. Home ownership, % of occupied housing units
		b.Un met housing needs
		4. Overcrowded dwellings: 1.01 or more occupants per room, % of occupied housing units
		5. Homelessness: Point-in-time count, per 100,000 people
Quality of Life in Hertfordshire	2009	1. Affordability of Housing
		2. Statutorily Unfit Homes
		3. Homelessness
Second European Quality of Life Survey	2009	1. Home ownership:
		a. own without a mortgage
		b. own with mortgage
		c. tenant, paying rent to private land loard
		d. tenant paying rent to social/voluntary/municipal housing
		e. accommodation is provided rent free
		2. Adequacy of housing (volume of space available /average number of rooms per person)
		3.Amount of problems with accommodation (shortage of space - rot in windows, doors or floors; damp or leak in walls or roof; lack of indoor flushing toilet; lack of bath or shower; lack of place to sit outside)
		4. satisfaction with accommodation by housing status
		5. Availability of facilities in immediate neighbourhood (food store or supermarket; post office; banking facility; public transport facility; theatre or cultural centre)
		6. Environmental problems in the area (noise; air pollution; water quality; crime, violence or vandalism; litter or rubbish in the street; lack of access to recreational or green areas)
Healthy Housing Indicators Analysis - Minneapolis City of Lakes - Community Planning & Economic Development	2010	*A. Indicators of Housing Distress*
		1. Number of Housing Violations
		2. Number of Vacant Building Registry Properties as of year end
		3. Average Time Residential Properties are on Regulatory Services' Vacant Building Registry
		4. Number of Residential Foreclosures
		5. Non-Homesteaded Single Family Residential
		6. Rental Licenses for Residential Properties
		7. Residential Properties in Poor or Fair Condition
		B. Indicators of Housing Investment
		8. % of Properties with Permits over $5,000
		9. Average Permit Value by Neighbourhood
		10. Median % of Residential EMV that is Reinvested through Permits
		11. Public/Private Investment in Single Family
		12. Public/Private Investment in Multi-Family
		C. Indicators of Housing Value
		13. Median Single Family Detached Sales Price
		14. Change in Median Estimated Market Value

Appendix 2

Formation of Housing Quality Indicators

Measures of Housing Quality

			Quality of Provision
Housing supply & affordability	**Residential satisfaction**	**Measuring QOL**	**Adopted Indicator**
Affordability - Housing costs - Housing finance - Adequacy of housing supply	Housing expenditure - Housing adequacy - Choice & tradeoffs - Housing cost to income - Public private housing	Affordable Housing - Trend of housing cost vs. income - Adequacy of Housing -Household formation rate - Fair market rent - House price to income - House rent to income - Housing value	Affordability
Choice & control - Housing expenditure		Excessive housing expenditure - Perception of affordability - Housing cost burden	Fiscal burden

			Quality of Context
Neighbourhood and surrounding	**Residential satisfaction**	**Measuring QOL**	**Adopted Indicator**
Green areas - Availability of services	Access to neighbourhood facilities - Access to recreational opportunities - Quality of schools - Accessibility to public services	Availability of facilities - lack of access to recreational areas	Availability of public amenities
Connectivity & movement	Traffic & transportation - Distance to work - Quality of public transport -	Public transport	Accessibility & connectivity
Maintenance level & good infrastructure - Street conditions -	Quality of public services - Basic residential infrastructure - Availability of public services - Street lighting - infrastructure facilities		Efficiency of infrastructure
Organisation - Architectural character	Density - General appearance of area -	Number of housing units	Appearance & orderliness
Privacy	Privacy		Privacy
Social relations & friendliness of neighbours -	Social communication - Social problems - Social consensus with neighbours Social mix - social problems		Social interaction
Security & safety -	Safety - Crime - urban insecurity	Crime & violence	Security & safety
Cleanliness - Pollution - Noise - Pleasantness - Neighbourhood attractions - Landscape quality	Environmental problems - Bothering features - Proximity to problem areas - Cleanliness - Recreational opportunities - View - Deterioration	Environmental problems - Litter or rubbish	Tranquillity & pleasantness
Prestige value	Property value		Reputation
Mix use - Diversity - Flexibility -			Diversity

			Quality of Dwelling
Residential built form	**Residential satisfaction**	**Measuring QOL**	**Adopted Indicator**
Overcrowding - Number of rooms	Room stress - Number of rooms - Overcrowding at house	Overcrowding - Average number of rooms - Inhabitable area per capita	Overcrowding
Area - Fitting in furniture - Space functionality - Arrangement of domestic space - Storage space - Storage area	Space shortage in dwelling - Convenient dwelling layout - Space shortage in dwelling - size and physical conditions of dwelling - Interior space	Shortage of space - Rot and damp - Volume of space available	Appropriateness of interior configuration
Energy costs and consumption - Thermal comfort - Lighting & ventilation -	Comfort of house - Feeling at home - Lack of annoyance - Thermal insulation - Noise - Climate control of dwelling	Dwelling comfort - Power consumption in house	Interior comfort
Structural condition - Maintenance - Technical deficiencies	Dwelling is properly maintained - Housing quality index - Safety in accommodation	Dwelling condition - Age of housing stock - Residential properties -	Quality of construction
Adaptability	Flexibility		Adaptability
External appearance	General appearance - Image		External appearance
Provision of basic services	Basic residential facilities	Dwelling with running water - Number of toilets	Quality of basic amenities

Appendix 3

Research Questionnaire (English Version)

Questionnaire Form

Cardiff University
Glamorgan Building
King Edward VII Avenue
Cardiff CF10 3WA
Wales UK
Tel Ffôn +44(0)29 2087 4022
Fax Ffacs +44(0)29 2087 4845
www.cardiff.ac.uk/cplan
Prifysgol Caerdydd
Adeilad Morgannwg
Rhodfa Brenin Edward VII
Caerdydd CF10 3WA
Cymru, Y Deyrnas Gyfunol

The Influences of Housing Circumstances on Peoples' Quality of Life

The Case of Amman

This questionnaire is part of study undertaken for the purpose of obtaining a PhD degree about the influences of different housing circumstances on peoples' quality of life (QOL). The study is being taken in Amman city as it is the largest city in Jordan where a wide variety of housing circumstances are experienced.

We would like to ask you some questions about your housing circumstances and your personal opinions regarding issues related to your housing and quality of life. We would appreciate your answers as the information you provide will be very useful to us.

It will take about 15 minutes only to complete the questionnaire. Please do not feel obliged to answer a question if you do not wish to, though we assure you that your response will be completely anonymous and will only be used for the purpose of this academic research.

Please do not hesitate to ask any question and feel free to add you comments.

Researcher: Yamen Al Betawi

Supervisors: Dr. Scott Orford - Dr. Peter Mackie

For correspondence:
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Phone: 079 5994555

Ref.	Neighbourhood No. 1 - 2 - 3 - 4 - 5	Group No. 1 - 2 - 3 - 4 - 5			

Ref.	District	Neighbourhood	Street	Property No.	

1. Personal & Household Information

1.1. Age of household reference person

……..……

1.2. Sex of household reference person

☐ Male ☐ Female

1.3. Level of education of household reference person

☐ Primary education ☐ Secondary education ☐ College or diploma

☐ University degree ☐ Higher university degree

1.4. Employment of household reference person

☐ Self employer ☐ Employed (public sector) ☐ Employed (private sector)

☐ Un employed ☐ Other (Specify: …… ……..)

1.5. Household structure

☐ Single ☐ Couple ☐ Single with children

☐ Couple with children ☐ Other (Specify: …… ……..)

1.6. Number of people living in the house

……..……

1.7. Number of dependent children living in the house

Under 12 years : …… 12-17 years: …… Above 17 years: ……

1.8. Number of working members living in the house

……..……

1.9. Household total monthly income in JDs

☐ <300 ☐ 301-600 ☐ 601-900

☐ 901-1200 ☐ 1201-1500 ☐ >1500

2. Perception about Housing & Quality of Life

2.1. How would you describe your QOL on a scale of 1-10, where 1 indicates very poor QOL, 10 excellent QOL ?

1 2 3 4 5 6 7 8 9 10

2.2. Could you please rank the following issues from 1-10 according to their influence on your QOL, where 1 presents the most influential issue and 10 the least influential issue ?

☐ Access to Transportation	☐ Culture & Recreation	☐ Education
☐ Employment and Income	☐ Family & Social Life	☐ Health
☐ Housing	☐ Natural Environment	☐ Political Environment
☐ Security & Safety		

2.3. How would you describe the effect of your housing circumstances on your QOL on a scale of 1-10, where 1 indicates no effect while 10 indicates very significant effect ?

1 2 3 4 5 6 7 8 9 10

2.4. Could you please state the degree (from 1-5) to which your housing circumstances affect the following issues , where 1 indicates strong negative effect, 5 strong positive effect and 3 no effect.

		Strong negative effect	Negative effect	No effect	Positive effect	Strong positive effect
2.4.a	Access to Transportation	1	2	3	4	5
2.4.b	Recreation	1	2	3	4	5
2.4.c	Education	1	2	3	4	5
2.4.d	Employment & Income	1	2	3	4	5
2.4.e	Family & Social Life	1	2	3	4	5
2.4.f	Health	1	2	3	4	5
2.4.g	Natural Environment	1	2	3	4	5
2.4.h	Political Life	1	2	3	4	5

2.5. What is the thing you like most about your current housing circumstances?

……

2.6. What is the thing you like least about your current housing circumstances?

……

2.7. To what extent are you interested in moving to another house?

☐ Very interested	☐ Fairly interested	☐ Neutral
☐ Not very interested	☐ Not interested at all	

2.8. To what extent do you agree your house fulfils the following needs using a scale of 1-5 where 1 indicates strongly disagree while 5 strongly agree

		Strongly disagree	Slightly disagree	Neither agree nor disagree	Fairly agree	Strongly agree
2.8.a	Sleep & relaxation	1	2	3	4	5
2.8.b	Privacy	1	2	3	4	5
2.8.c	Play and entertainment	1	2	3	4	5
2.8.d	Bodily care & Physical comfort	1	2	3	4	5
2.8.e	Sociability (Cooperation within household, friendship…)	1	2	3	4	5
2.8.f	Raising children	1	2	3	4	5

3. Housing Provision

3.1. Tenure type

☐ Own outright ☐ Buying with mortgage ☐ Private rental

☐ Family owned ☐ Other (Specify: …… ……)

3.2. House type

☐ Flat , floor level: ……. ☐ Single detached house "Dar" ☐ Villa

☐ Attached house ☐ Other (Specify: …… ……)

"Dar" refers to single one storey detached house of an area less than 300m2.
"Villa" refers to a single detached house of an area more than 300m2

3.3. How long have you been living in this house?

……

3.4. To what extent do you agree there is enough suitable housing available in the market within your financial constraints?

☐ Strongly agree ☐ Fairly agree ☐ Neither agree nor disagree

☐ Slightly disagree ☐ Strongly disagree

3.5. What percentage of your total household income is spent on your basic housing provision (rent, mortgage or tax)?

☐ <10% ☐ 10-19% ☐ 20-29%

☐ 30-39% ☐ 40-49% ☐ 50-59%

☐ 60-69% ☐ +70% or more

3.6. To what extent do you agree this affects your ability to meet other basic needs such as food, health care, education, transportation, etc.?

☐ Strongly agree ☐ Fairly agree ☐ Neither agree nor disagree

☐ Slightly disagree ☐ Strongly disagree

4. Housing Context & Neighbourhood

4.1. To what extent are you satisfied with the conditions of your house neighbourhood on a scale of 1-10, where 1 indicates strongly dissatisfied and 10 strongly satisfied?

1 2 3 4 5 6 7 8 9 10

4.2. What is the thing you like most about your neighbourhood?

……
……

4.3. What is the thing you like least about your neighbourhood?

……
……

4.4. Do you have any of the following problems within or because of your neighbourhood? (please tick all relevant issues)

- ☐ Noise
- ☐ Air pollution
- ☐ Lack of security and safety
- ☐ Litter & rubbish in the street
- ☐ Lack of parking areas
- ☐ Lack of basic shopping facilities
- ☐ Lack of health care facilities
- ☐ Lack of schools for children
- ☐ Unpleasant facilities
- ☐ Lack of access to public transport
- ☐ Long distance to work
- ☐ Lack of green space and children playing areas

4.5. To what extent do you agree it is easy to reach the amenities you need to use in your daily life?

- ☐ Strongly agree
- ☐ Fairly agree
- ☐ Neither agree nor disagree
- ☐ Slightly disagree
- ☐ Strongly disagree

4.6. To what extent do you agree the neighbourhood you live in is beautiful and well organised?

- ☐ Strongly agree
- ☐ Fairly agree
- ☐ Neither agree nor disagree
- ☐ Slightly disagree
- ☐ Strongly disagree

4.7. How would you describe your social interaction with your neighbours and people living in your neighbourhood ?

- ☐ Lots of interaction
- ☐ Some interaction
- ☐ Very little interaction
- ☐ Almost no interaction
- ☐ No interaction at all

4.8. To what extent do you agree your neighbourhood has a good basic infrastructure such as roads, pavements, storm water drain, street light...etc ?

- ☐ Strongly agree
- ☐ Fairly agree
- ☐ Neither agree nor disagree
- ☐ Slightly disagree
- ☐ Strongly disagree

5. Residential Built Form

5.1. To what extent are you satisfied with your house quality on a scale of 1-10, where 1 indicates strongly dissatisfied and 10 strongly satisfied?

1 2 3 4 5 6 7 8 9 10

5.2. What is the total number of rooms (spaces) in the house (including bedrooms, guest and living rooms, kitchen, bathrooms, etc.)

……

5.3. What is the total number of bedrooms?

……..

5.4. To what extent do you agree the house is crowded and needs additional space?

- ☐ Strongly agree
- ☐ Fairly agree
- ☐ Neither agree nor disagree
- ☐ Slightly disagree
- ☐ Strongly disagree

5.5. How would you describe your level of satisfaction with the interior layout of your house?

☐ Strongly satisfied ☐ Fairly satisfied ☐ Neutral
☐ Slightly dissatisfied ☐ Strongly dissatisfied

5.6. Do you suffer from any of the following problems in your house? (please tick all relevant issues)

☐ Rot in doors, windows or floors ☐ Damp or leak in walls or roof ☐ Lack of natural lighting
☐ Lack of natural ventilation ☐ Shortage of toilets ☐ Poor heat or sound insulation
☐ Lack of outdoor space ☐ Need of major repairs ☐ Lack of storage space

5.7. How would you describe your level of satisfaction with the external appearance of your house?

☐ Strongly satisfied ☐ Fairly satisfied ☐ Neutral
☐ Slightly dissatisfied ☐ Strongly dissatisfied

5.8. How would you describe your level of satisfaction with the quality of your house construction and finishes?

☐ Strongly satisfied ☐ Fairly satisfied ☐ Neutral
☐ Slightly dissatisfied ☐ Strongly dissatisfied

5.9. To what extent do you agree your house's built form positively affects other aspects of your life such as health, entertainment, education, employment?

☐ Strongly agree ☐ Fairly agree ☐ Neither agree nor disagree
☐ Slightly disagree ☐ Strongly disagree

5.10. Have you made any changes to the original design of the house?

☐ Yes ☐ No

5.11. If yes, state what changes were made and why?

……
……..……..

6. Basic Services & Amenities

6.1. To what extent are you satisfied with the basic housing services (water, electricity, sewage…) on a scale of 1-10, where 1 indicates strongly dissatisfied and 10 strongly satisfied?

1 2 3 4 5 6 7 8 9 10

6.2. Indicate which of the following amenities you have in your house?

☐ Fresh water ☐ Electricity ☐ Sewage
☐ Land line telephone ☐ Broadband ☐ Central heating

6.3. How would you describe your level of satisfaction with the quality of amenities supply on a scale of 1-5, where 1 indicates strongly dissatisfied while 5 indicates strongly satisfied?

		Strongly dissatisfied	Slightly dissatisfied	Neutral	Fairly satisfied	Strongly satisfied
6.3.a	Fresh water supply	1	2	3	4	5
6.3.b	Electricity	1	2	3	4	5
6.3.c	Sewage	1	2	3	4	5
6.3.d	Land line telephone	1	2	3	4	5

6.4. How would you describe your level of satisfaction with the cost of amenities supply on a scale of 1-5, where 1 indicates strongly dissatisfied while 5 indicates strongly satisfied?

		Strongly satisfied	Fairly satisfied	Neutral	Slightly dissatisfied	Strongly dissatisfied
6.4.a	Fresh water supply	1	2	3	4	5
6.4.b	Electricity	1	2	3	4	5
6.4.c	Sewage	1	2	3	4	5
6.4.d	Land line telephone	1	2	3	4	5

6.5. How would you describe your level of satisfaction with the cost of heating in your house whether using central heating or other means?

Strongly satisfied Fairly satisfied Neutral

Slightly dissatisfied Strongly dissatisfied

6.6. What percentage of your total household income is spent on your monthly total housing services bills (water, electricity, sewage, landline phone, internet…)

☐ <10% ☐ 10-19% ☐ 20-29%

☐ 30-39% ☐ 40-49% ☐ 50% or more

Finally, if you have any comments, clarifications or opinions that you would like to share us with please do not hesitate to write these down.

……
……
……
……
……
……

If you would be willing to participate in a follow-up interview, please provide your name, address and phone number:

Name: .....

Address: .....

Phone: .....

End of Questionnaire

Thank you for your kind effort

Appendix 4

Research Questionnaire (Arabic Version)

استمارة استبيان

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Wales UK
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Fax Ffacs +44(0)29 2087 4845
www.cardiff.ac.uk/cplan
Prifysgol Caerdydd
Adeilad Morgannwg
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Caerdydd CF10 3WA
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تأثيرات خصائص المسكن على نوعية الحياة لدى الناس

عمان كحالة دراسية

يمثل هذا الاستبيان الذي بين أيديكم الكريمة جزءا من دراسة أكاديمية حول موضوع تأثير الظروف المختلفة المتعلقة بالسكن على نوعية الحياة لدى الناس و التي تجرى على مدينة عمان كحالة دراسية لما تتمتع به من أهمية كأكبر مدينة في الأردن و لما تمتاز به من تنوع في الظروف المعيشية و خصائص المسكن. الدراسة من إعداد المهندس يامن البيتاوي المبتعث من قبل الجامعة الهاشمية للحصول على درجة الدكتوراه في الإسكان و التخطيط العمراني من جامعة كاردف بالمملكة المتحدة.

من خلال هذا الاستبيان نود طرح بعض الأسئلة المتعلقة بظروف و خصائص المسكن الذي تعيشون فيه و نستطلع آرائكم الشخصية المتعلقة بالسكن و نوعية الحياة. من هنا فإننا نقدرمنكم الإجابة على هذه الأسئلة و ما ستقدمونه من معلومات و آراء ستكون ذات فائدة كبيرة للدراسة.

جدير بالذكر أن تعبئة كامل الاستبيان تستغرق حوالي 15 دقيقة فقط، و أن المشارك الكريم ليس ملزما بالإجابة على أي سؤال لا يرغب في الإجابة عنه. كما يضمن الباحث الحفاظ على خصوصية المعلومات المحصلة من الاستبيان و يؤكد على أن أي منها لن يستخدم لغير أغراض البحث العلمي.

يرجى عدم التردد في الرجوع للباحث للاستفسار عن أي سؤال غير واضح أو إضافة أي تعليق أو رأي ترونه مفيدا.

ملاحظة: جميع الاستبيانات المكتملة ستدخل في سحب على خمس جوائز في نهاية مرحلة جمع المعلومات.

و تفضلوا بقبول فائق الشكر و التقدير

الباحث: يامن البيتاوي
المشرفين على البحث : د. سكوت أورفورد و د.بيتير ماكيه
Supervisors: Dr. Scott Orford - Dr. Peter Mackie

للمراسلة:
بريد إلكتروني: AlBetawiYN1@cardiff.ac.uk
هاتف: 0797253301

الرقم المرجعي	المنطقة	الحي	الشارع	رقم المبنى	

1. البيـــانات الديموغرافيـــة

1.1 الســـن:

.....

2.1 الجنس:

☐ ذكـر ☐ أنثى

3.1 المستوى التعليمي:

☐ الشهادة الابتدائية ☐ الشهادة الثانوية ☐ دبلوم أو كليـة

☐ شهادة جامعيـة أولى ☐ شهادة جامعية عليا (ماجستير، دكتوراه ...)

4.1 الحالـة الوظيفية:

☐ صاحب عمل ☐ موظف في القطاع العام ☐ موظف في القطاع الخاص

☐ لا يعمل ☐ أخرى (يرجى ذكرها .....)

5.1 تركيبة الأسرة:

☐ فـرد ☐ زوج و زوجة فقط ☐ فـرد مع أبناء

☐ زوج و زوجة مع أبناء ☐ أخرى (يرجى ذكرها .....)

6.1 عدد الأفراد المقيمين في المنزل:

.....

7.1 عدد الأبناء المقيمين في المنزل موزعين حسب الفئات العمرية:

أقل من 12 سنة ..... 12-17 سنة ..... فوق 17 سنة .....

8.1 عدد الأفراد العاملين في الأسرة و المقيمين في المنزل :

.....

9.1 مجموع الدخل الشهري للأسرة بالدينار الأردني:

☐ أقل من 300 ☐ 600-301 ☐ 900-601

☐ 1200-901 ☐ 1500-1201 ☐ أكثر من 1500

2. التصور حول السكن و نوعية الحياة

1.2 كيف تقيم نوعية الحياة التي تحياها بشكل عام ضمن مقياس 1-10 بحيث تعبر قيمة 1 عن نوعية حياة سيئة جدا، بينما تعبر قيمة 10 عن نوعية حياة ممتازة؟ (ضع دائرة حول القيمة التي تعبر عن تقييمك)

1 2 3 4 5 6 7 8 9 10

2.2 يرجى ترتيب العوامل التالية وفقا لأهميتها و تاثيرها على حياتك، بحيث يكون الترتيب 1 للعامل الأهم و الأكبر تأثيرا و الترتيب 10 للعامل الأقل تأثيرا:

☐ المواصلات	☐ الثقافة و الترفيه	☐ التعليم
☐ العمل ومقدار الدخل	☐ الحياة الأسرية و الاجتماعية	☐ الصحة
☐ السكن	☐ البيئة الطبيعية	☐ البيئة السياسية
☐ الأمن و السلامة		

3.2 كيف تقيم تأثير مجمل ظروف سكنك مثل مواصفات السكن والموقع والكلفة و الخدمات وغيرها على نوعية الحياة التي تحياها ضمن مقياس 1-10 بحيث تعبر قيمة 1 عن عدم وجود أي تأثير، بينما تعبر القيمة 10 عن تأثير كبير جدا؟

1 2 3 4 5 6 7 8 9 10

4.2 اذكر الدرجة (من 1-5) التي تؤثر بها ظروف مسكنك على المسائل التالية، بحيث تعبر القيمة 1 عن تأثير سلبي قوي و القيمة 5 عن تأثير إيجابي قوي و القيمة 3 عن عدم وجود تأثير (ضع دائرة حول القيمة التي تعبر عن رأيك) :

	تأثير سلبي قوي	تأثير سلبي ضعيف	لا تأثير	تأثير إيجابي ضعيف	تأثير إيجابي قوي
4.2أ المواصلات	1	2	3	4	5
4.2ب الترفيه	1	2	3	4	5
4.2ج التعليم	1	2	3	4	5
4.2د العمل ومستوى الدخل	1	2	3	4	5
4.2هـ الحياة الأسرية و الاجتماعية	1	2	3	4	5
4.2و الصحة	1	2	3	4	5
4.2ز البيئة الطبيعية	1	2	3	4	5
4.2ح الحياة و المشاركة السياسية	1	2	3	4	5

5.2 ما هو أكثر شيء يعجبك في ظروف سكنك الحالية ؟

.....

6.2 ما هو أقل شيء يعجبك في ظروف سكنك الحالية ؟

.....

7.2 إلى أي مدى ترغب في الانتقال لسكن آخر ؟

☐ أرغب بشدة	☐ أرغب إلى حد ما	☐ محايد
☐ لا أرغب إلى حد ما	☐ لا أرغب مطلقا	

8.2 إلى أي مدى توافق على أن المنزل الذي تسكن فيه يلبي الحاجات التالية لديك باستخدام مقياس (من 1-5) بحيث تعبر القيمة 1 عن عدم الموافقة بشدة، بينما تعبر القيمة 5 عن الموافقة بشدة؟ (ضع دائرة حول القيمة التي تعبر عن رأيك)

	لا أوافق بشدة	لا أوافق إلى حد ما	لا أوافق و لا أختلف	أوافق إلى حد ما	أوافق بشدة
8.2أ النوم و الاسترخاء	1	2	3	4	5
8.2ب الخصوصية	1	2	3	4	5
8.2ج اللعب و التسلية	1	2	3	4	5
8.2د العناية و الراحة الجسدية	1	2	3	4	5
8.2هـ التواصل الاجتماعي (التعاون داخل الأسرة، الصداقة، ...)	1	2	3	4	5
8.2و تربية و رعاية الأطفال	1	2	3	4	5

3. توفر السكـن

1.3 نوع حيازة السكن:

☐ ملكية خاصة ☐ شراء بالأقساط ☐ استئجار

☐ منزل العائلة ☐ أخرى (يرجى ذكرها .....)

2.3 نوع المسكن:

☐ شقـة، اذكر الطابق ..... ☐ دار ☐ فيلا

☐ سكن متلاصق ☐ أخرى (يرجى ذكرها .....)

"دار" : المقصود بالدار أي منزل منفصل مكون من طابق واحد و لا تزيد مساحته عن 300 متر مربع

"فيلا" : المقصود بالفيلا أي منزل منفصل تزيد مساحته عن 300 متر مربع بصرف النظر عن عدد الطوابق

3.3 منذ متى و أنت تسكن في هذا المنزل؟

.....

4.3 إلى أي مدى توافق على أنه يوجد ما يكفي من المساكن الملائمة المتاحة في السوق ضمن إمكاناتك المادية؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

5.3 ما هي نسبة ما يتم إنفاقه من مجموع الدخل الشهري للأسرة على تأمين المسكن سواء كان إيجارا أو قسطا شهريا أو ضريبة مستحقات او غيرها؟

☐ أقل من 10% ☐ 19-10% ☐ 29-20%

☐ 39-30% ☐ 49-40% ☐ 59-50%

☐ 69-60% ☐ 70% فأكثر

6.3 إلى أي مدى توافق على أن ما تنفقه لغرض تأمين المسكن يؤثر على قدرتك على تلبية الاحتياجات الأخرى مثل الغذاء و الرعاية الصحية و التعليم و النقل و غيرها...؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

4. موقع المنزل و الحي السكني

1.4 ضمن مقياس من 1-10 كيف تصف مدى رضاك عن موقع المنزل و الحي الذي تسكن فيه ،بحيث تعبر قيمة 1 عن عدم الرضا بالمطلق و قيمة 10 عن الرضا التام؟ (ضع دائرة حول القيمة التي تعبر عن مستوى رضاك).

1 2 3 4 5 6 7 8 9 10

2.4 ما هو أكثر شيء يعجبك في موقع منزلك و الحي الذي تسكن فيه؟

.....

.....

3.4 ما هو أقل شيء يعجبك في موقع منزلك و الحي الذي تسكن فيه؟

.....

.....

4.4 هل تواجه أي من الأمور أو الصعوبات التالية في محيط منزلك و الحي الذي تسكن فيه؟ (يرجى وضع علامة على كل ما ينطبق)

☐ الإزعاج ☐ تلوث الهواء ☐ نقص مستوى الأمن و السلامة

☐ تراكم النفايات في الشارع ☐ نقص مواقف السيارات ☐ نقص أو بعد مرافق التسوق الأساسية

☐ نقص أو بعد مرافق الرعاية الصحية ☐ بعد المدارس ☐ وجود مرافق غير مرغوبة

☐ نقص وسائط النقل العام ☐ بعد موقع السكن عن موقع العمل

☐ نقص المساحات الخضراء أو مناطق لعب الطفال

5.4 إلى أي مدى توافق على أنه من السهل عليك الوصول للمرافق الأساسية التي تحتاجها في حياتك اليومية ضمن المنطقة السكنية التي تعيش فيها؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

6.4 إلى أي مدى توافق على أن الحي الذي تسكن فيه جميل و منظم؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

7.4 كيف تصف التفاعل الاجتماعي مع جيرانك و سائر سكان الحي الذي تسكن فيه ؟

☐ يوجد تفاعل كبير ☐ يوجد تفاعل نوعا ما ☐ يوجد تفاعل محدود

☐ يكاد لا يوجد أي تفاعل ☐ لا يوجد تفاعل على الإطلاق

8.4 إلى أي مدى توافق على أنه يتوفر في الحي السكني الذي تسكن فيه بنية تحتية جيدة من طرق و أرصفة مشاة و إنارة و مصارف لمياه الأمطار و غيرها...؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

5. مواصفات المسكن

1.5 ضمن مقياس من 1-10 كيف تصف مدى رضاك عن جودة (مواصفات) المنزل الذي تعيش فيه ،بحيث تعبر قيمة 1 عن عدم الرضا بالمطلق و قيمة 10 عن الرضا التام؟ (ضع دائرة حول القيمة التي تعبر عن مستوى رضاك)

1 2 3 4 5 6 7 8 9 10

2.5 ما هو مجموع الغرف (الفضاءات) الموجودة في المنزل شاملة غرف النوم، المعيشة، الضيوف، المطبخ، الحمامات، و غيرها...؟

.....

3.5 ما هو عدد غرف النوم فقط الموجودة في المنزل؟

.....

4.5 إلى أي مدى توافق على أن المنزل الذي تسكن فيه مكتظ و بحاجة لمساحة إضافية؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

5.5 إلى أي مدى أنت راض عن التوزيع الداخلي للفضاءات داخل منزلك؟

☐ راض تماما ☐ راض ☐ متعادل

☐ غير راض ☐ غير راض على الإطلاق

6.5 هل تعاني من وجود أي من المشاكل التالية في منزلك؟ (يرجى وضع علامة على كل ما ينطبق)

☐ عفن في الأبواب أو الشبابيك أو الأرضيات ☐ رطوبة في الجدران و الأسقف ☐ ضعف الإنارة الطبيعية

☐ نقص التهوية الطبيعية ☐ نقص في عددالحمامات ☐ ضعف العزل الحراري أو الصوتي

☐ عدم وجود فضاءات خارجية ☐ الحاجة لإصلاحات كبيرة في المنزل ☐ عدم وجود مساحات كافية للتخزين

7.5 إلى أي مدى أنت راض عن المظهر الخارجي لمنزلك؟

☐ راض تماما ☐ راض ☐ متعادل

☐ غير راض ☐ غير راض على الإطلاق

8.5 إلى أي مدى أنت راض عن جودة البناء و التشطيبات في منزلك؟

☐ راض تماما ☐ راض ☐ متعادل

☐ غير راض ☐ غير راض على الإطلاق

9.5 إلى أي مدى توافق على أنه من السهل على المنزل اذي تسكن فيه التكيف مع ديناميكية نمو السرة و استيعاب أية متطلبات مستجدة (فيسيولوجية أو نفسية) ؟

☐ أوافق بشدة ☐ أوافق ☐ محايد (لا أوافق و لا أعارض)

☐ لا أوافق ☐ لاأوافق بشدة

10.5 هل تم إجراء أية تعديلات على التصميم الأصلي للمنزل؟

☐ نعـم ☐ لا

11.5 إذا كانت الإجابة بنعم، يرجى ذكر هذه التعديلات و سبب القيام بها؟

……
……
……

6. الخدمات الأساسية

1.6 ضمن مقياس من 1-10 كيف تصف مدى رضاك عن مستوى الخدمات الأساسية (مثل الماء و الصرف الصحي و الكهرباء ...) المتوفرة في منزلك ،بحيث تعبر قيمة 1 عن عدم الرضا بالمطلق و قيمة 10 عن الرضا التام؟

1 2 3 4 5 6 7 8 9 10

2.6 أذكر أي من الخدمات التالية متوفر في منزلك:

☐ الماء ☐ الكهرباء ☐ الصرف الصحي

☐ الهاتف الأرضي ☐ الإنترنت ☐ التدفئة المركزية

3.6 كيف تصف مستوى رضاك عن جودة الخدمات الأساسية المتوفرة في منزلك ضمن مقياس (من 1-5) بحيث تعبر القيمة 1 عن عدم الرضا بالمطلق بينما تعبر القيمة 5 عن الرضا التام

	غير راض على الإطلاق	غير راض إلى حد ما	حيادي	راض إلى حد ما	راض تماما
3.6.أ المياه	1	2	3	4	5
3.6.ب الكهرباء	1	2	3	4	5
3.6.ج الصرف الصحي	1	2	3	4	5
3.6.د الهاتف الأرضي	1	2	3	4	5

4.6 كيف تصف مستوى رضاك عن كلفة الخدمات الأساسية المتوفرة في منزلك ضمن مقياس (من 1-5) بحيث تعبر القيمة 1 عن عدم الرضا بالمطلق بينما تعبر القيمة 5 عن الرضا التام

	غير راض على الإطلاق	غير راض إلى حد ما	حيادي	راض إلى حد ما	راض تماما
4.6.أ المياه	1	2	3	4	5
4.6.ب الكهرباء	1	2	3	4	5
4.6.ج الصرف الصحي	1	2	3	4	5
4.6.د الهاتف الأرضي	1	2	3	4	5

5.6 إلى أي مدى أنت راض عن كلفة تدفئة المنزل الذي تسكن فيه سواء كانت تدفئة مركزية أو غيرها؟

☐ راض تماما ☐ راض ☐ متعادل

☐ غير راض ☐ غير راض على الإطلاق

6.6 ما هي نسبة ما يتم إنفاقه من مجموع الدخل الشهري للأسرة على فواتير الخدمات الأساسية للمنزل و التي تشمل (الكهرباء، الماء، الصرف الصحي، الهاتف الأرضي والتدفئة و خدمة الإنترنت إن وجدت)؟

☐ أقل من 10% ☐ 10-19% ☐ 20-29%

☐ 30-39% ☐ 40-49% ☐ 50% فأكثر

أخيرا، إذا كان لديك أية ملاحظات أو تعليقات أو مقترحات يرجى كتباتها في الأسفل

.....
.....
.....
.....

هل تمانع لاحقا في أجراء مقابلة شخصية معك بخصوص هذا الاستبيان؟

☐ نعم ☐ لا

إذا كان لديك الرغبة في الاشتراك في السحب على الجوائز، الرجاء تسجيل اسمك و عنوانك ورقم هاتفك في الفراغ التالي ليتسنى لنا توصيل الجائزة لكم في حال الفوز بها:

الاسم: .....
العنوان: .....
الهاتف: .....

نهاية الاستبيان

نشكر لكم مساهمتكم

Appendix 5

Planning in Amman / Jordan
An Overview

Introduction

The following is a short overview about planning practice in Jordan, underlying main issues that include the legal and administrative context through which planning practice takes place in Jordan as well, in Amman. This includes addressing the legal framework and main ordinances that guide planning, as well as the administrative competence for planning represented in the main government bodies that are responsible for planning in Jordan. The overview provides also a brief history of planning in Jordan and the key plans issued during the modern history of Amman. Additionally, it presents a description about recent planning efforts in Amman focusing specifically on the latest Amman Metropolitan Growth Plan issued in the year 2008.

Legal and Administrative Context of Planning:

Current physical planning practice is regulated by the provision of a number of planning ordinances that have so far regulated planning practice since the advent of physical planning in Jordan in the 1950's and 1960's, foremost amongst them being the Law of Planning of Cities, Villages and Buildings, No. 79 for the year 1966, and its various amendments. According to the articles of this law, there are three tiers of administration for the physical planning in towns, villages and regions: Local Planning Committee, District Planning Committee and the Central City and Village Planning Department (CCVPD) within the Ministry of Municipal Affairs itself. These are associated with three levels of plans: Regional Plans, Structure Plans, and Detailed Plans. Regional and Structure Plans require the approval of the Supreme Planning Council. Detailed Plans are approved by Regional or District Planning Committee (GAM 2008; Potter et al 2009; Tewfik 1989).

The Regional Plan contains maps that are the basis for the structure and detailed plans. It may contain development standards such as setbacks and density requirements. It may state what works require building licences. The contents of Structure Plans are very similar, presumably at a more detailed level. Detailed Plans are also similar in content. There are things they must contain, including sites planned for expropriation. All three kinds of plans may deal with any matter necessary for achievement of the objectives of the plan, including administration and procedures. These kinds of terms and conditions may also be covered by regulations issued under the law.

The Structure Plan is to be in place before Detailed Plans can be approved, and the Regional Plan is to precede the Structure Plan. Approval procedures: For the Regional Plan, Regional Committee considers objections and makes recommendations to Supreme Planning Council. For Structure Plans, District Committees receive objections and make recommendations to Regional Committee, which then reports to Supreme Planning Council. For detailed plans, adoption procedures start at District Committee level. The District Committee receives objections and makes recommendations to Regional Committee (GAM 2008, Potter et al 2009).

Regarding the tiers of planning practice, that is the production and preparation of physical planning, local or municipal councils customarily act themselves as the local planning committees, and they are normally considered responsible for the preparation of 'master plans', and 'detailed plans' which are in the end subject to the approval of the District or Regional Planning Committee. The District Planning Committee, on the other hand, assumes the responsibilities of the local planning committee in areas outside the boundaries of jurisdiction of the municipal council but are still within the geographic area delimited as its district. In actual practice, however, and due to the lack of resources and professional planning skill and experience, it is customary for local planning committees, and district committees, to seek help for the preparation of their master and detailed plans from the CCVPD.

Building licenses are issued by District Committees. Regional Committee decides appeals of decisions of District Committees on licence applications. If it overturns the decision, District Committee can raise the issue to Supreme Planning Council. District Committees are authorized to make minor variations in requirements for lot size, building height and volume, and setbacks, to specified maximums. In territory that has been zoned, District Committee approves subdivisions. In unzoned land, Regional Committee approves subdivisions. Council of Ministers may issue regulations covering a wide range of matters, including the kinds of matters that can be covered in planning documents. Supreme Planning Council may also make regulations.

Within the boundaries of the major cities including, particularly, the capital city of Greater Amman physical planning is undertaken by the respective city planning authority within the city's own administration - that is the planning departments. These departments are on the whole better staffed than the local or district planning committees, and their staff have considerable experience in planning. The system historically adopted for spatial planning in Amman is said to be a two-tier system, most close to what can be defined as a comprehensive planning model. However, in reality there is very little coordination at the local level between different districts. Until recently the institutional and organizational framework for planning and development control in Amman was fragmented, both within GAM and with external agencies for it to be effective management system within an expanding metropolitan area. At least 8 GAM departments were involved and over 6 external agencies played a role in planning practice in Amman (Abu-Dayyeh 2006; GAM 2008).

In essence, the planning and development control system was designed from the 'inside-out', meaning that it is designed primarily around independent bureaucratic requirements without much regard for the citizen and investor. As well, the system is not integrated, meaning that organizations, including GAM departments, work in isolation of each other, much like institutional silos. This causes problems both for government, the citizen and investor. It also misses opportunities for more effective and efficient planning and

development control measures, including cost savings in the provision of infrastructure, transportation and such social services as education and health care.

Perhaps the biggest flaw has been a lack of urban planning altogether. In spite the several plans that have been issued for different Jordanian cities including Amman in specific, actual development control has been exercised without a guiding planning vision. The best way to describe the situation is that the city had a development control (zoning) system, in search of an urban planning policy. In reference to Amman, since 1967 building has been regulated under the City of Amman Zoning and Building Regulation. This regulation provides for land use zones and typical development standards such as building envelopes, lot standards and parking requirements. Special regulations have been made for particular developments. In the territory added to GAM in 2007, there are zoning regulations in place for Settlement Areas, again lacking development plan support. In unzoned areas, development is controlled under Regulation 535 of the Supreme Planning Council. This however, was not accompanied with a clear strategy of how the city should develop, and many of the zoning standards are outdated and did not address the issues at hand, particularly for the new developments (GAM 2008).

In Amman there are no approved regional or structure plans. The Zoning and Building Regulation of the City of Amman 2005 is a regulation of the Council of Ministers. This regulation contains development standards such as zoned land use restrictions, setbacks, parking requirements, and application procedures. Zoning maps and rezoning are approved as detailed plans by Regional Committee. In the new territory added to GAM, there is zoning in settlement areas. Outside of settlement areas, applications for building are governed by Regulation 535 of Supreme Planning Council (Administered by GAM). For GAM, Supreme Planning Council is headed by the Prime Minister, represented by the Mayor. It has seven members, who are Deputy Ministers. Regional Committee has been formed as a committee of GAM Council, with 12 members plus the Mayor as Chair. There are 20 District Committees, each consisting of the District Head (Chair), two council members, the District Executive Administrator, and the Engineering Section Head. Decisions of District Committee on building licences must be confirmed by the Mayor’s Inspector (GAM 2008).

Zoning Regulations:

The common practice of the current Planning and Building Code of 1979 takes for granted that all land inside municipal boundaries is accessible for urban development. New urban land can be zoned by the simple extension of the already approved municipal boundaries, even though it is the authority of the Supreme Planning Council (SPC) to designate a 'Planning Area' in any location outside the approved municipal boundaries (Potter et al 2009; Tewfik 1989).

Zoning regulations control land use, determines the size and use of buildings, building bulk and size, where they are located and, in large measure, the densities of the city's diverse neighbourhoods. Zoning shapes the city and is a key tool for carrying out planning policy. In order to capture the diversity of building typologies and variation within the Amman built form each land use category defined at the planning area and community level is broken down into zoning. Zoning regulations are defined in the Municipalities Law of 1955 and the Town and Village Planning Law of 1966. The specific details of zoning, however, are the results of various interpretations and by-laws issued by the Greater Amman Municipal Council, the Ministry of Municipal and Rural Affairs and Environment (MMRAE) (Abu-Dayyeh 2004; Potter et al 2009; Tewfik 1989).

Under the current regulations, land-use zones are divided into residential, commercial, industrial and special development zones. Residential zones are divided into standard residential A,B,C,D, and popular zones, and green residential categories. There is no requirement in the preparation of master plans to justify the amount of land allocated to different zoning categories. The total amount of land zoned, the proportions and location of different land uses, the size and distribution of the various categories of residential, industrial and commercial development do not reflect either planning standards or market requirements.

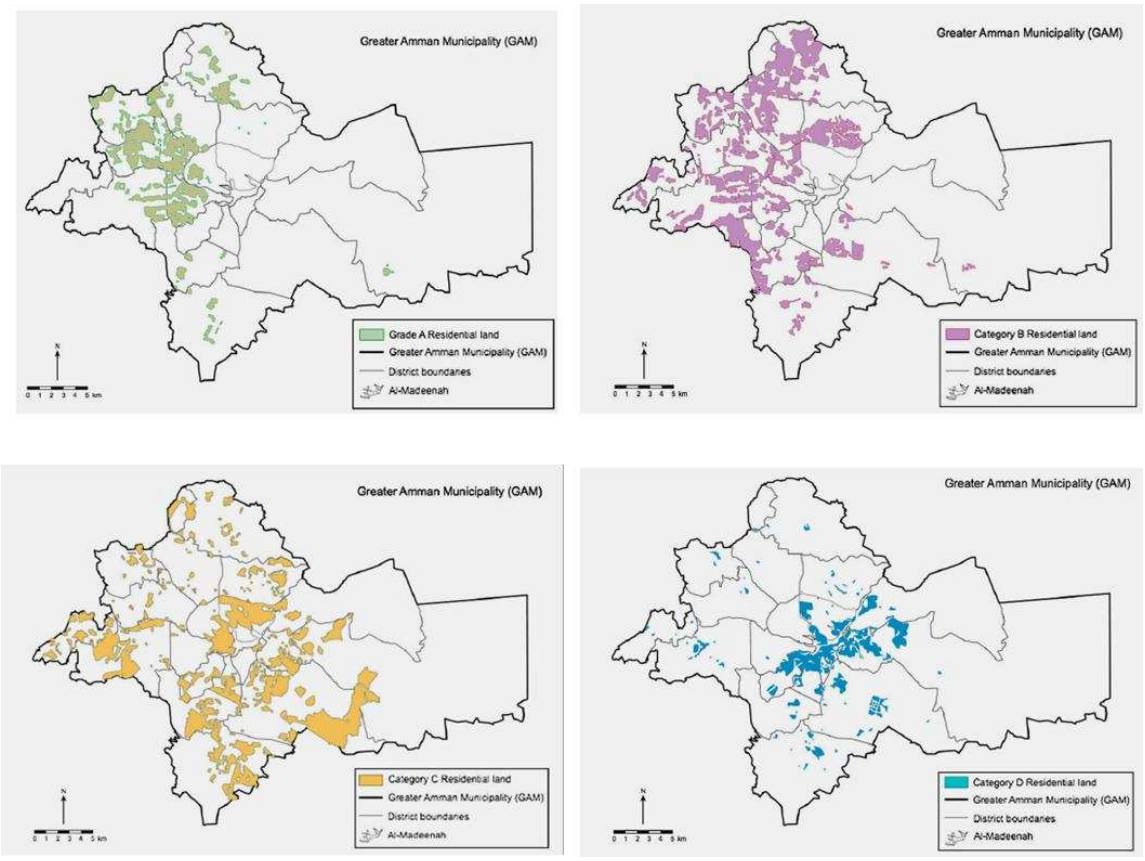
For planning and building purposes, residential land within Amman is divided into four categories. These are based on the criteria of minimum plot size, the maximum percentage of the plot that can be built-upon, and the distance between residential buildings and the boundary of the plot. The categories are summarised by the notation A–D from the largest to the smallest.

Plots designated as category A have an area of at least 900 m^2 and the distance between the house and the boundary of the property must be at least 5 m at the front, 7 m at the back and 5 m from either side. The built-up area should be no more than 39% of the plot, leaving space for 'green' areas. Category B residential plots are between 750 and 900 m^2, with the house being more than 4 m from the front, 6 m from the back and 4 m from the sides. The built-up area of the plot can be up to 45%. Category B residential plots are far more dispersed than category A plots. Taken together, category A and B residential lands occupy entirely the western and northern portions of the city, reflecting larger residential plots sizes, more substantial buildings and higher overall levels of wealth and social status. In category A and B lands, residential taxes are higher, and urban services such as street cleaning and water supply are more regular.

Category C land denotes plots of around 400 m^2, with residential buildings occupying up to 51% of the plot. Houses must be no nearer than 4 m of the front and back of the plot and3 m from the sides. Category D describes smaller residential plots of up to 200 m^2, with a maximum permitted built-up area of 55%. The residential building should be no nearer than 3 m, 2.5 m and 2.5 m of the front, back and sides of the plot, respectively. It is

noticeable that category D residential lands characterise the inner city. Particular concentrations are noticeable to the south and east of the downtown area.

The housing pattern in Amman has been characterised by both planned and unplanned developments. There is an east/west divide with much of the housing in the east being refugee camps, slums, and various dwelling units built without any adherence of planning requirements or building regulations. This contrasts with the developments that typify the west of Amman where most dwelling units have been built with complete compliance with building regulations. Many of the illegal dwellings were constructed before any town and country planning laws were introduced (Abu-Dayyeh 2004; Potter et al 2009; Tewfik 1989).



Residential Zoning in Amman
Source: Potter et al. (2009)

A Brief History of Planning in Amman

Jordan had a good share of physical planning since the declaration of independence in 1946. An inclusive study reviewing physical planning in Jordan reveals at least 56 physical plans at different scales, local, metropolitan, regional and national were made for Jordan during the period from 1960-1990, of which 17 were at the local scale. Four separate plans were made for the city of Amman in the period 1955-2002, each nearly ten years apart: 1955, 1968, 1978, 1988. Yet, so far there have been no studies that trace the degree and extent of implantation of the main urban proposals of these plans. The earliest plan done in 1955-1956 by the two British planners Max Lock and Gerald King and the Greater Amman Comprehensive Development Plan (GACDP) completed by a private consultancy firm in collaboration with the Municipality of Amman were the most ambitious plans in scope. The priorities and rationale for these two plans were quite different (Abu-Dayyeh 2004).

The 1955 plan provided a grand conception aimed at articulating a new capital for the newly born nation state. The overarching objectives of the plan were twofold: housing and employment. Despite that, the authors of the plan presented a grand conception for the future city of Amman, containing many of the latest British innovations in town planning and civic design including (Abu-Dayyeh 2006; 2004):

- The adoption of the neighbourhood principle along with elaborate traffic planning.
- The idea of green fingers or wedges, acting as both a link and a buffer between the various neighbourhoods.
- The proposal for the location of green open space between neighbourhood units.
- The proposal for a central park located in the centre of the town, including town hall, library, theatre and art gallery.

Although many plans were issued for Amman afterwards, the influence of the earlier 1955 plan remained, to a certain extent, apparent.

The GACDP (1988-2005) was the most comprehensive plan for Amman up to that time. This was published in seven volumes by the Greater Amman Municipality (GAM) in 1988. Based on over four years of detailed research, analysis, and production, the 1988 Plan was indeed comprehensive, and it remains a significant resource for ongoing planning of the city and its surroundings. However, little attention was paid to either its political acceptance or its enactment. The plan was officially adopted in 1990 though never fully implemented. Rather, it was taken merely to provide guidelines for future planning actions (Abu-Dayyeh 2004; Malkawi 1996). The proposed plan was meant to achieve several key objectives:

- Securing the availability of urban land for all purposes, especially for housing for low income.
- Encouraging development of the land marked for development within a reasonable time frame.
- Protecting valuable agricultural land against urban sprawl.
- Minimising the cost of services and infrastructure by encouraging a more compact form of the city.

The most common feature of these plans was a proposed ring and radial road network, which is the only part that has since been implemented, albeit partially. Consequently, planning in Amman has continued to be governed by the city's outdated zoning bylaws, overlaid on its emerging ring and radial road networks. Yet, the plan provided the backbone for a 'mythic construct' that justified quest for administrative control that was achieved by the establishment of Greater Amman (Abu-Dayyeh 2006; 2004).

The development of Amman through zoning (i.e., fitting land-use zones over the aforementioned ring and radial road network) continues today. At the end of 2005 (before more recent expansion), zoned areas constituted 62.2 percent of total GAM area. Moreover, the growth rate for zoned areas had reached about 2 percent of total area per year. While the gradual expansion of the radial and ring road network has allowed Amman to grow without major traffic problems, the recent rapid increase in traffic volumes and the absence of effective public transit have become critical issues for future planning of the City (Abu-Dayyeh 2004).

Another important planning project is the Land Uses Plan that was prepared and issued by the team of the Ministry of Municipal Affairs in the year 2006. The purpose of the plan was to develop an optimum land use to meet the natural, geographical, developmental, populous areas and natural resources throughout the country. The ministry developed a comprehensive master plan for the optimal land uses to be as pilot plan to direct the development , populated expansion , investment and conserve the agricultural and natural resources. This was done for almost all parts of the country. Accordingly, it can be considered as a national or regional scale project. After the 1st level of the project was finalized in 2006 the ministry commenced with the 2nd level which composed of comprehensive master plans for 8 central municipalities and prepared full organizational plans for all municipal regions (Ministry of Municipal Affairs – MOMA 2006).

In light with the Land Uses Plan and in response to the accelerated rate of growth and expansion together with the increasing demands for housing, public services and investments Greater Amman Municipality (GAM) was driven to work on a new comprehensive responsive plan for Amman. In a joint venture with number of foreign consultants GAM issued the new Amman Metropolitan Plan in the year 2009. This was claimed to be the city's blueprint for sustainable future development that will help Jordan achieve the objectives outlined by the National Agenda and guide the growth of the city

and address such issues as the built and natural environment, culture and heritage, transportation and infrastructure, and community development. The plan has a long term vision that directs the development of the city up to the year 2025 (GAM 2008).

The following table provides a chronology of important planning events that have influenced Amman and its surroundings since 1950 follows (GAM 2008):

1952	Jordan Development Board established to coordinate with US Point Four, UNRWA, and key ministries responsible for national planning
1955	The Development Plan for Amman (Max Lock and Gerald King). The first broad physical plan for Amman under the new established state of Jordan after declaration of independence in 1946.
1965	Town and Country Planning Unit established within the Ministry of Municipal and Rural Affairs " Amman City Zoning Regulation (Regulation No.60)" and "The Regulation on Licensing the Building in Amman (Regulation 109)" passed
1968	"Physical Planning in Jordan" (Victor Lorenz) published by Ministry of Interior for Municipal and Rural affairs National Planning Council established
1975	Amman Urban Region designated under the Amman Urban Region Council (AURC)
1977	Amman Urban Region Planning Group (AURC + American Planners) established
1978	1978 "Preliminary Study on the City Centre Development" prepared by Japanese consultants and released by the Municipality of Amman
1979	Ministry of Municipal, Rural and Environmental Affairs established "Regional Planning Department" Planned Development for the Amman – Balqa Region (1981-1985) released by AURPG) "Building and Zoning Regulation in Amman City (Regulation No. 67)" approved by the Municipality of Amman
1982	World Bank completes Jordan Urban Sector Review
1984	Ministry of Planning established with Regional Planning Department
1988	"Greater Amman Comprehensive Development Plan (1985-2005)" published in seven volumes by the Municipality of Greater Amman (GAM) Amman Ring Road Feasibility Studies released by Ministries of Planning and Transportation
1997	Greater Zarqa Comprehensive Development Plan (1995-2010) published by GAM / Zarqa Municipality
2005	Amended Regulation of the Buildings and Zoning in Amman City" approved by GAM
2006	GAM commissions "The Amman Plan" and GAM boundary is expanded significantly

The Amman Plan - Metropolitan Growth (2008)

The Metropolitan Growth Plan (MGP) is a physical planning and policy framework that guides the growth and development of the Greater Amman Municipality (GAM).

The idea behind the creation of this plan was to respond to the growing needs of the city in terms of services and facilities that comprise almost all aspects of life, as the existing regulation system was losing effectiveness as a tool to guide development and to assist council in making good decisions. The proposed regulation needs to act as an incentive to promote economic development, attract business and industry and facilitate the building of a world-class City. At the same time, it needs to balance the community's objectives for promoting quality of life and creating a healthy community. As part of the new planning framework the Amman Zoning and Building Regulation is being rewritten to implement the vision and goals of the Amman Plan. A new regulation is expected end of 2008 (GAM 2008).

Planning framework

The Amman Plan features sequential scales of planning and corresponding levels of planning detail within an overall plan hierarchy:

Metropolitan Scale: Relates to Amman's entire 1,662-square-kilometre Metropolitan Planning Area and is the scale of the Metropolitan Growth Plan.

Planning Area Scale: The Metropolitan Planning Area is split into eight Planning Areas to provide a finer scale of planning detail. Area Plans are based on the Metropolitan Growth Plan and include elements such as land use and major road alignments.

Community Scale: Occurs at the level of 228 existing neighbourhoods, which can be broken into smaller planning blocks. Community Plans for these neighbourhoods provide the greatest level of planning detail, including detailed zoning and local road networks.

Planning approach and component plans

The Amman Plan is being developed in seven Planning Phases that define a range of plan components, each developed at one of the planning scales defined earlier. The Amman Plan initially undertook bottom-up, community-level planning in response to immediate and critical pressures to develop tall buildings, urban corridors, industrial areas and residential compounds (GAM 2008). The phases are as follows:

Phase 1: Amman Plan for Tall Buildings
Phase 2: Corridor Intensification Strategy
Phase 3: Industrial Lands Policy
Phase 4: Outlying Settlements Policy and Airport Corridor Plan.
Phase 5: Metropolitan Growth Plan
Phase 6: Area Plans
Phase 7: Planning Initiatives

Planning and development principles

The following Planning and Development Principles establish a set of fundamental rules to follow in creating a sustainable future for Amman. The substance of each principle is to be reflected within the various components of the Amman Plan (GAM 2008).

1. Plan for 'complete communities' that provide residents with a choice of housing, a full range of urban amenities - parks, schools, clinics, cultural centres, etc. - and good accessibility to employment, shopping, and recreational facilities.

2. Plan and develop 'inclusive communities' rather than segregated ones, by allowing for different lifestyles, building typologies, and public spaces that unite citizens from different socio-economic, cultural, and ethnic backgrounds. Special care must be taken to accommodate people with disabilities in the 'built environment' and in the provision of services such as public transit.

3. Encourage compact urban growth in order to make the best use of existing services, promote increased transit use, improve pedestrian accessibility, and improve affordability for both the Greater Amman Municipality (GAM) and its residents.

4. Direct growth to both existing built-up area, in order to make the best use of existing services, and to new designated expansion areas that are located close to the urban core. Special attention must be paid to preserve the 'organic historic growth' of the city and to provide conditions that replicate this style of urban form.

5. Promote mixed land use in general, and a healthy mix of residential and employment uses in particular, in order to foster a diverse economy and to limit commuting times. This mixed-use development will be promoted in all socioeconomic sectors of society.

6. Promote clear distinctions between urban, suburban, and traditional communities in order to protect valuable environmental and agricultural lands and to support traditional lifestyles and culture.

7. Focus GAM's transportation policy on moving people and goods, rather than moving vehicles. Promote public transit and develop a transportation system that offers residents choices for going shopping, going to work, taking time off to relax or play, and getting back home again. Provide for a safe and convenient pedestrian environment that is integrated with other modes of transportation.

8. Create a connected 'Natural Heritage System' that protects and connects important environmental features at the same time as it accommodates a network of public walking trails throughout the City. An urban parks system will be an integral part of the Natural Heritage System, including neighbourhood parks, playgrounds, and large open green spaces within the urban setting.

9. Conserve the ‘cultural heritage’ of the city, including modern and ancient heritage, and promote it as an integral part of the overall contemporary metropolitan living experience.

10. Promote ‘sustainable development practices’ and encourage environment-friendly ‘green building’ standards that minimize the city’s carbon footprint on the global community.

The MGP proposed a detailed scheme about the urban growth and settlement expansion all over the city. It facilitates growth within existing built-up areas through both intensification and densification, as well as provides a clear urban edge that will serve to contain most Amman’s projected growth. Settlement Expansion Areas are primarily located within this Urban Envelope, but are also found in designated Primary Growth Areas outside of it. Up to 40 percent of land within Amman’s built-up areas is vacant, allowing for a large degree of intensification. 45 percent of new housing units within the Urban Envelope will be accommodated within the built-up area (GAM 2008).

From a legislative point of view, the Amman Plan and its regulatory framework represent a modern approach to urban planning that is not entirely consistent with Jordan’s legislative framework. However, the regulatory framework supporting implementation of the plan is capable of adaptation to existing legislation. As a result, the approach to regulation does not rely on passing new legislation.

Primary attention has been focused on revising and updating Amman’s current regulations in a format that will complement the overriding objectives of the MGP. Accordingly, the new regulations are “form-based” and call for a combination of mandatory requirements (e.g., land-use zoning, lot development and building envelope regulations and parking requirements) with discretionary “design guidelines”. While it is anticipated that the former will be regulated by responsible municipalities, the latter imply input from local residents – in the form of formal or informal design review commissions or committees.

Despite the broad concern about the growth of the city and the detailed studies and proposals undertook to facilitate the future population growth of the city and the absorption of the increasing housing needs it still requires more in depth work in regard to the quality of housing schemes on different scales. This might probably be the focus of the detailed action plans that are still in the process of preparation. The aims, visions, and proposals of the new MGP of Amman seem sufficient. So far, the plan has not been yet fully implemented, and is still in the process of activation. If fully applied, it is expected that the plan will help improving the quality of the city in a considerable manner. The main concern, however, is to what extent it will be fully adopted and its set of proposals and revised regulations will be strictly undertaken.

The new Amman Plan is developed to overcome the failures that occurred in the former planning system that have resulted in inefficient use of urban land and the discrepancy between zoning and actual demand as was mentioned earlier in the thesis. The planning team responsible for the development of the Amman Plan claim that the new plan provides a strong base for an efficient future development for the city that responds to people needs. The main features of the plan support this argument, and offer a possible milieu for adopting and applying some of the research findings related to the quality of housing and QOL in general. This however, depends on the extent to which this plan will be implemented and activated in reality.

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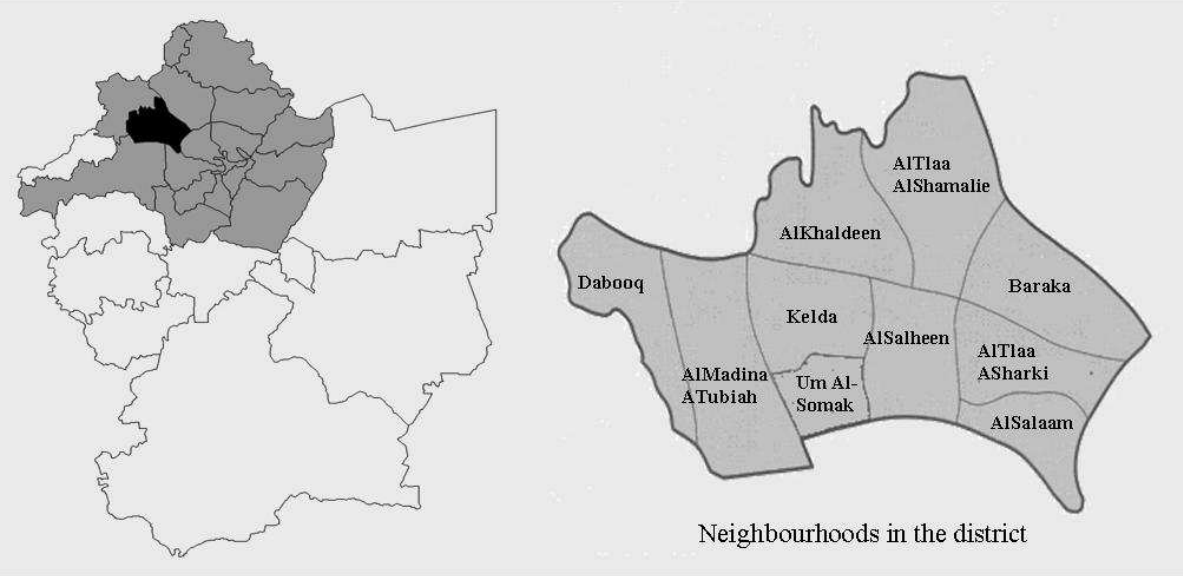
Appendix 6

Districts Included in the Final Sampling Framework - A Description [1]

[1] Maps illsutarted were taken from the Greater Amman Municipality web site: http://www.ammancity.gov.jo

Tlaa AlAli .....



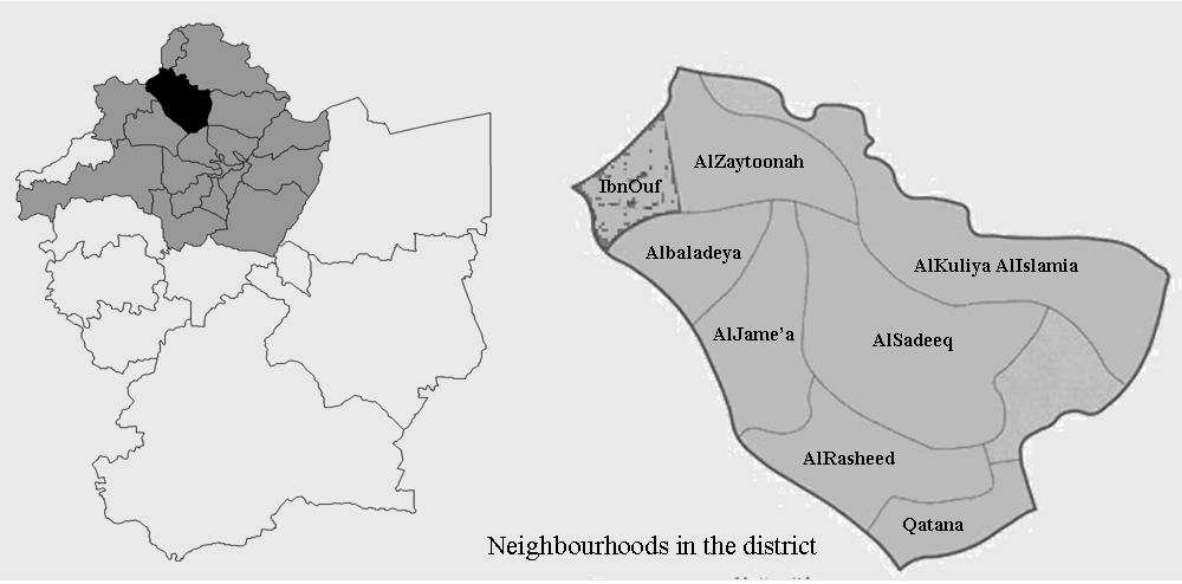
Location: West Amman
Area: 19.8 km^2
Population: 110324
Density: Middle (6,066 person/km^2)
Social Class: High

Tlaa AlAli is located in west and comprises ten neighbourhoods all considered among the luxuries residential neighbourhoods in Amman and the most expensive locations in terms of land and housing prices. Tlaa AlAli is also distinctive for accommodating three vital modern commercial streets in the city that are always busy and crowded, in addition to a big number of recent stylish shopping malls. It also includes some major health facilities among which is the Medical City (AlMadina AlTubiah) which extends over two thirds of the areas of AlMadenah AlTubiah neighbourhood, in addition to other main private hospitals. The district is usually recognised as reflecting the modern life style of the city in terms of the community groups and facilities.

In general, the district is characterised by a relatively flat topography if compared to other places in Amman. It is covered with a wide range of good quality services and public amenities that are usually claimed to be better than those provided in other places in the city. The majority of area is zoned as residential A and B, and therefore it encompasses a mix of both single family houses (villas) and apartment buildings.



Al Jubeiha .....



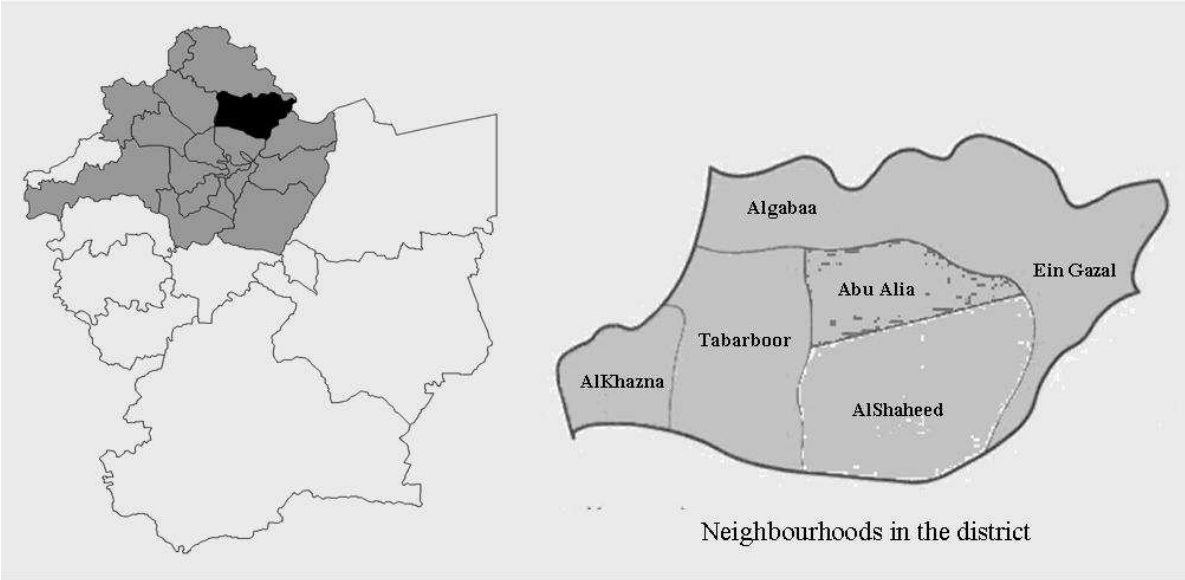
Location: West Amman
Area: 25.9 km^2
Population: 110324
Density: Low (2,673 person/km^2)
Social Class: Upper Middle

Al Jubeiha is a district located in the northern outskirts of Amman, overlooking some of the major roads and highways that provide access to the city of Amman from the north. It enjoys a pleasant nature and an important location, but on the other hand, is characterized by severe cold weather compared to other areas in the city. Al Jubeiha is home to several important educational facilities that include the Ministry of Higher Education, the University of Jordan and the Royal Scientific Society as well as, a number of the highly recognised schools in Amman. In addition to that in includes some of the most important hospitals and health facilities such as the University Hospital.

Al Jubeiha comprises eight neighbourhoods, housing a mix of high and middle income population. Some of these neighbourhoods are considered among the finest residential neighbourhoods in the city. It is currently considered as one of the highest areas in terms of population growth as it is experiencing an increase in the volume of residential projects, especially those targeting upper and middle class households. The majority of residential land is zoned as grade B, with some areas zoned A. This justifies the low population density in this area.



Tareq .....



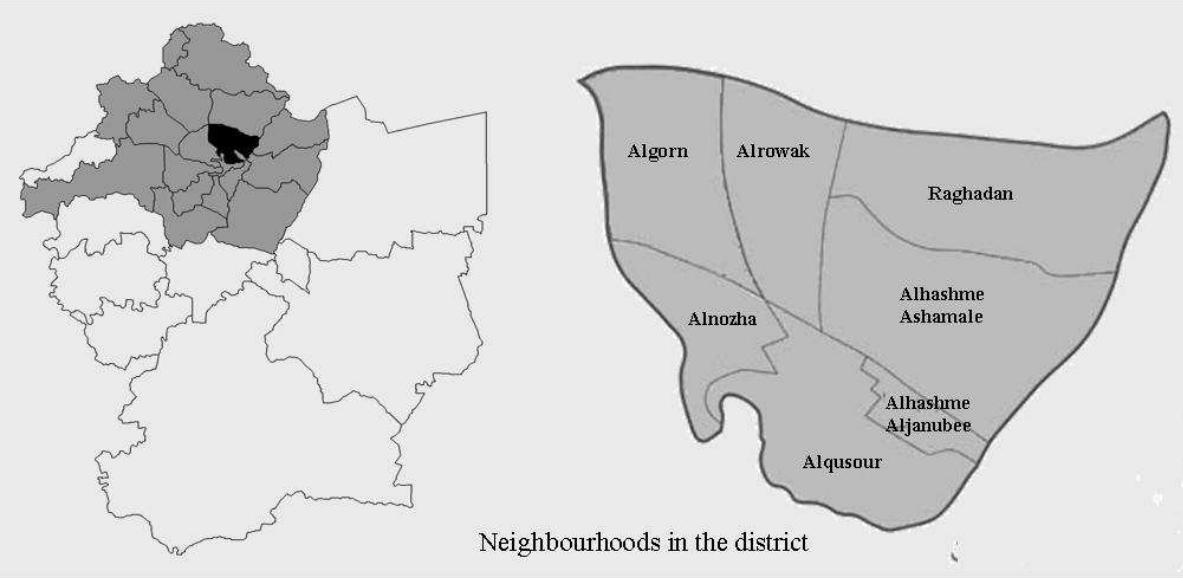
Location: North Amman
Area: 26.8 km^2
Population: 110324
Density: Middle (20,210 person/km^2)
Social Class: Middle

This district comprises six neighbourhoods that have experienced vast growth in the last decade forming a primary part of the city's north expansion, and still, especially for middle income population. In that sense, it is considered relatively new and is predominantly occupied by apartment buildings. It covers a big area and has a relatively small number of populations. The district is dominated by residential land use under B and C categories, and parts of it are considered as urban green fields.

It is located on an elevated site and has a diverse topography that ranges from hills to flat and plain areas. It is mostly characterised by a calm environment with some good natural views and has a pleasant weather in comparison to others places in the city. In spite of that, it suffers from some sorts of pollution resulting from the stone quarries that are located in some parts of it. Some of its neighbourhoods, particularly, Tabarboor, are distinguished for being crowded with shops and commercial facilities. Some of its neighbourhoods suffer also from poor transportation system.



Basman .....



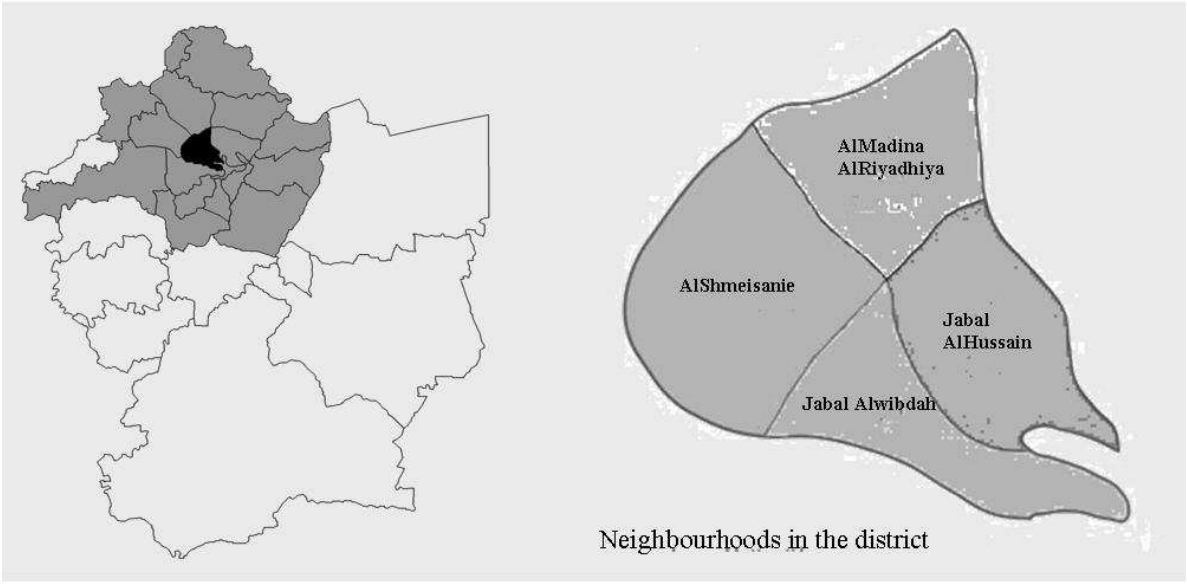
Location: East Amman
Area: 13.4 km^2
Population: 223816
Density: Middle (16,703 person/km^2)
Social Class: Lower Middle

Basman is among the smallest but the highest populated districts in Amman. Is located in the north eastern part of the city centre, and comprises seven neighbourhoods that form part of the old city of Amman. It also forms part of down town of the city. It is predominantly characterised by the popular character and forms a main part of what is known as 'East Amman', where the majority of low and lower middle income population is located. This evidently appears from the architectural and urban style of the district. It is mainly occupied by residential land used under the categories of C and D, as well as some commercial uses and there is no industrial activity in it. In addition, it is covered in some of its neighbourhoods (AlHashme) with squatter settlements.

Basman is characterised by a rough and hilly topography. Being part of Central Amman, it presents a vital link and connection between other parts of the city and includes one of the most important transportation terminals known as Raghadan Terminals. In addition to that, it encompasses some of the Royal Palaces among which is the famous Raghadan Palace. It also accommodates some of the important historical features such as the Roman Amphitheatre.



Al Abdali .....

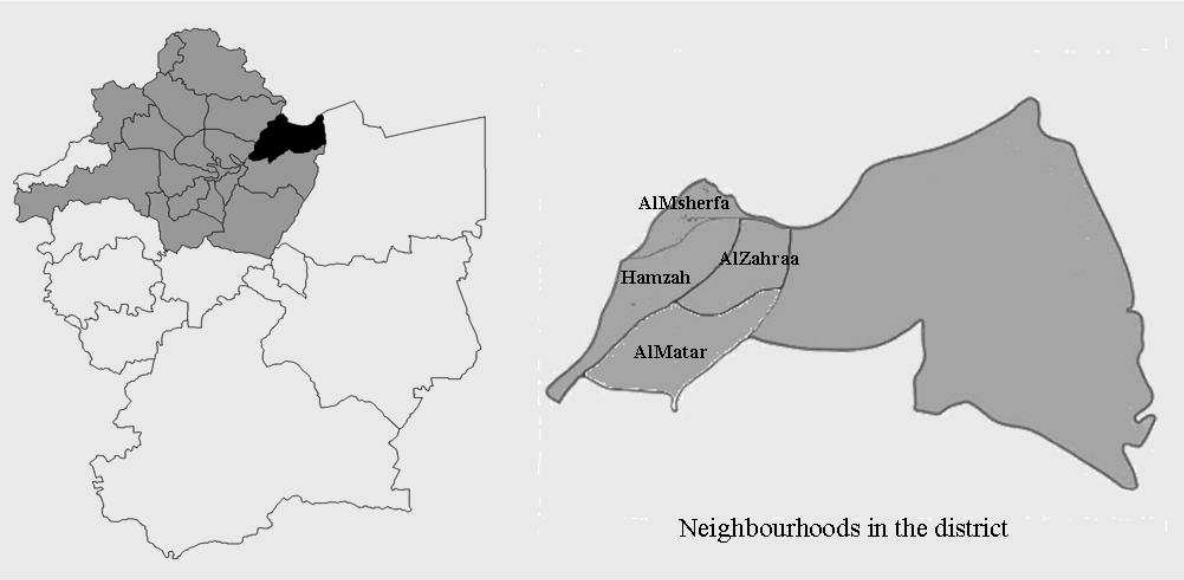


Location: West Amman
Area: 15.0 km^2
Population: 110324
Density: Middle (8,958 person/km^2)
Social Class: Upper Middle

This district has a significant central location and is considered the heart of Amman. It includes four vital neighbourhoods: Shmeisani, Sports City, Jabal Al Hussein, and Jabal Luweibdeh. It also accommodates one of the most important and largest refugee camps in Jordan - Jabal Al Hussein Camp. Al Abdali is distinguished for its complexity and multiplicity of topography, land use, density and social classes, though it is more likely to house middle and high income households, at least in three of its neighbourhoods. All of the four neighbourhoods that form Al Abdali district are classified as mixed use neighbourhoods that comprise both residential and commercial uses, in addition to social, cultural and public uses. Al Abdali comprises many of the major buildings and key features not only of Amman but of the whole country. It includes nearly one third of the government buildings and ministries as well as part of the security and military leaders. It also includes the Royal Cultural Centre, a sports city, the Parliament Building and the Palace of Justice. It is also the place where large number of companies, hotels, banks and commercial complexes are located. In that sense, it is considered the economic heart of the city and the central business district of it. Additionally, it forms one of the key arteries of movement in Amman.



Marka .....



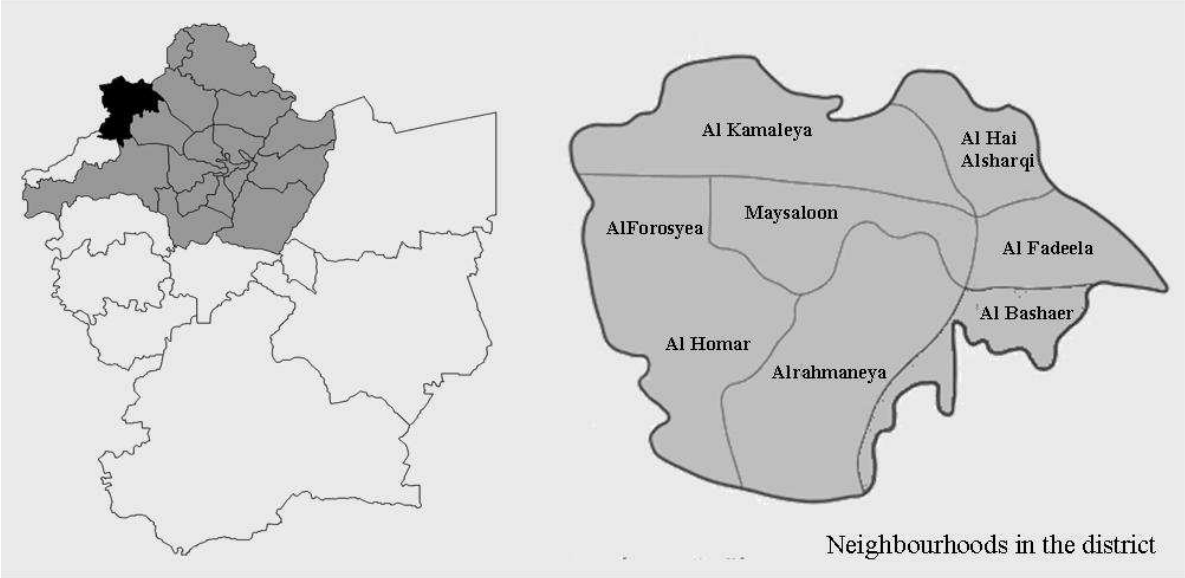
Location: East Amman
Area: 23.0 km^2
Population: 110324
Density: High (41,50 person/km^2)
Social Class: Lower Middle

Marka is located in the northern east part of Amman. It is one of the highly dense areas in the city and is the house of a majority of the lower middle income population, and therefore is considered as part of what is known as East Amman that is usually characterised by poor services and relatively degraded environment. It has a relatively flat topography.

One of its main facilities is the old city's airport known as Marka Civil Airport, which is now devoted to military purposes and some civil uses. It is also the location of some military facilities such as the Royal Air Force and the Aviation Academy. Marka has a mixture land use that ranges from commercial, industrial, military and residential. Regarding the residential use, it is categorised as C and D for almost all its parts. The majority of its housing types are therefore either apartment buildings or single family houses noted as 'dars'. In general, the quality of its urban setting, including residential buildings is relatively poor.



Sweileh .....

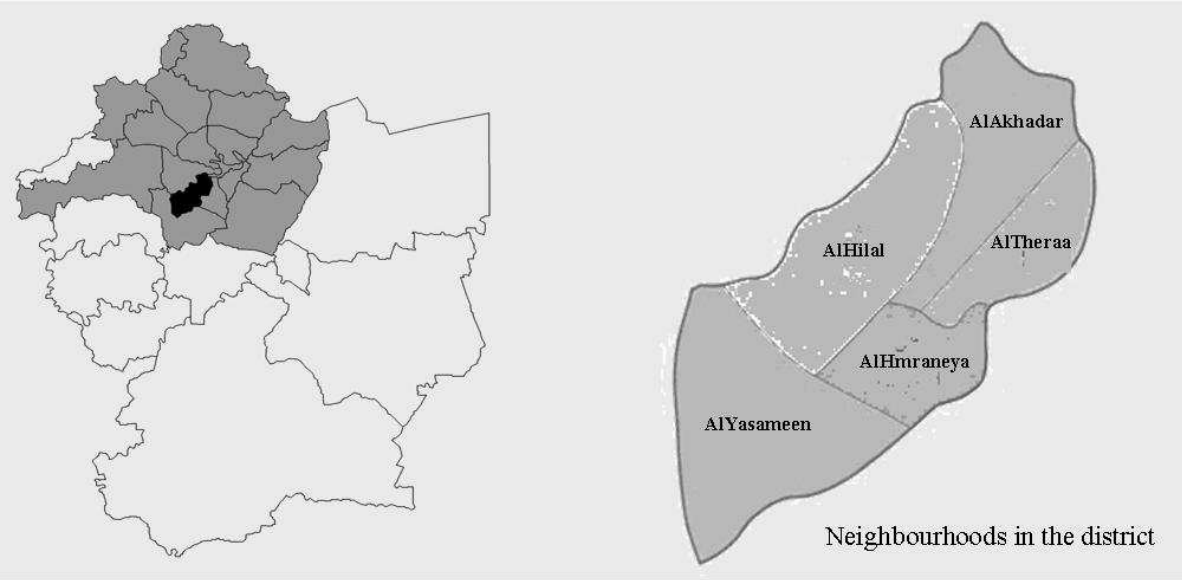


Location: West Amman
Area: 24.8 km^2
Population: 110324
Density: High (26,310 person/km^2)
Social Class: Middle

Sweileh is one of the most famous districts of Amman that provides a link between Amman and other governorates. It used to be a separate town extending in the north of Amman, but as a result of the extensive expansion of Amman it became part of it. It is one of the biggest districts of Amman and comprises eight neighbourhoods that reflect a variety of topography, land use and population groups. However, the majority of its population can be classified as middle income groups. Sweileh is known for having good climate throughout the year. It has a large population that is characterised as religious and conservative. In terms of land use, Sweileh has a presence of many heavy industries, such as auto assembly, steel and cement. Is also includes some busy and crowded commercial streets. Unlike many other districts, Sweileh has a mixture of the four types of residential land use, i.e. A, B, C and D. Yet, the majority comprises both A and B. The district is also characterised by a variety of population densities that ranges from very dense neighbourhoods such as AlFadeela and Al Bashaer, most of which are inhabited with middle and lower middle income households, to low density newly developed areas that form the destination of high and very high income households such as Al Homar neighbourhood.



Bader .....



Location: South Amman
Area: 9.9 km^2
Population: 110324
Density: Middle (14,481 person/km^2)
Social Class: Low

Bader is located south to central Amman and is considered among the most populated districts in Amman, particularly, by low income population. Its northern parts form part of the centre of Amman. The district includes five neighbourhoods most of which are classified among the poorest neighbourhoods and the most degraded. This can be clearly noticed from the poor quality of the urban fabric and the services provided in it.

Bader has three categories of residential zoning, B, C and D, distributed all over its area with zoning D dominating in the northern part, which is also characterised as having a hilly topography. Although it is considered as dense and stable in its northern parts, it still provides a potential for future expansion for the city in the south.