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# TOWARDS MAKING URBAN PLANNING PRACTICES MORE EFFECTIVE AMID RAPID URBAN GROWTH IN RIYADH – SAUDI ARABIA

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# Abstract

This thesis explores the area of urban planning practices examining the rapid urban growth in Riyadh. The research was motivated by the fact that Riyadh continues to suffer from rapid uncontrolled urban growth, with resultant problems in its infrastructure. These problems are associated with the urban planning path failures, both in terms of the discourses and the practices. As result, the urban plan did not help to control the city growth. The research firstly analyses the driving forces that influence urban planning, focusing on three issues as the main reasons for ongoing expansion: planning law, planning structure, and how planning relates to energy discourses in Saudi Arabia. Secondly, it evaluates spatial planning practices revealing four themes for developers and planners to consider: settlement patterns, urban design, land use patterns and transport. Thirdly, by revealing the mechanisms underlying the planning environment it demonstrates how the structures in place affect urban planning practices. Finally, based on the literature review and the findings of the empirical chapters and interviews with those who work in urban planning the thesis offers an understanding of planners' practices, how they contribute to continued unsustainable growth and, offers policy recommendations for a more sustainable planned future for Riyadh and other cities in Saudi Arabia.

# Dedication

**This thesis is dedicated to:**

- ❖ My Parents and My Wife for their sincere prayers and for their continuous love, support and patience

- ❖ My Country (Saudi Arabia).

# Acknowledgements

**In the name of Allah, the Entirely Merciful, the Especially Merciful**

All praise and thanks are only for Allah, the One who, by His blessing and favour, perfected goodness and good works are accomplished. My thanks first and lastly to God Almighty, for granting me the ability, patience and health to accomplish this study.

**Praise to Allah, Lord of the Worlds**

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# List of Abbreviations

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**ACD** = Academic

**ADA** = Arriyadh Development Authority

**GDP** = Gross Domestic Product

**MEP** = Ministry of Economy and Planning

**MOMRA** = Ministry of Municipal and Rural Affairs

**MPG** = Master Plans Guide

**NSS** = National Spatial Strategy

**OS** = Others in Government and Private Sectors

**RBG** = Roads and Buildings Guide

**REDF** = Real Estate Development Fund

**RM** = Riyadh Municipality

**RPG** = Regional Plan Guide

**RUB** = Rules of Urban Boundary

**SPG** = Structural Plan Guide

**TOD** = Transit-Oriented Development

XIII

# Chapter 1 Introduction

## 1.1.    Overview

Saudi Arabia is one of the semi-developed countries which has seen economic development and spatial growth, and this has been mainly attributed to the oil wealth. This rapid growth, mostly focused in urban areas in Saudi's cities has, to a large extent, meant there has been a weakening in the maintenance of the balance of growth in the region. For this reason, in order to promote sustainable growth, Saudi Arabia will need to make urban planning practices more effective to support this rapid urban growth and create balance. Throughout this thesis, the debate is framed around urban planning practices, beginning with a literature review and ending with a conclusion and recommendations.

## 1.2.    Background and Research Problem

In the past 50 years, the surge in the Saudi economy has contributed enormously to the growth of the Kingdom's cities. The discovery of oil in 19th century dramatically increased urban expansion in Saudi Arabia (Al-Hathloul and Mughal, 2004; Mubarak, 2003). Initially during the period of growth in Middle Eastern cities, the majority of urban planning decisions were focused on issues relating to accommodating the rising population, such as ensuring the provision of housing, services and facilities, rather than on issues of sustainability (Rondinelli, 1986; Zhao, 2010; Li et al., 2013). Urban growth in Saudi Arabia led to rapid expansion of its major cities. Over last decades (1970 - 2010) the total people who living in urban cities in Saudi Arabia rose from 48% to 84% (AlJarallah and AlQahtani, 2014).

The modern pattern of Saudi growth has replaced traditional Saudi structures with western urban forms, leading to the emergence of many of the problems typical of western urban development (Al-hathloul, 1981; Alshuwaikhat, 1993; Elaraby, 1996; Saleh, 2002). Western models of development have been adopted without reference to the specific principles or awareness of the cultural and social background informing traditional development (Aina et al., 2013). Therefore, the challenge is to create a style of development with the advantages of both Saudi tradition and western urban models.

Riyadh City, the largest urban area in Saudi Arabia, has witnessed tremendous growth over recent decades, accompanied by a dramatic increase in population, owing to a large number of people moving from villages, rural areas and small cities to the main cities in order to get a job and a higher standard of living. The Riyadh region has undergone the highest level of urbanisation in Saudi Arabia. The Riyadh region population is estimated to be 8 million, with 6.5 million in Riyadh, approximately 79% of the population, living in Riyadh City (ADA, 2016). This is equivalent to 19% of the total population of Saudi Arabia. The area covered by Riyadh City in 1940 was about 2.2 km$^2$ rising to 180 km$^2$ in 1980. By 1996 it covered an area of 765 km$^2$, then in 2010 rising to 1200 km$^2$. The latest update in 2015 showed that Riyadh City itself comprised an area of about 1,554 km$^2$ (Riyadh Municipality, 2015). This rapid expansion contributed to an increase in the economic development of Riyadh City, large population growth and rising employment opportunities.

Criticisms of development in Saudi Arabia principally focus on the role of macro planning in local development and typically address the direct impact of national planning on the fragmented urban and social fabric (Mubarak, 2004a). Most of the studies on this topic have identified a need for a coherent structure to provide policies to support development in which proper planning is employed as a growth balancing tool (Mubarak, 2003).

Riyadh suffers from uncontrolled urban growth and the consequences brought about by this rapid growth have led to a weak infrastructure, inefficient urban services and problems with urban development, due to a lack of balance in the population distribution. These indicate that the urban planning path has been unsuccessful in Riyadh, both in terms of the spatial planning and in terms of practices. As result, the urban plan did not help to effectively control urban growth or sought to ensure that development is sustainable. There no simple solution to resolve this issue. The consequence has been continual problems associated with traffic, pollution, population growth, overcrowding and inadequate services that are affecting large numbers of people. The majority of urban planning decisions focus solely on urban growth, and not on urban planning practices. This lack of consideration has left a void in planning policy, allowing high rates of urban growth in Riyadh. This void could be addressed by employing sustainable urban planning practices.

## 1.3. Research Objectives and Questions

Saudi cities have grown rapidly but the lack of a comprehensive urban planning model has limited long-term benefits in favour of short-term appeasement (Al-hathloul, 1981; Saleh, 2002; Mubarak, 2003; Baesse, 2012). Developments in Riyadh have been affected by Western schools of thought and this has had an impact on why Riyadh city has failed to achieve success in aspects of development and growth. Planning models imported from the West have aggravated rather than alleviated the difficulties proceeding from the rapid urban development; to the point that traditional urban systems have been abandoned. The issue of sustainable growth is a complex one; with a key factor in the lack of sustainable growth being the absence of planners. Where urban planners have employed strategies, these have largely been aimed at managing urban growth. However, urban planners need to be prepared, in

relation to both learning and practices, to address a range of diversified issues to make the urban environment more sustainable (Madbouly, 2009). This reveals a need to understand the role of urban planners in integrating urban development and sustainable growth.

This section explains the objectives of the research, and the research rationale. A review of the literature found few studies conducted in or about Saudi Arabia focused on the impact of between planning practices or culture of planning on urban growth, despite considerable research on urban growth itself. It has been assumed that solutions based around urban growth address all the city's issues. This thesis asks how the sustainable growth can be applied, based on accepting McDonald (1996) and Jepson's (2001) argument that implementing sustainable principles requires political consensus-building and good governance. Planning practice is crucial for understanding growth, especially with globalization and modern growth, because the complex components of most aspects of urban growth require solutions to be developed by multiple actors and professional planners. However, Harrison et al. (2004) argued that planning is not the only key to creating sustainable cities; each case poses specific needs.

However, the main aim of this research is illustrating the effectiveness of urban planning practices as a means to enact a new path of planning in Riyadh, through understanding the practice and path dependency of planning; and then developing a range of recommendations to improve planning practices and urban growth method. The main question posed is:

**What is the influence of urban planning practices on urban growth in Riyadh**

**- Saudi Arabia?**

The main question can be broken down into the following sub-questions:

1) ***How have the driving forces (planning law, planning structure and energy discourse) in Riyadh influenced urban planning and growth?*** The objective of this question is to clarify the extent of the interaction between the driving forces of planning and urban growth to address the problems and difficulties facing Riyadh.

2) ***What are the major challenges that face current spatial planning practices and how have they influenced urban growth?*** The objective of this question is to evaluate the spatial planning practices and how it causes on Riyadh's rapid urban growth.

3) ***What changes are needed in the planning environment to improve urban planning practices so that the challenges of urban growth can be met?*** The objective of this question is to evaluate the current planning environment and identify how this influences the urban planning path.

4) ***What role do urban planners play in dealing with planning and growth problems?*** The objective of this question is to assess planners' practices in more detail, of those who work in urban planning, based on the findings of the previous empirical chapters.

## 1.4.    Methodology

The research approach in this study is inductive, that is, it focuses on understanding the research context and path dependency of planning. The main research aim is to demonstrate to what extent current urban planning practices play in the context of Riyadh's rapid urban growth. Furthermore, this study seeks to develop recommendations for the planning of the city in respect to the sustainability of growth. However, examining the relationship between planning practices and urban growth requires an understanding of real-world, contemporary related phenomena. Therefore, this research develops an analytical

framework (see Figure 3.1) to assemble conceptual themes that guide the empirical study, and an analysis is undertaken to gain an in depth understanding of all these dimensions of planning practices. The empirical investigation will focus on data collected from sources using both quantitative and qualitative methods. Therefore, the methodology adopted in this study has two stages.

Firstly, the theoretical part (literature review) seeks to understand the concept of urban growth in general and the growth context in Saudi cities in particular. Moreover, it seeks to establish the role of planning practices in adjusting urban growth via the driving forces of growth, spatial planning practices and the planning environment. The second stage is the inductive analysis phase, examining the situation in Riyadh (empirical enquiry) using questionnaires and interviews with specialists, officials and professionals. The interviews, with senior planners, decision-makers and academics, sought to explore which urban planning practices had caused the current problems with growth. This provided an opportunity to discuss three key emerging theoretical issues; that is, the analysis of driving forces of urban planning, spatial planning, and the planning environment. In contrast, the questionnaire, was designed to understand the environment encountered by planners engaged in urban planning their knowledge; and urban planning practices.

## 1.5. Contribution of this Study

This study makes a contribution to knowledge, fitting into the body of literature concerning the role of urban planning practices, by detailing the processes informing rapid urban growth in Saudi cities, and Riyadh city in particular. To the best of this author's knowledge, with Saudi studies, this thesis is the first study to examine urban planning practices organised around four major themes; driving forces, spatial planning practices, the

planning environment and the practices of planners. It examines and analyses the relationship between planning practices and urban growth. The main contributions of this study are as follows:

1. The research furthers understanding of the context of Riyadh growth, to clarify the changes that occurred during the previous period of growth;

2. Interviews with specialists (planners, decision-makers and academics) facilitate identification and analysis of the most important discourses surrounding the driving forces contributing to rapid urban growth in Riyadh: planning law, planning structure, and energy related discourse;

3. Following on from the above, a narrower exploration is given in the form of the opinions of specialists, of current practices of spatial planning highlighting the most important factors contributing to the current growth in Riyadh;

4. The previous contributions necessitated understanding of the urban planning environment, specifically how this effects current practices, by identifying the most significant obstacles leading to ineffectual urban planning practices;

5. The final contribution of this thesis through a questionnaire answered by planners, it clarifies the current situation of planners, detailing their urban planning practices. This revealed the level of knowledge of those planners responsible for working in the urban planning field, as well as the level of practice and satisfaction.

The study demonstrates that information gathered in the ways employed here are beneficial, and so the work also provides guidance for decision-makers, urban planners and researchers involved in the development and planning in Saudi Arabia. The findings provide a theoretical foundation upon which to develop future urban policies to develop and improve

Riyadh's built environment (and other cities in Saudi Arabia), through sustainable practice and effective management.

## 1.6.    Thesis Structure

The thesis explores the introductory issues raised in this chapter, with reference to the relevant literature. First, it examines the concepts of urban growth and the role of urban planning practices. Secondly, it addresses how planning practices and urban growth are interrelated by presenting a case study of urban planning practices in Riyadh. Finally, it makes recommendations for planning practice. There are nine chapters, as outlined below:

**Chapter 1: Introduction.** In this chapter has provided the problem of research and background to the research, and then provided the research objectives, questions and methodology. Moreover, it summarized the contributions of this study and finally outlines the thesis structure.

**Chapter 2: The literature review.** This focuses initially on the concept of urban growth, the complexity of urban growth, the causes and its consequences and how to achieve sustainable growth. It highlights the key issues associated with urban growth in semi-developed countries and studies of urban growth in Saudi Arabia. It then goes on to explore the nature of planning practices in managing urban growth and discusses the concept of planning and presents the epistemological traditions of planning. The chapter then posits an important question, which is, what is the way to curb rapid growth? The focus is on planning practices as an effective means to adjust urban growth, focusing on the driving forces of urban planning, spatial planning and the planning environment as the analytical framework of this thesis.

**Chapter 3: The research methodology.** This chapter explains the research questions and objectives of the study. It also provides the methodology of this research, which uses mixed methods of qualitative (e.g., interviews) and quantitative (e.g., questionnaire). This chapter also provides the research framework of the empirical chapters.

**Chapter 4: The context of urban growth in Riyadh.** In this chapter has addressed the context of urban growth in Riyadh to understand the impact of urban growth. The aim was to identify the key factors relating to growth and how these have affected urban growth in Riyadh.

**Chapter 5: The influence of driving forces in planning and growth.** In this chapter, the focus is on issues concerning the driving forces including planning law, planning structure, and energy discourse through an exploration of the impact of these driving forces and their ability to adjust development and growth within Saudi Arabia. The aim was to seek an understanding of the attitudes of the participants in relation to the effects of the driving forces on planning path and the growth process.

**Chapter 6: The existing situation of spatial planning practices.** This chapter addresses the role of spatial planning on urban growth results in Riyadh. Solely reviewing the secondary sources and plans of Riyadh would not be enough to understand the conceptual framework of urban planning. Instead, to gain a better understanding, the chapter reviews spatial planning with the help of a carefully selected group of participants. In this way, the researcher was able to extract insights and opinions that were not expressed in the secondary sources, and thus construct a more in-depth picture of Riyadh's urban growth problems.

**Chapter 7: The urban planning environment versus planning practices.** The objective of this chapter is the evaluation of the planning environment as a key element that affects planning practices. The chapter focused on questions related to the planning environment in

Riyadh to gain an understanding of the improvements that may have an impact on the planning and growth process. This helped bring out points that were not adequately highlighted in the review of spatial planning and its driving forces, thus building up a more in-depth picture of planning practices in Riyadh.

**Chapter 8: The Practices of Planners in Urban Planning.** This chapter seeks to understand the environment of planners who work in urban planning. The questionnaire was designed to determine the views of planners on the status of planning practices; based on the findings of the previous empirical chapters. The results reported in this chapter are based on the analysis of the quantitative data collected through the questionnaire.

**Chapter 9: Conclusion.** This chapter provides a synthesis of the thesis, highlighting how the research objectives have been addressed by this study. Furthermore, it provides a summary of the discussion points and the recommendations made by the study. It concludes by outlining the benefits of the study and providing recommendations for further study.

# Chapter 2 The Literature Review

## 2.1.    Overview

During the past three decades, the world has become more urbanised as increasing numbers of people choose to live in cities (Teriman et al., 2009). At present, the urban areas in the world contain nearly 3.9 billion people, making up half the global population (UN, 2014). This number is expected to increase by 2050, when the people residing in towns and cities in the developing world is expected to reach 90% of the total population, particularly in Asia and Africa (UN, 2014). The process of urban growth in some cities extends into urban sprawl, increasing the population size, which can disrupt society in terms of economic and social services, with consequences for public health and quality of life (Dutt and Noble, 2004).

A scientific understanding of urban growth and the planning practices, specifically in the developing world or semi-developed countries, is necessary as a basis for sustainable urban development planning. Modelling and forecasting future trends are vital components of any scientific approach to urban growth. This chapter highlights the key issues associated with urban growth and considers a range of literature examining the concepts, current issues and challenges facing cities and surrounding regions; and the study of urban growth in Saudi Arabia. In order to apply the analytical framework to the empirical research the chapter then posits an important question: what is the role of planning practices in managing urban growth.

## 2.2.    Urban Growth

At the beginning, the difference between urbanisation and urban growth should be clarified. Urban growth refers to population expansion and additional construction in a specific area, while urbanisation refers to the movement of people from the countryside to the city, leading to changes in lifestyle, from rural to urban (Chan and Xu, 1985). Such movements cause changes in cities, in terms of population density, employment opportunities, and the economic and social characteristics of the city (Macionis and Parrillo, 2004), as well as the physiological and behavioural aspects of the community (Bhatta, 2010).

Ensuring sustainable economic, social and environmental urban growth is a key challenge facing most nations. Recently, 'urbanisation' and 'urban growth' have come to mean the same thing in the context of developing and semi-developed countries (Sudhira, 2008). Urbanisation is widely discussed in most countries as it has been recognized as a phenomenon that threatens natural resources, increases levels of pollution, and heightens environmental risk. Moreover, urbanization creates divisions between rural and urban areas, and between rich and poor people on a range of environmental, social, and economic factors (Sudhira, 2008).

Urban growth usually happens in major cities due to the increased population of those cities; however, it can also happen in rural areas or small or medium-sized cities when the evolution of development occurs, such as transporting some industrial or governmental sectors to those cities. Clark's (1982) definition of urban growth is a demographic and spatial process, reflecting on the heightened attention of cities and towns as concentrations of people within a specific society and economy. On the other hand, Shenghe et al.'s (2002) definition of urban growth emphasises the transformation of the natural environment into a

man-made environment, through the construction of infrastructure, primarily on the fringes of existing urban areas. Urban growth is normally measured by the number of residents, but the definition of what constitutes an urban area varies between countries. Some countries define urban areas as places with populations of 2,500 or more, while others tend more towards a figure of at least 20,000 (Gupta, 2004).

Urban growth is fuelled by economic growth engines such as the concentration of the economy in a given region, or by natural increase, or immigration. These engines drive change in an urbanised area, either spontaneously or in a planned way. Planning implies the existence of urban development plans, whereas unplanned growth occurs naturally without decision makers interposing. Urban development imposes the expectation that all available resources and methods will be employed to improve the urban environment for human comfort (Elwakil, 2006).

The key characteristics of urban areas include high population density, fast-growth and increased technology, while rural areas, by comparison, have smaller, more tight-knit communities, which usually lack resources and technology (Gallego, 2004). The term urban area commonly refers to towns or cities and the suburbs. The concept of what constitutes an urban area changes from country to country (Bhatta, 2010). Metropolitan cities, including satellite cities, are also classified as urban (Squires, 2002), and are suffered by high levels of pollution (both noise pollution and air pollution), large-scale industrialisation and faster-paced lifestyles (Bhatta, 2010). Large populations lead to high pollution, due to the large numbers of cars, buses, trains, factories etc. Industrialisation results in additional factories, machines and offices. Cites typically have a higher employment rate than rural areas (Stone, 2008).

The historical development of patterns and forms of the urban centres of large cities illustrate the stages of urban growth in major cities. Figure 2.1 shows the four stages of growth in urban cities, namely: 1) Early Urbanism – where the three types of areas started to appear, that is, the city centre, the urban area and the rural area (Eisner et al., 1993; Al-hathloul, 1981); 2) Early Modern Urbanism, which marked a remarkable change brought about by the industrial revolution leading to the migration of a large number of people from rural areas to the cities, and which, as a result, led to slums being located in the inner city close to the city centre (Ades and Glaeser, 1995; Wrigley, 1985); 3) Post Modern Urbanism – where new urban centres emerged to supplement the space afforded by old city centres (Dear and Flusty, 1998); and, 4) Informational Urbanism – which saw rapid development and globalisation, as well as the formation of urban areas around secondary urban centres, leading to integration across the outskirts of the city (Elkattan, 2009).
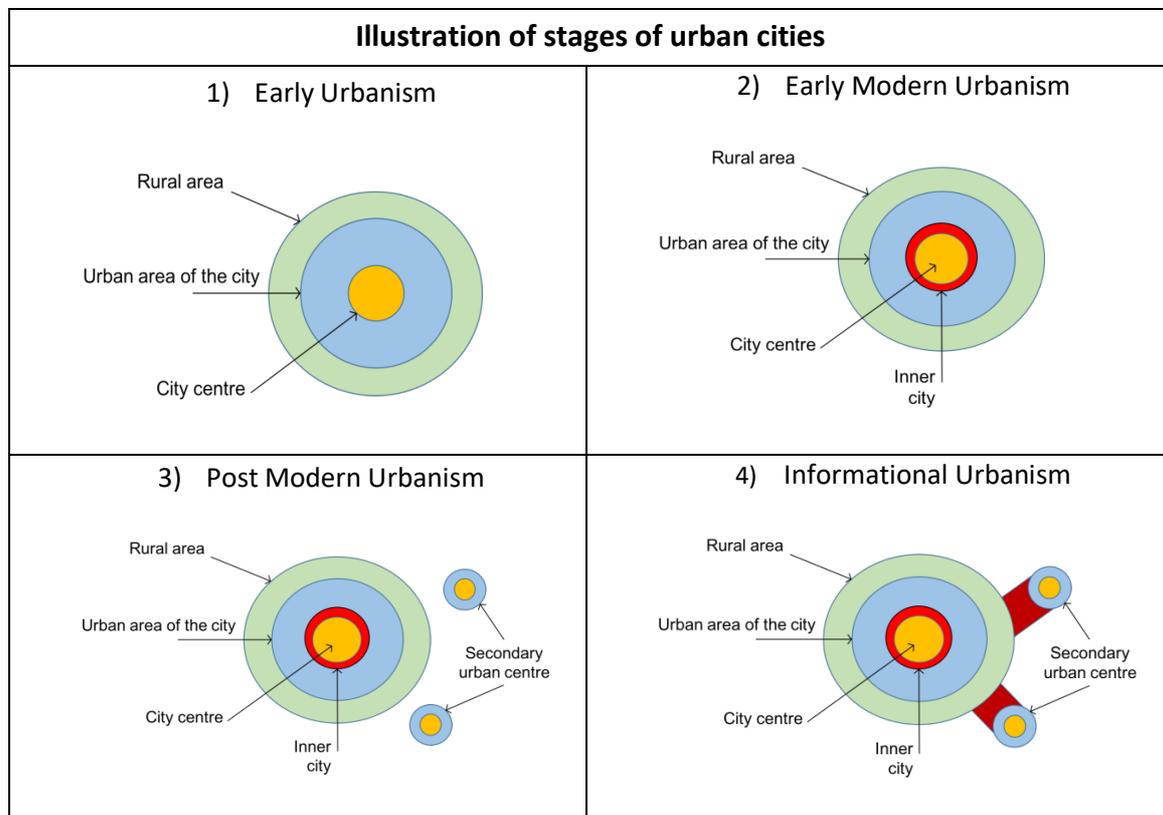


*Figure 2.1 The historical development stages of urban cities*

*Source: (Elkattan, 2009, p.35)*

Theories of urban growth seek to contain all interactions between the population and urbanisation through discussions about planning activities. A number of economists and planners (e.g. Burgees, 1925; Haig, 1926; Hoyt, 1932; Harris and Ulliman, 1945; Mann, 1965; Horwood and Boyce, 1959; Christaller, 1966; Hopkinson, 1985; Newton, 1997) have theorized the urban development process. These theories typically focus on the role of residential growth, population composition and population changes, especially within urban areas, and in reference to the impact of movement from rural to urban areas. (Appendix A.1) illustrates the types of theories and concepts they are built upon.

## 2.2.1.    Causes of Urban Growth

There are a variety of reasons why urban growth occurs in cities, with various levels of impact depending on the country where it occurs. Bhatta (2010) has classified 24 reasons why urban growth occurs, for example; population growth, economic growth, housing investment, development and property tax, living and property cost, demand of more living space, transportation, single-family home, government developmental policies, lack of proper planning policies, failure to enforce planning policies, country-living desire and among others (see Bhatta, 2010).

However, there are other reasons apart from the ones listed above why urban growth occurs. Therefore, it is important to focus on the main causes of urban growth, which are known as 'urban growth driving forces'. Each social, economic or urban phenomenon has its own forces that either motivate and accelerate it or restrict and constrain it. The value of these driving forces differs from system to system, from country to country and from time to time. The driving forces can be categorised into four areas.

***Economic growth*** - the selection of the urban growth location is a result of capitalism and profit driven production (Stam et al., 2008). Higher incomes, and the accompanying higher living standards, in urban areas is representative of the market mechanism which also affects the form that the urban growth takes, i.e. its pattern and the population density related to it. For instance, expansion of the economic base in a city or country contributes to raising income per capita and increases the number of working persons, which leads to demand for housing (Bhatta, 2010). This, in turn, contributes to the process of growth of the city, whether through urban expansion or urban sprawl.

**G*overnment policy and control*** - the procedures related to urban growth projects, the extent of management centralisation and the law exceptions afforded by the government system all represent forces in urban growth, especially at the regional level (Salah, 2001). Inconsistent or inappropriate planning policies can result in urban sprawl. However, having a proper planning policy is not enough. An important matter in the success of planning policies is interest in the processes of implementation and enforcement (Bhatta, 2010). Problems relating to unsuccessful enforcement of planning policies are among the reasons for urban growth in urban cities that is non-consistent and systematic.

***Transportation technology*** - this includes private and public means of transportation and rights of way.  Bolan et al. (1997) argue that, in order to have value, land must be accessible. Ground transportation has evolved a great deal in the last 20 years, and this has led to changes in accessibility that drive the urbanisation process (Liu et al., 2010). Highways and roads are crucial to the competition for land, particularly in areas where high speed roads link to local rights of way. Highways and roads are important drivers of urban growth, specifically, urban sprawl (Cheng and Masser, 2003). This affects the location of the new urban growth, either on the periphery of the urbanised area, in the case of small cities or

those with bad transportation or lack of road networks, or at a distance away from the urbanised area.

**Population and urbanisation** - population growth is a combination of two factors; first, by a natural increase in people; and second, by migration of people from rural areas to cities and urban areas. According to the United Nations Population Division (UNPD), more than half the world's population growth since 2010 has occurred in urban areas and, by the end of 2050, it is predicted to have increased to 70%.
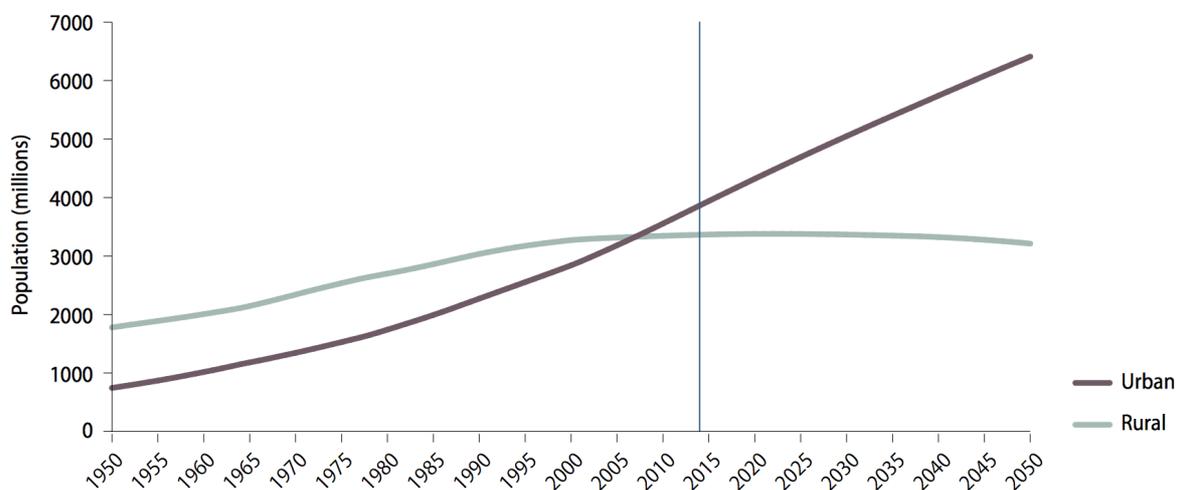


*Figure 2.2 World urban population 1950-2050.*

*Source: (UN DESA, 2014, p.7)*

Internal migration from rural areas to cities and urban areas currently represents the majority of migration in developing and semi-developed countries. This phenomenon has affected the urban expansion of cities and led to urban sprawl in cities and changes in the size of cities. Urbanisation has been defined as the agglomeration of people in a particular place on the surface of the earth (Agbola, 2004; Olotuah and Adesiji, 2005). It has also been posited that urbanisation is not related to population, but is about physical and economic development (Harvey, 2000). This reflects what is considered to be urbanisation in the developed world.

Development, modernisation and industrialisation in developed countries lead to urbanisation, not the agglomeration of people, which is normally produced by a drift between urban and rural areas. In developing and semi-developed countries the first wave of urbanisation comes from the "push" factors associated with rural areas and the "pull" of cities, due to regional imbalances (Aluko, 2010).

## 2.2.2.    Complexity of Urban Growth and Sprawl

Urban growth can be analysed from various aspects (Economically, physically, socially or environmentally), resulting in different outcomes. Having competing definitions of growth and sprawl, so some studies characterise growth and sprawl as shown in Table 2.1.

| | Growth | Social | Aesthetic | Decentralization | Accessibility | Density | Open space | Dynamics | Costs | Benefits |
|---|---|---|---|---|---|---|---|---|---|---|
| Audirac et al. (1990) | | ● | | | | | | | | |
| Bae and Richardson (1994) | | | | | | ● | | | | ● |
| Benfield et al. (1999) | | | | | | | | | ● | |
| Burchell et al. (1998) | ● | | ● | | ● | ● | | | ● | |
| Calthorpe et al. (2001) | | | ● | | | | | | | |
| Clapham (2003) | | | | | | | ● | | | |
| Duany et al. (2001) | | | ● | | | | | | | |
| El Nasser and Overburg (2001) | | | | | | ● | | | | |
| Ewing (1997) | | ● | | ● | ● | ● | ● | ● | ● | |
| Ewing et al. (2002) | | ● | | ● | ● | ● | ● | ● | ● | |
| Farley and Frey (1994) | | ● | | | | | | | | |
| Galster (1991) | | ● | | ● | | | | | | |
| Galster et al. (2001) | ● | | | ● | | | | | | |
| Gordon and Richardson (1997a) | | | | | | ● | | ● | | ● |
| Gordon and Richardson (1997b) | | | | | | ● | | ● | | ● |
| Hasse and Lathrop (2003a) | | | | | | | ● | | | |
| Hasse and Lathrop (2003b) | | | ● | ● | ● | | | | | |
| Hasse (2004) | | | | | ● | | | | | |
| HUD (1999) | | | | | ● | | | | | |
| Lang (2003) | | | | | | ● | | | | |
| Ledermann (1967) | | | | | | ● | | | | |
| Lessinger (1962) | | | | ● | | | | | | |
| Malpezzi (1999) | | | | | ● | | | | | |
| OTA (1995) | | | | ● | | | | | | |
| Peiser (1989) | | | | | | ● | | | | |
| Pendall (1999) | | | | | | ● | | | | |
| RERC (1974) | | | | | | ● | | | ● | |
| Sierra Club (1998) | | | | | ● | | | | | |
| Sudhira et al. (2004) | | | | | | | ● | | | |

*Table 2.1 Varying characterisations of growth and sprawl*

*Source: (Bhatta, 2012, p.10)*

From the decision-making point of view, urban growth depends on various actors; each actor has their particular domain of decision-making and the domains are conflicting. Usually, a small business has only one decision-maker and simple and uncomplicated goals,

making business operations more certain and well planned. On the contrary, large-scale projects that are city level, such as universities, hospitals and new neighbourhoods, making operations uncertain, dynamic and less organised. Consequently, it could be concluded that urban growth equals uncertainty and disorganization and is influenced by physical, ecological and socio-economic activities, and is full of complex temporal, spatial and decision-making interrelations.

There are different definitions of urban growth. It is often defined as a rise in the rate of population and land uses and one of its forms is expansion and urban sprawl, which is an increase in developed land. Sprawl is a characteristic of urban growth that has a negative connotation (Bhatta, 2010). However, the relationship of growth is related to several issues, according to Table 2.1. the literature on urban growth and sprawl has reviewed many different points of view, which indicates its complexity. However, the direct impact of this growth being on place and people. So, the lack of agreement on how to define urban growth complicates efforts to restrict the growth process. This calls for comprehensive context of growth rather than just focus on the urban area or a rising population in a given region.

Urban growth has spatial complexities. For instance, when testing the potentiality of changing a specific location from non-urban to urban, the result of the test will differ according to the use and characteristics of the location. 'Spatial dependence' is defined as the functional relationship between points in space and their neighbours. This potentiality has a higher 'stimulation' when there are roads or urban uses in neighbouring locations than when neighbouring locations are steep and are surrounded by mountains, i.e. 'constraints' (Cheng et al., 2003). Urban growth is also based on decision-making processes at various-levels, from the individual's decision to rent land to the government's overarching land use policy. Urban growth happens in various ways, so it is necessary to learn and understand how the city grows

spatially. However, urban growth can be divided into three types; Infill of urban growth, Expansion urban growth and Outlying urban growth (see Appendix A.2)

Temporal effects also contribute to complexity of urban growth processes and the temporal aspect is considered to be a very influential factor for understanding the process of urban growth (Cheng, 2003). It refers to the change in the spatial make up of cities over time (Galster et al., 2001). Temporal scales vary, with large-scale projects such as shopping centres or industrial areas commonly taking several years, and smaller-scale constructions such as individual shops being realised much more quickly.

> *'In any event, measuring the respective dimensions of development patterns for an urban area at different times will reveal the process (or progress) of sprawl' (Galster et al., 2001 p.687).*

However, understanding the relationship between growth and time is a factor influencing the use of land in urban areas, which in turn affects the spatial configuration (Herold et al., 2005). Therefore, understanding the stages of growth of the urban area over time helps avoid repeating past mistakes. On the other hand, predicting trends of land use is important in the field of urban growth and sprawl. To be able to predict trends, it is essential to understand the scenario of system under study, so as to reduce the degree of uncertainty caused by the numerous factors involved in the system. This could lead to several economic and environmental losses as a result of wrong decisions taken due to high levels of uncertainty. Scott and Storper (2003) point out that urban areas are the most dynamic place on regions. Also, according to Cheng (2003), one way to improve planning is to set appropriate priorities and policies based on an analysis and understanding of urban development components.

Urban development refers to both physical and functional changes. The latter refers to change in land uses and activities, while the former refers to change in space from non-urban (vacant) to urban. Nonetheless, changes in land uses must be taken into consideration when understanding the causal influence of the pattern function as these changes affect the changes in space from non-urban to urban; the activities of a location sooner or later influence space in other locations. Therefore, space and time are the main elements underlying an urban growth system.

### 2.2.3. Understanding Growth for Sustainability

There are both negative and positive consequences of urban growth. Often, the negative impacts of growth are more prominent like uncontrolled or uncoordinated growth, overriding the positive aspects. The positive aspects of urban growth include some advantages that encourage the population to move to places that are characterised by urban growth, such as: higher economic prosperity, employment opportunities, availability of basic services (such as transport, sanitation and water) as well as other specialised services (such as education and health care).

In urban cities, these positive aspects contribute to an increase in the number of migrants from rural areas. Rapid urban growth is predicted over the next few years, due to economic development and the communications revolution (Annez and Buckley, 2009; Cohen, 2015). This population movements and anticipated rapid development might then be followed by the emergence of phenomena which will affect the development of city. That lead to changes in the spatial structure of cities and the physical environment, causing immediate or future problems; and thus, contribute to the emergence of social,

environmental and economic problems, at a regional or local level. The key consequences are summarised in the next section.

***Urban sprawl aspect -*** Urban growth and urbanisation contribute to loss of open spaces and farmlands in urban areas (Nelson, 1990; Zhang et al., 2007). Urban sprawl is an expansion of the city at the expense of the land and the surrounding areas, and it is undesirable or unplanned urban growth. Although there are a number of differing definitions of urban sprawl, it can be described as an uneven pattern and unplanned, leading to inefficient urban development (Al-Thahery, 2000; Al-Rwashda, 2000; Burchell et al., 2002). However, it is one of the key concerns of administrators and city planners. It is the result of weak control over the rate of population growth and urban areas, thus impacting the sustainability of the human environment (Bhatta, 2010).

> Urban sprawl "*consists of spatially expansive, discontinuous, suburban-style development and is often characterised as the result of rapid, unplanned and/or uncoordinated growth ... and has been extensively criticised for being inefficient, inequitable and environmentally insensitive* " (Carruthers, 2002. p1960).

> "*the scattering of new development on isolated tracts, separated from other areas by vacant land*" (Ottensmann, 1977, p.53)

The costs of providing infrastructure in areas that have been built up through sprawl processes are higher than for properly planned areas. Sprawl also takes away valuable farmland, adding to the pressure on available resources (Brueckner, 2000; Carruthers, 2002; Whitehand et al., 2011). Coordinated urban development is the route to sustainable urban growth and any strategy should include urban containment techniques, infrastructure sufficiency requirements and population to constrain growth.

According to Beck (2003), urban sprawl is described by five features: the loss of open country or farmland at the edges of a city, lower density of land use than urban cores, chaotic or unplanned building, dependence on cars, and, inner city decay. The term urban sprawl is used to describe an undesirable and unplanned form of urban growth. One of the key concerns of administrators and city planners has been to establish appropriate solutions to the problem of urban sprawl. Urban sprawl implies the expansion of a city to the detriment of surrounding areas (Nechyba and Walsh, 2004).

As the areas surrounding large cities gradually develop population density increases incrementally (Brueckner, 2000; Nechyba and Walsh, 2004). This migration from the countryside to the city leads to yet more urban expansion. Usually, land prices in areas where new developments are located are cheaper than in the city centre, which encourages middle-income earners to move to them (Brueckner, 2001). This urban sprawl then contributes to further increasing jobs, due to demand for housing and services. It is also, however, a key threat to the environment and natural resources.

A reversal of urban sprawl is the concept of non-sprawling; i.e. discouraging expansion. Ideally, expansion should be in a compact form, in order to limit the size of the city and check the population growth rate in a specific area (Arbury, 2005). It should maintain the environmental and human balance, both at the present time and in the future. This leads to smart and sustainable urban growth (Bhatta, 2010). Decision makers who are operating under the pressure of population growth are usually faced with the dilemma of either increasing or maintaining density to prevent urban sprawl, or reducing density to improve quality of life. Usually the clue to assessing urban sprawl is the comparison between a main urban area density and sprawled urban area density, which turns out to be the low density in the inner core of urban area, and increased a single-house at the outskirts of the city (Catalán

et al., 2008). This phenomenon has a socio-economic dimension, as land value increases when urbanised. There is also a spatial dimension, as the nearer the vacant or agricultural areas are to the urban area, the greater the potential to urbanise.

On the other hand, peri-urbanisation is the process by which rural areas, either on the outskirts of or adjacent to cities gradually become physically, economically and socially more urban in character (Webster, 2002). Again, this phenomenon has a socio-economic dimension, as farmers often need to adopt urban features. It also has a spatial dimension; the nearer a rural area is to the urban area, the higher the potential to agglomerate with it. Urban gaps are a consequence of the uncontrolled growth of cities leading to an unbalanced distribution of services and infrastructure (Satterthwaite and Tacoli, 2002).

Researchers in the domains of planning and urban studies have been very interested in discourses that capture what planners do and how they respond to various challenges and planning outcomes (e.g. Gasper and George, 1998; Healey, 1999; Tett and Wolfe, 1991; Throgmorton, 1996). Understanding urban growth discourses has helped transcend simple notions of, and develop a better understanding of planning outcomes, offering alternative solutions to planning problems, by informing how political pressures are handled and how power is exercised (Forester, 1989; Innes, 1998). Urban planning discourses have sought to introduce sustainability into the policy and practices of urbanisation through the model of New Urbanism and Smart Growth (Filion and McSpurren, 2007; Grant, 2009).

*The economic aspect* - Rapid urban growth can cause a marked disparity in economic fortunes between urban, suburban and rural areas (Mitchell and Leen, 2001). Projects and installations, small or large, based in urban cities, contribute to raising the level of the economy of metropolitan cities, but do not affect the low level of the economy of medium-sized cities in rural areas. This brings about uneven development in a region. Furthermore,

the higher economic cost in urban areas is due to the greater need for facilities, the demand for place and the provision and upkeep of infrastructure (Barnes et al., 2001).

*The social aspect* - Urban growth also affects social institutions (Oyewale, 2013). Rapid urban growth has contributed to increased population in cities and has led to the emergence of the phenomenon of income inequality in urban areas which leads to the creation of specific neighbourhoods. Areas particularly in urban centres where there are poor people or people of low-income are often characterised by social problems and increased levels of poverty aggravated by issues of population growth, unemployment, underemployment, inflation and migration (Sanidad-Leones, 2006).

The migration from rural areas by people looking for work in the city leads to increased unemployment (Aworemi et al., 2011; Oyewale, 2013). Sanidad-Leones (2006) states that rapid urban growth, urbanisation, industrialisation and in-migration to cities contribute to higher rates of crime and insecurity.

*The environmental aspect* - In areas where it is difficult to control rapid urban growth, especially the urban sprawl, there is a rise in the proportion of residential and industrial environments which, in turn, causes environmental changes affecting the wildlife and ecosystems in cities (Grimn et al., 2000). The phenomenon of urban sprawl is correlated with a high rate of the use of cars in urban cities, which leads to an increase in air pollution factors. These pollutants can cause serious problems to human health and prevent plant growth (Stone, 2008). There are very few trees to provide shade and to cool the air in urban areas, which leads to high temperatures in cities Figure 2.3 illustrates the link between the expansion of the size of a city and population density to rising urban temperature.
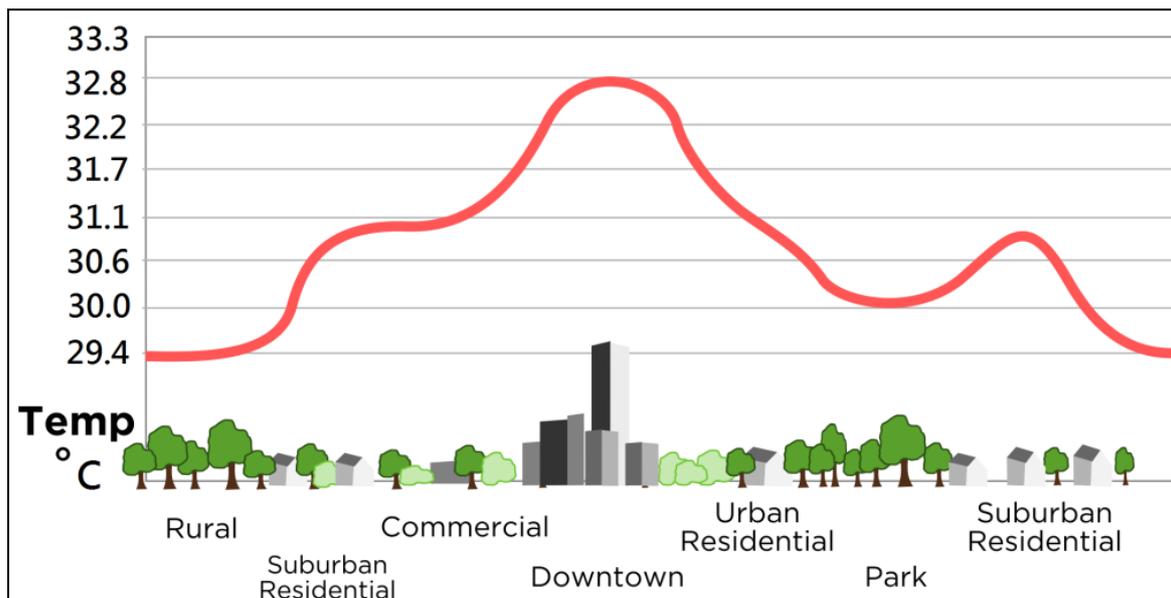
*Figure 2.3 An urban heat island profile*

*Source: (Bhatta, 2010, p.32)*

However, the concept of sustainable urban growth helps policymakers to set parameters for accommodating competing demands on resource allocation to achieve sustainability goals (Lindstrom and Bartling, 2003; Burchell et al., 2005). Since the 1990s, the achievement of sustainable development has been an aim for most countries (Selman 1996; Wheeler, 2013). The relevant literature (Selman, 1996; Viederman, 1995; Harris, 2000; Kates et al., 2005; Kim, 2010; Wheeler, 2013) identifies the main principles of sustainable development which include:

***The pursuit of sustainable economic growth*** - The economic development of urban areas is threatening the ecosystem through the depletion of natural resources (Hall and Pfeiffer, 2013). Thus, it is important to pay attention to the environmental aspect within the economic framework (Wheeler, 2013). Benefits and costs must be balanced against environmental requirements (Kim, 2010). One of the factors that help to achieve the sustainability is changing the patterns of economic growth towards a sustainable pattern in the long-term (Harris, 2000).

***The achievement of equity*** -  The concept of equity is based on the fair distribution of both the benefits and costs of protecting the environment and the culture of the community. In particular, it is expected that the concept of non-equity will lead to exacerbating the disparity between people, regions and countries (Kim, 2010). It has become necessary to take more interest in this aspect in order to avoid creating social, economic and environmental problems. It is important to find the equity between future and present generations, and the current generation is required to leave the environment in a good condition for the next generation (Selman, 1996). For there to be equity, the needs of both the current and future generations must be met. The report of Brundtland Commission (1987) states that it is vital to not compromise future generations for maintain the quality of life of the current generation (Nieto and Durbin, 1995).

***The conservation of the environment*** - The world faces unprecedented environmental challenges caused by human activity. Economic development and population growth in urban areas have caused environmental problems, where there is still an increase in the proportion of pollution, due to the increasing number of those who want to live in urban areas (Hall and Pfeiffer, 2013). Environmental sustainability is still considered to be the goal for the next few decades, with some scientists (Jones and Evans, 2008; Evans, 2003) indicate that urban cities are key to achieving environmental sustainability.

***A long-term, holistic approach*** - Long-term vision requires coordinating strategies at different local and national levels, as well as creating a holistic approach that combines the perspectives of environmental, economic and social development (Wheeler, 2013). Having a long-term vision that takes into account the demands of the present and the future is fundamental to sustainable development. For example, policies sustainable for economic growth need to consider the environmental and social impacts in the long-term (Harris, 2000).

***The enhancement of participatory democracy*** - A participatory democracy is one in which decisions are made based on a bottom-up process, rather than a top-down one (Carnoy and Castells, 2001; Hydén and Mease, 2004). The principle requires people to participate in the process of making and implementing decisions (McDonald, 1996; Harris, 2000). Participatory democracy helps people become more integrated with the community (Hall and Pfeiffer, 2013). Currently, the participation of stakeholders is indispensable in discussion of different social and environmental issues as locals have abundant practical knowledge of their locality, accumulated through daily life, and are able to offer innovative ideas (Sullivan and Skelcher, 2002). However, is difficult to reach a consensus through participatory democracy, due to some people tending to work to meet their personal needs rather than work for common goals (Jessop, 1998; Kim, 2010).

***In summary***, urban growth needs the discourse analysis of growth which is a methodological approach in the area of social studies (Haagensen, 2015). Modes of discourse analysis have developed either independently or through the use of modes of analysis applied in other disciplines (Hewitt, 2009). The discourse analysis approach can be employed to examine the way in which issues (e.g. environmental issues) and understanding of issues (e.g. sustainability) are socially constructed by actors (e.g. urban planners) (Bardici, 2014). In this sense, urban growth discourse analysis can be described as facilitating understanding of how particular planning practices and discourses of planning have shaped the urban growth of cities.

According to Dryzek (2013), in relation to environmental issues, discourse analysis is used to explore the manner by which actors construct or reconstruct environmental issues. Hence, the value of discourse analysis lies in understanding how planning decisions are taken (Kumar and Pallathucheril, 2004; Portugali and Alfasi, 2008). It can also unveil the patterns

underlying urban problems in relation to the ecological dimension of sustainability (Haagensen, 2015). Rapoport and Vernay (2011) show how it can also reveal the basis of claims that a city or district can be made more environmentally sustainable. It is the processes through which discourses of planning are constructed, thus presenting the reality of the city that needs to be analysed (Jørgensen and Phillips, 2002).

## 2.2.4. Urban Growth in Semi-Developed Countries

Rapid urban growth in semi-developed countries engenders numerous economic, social and environmental problems at city or regional level, making sustainable development challenging (Oguz, 2012). However, several cities in the Middle East are experiencing difficulties associated with the speed and scope of their urban growth. The regional economy is highly monopolised by urban cities, with very little diversity in the rest cities in the region. The already large, and rapidly increasing, populations, are putting the infrastructure and facilities of such cities under pressure. In many cases, these facilities are failing to cope with the demands of their populations (UN Habitat, 2009).

However, developed countries have shown fewer negative effects from the process of urbanisation or urban growth than the developing or semi-developed countries, as growth occurred gradually over a relatively long period of time in the cities of North America, Europe, and the UK. In the cities of semi-developed countries, changes have been rapid and unpredictable, whereas developed countries were able to solve a number of urban problems and adapt to changes. Therefore, most regions in semi-developed countries have a dominant city that benefits from increases in immigration to the city from small and medium towns and villages, because of the weakness of the economy in those areas and the lack of employment opportunities (Bhatta, 2010). This distends the cities, and causes a rise in land prices and an

increase in the cost of establishment and maintenance of municipal services such as roads, transportation, water and electricity (Burchell and Mukherji, 2003). As well as Increased pressure on services leads to lower levels of performance (Tacoli, et al, 2015).

The economic reforms in semi-developed countries as well as concentrate of development and planning in main cities led to regional inequality (Bhagat and Mohanty, 2009), this in turn contributed to the emergence of growth problems in urban cities. However, many countries have been unable to find solutions to the problems arising from the process of rapid urban growth in cities resulting in a big economic social and development divide between rural areas and urban cities. The main reason behind this problem is the focus of planning initiatives in cities rather than spreading them throughout regions. This is known as the urban bias and often targets a single city, termed the 'dominant' city (Cohen, 2004). Asia, in particular, has many rapidly expanding cities. In the past forty years, Asia cities have seen energetic population growth, rapid urbanisation and enormous social and functional upheavals. The consequence of this is the focusing of economic development in particular areas within the region (Marcotullio, 2004).

However, rapid urban growth and urbanisation pose major threats to sustainable development, putting a strain on infrastructure that can lead to urban sprawl and associated problems (Ooi, 2005), including socio-economic and physical problems (Nelson and Duncan, 1995) such as unfocussed or unplanned development, long commuting times, high transport costs, high costs relating to the provision of infrastructure and socioeconomic segregation brought about by inequitable land use and housing (Brueckner, 2000; Carruthers, 2002). However, the urban sprawl of the city beyond the boundaries of basic schemes results in increased costs when seeking to establish infrastructure and services in new areas.

Most major cities in Asia are currently facing challenges related to failure to control urban growth. The most important of these challenges are rapid population growth, the proliferation of slums, overcrowding, overuse of urban facilities, urban poverty, and increasing vehicular and industrial pollution (Dutt and Noble, 2004). These developments are contrary to the principle of sustainability. To achieve sustainability in a city or region it is important to find solutions to manage rapid urban growth and the attendant problems.

Middle Eastern countries have experienced huge societal changes since the oil discovery and the economic advantages it has brought over the last fifty years or so. The Middle East has the fastest growing populations in the world (UN-DESA, 2011). Most of the countries in the Middle East have more than 50% of their population living in urban areas. For example, Saudi Arabia, Bahrain and Qatar have more than 85% (Mirkin, 2010). Therefore, it is necessary to find methods to achieve a balance in regional growth, which would then contribute to the rearrangement of urban growth in cities and help achieve the sustainable urban growth. Some planning theories and planning practices and the role of urban policy and administration can help contribute to the success of urban and regional development.

## 2.2.5.    Urban Growth Studies in Saudi Arabia

Overall in Saudi Arabia, studies of urban growth on multiple levels/scales started around 1988 and have continued until the present (see Table 2.2). When reviewing the urban studies literature, the focus is largely on urban and regional growth areas and how to manage them, as many are historical and descriptive in nature.  More significantly, studies on this topic in the context of Saudi Arabia are few if we exclude studies focused on addressing the issue of immigration and the motives leading to it.  This is because the interest of researchers

in this field has been primarily focused on the movement of people, their settlement, and the consequent effects.

| Author | Study | Purpose of the study |
|---|---|---|
| (AlJarallah and Aldioufi 1988) | Regional Variation in Saudi Arabia: A factorial Analysis. | Study the growth between the different regions in Saudi Arabia. |
| (Daghistani 1991) | Urban growth management in Jeddah | study Jeddah city as the experience of one of the main cities in Saudi for evaluating the procedures for planning and urban growth. |
| (Al Nowaiser 1994) | Control of urban growth and development in Saudi Arabia | Identify urban growth problems of inconsistency and provide solutions to avoid them. |
| (Alkhedheiri 1998) | The role of secondary cities in the national development process of Saudi Arabia. | Focus on the reasons for urbanisation in Saudi Arabia, identifying actions and policies to strengthen the role of medium and small cities. |
| Alwasil (2000) | Impact of cities growth on rural areas | Study the impact of cities growth on rural areas. |
| (AlJukhaidib 2002) | The size of the urban centres and expansion in Qassim | Explore the relationship between the size of an urban area and its functionality. |
| (Abdu et al. 2002) | Urban growth and development process: the underlying factors | To examine the underlying factors that shaped the growth and development of Jeddah. |
| (Al-Hathloul and Mughal 2004) | Urban growth management-the Saudi experience | Discuss the methodology adopted and the process of devising urban limits and evaluates their impact on urban structures of Saudi cities. |
| (Garba 2004) | Managing urban growth and development in the Riyadh metropolitan area, Saudi Arabia | To examines the evolution of urban management in Riyadh with the aim of assessing impact on physical development patterns. |
| (Mubarak 2004) | Urban growth boundary policy and residential suburbanization: Riyadh, Saudi Arabia | The purpose of this study is to examine the spatial pattern of the enlargement of Riyadh, Saudi Arabia. |
| (Aina and Merwe 2008) | Urban Spatial Growth and Land Use Change in Riyadh: Comparing Spectral Angle Mapping and Band Ratioing Techniques | This study explores the use of a band ratio technique for land use change analysis and the linkage of the result with urban growth theory. |
| (Gamboa 2008) | City Expanding to The Desert Horizon: Riyadh's problem of urban sprawl and explosive growth | Identify key problems associated with urban sprawl in Riyadh |
| Alnaim, 2008 | Riyadh: a city of "institutional" architecture | Identifying factors driving population growth in the city, and discussing the repercussions of this population growth and its impact on the urban environment at the national level. |
| (AlJukhaidib 2009) | The balance of urban blocks with the areas available for the growth of Saudi cities | What the extent of the relationship between the urban blocks and the urban growth boundary in Saudi cities in terms of the actual needs of those areas formed by the urban growth boundary. |
| (Al-Ahmadi et al. 2009) | Calibration of a fuzzy cellular automata model of urban dynamics in Saudi Arabia | The purpose of this study is to understand the implementation of a calibration procedure within the urban growth model for three periods: 1987–1997, 1997–2005 and 1987–2005. |
| (Alsaiari 2010) | Urban sprawl in two desert cities: Riyadh, Saudi Arabia and Phoenix, Arizona | Comparing between two cities desert by study the city sprawl, on opposite sides with enormous cultural differences. |
| (Baesse 2012) | Towards more effective urban planning in Jeddah, Saudi Arabia. | The study evaluated the municipal council and how to contribute to solving Jeddah's social and physical problems |
| (Aljoufie et al. 2013) | Spatial–temporal analysis of urban growth and transportation in Jeddah City, Saudi Arabia | Analyse the spatial-temporal relationship between urban growth and transportation by using approaches of geographic information system and remote sensing. |
| (Aboukorin and Al-shihri 2015) | Rapid urbanization and sustainability in Saudi Arabia: The case of Dammam metropolitan area. | This study tries to investigate the rate and scale of urbanization in Dammam, and tries to analyse its unsustainable impacts on the development process in the region. |
| (Aldalbahi and Walker 2015) | Attitudes and Policy Implications of Urban Growth Boundary and Traffic Congestion Reduction in Riyadh, Saudi Arabia | To provide an effective understanding of the relationship between urban growth and transportation in promptly growing in Riyadh city. |
| (Alqurashi et al. 2016) | Spatiotemporal modeling of urban growth predictions based on driving force factors in five Saudi Arabian cities | The effect of four driving forces, including elevation, slope, distance to drainage and distance to major roads, on urban expansion in five Saudi Arabian cities: Riyadh, Jeddah, Makkah, Al-Taif and Eastern Area. |
| (Abdelatti et al. 2017) | Nature and Trend of Urban Growth in Saudi Arabia: The Case of Al-Ahsa Province–Eastern Region. | The main objective of this study is to highlight the trend and causes behind the unprecedented growth that has taken place during the last few decades |
| (Al-Hathloul 2017) | Riyadh Development Plans in the Past Fifty Years (1967-2016) | This study traces the city urban development and its expansion and growth. |

*Table 2.2 Urban growth studies in Saudi Arabia*

*Source: Compiled by the author - Findings of these studies are in Appendix (Table A.3.1)*

For example, a study by Aljarallah and Aldioufi (1988) addressed regional variations in Saudi Arabia, commentating on differences in central zones, and classifying different urban areas by level of urbanisation. They identified national growth and regional growth areas, which is somewhat inaccurate, as this classification was based on urban areas only. However, their findings do reveal a clear discrepancy between the different regions in Saudi Arabia. It is noteworthy that the study did not address the planning process and its role in controlling growth, and moreover that it did not mention anything about strategies of urban and rural growth as a means to reduce disparity within Saudi Arabia. However, Abbas (2000) stressed

the importance of implementing an expansion strategy in terms of growth, to establish the role of the spatial dimension in planning and regional development.

On the other hand, Alkhedheiri (1998) study focused on the reasons for urbanisation in Saudi Arabia, identifying actions and policies to strengthen the role of medium and small cities. The author opined that the marginalisation of medium or small cities occurs because of the national investment policies in place, and is not a consequence of a lack of resources or failure to recognise their growth potential. The study focused on promoting the efficiency of small and medium cities, aiming to alter the structure of investment policies in general by moving towards decentralisation of decision-making. While important, the study did not address growth as an integrated system, or discuss its impact on spatial development.

Moving on to the impact of cities on rural areas, Alwasil's (2000) study asserted that developments in rural service areas could be adversely affected by their positions relative to urban cities; those in closest proximity to urban areas were weakest. It is worth mentioning that this study did not address the roles of urban and rural growth systems, having not addressed the importance and role of the decision-making in the development of rural and urban areas.

Al-Hathloul and Mughal (2004), discussed the process of establishing cities boundaries in Saudi, and the impact of these on urban structures. They suggested that the lack of a planning framework results in urban sprawl and higher than necessary financial outlays. Their study concluded with several recommendations: i) to encourage infill development to control urban sprawl; ii) to establish better coordination to reduce the cost of infrastructure; iii) to seek to maintain the natural environment in Saudi cities; but, this study lacks the mechanism to be followed to implement these recommendations.

By contrast, a study by Garba (2004) focused on public sector management of Riyadh's growth and its development. The author asserts that urban management has improved compared to formerly, but that ongoing urban planning problems remain currently adversely affecting the prospect of future growth. A study by Aina et al. (2008) employed a land use analysis technique to evaluate urban growth management strategies in Riyadh, revealing that these have been of limited success, and that the pattern of growth has not followed urban theory. Both studies were not concerned with planning practices that influenced urban growth, but focused on urban management.

Elsewhere, Garba (2004) and Gamboa (2008) highlighted key problems associated with urban sprawl, observing that the changes observed represent weaknesses in the urban growth, and a lack of basic services, facilities and social services. They also highlighted the disparity in services within the urban parts of Riyadh. Alattas (2008) also identified shortcomings in growth areas in terms of performance. The study considered the solutions in place to address the low standard of living, especially in rural areas, and the reduced migration from rural to urban areas, either within the region or in other regions. One of the solutions proposed was to create new areas of growth, however, no solutions were suggested to improve existing areas, and changes might further damage the pace of development or growth.

Al-naim (2008) has studied the case study of Riyadh examined population growth and urban development at the local level, identifying factors driving population growth in the city, and discussing the repercussions of this population growth and its impact on the urban environment at the national level. The study revealed that Riyadh suffers from a large deficit in housing relative to the population, and study explained that this deficit would continue unless practical solutions could be offered. In addition, he observed a shortage of drinking

water, sanitation, and other services resulting from the rapid and irregular growth. Therefore, the study was focused on describing the current and expected problems without developing effective solutions.

In addition to the aforementioned studies, there are studies that focus on regional development and planning, in particular issues associated with regional distribution. These studies are considered weak in terms of interaction, development, decision-making processes, participation, behavioural factors and their role in the planning process. One such study, by AlJukhaidib (2002) (2009), explored the relationship between the size of an urban area and its functionality. The study concluded that the size of an area has played a critical role in performance in some urban areas, but that geographical distribution also influences an urban areas performance of key functions. A proposal emerged out of the study, identifying the administrative and functional division that ensures spatial coverage. It is noteworthy that the study did not address the concept of growth areas or their role in the planning process, or the relationship between differing levels of central and local planning.

Highlighting the challenges faced after analysing urban sprawl in desert cities, particularly Riyadh, Alsaiari (2010) opined that growth will continue to be problematic nature until appropriate laws, policies and mindsets can be implemented to ensure developments are compatible with the urban environment. On the other hand, in reference to ensuring more effective urban planning in Jeddah, Baesse (2012) stressed the importance of the municipal council in resolve the physical and social problems. However, both of studies did not cover many aspects of planning practices that effect on urban growth.

Elsewhere, Aboukorin and Al-shihri (2015) considered the topic of urbanisation and sustainability in Saudi Arabia, suggesting that any sustainable urbanisation policy must focus on three key issues: protection of agricultural land, improving the urban environment, and

preserving urban land for future use. Studying the attitudes and policy implications of the boundaries imposed on urban growth, Aldalbahi and Walker (2015) identify the principal negative consequence as scattered expansion, i.e. sprawl. Traditional urban planning approaches in Riyadh are inadequate due to the speed at which the city is growing, and the city cannot manage the negative consequences of such rapid urban growth.

On this topic, Alqurashi et al. (2016) carried out a study to analyse urban expansion in five Saudi cities (Jeddah, Riyadh Makkah, Eastern Area and Altaif) using satellite data and a logistic regression model between 1985 and 2014. Summarising their study, they pointed out that distance from arterial roads was a key factor determining growth and urban form. In contrast, a study prepared by Al-Hathloul (2017) that seeks to understand urban development and its expansion and growth in Riyadh (1967-2016), where, the study concludes that plans provided a system for the city to expand endlessly.

*In summary*, previous studies have revealed insufficient attention directed towards those urban planning practices driving urban growth in Saudi cities. However, this study seeks to understand current planning practices affecting urban growth in Saudi Arabia, and to understand how these influences the role of decision-makers and planners in the urban context, especially those involved in the process of regulating urban growth. Thus, at the time of writing, this is believed to be the first study relating to urban planning practices and the experiences of planners in urban planning in Saudi Arabia, adopting a mixed methods approach. To achieve the desired objective of this study, a set of methods has been adopted to gather as much data as possible.

## 2.3.    The Planning Practices in Managing Urban Growth

In late 1900s; especially in the wake of the Industrial Revolution, urban planning emerged as a scientific discipline; it considered to architectural aspects, city infrastructure, housing and urban beautification (Abadi and Masoudi, 2015). For example, in 1909 in Britain, at the University of Liverpool was began the first academic program planning and in North America the first program was established in 1924 at Harvard University. However, the concept of planning includes a number of different meanings, depending on the nature of society as viewed by planning institutes (see Table 2.3).

| Planning Institutes | What Planning is Intended to Achieve? |
|---|---|
| The Royal Town Planning Institute (RTPI) | Planning is presented as a place-focussed set of practices that seek to enhance where people live and work through spatial planning, mobilising the relevant interests, and resolving differences in expectations of land use activities among them. |
| The American Planning Association (APA) | A benign, professional, community-focused discipline based on advising decision-makers how to make decisions that contribute collectively to a wide range of socially beneficial outcomes. |
| The Canadian Institute of Planning (CIP) | Planning is focused on physical resource and land use planning but also covers other aspects of development activity, managing them to the benefit of urban and rural communities. |
| The South African Planning Association (SAPI) | Planning involves the sustainable use of resources to facilitate development to the benefit of the entire population. |
| Planning Institute of Australia (PIA) | Planning is the process of making decisions to guide future action. |
| The New Zealand Planning Institute (NZTPI) | planning is a process in which planners fulfil multiple roles, managing and transforming built environments, protecting property rights, providing for externalities, and acting in the interests of communities across a range of disciplines. |

*Table 2.3 The actions planning institute intend to achieve*

*Source: Compiled by the author*

It can therefore prove difficult to challenge planning decisions and planning for the future (Mintzberg, 1981). One of the most common understandings of planning was defined by Hall (2002) *"The making of an orderly sequence of actions that will lead to the achievement of a stated goal or goals" (Hall, 2002, p.3)*. Also, Adams and Watkins (2014) further noted that: *"A useful way to understand planning is to start by thinking about its broad purposes, in*

*other words, to concentrate first on its ends rather than its means" (Adams and Watkins, 2014, p.9).*

Sustainability of urban cities in semi-developed countries is less than developed countries due to the urban density in these cities is more than developed countries (Abadi and Masoudi, 2015). According to Harry Richardson et al. (2000), the main difference between cities of developing or semi-developed countries and developed countries is the planning system, high density and unsuitable transportation system that have impacted on sustainability of city; it increases instability of growth of city. Healey (2006a) believed the scientific study of planning can offer solutions to current and future problems, and clarify the relationship between outcomes and methodology. Rydin (2003) noted that planning focuses on future developments through the role of the public sector and the decision-making process.

Therefore, the process of planning contains a number of steps, the most significant being: (1) goal setting; (2) policy-making; (3) dispute settlement; (4) consultation; and (5) implementation and evaluation (Cullingworth and Nadin, 2002). Planning is thus centred on the concept of rationality, which requires the setting of goals and problems, in order to establish, and evaluate, the available solutions. Thus, planning impacts on urban growth, as it enables the provision of an improved standard of dwellings, which is relevant to focus of the current research, as it concerns urban planning in areas of high population density.

However, a number of concerns remain in relation to economic, social and environmental issues in contemporary planning practices, due to the decision-making processes emerging from conflict between various agents (Cullingworth and Nadin, 2002). An understanding of planning requires an awareness of the dynamics of urban change (Healey, 2006), and some new paradigms of planning has now arisen, e.g. green cities, smart cities and

planning for the urban future, in which stakeholders interpret the principles, in order to establish methods of mediation between conflicting interests.

## 2.3.1.    Epistemological Traditions of Planning

Normative planning seeks to form a coherent theoretical building plan, in order to establish a desirable urban environment. However, at the same time, planning is compelled to address existing reality in an objective manner, particularly in relation to conflicting interests. The history of planning contains many normative ideas that have had a negative influence when applied to the reality of practice. This has led many theorists to describe the history of planning as being 'planning for setbacks' (Ledraa, 2013). This dual nature of planning (i.e. normative versus descriptive) has led researchers in divergent directions in an effort to reconcile theory and practice from a number of different angles.

Initially, urban planning tended to be adapted to existing architecture, which led to it being viewed as mimicking architecture on a large scale. This rational approach proved dominant during the 1960s and 1970s, but failed to produce any lasting results. A second approach, known as procedural planning (Faludi, 1973), subsequently emerged to overcome these issues. This approach asserts that planning focuses on policy, rather than design. However, this did not resolve the dialectic between the normative idealist concept of planning and the descriptive realistic concept, leading to the emergence of new directions in planning:

***Communicative/ Collaborative Planning*** - Communicative planning arose in response to two philosophical movements: (1) Pragmatism (Dewey, 1929 and Rorty, 1979); and (2) Communicative Rationality (Habermas, 1984). Pragmatism seeks to establish the most effective planning practices, followed by an evaluation, and the extraction of successful

examples, through establishing the steps and conditions that have proved both helpful and harmful (Hoch, 1996). Rationality, however, proceeds from an abstract view, with the act being guided by the principles of logic and the results of experimental science.

Innes (1998) indicated that the majority of planners view discussion as a form of communication, and therefore the role of the planner is to negotiate and mediate between the various stakeholders within the planning process. Healey (1998) employed the term 'Collaborative Planning', i.e. participants are able to reach agreement on the necessary actions. Healey (1999) subsequently added an additional two dimensions to the process of communication: (1) 'local knowledge', which differs from the technical knowledge of (primarily Western) experts; and (2) common understanding, mutual trust and the formulation of identification, i.e. 'identity creation'. These dimensions facilitate the process of obtaining a consensus and thus facilitate the exercise of the planning process.

*Multi-cultural City* - A considerable transformation of the city has taken place over the previous two decades, which has also has transformed the practice of planning. Consequently, the focus is now on the urban form of the city and its functions, with the city no longer seen as a static form, but as being in a process of continuous change. A planner no longer focuses on human beings as having interests in common, but as multiple groups with different cultures and interests. (Sandercock, 2000) confirmed that contemporary civil society, with its multiplicity of cultures, tends to prove resistant to the imposition of an identity, leading to social movements being the factor of change. It is therefore necessary to focus on creating a socially just city, while also placing greater emphasis on preserving its cultural identity, rather than focussing on physical issues. Cultural specificities need to be identified through alternative methods than that of existing Western scientific knowledge, in order to create new relationships between the population and the planned development

(Sandercock, 2000). Healey (1999) stated that the focus should be placed on 'local knowledge' rather than 'expert knowledge'.

Sandercock and Lysiottis (1998) identified three forces resulting in different social and cultural issues in a city: (1) migration between states; (2) the influence of colonialism; and (3) the growth of civil society movements. Planning frequently neglects the needs of ethnic minorities living in cities, leading to a considerable number of issues for marginal neighbourhoods and city centre .Burayidi (2000) noted the lack of effective communicative planning methods in the treatment of differences within a city, including conflicts between issues related to ethnicity. However, Sandercock (2000) suggested a method that focuses on establishing a dialogue with planners, in order to encourage integration and tolerance between different cultures.

Thus, the physical form is no longer made up of simply geometric dimensions, but also contains different cultural values and social dimensions, leading to a new dimension in the planning process (i.e. a multi-cultural city). In this context, the role of the planner is to relate knowledge to action, and so empower vulnerable groups to resist exploitation and attempts at marginalisation. This was indicated by Healey's (1998) definition of planning as the management of coexistence within a shared urban space.

***The Just City Movement*** - Fainstein (1994) stated the importance of the theory of communication in planning, adding, however, that some opinions may dominate over others. The power of communication is dependent on the strength of spokesman, leading Fainstein (2000) to view justice as the goal of planning process. Fainstein (2000) considered that urban development tends to exclude the majority of the low-income population from the benefits of public budgets, which have been generally focussed on the needs of the affluent and the influential. Fainstein therefore aimed at developing an urban theory of justice, considering

that, if procedures were fair, this would lead to fair results from planning and its subsequent outputs.

*The New Urbanism* - New Urbanism embraces design that is based on traditional forms, and thus is, in some respects, more akin to an ideology than a theory (Bohl, 2000). The advocates of New Urbanism tended to be early theorists (e.g. Le Corbusier and Ebenezer Howard) in the creation of a coherent local urban community, and who therefore attempted to embody the image on the ground to form a beautiful city. Le Corbusier defined the principles of architecture and urbanism as the path towards modernity, through the International Congress for Modern Architecture (ICMA), which recognised a need to contain urban design within a variety of styles of buildings, along with a blending of uses and an overlapping of various social strata, and an interest in the urban form (Katz et al., 1994). Thus a residential neighbourhood is considered the basic unit of planning, with an appropriate size of neighbourhood capable of providing all the necessary activities in close proximity to the population, i.e. it is limited to an area approximating a walk of between five and ten minutes from centre to edge (Kunstler, 1998; Bohl, 2000).

New Urbanism therefore focussed on the physical design and layout of a city. Moreover, this included a trend against urban expansion towards the suburbs, resulting in traffic jams. New Urbanism is a movement that expresses nostalgia for traditional urban forms, in response to a dissatisfaction with the current forms of development and urbanisation (Ledraa, 2013), and thus it rejects the communicative trend of marketing in favour of planning and specific architectural forms. By contrast, the mistakes of modernity can be repeated through a focus on spatial forms rather than social methods. However, Bohl (2000) did not view New Urbanism as a panacea, but rather as a single strategy among a larger

array of social, economic and community strategies required to improve and revitalise the quality of life within cities.

*Phronetic Planning* - Phronetic planning research arose in response to the theory of Aristotle distinguishing between three levels of knowledge (Flyvbjerg, 2004): (1) 'episteme' refers to science, or scientific knowledge, including the theoretical sciences; (2) 'techne', refers to the idea of craft, i.e. skills to undertake a process; (3) 'phronesis' refers to wisdom or intelligence, i.e. an awareness and understanding of actions to be taken in specific circumstances and under certain conditions. The first two types of knowledge can be circular and repetitive, but the third type is not subject to any generalisation, being instead linked to a specific condition with its own set of circumstances (Ledraa, 2013).

Phronesis consists of a form of practical knowledge that enables decision-making, which cannot be explained logically and rationally, but is instead significant in its ability to add a normative and moral dimension to issues related to planning (Flyvbjerg, 2004). This forms the knowledge most appropriate for use in the planning process, as it relates to dealing with an urban situation as a special case, one that requires specialised practice (Ledraa, 2013).

The main objective of the phronetic approach is to take into account individual interests and power relationships as an aspect of the practical application of planning. This led Flyvbjerg (2004) to suggest four issues that need to be addressed in any planning decision: (1) What is the aim of this development? (2) Is this desirable? (3) Who loses and who gains, and by which mechanisms of power? and (4) What, if any, action should be taken? These questions have no definitive or straightforward answer, but should rather be addressed through an ongoing dialogue, focussing on the problems, possibilities and risks, and aiming at identifying alternative solutions satisfactory to all stakeholders (Flyvbjerg, 2004).

This discussion has led to the conclusion that planning theory remains insufficiently comprehensive, while its intellectual inspiration focuses primarily on frameworks arising from the experience of Western societies (i.e. European, British, American and Australian), while ignoring the contributions of other communities (i.e. Arab and Asian). It is ineffective to impose these theories originating from a Western background on socially, culturally and economically and environmentally diverse societies. Because of the different culture of the community and the place, planning for Western countries may not fit the nature of the Arab communities, this is happened in most Arab countries and developing or semi-developed countries through the application of these Western theories.

This leads to a need to focus on ways of practicing urban planning in response to rapid urban grown, rather than on planning theory. An understanding of the role of planners can therefore improve the success of the planning environment, i.e. the correct use of planning requires an understanding of the needs of the community in its local context, thus focussing on establishing an appropriate culture and environment while developing the urban planning pathway. The appropriate methods of dealing with issues of urban growth under the umbrella of planning practices, require an understanding of: (1) the driving forces of urban planning; (2) the practice of spatial planning influencing the pattern of urban growth; and (3) the planning environment that influence on Planning Practice.

## 2.3.2.    The Driving Forces of Urban Planning

The planning role of sustainable growth goals (the balance between the economy, environment, society and culture) are not easy to achieve in a dynamic, diverse and complex community, because the integration of the various elements depends on national, regional and local situations (Wheeler, 2013). Therefore, sustainable development is not a specific

mathematical model that can be applied to ensure results, but it is a strategy, whose success depends on the reality faced by the region or city. Thus, it is important to consider how the driving forces can be dealt in Arab cities and Saudi cities in particular. The value of these driving forces differs from country to country and from time to time. Therefore, the significant driving forces that have an impact on urban growth in semi-developed countries concentrated in three axes; the structure of planning, the planning law and energy discourses, as outlined below.

### 2.3.2.1.    Structure of Planning

Several studies in developing or semi-developed countries (e.g. Yazar and Dede, 2012; Sundaresan, 2013; Dariah et al., 2014; Hosseini et al., 2015) have indicated that the planning structure is not yet arranged in a clearly structured. However, the planning structure reflects the kinds of institutional linkages of planning in urban city (Okello, 2017). Moreover, the structure of planning is a shared responsibility of the state, the market and civil society, all of which have a hand in dealing with societal problems (Driessen and Glasbergen, 2002).

An effective planning approach demonstrates pluralism: the ability to combine different points of view and come to an agreement on the common goals (Healey 1997; Ansell and Gash 2008). The result may be sustainability, depending on the elements of the system of governance. Good governance and structure of planning in semi-developed countries needs to reflect the sustainable growth (Selman, 1996; Kim, 2010). Moreover, the study of Ikejide (2011) revealed that the lapses in the planning structure cause floundering and dispersion in the growth process, however, adjust the planning structure mechanisms is essential to success the city's growth and planning outcomes.

### 2.3.2.2. Planning Law

UN-Habitat (planning sustainable cities report) have consistently called for the reform of planning laws 'an important precondition for more effective urban planning is that national legislation is up to date and is responsive to current urban issues' (UN, 2009 p.215). However, the Planning law has a poor record in developing or semi-developed countries, it has provided weak regimes, with restricting social and economic opportunities, as well controlling urban growth as a way of restricting urbanization (Berrisford, 2011). The planning law is dominated by statutory provisions which were imported in the form of ordinances for improve the path of planning. However, the presence of laws and legislation planning helps to control the management of the city, which contributes to the success of planning and growth of the city (Dahlan and Mohamed, 2009).

In return, the old planning law and informality further weakens the planning capabilities of local authorities. In addition, the laws that are not in line with the urban development of the city caused gaps in those laws in terms of their association with legislation of growth and planning (Hadeel, 2014). However, there is a lack of relevance of the planning law to existing urban growth in fast-growing cities. These communities feel that compliance to the provisions of planning law would not improve their standard of planning, because of floundering situation, wherefore, there is widespread lack of enforcement of planning law. This shows the importance to study and improvement the planning law in rapidly growing countries; the fact that the planning law helps to revise the growth boundary system that controls land use and expansion of urban area (Okata and Murayama, 2011).

### 2.3.2.3.     Energy Discourses

Urban planning has evolved in the developed or developing world over the past century in a way compatible with the availability of energy sources (Ibrahim, 2009). Energy discourses is an important element that contributed to the rapid urban growth in urban areas in some Arab cities, due to the availability of oil resources and the low cost of energy. For example, the study of Wiedmann et al. (2012) focused on the influence of economic transformations on urban structures in Doha, and it concluded that the energy discourses contributed significantly to the urbanisation process. However, during the 1970s and 1980s, the energy prices have led to rapid urban growth. Therefore, the cheap energy in some cities has contributed to the demonstration of many neighbourhoods and urban extensions corresponds to the paths of road networks for cars. Therefore, growth of the city and urban planning are closely linked to energy issue (Phdungsilp, 2006).

Moreover, as most energy consumption in the world is within urban cities, it is thus important to understand and develop strategies for the use of energy in the city. Some factors, such as the cost of energy, are particularly significant in mega-cities, e.g. in countries that export oil could be contribute to significant changes in urban growth. Moreover, today we stand on the threshold of high prices of energy and how its reflection on the city, this requires adapting energy discourses with urban growth.

## 2.3.3.     Influence of Spatial Planning on Urban Growth

Spatial planning emerged, and was highly dependent on contemporary societal values, i.e. in relation to urban sprawl (Fertner, 2012). New concepts have subsequently emerged to address the new challenges facing expanding cities, including issues related to sustainability and urban density (Jørgensen and ærø 2008). Spatial planning is context

dependent, and required to accord with the existing planning systems and legislation. Three contextual factors of a city's planning system play a fundamental role: (1) law; (2) structure; and (3) responsibility for planning (Enemark, 1999). Cities respond to the challenges they face in a number of different ways. While their geographical and historical context can lead to specific forms of urban growth, the majority of cities face similar challenges and are subject to the same global drivers (Fertner, 2012).

Examples of success and failure can illustrate potential future pitfalls for urban planning regulations. There has been some criticism of the imposition of Western planning and management models onto all cities (Balbo 1993; Gandy 2006). At the same time, planning actions can result in negative spillover effects of urban growth, resulting in harm for those living in cities that have failed to establish any solutions to such issues. An analysis of spatial planning is crucial to understanding the evolution of the city, leading to the question of whether spatial planning is able to resolve (or at least mitigate) issues related to urban growth. The following sections discuss three potential remedies to assist cities to overcome the negative effects of urban growth.

### 2.3.3.1.    Settlement Patterns

Planning in its different forms and levels has, throughout history, influenced the form and size of urban settlements. The driving forces behind the establishment of cities included the weakness of planning mechanisms and the impact of the Industrial Revolution. Consequently, both Eastern and Western urban developments have been of a relatively similar size. Potter (1985) argued that settlements during the prehistoric period were both isolated and small in size, but that such settlements have subsequently increased, both in size and number, leading to the development of the modern city. Moreover, this development will continue to increase, including several cities being joined together to form a large

megalopolis. Thus, in the absence of planning to restrict such growth, the size of settlements will continue to increase.

However, the size of the urban settlements can also have an impact on existing city infrastructure and transportation. Thus, small urban settlements have fewer transport services in comparison to major cities. Due to the relatively large distances between homes and amenities, the majority of the population of large cities are forced to travel to reach their work, leisure activities or services. Williams and Banister (1998) demonstrated that smaller settlements require greater travelling distances, and that in non-car models (i.e. in which the main modes of transport consist of public transport, walking or cycling), large settlements involve greater travelling distances.

In the development of urban systems, Geyer and Kontuly (1993) have identified five stages, classified primarily in relation to the size of settlements at each stage and the corresponding spatial patterns of population movement. Pacione (2009) subsequently proposed three stages of urban growth: (1) the phase of the primate city; (2) the intermediate city phase; and (3) the small city phase. However, (see Figure 2.4) shows the net migration gains and losses cities over time; each stage was formulated according to successive waves of development in urban growth. These phases thus represent the first cycle of urban growth, and it is during the final cycle that the second sequence of major metropolitan growth takes place, i.e. small and intermediate-sized cities (Abou-Korin, 2014). On Figure 2.4, the developing and semi-developed countries can be located on urbanisation phase at II or III stage, where main urban cities are the only gainer of urban population.
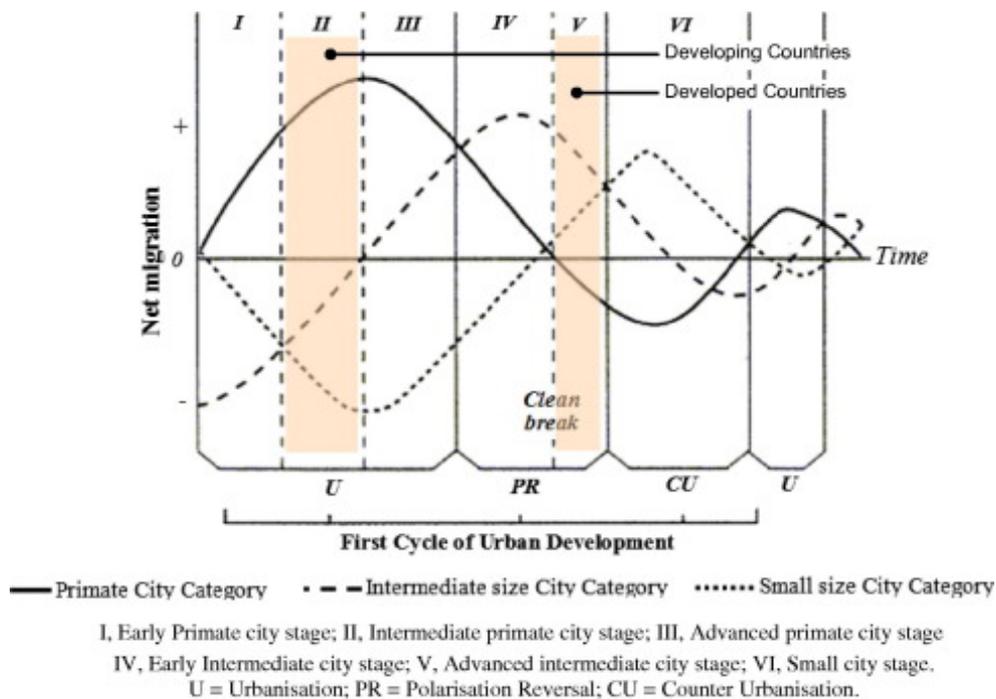
*Figure 2.4 Generalised stages of differential urbanisation*

*Source:(Abou-Korin, 2014, p.382)*

Settlement patterns, although often overlooked in some cities in developing or semi-developed countries, has a strong impact on the distribution of people and services (Sogoni, el, 2016). However, the continuum of area is not uniform and thus requires each space to be dealt with it separately. As well as, low density settlement patterns create diseconomies of scale and distribution costs (Bidwell, 2001). Generally, uncoordinated settlement patterns usually in developing or semi-developed countries a challenge, but it is argued that the better the cities are understood and analysed by planners who are can respond to needs of urban cities.

### 2.3.3.2.    Urban Design Pattern

Burg et al. (2004) revealed the complex relationship between urban form and function. The path dependency and function of the city has an impact on the sustainability of growth, along with its form. Urban design focused at the community or neighbourhood level

(and which takes urban growth into account), has been shown to overcome a number of problems such as transportation, housing, neighbourhood design (Arbury 2005). This micro level focus of urban design has the potential to achieve sustainability through urban form and the ability to overcome a number of the issues associated with urban growth. Urban design measures address urban form, moreover, a good urban design offer the legibility of city, however, urban sprawl is incoherent urban design (Clifton et al. 2008).

Nevertheless, debate continues concerning the nature of 'urban design', including which designs should be included (Arbury, 2005). Sternberg (2000) pointed out that urban design, despite being the primary field of city planning, lacks a cohesive theoretical foundation. Sternberg (2000, p.265) proposed that "the urban designer's task is the shaping of human settlements", i.e. through the manipulation of elements making up the built environment, including distance, land area, road design, and building style (Arbury, 2005). Moreover, Porta and Renne (2005) demonstrated the link between sustainable growth and urban design, including the impact at neighbourhood and city level. They proposed eight indicators of sustainability: (1) diversity of land-use; (2) street connectivity; (3) accessibility; (4) natural surveillance; (5) public/private realm; (6) employment density; (7) number of plots; and (8) the number of buildings.

There are also a number of smaller scale 'street indicators', based on these broad indicators, capable of measuring subsequent growth configurations. Figure 2.5, below, illustrates the size of blocks and the influence on the growth of a series of cities in developing and developed countries. It demonstrates that the urban design could prove a factor in the increase of average distances between intersections in a city, thus leading to uncontrolled expansion and urban sprawl.

| | Turi, Estonia | Barcelona, Spain | Paris, France | Ginza, Tokyo | Pudong in Shanghai, China | Towers North in Beijing, China |
|---|---|---|---|---|---|---|
| | | | | | | |
| Intersections per km² | 152 | 103 | 133 | 211 | 17 | 14 |
| Distance between intersections (m) | 80 | 130 | 150 | 43 | 280 | 400 |
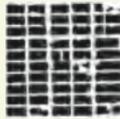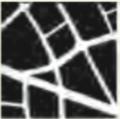
*Figure 2.5 Source, ICLEI—Local Government for Sustainability*

*Source: http://www.iclei.org*

On the other hand. traditional planning methods in Arab cities are based on culture and community as people designed the built environment in their city (Hakim, 2007), (see Appendix A.4) The Western model, ignoring religious customs and beliefs, is based on efficiency and rational development. Differences exist in the approach and way of thinking, therefore development concepts, community planning, land use, urban forms, design and architecture all play a part in the future planning of the Arab city (see Bianca, 2000; Saqqaf, 1987; Hamouche, 2009).

The problem with the Western model is the assumption that it can predict the future needs of Arab cities. But when the Western model was applied the results showed people's social relations with the built environment were ignored (Kiet, 2011). Hamouche (2009) describes the Western model as inflexible and unable to adapt to the decisions of the community. These decisions are a strong point in the planning of Arab cities. The Western model's lack of incorporation of the Arab society's traditions and customs caused failures in the growth of the Arab city. For example, the Western model focuses a great deal of attention

on street design before focusing on the building design; this model, however, violates the Islamic concept of privacy and the neighbourhood and inadvertently destroys the society-based structure.

The Western model also differs from the Arab growth model in its separation of functions, with areas designated specifically for housing, services, commerce and industry. This, in turn, contributes to the division of the city into rational sectoral components which may not accommodate the needs of the community. However, the Western model contributes to faster city growth. Therefore, wide streets and highways that bisect neighbourhoods appear, causing isolated areas. Hamouche (2009) and Bianca (2000) both recognise the functional improvements of division within the city, but are aware that this is done at the expense of losing community and environmental qualities.

However, the use of Western concepts of planning, without any deference to traditional concepts, in Arab cities, has led to a disintegrated urban fabric. There is a need to understand the contexts of the traditional and Western models in order to integrate them. While the Western model takes a subdivision approach to land management, creating ever smaller fragments of space, the traditional Arab concept is governed by the incremental and organic addition of functions and areas.

### 2.3.3.3.    Transportation and Land Use

Research has revealed that city growth is influenced by the spatial structure of existing cities, including their transport systems (Banister, 2012; Næss, 2012). However, transportation of people or goods, along with the associated economic activity, has been shown to have an impact on patterns of growth (Meyer and Miller, 2001). Bhatta (2010) noted that that transportation infrastructure forms a major cause of urban growth. Moreover, studies by (Hart, 2001; Handy, 2005; Ma and Xu, 2010) indicated transportation as a key driver

of spatial expansion. However, a number of further studies, such as (Parker, 1995; Priemus et al., 2001) have emphasised the effect of high-speed roads on population growth and expansion of the urban city.

This ensures the existence of a strong relationship between transportation systems and urban growth. Aljoufie (2012) noted the existence of three inherent characteristics of this relationship: (1) complexity; (2) causality; and (3) reciprocity. This relationship is formed between several socio-economic and physical components, i.e. the socio-economic side is related to growth in the population, economy growth, and demand for transportation, whereas the physical components are related to spatial expansion, an increase in transport infrastructure and a change of land use. However, Aljoufie (2012) noted that the relationship can be inferred in four key interacting aspects related to urban growth: (1) transportation infrastructure; (2) travel demands; (3) change in land use; and (4) population (see Figure 2.6).
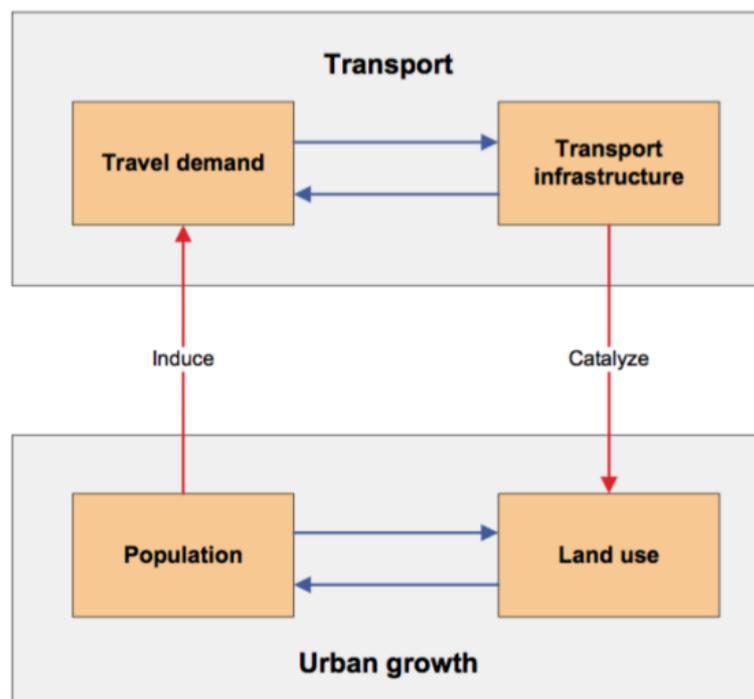


*Figure 2.6 Conceptual reciprocal relationship between transport and urban growth*

*Source: (Aljoufie, 2012, p.42)*

However, land use changes have an impact on the urban environment through growth trends and patterns (Al-shalabi et al., 2013). On the other hand, Allen and Browne (2010) noted that the density of an urban area can be varied by mixing land use, in order to reduce the distance between housing and the workplace (and other activities), with a resulting impact on patterns of growth and the expansion of the city.  However, land use has been found to impact travel patterns and city growth (see Figure 2.7), i.e. Headicar and Curtis (1994) pointed out that land use has a profound impact on travel patterns and the duration of travel, including an increase in both travel times and distances resulting from positioning housing developments away from city centres.
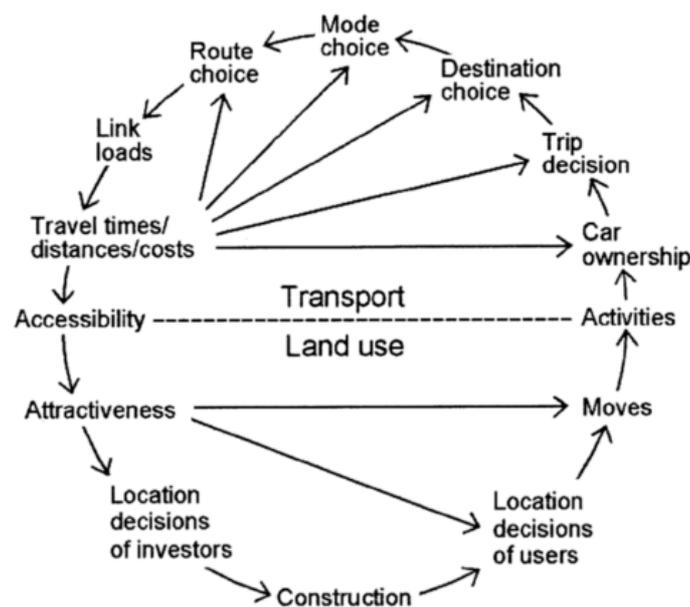


*Figure 2.7 The relationship between transportation and land use*

*Source: (Pandya and Katti, 2012, p.3)*

Driven by technological change, particularly in the areas of transportation, globalization has radically reduced the need for spatial planning (Cohen, 2004). However, many urban cities in Asian countries have grown spectacularly over the past 25 years, in some cases more than quadrupling in size (Cohen, 2006). Moreover, urban cities in developing and

semi-developed countries are undergoing a transition in their built environments and economies from the traditional to the modern, which has yet to stabilise. This is apparent in the growth of the cities and the changes undergone by the community over the past years, which include the increased dominance of cars. This shows the importance of transportation issues and its impact on the spatial planning.

*In summary of Spatial Planning*, In the current decade, there is an increasing recognition that globalism and technology required a redrawing of spatial boundaries (Mawson, 2009). However, the three elements noted above play both a negative and positive role in the growth and expansion of urban areas. However, a number of issues are not immediately visible, but, over time, can have a powerful influence on planning outputs and urban growth centred in the planning environment and the role of planners. The following section focuses on an understanding of the planning environment, which, in turn, influences planning outcomes and subsequent urban growth.

## 2.3.4.    The Influence of the Planning Environment on Planning Practice

The planning environment covers the planning system, the general understanding of planning, as well as the framework and practice of planning. However, urban areas are in a state of constant fluctuation, including in relation to, population, information or data and the economy. Healey (2006b) stated that cities cannot be understood by means of a singular driving dynamic, but that they are the result of complex planning, created by the interaction of actors in multiple planning events. However, an increasing number of stakeholders are now taking part in urban development processes, raising issues concerning the degree to which planning can be coordinated in the context of institutional fragmentation (Salet and Thornley,

2007). This leads to a need for additional connectivity between decision-making and planning, while, at the same time, urban planning has also become multi-actor development, involving a number of urban development processes. Verlaat and Wigmans (2011) agreed that urban planning performed by many individual actors and organisations takes place within a complex context and a lengthy time-scale.

The traditional method of planning cities cannot survive within the current changing urban environment of the city. The complexity of planning tasks exceeds the capacity of the planning system, while responsibility for some planning tasks fall between the various planning departments (Staffans 2015). Othengrafen (2010) stated that the planning environment refers to values specific to actors involved in the processes and practice of planning (e.g. planners, geographers and architects). The taken-for-granted assumptions and values of this group comprise (among other aspects) the objectives and principles of planning that focus on the provision of urban growth and sustainability. However, Schein (2010) stated that existing values guide professionals (i.e. planners) when dealing with certain aspects of city planning, and can thus predict much of the planning practice observed at the level of 'planning artefacts' (see Figure 2.8).
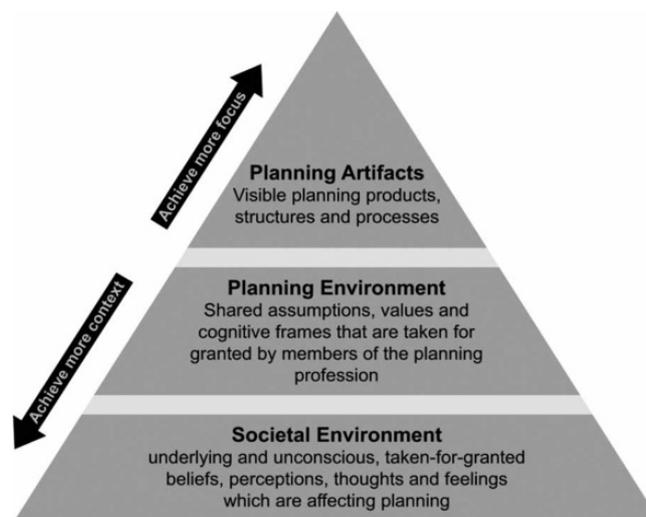


*Figure 2.8 The culturised planning model.*

*Source: (Othengrafen, 2010, p.92)*

There is thus a need to emphasise the provision of a positive environment to enable planning to resolve urban problems, and avoid poor planning outputs. However, to success the planning environment must have some elements that facilitate the path of planning practices. The following sections focus on five elements of planning environment (see Figure 2.9):



*Figure 2.9 Elements influencing the planning environment*

*Source: by the author.*

### 2.3.4.1.    Professionals of Urban Planners

Despite the fact planners face a number of obstacles in establishing the sustainability of urban growth (e.g., lack of resources and information; political change; failure to take an integrated approach. (Hoemig et al., 2005) professionals are instrumental in improving the planning environment (Nasar, 1998; Hurlimann, 2009; Ahern et al., 2014), due to their ability

to accomplish specialised business, including addressing challenges resulting from demographic and economic growth and the externalities generated by urban sprawl.

A number of studies have addressed the issue of a gap between professional practice and education, including those of (Glazer, 1974; Alonso 1986; Hall 1989; Ozawa and Seltzer, 1999; Baum, 1997; Guzzetta and Bollens, 2003; Myers and Banerjee, 2005). The objective of planning is to promote knowledge in decision-making, that improves decisions concerning the present and future actions (Friedmann, 1987). However, in many planning processes, planners deal with experts in multi-disciplinary (Tennøy et al. 2016). This use of professionals has been discussed by a number of researchers (e.g. Stanford and Econ, 1975 and Perkin, 1996), while Kerr et al. (1977) identified a set of attributes of 'idealistic professional' features, including individuals who: (1) are knowledgeable in methods of practice; (2) have gained mastery of that knowledge through continuing and expanded instruction; (3) have an ability to make decisions independently, according to the acquired knowledge; and (5) have an obligation to practice the profession.

On the other hand, professionals are required to establish a flexible working practice, which has been classified by (Alexander et al., 2011; Alexander and Dijst, 2012) into three types: (1) Spatial flexibility (i.e. the undertaking of work activities in different locations); (2) temporal flexibility (i.e. time division, in which specific work is divided into several smaller works to be undertaken at different times; and (3) interactional flexibility (i.e. having the ability and flexibility to interact with a wide range of individuals).

Planning activities are mainly undertaken through the procedures and practices of a planning system that aims to promote the objectives of planning through the implementation and development of spatial development plans (Healey 2010). However, planning practices

have resulted in reductive views, leading to a need to overcome any narrowing of vision, while

the future practice of planning needs to focus on the following aspects:

> *How the projects were brought into being – how possibilities and project ideas were imagined, how resources were assembled, how ideas progressed from designs to land clearance and building activity, and how attention was sustained for projects that had long-time spans from initial idea to completion. (Healey, 2010, p.127).*

However, practices can be included by planners and policymakers to describe and

interpret issues related to planning leading to the development of solutions, while the

involvement of stakeholders and citizens can capitalise on ideas, needs and values in the

planning process (Copeta and Tedesco, 2013). It is vital to understand: (1) the gap between

planning practices and urban realities; and (2) the different methods involved in teamwork

and individual practices. At the same time, knowledge and experience is central to

environmental, regional and urban planning (Rydin, 2007). Planning institutions face a

number difficulties, due to requiring the support of experts, while also addressing the

dismantling of knowledge by the development process (Pellizzoni, 2011).

A number of researchers have emphasised the importance of planners employing a

diversity of information when drawing up plans (Owens et al. 2006; Rydin, 2007; Healey, 2009;

Krizek et al., 2009). The knowledge of planners is applied to planning and decision-making,

resulting in plans which, when implemented, result in changes to urban planning. These

changes to the planning pathway have an impact on urban growth in at least two important

ways (see Figure 2.10): firstly, changes in urban growth can create situations capable of being

recognised and addressed as an aspect (including the appropriate framing) of objectives and

issues facing the planning processes; and secondly, empirical experience of the impact of

specific changes on urban growth on the entire planning system can provide researchers and

planners with new knowledge of the workings of the planning pathway, thus leading to increased knowledge in relation to planning (Tennøy, 2012). Additionally, such a development of the planners' knowledge can have an impact on future planning and decision-making, and hence developments in urban growth.
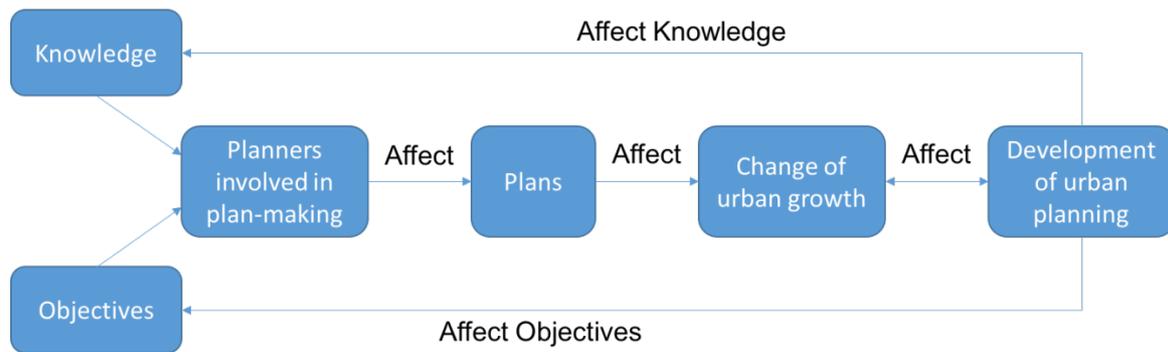


*Figure 2.10 Interrelations between the two systems of organisation*

*Source: figure based on (Tennøy, 2012)*

However, when developing plans and making planning decisions, it is important to understand the expert knowledge and knowledge of context, besides process and objectives. (Tennøy, 2012; Tennøy et al., 2016). Planners employ knowledge to produce plans, analyses and recommendations. Moreover, decision-makers also use a variety of information to develop their ability to make decisions in order to achieve planning goals. Tennøy (2012) noted that the knowledge of planners (including their powers and objectives) can directly influence their interaction with existing plans, along with the creation of new plans. Moreover, these aspects can also have a reciprocal effect and hence an indirect influence on plans and plan-making.

Planners practices includes knowledge of laws, planning procedures and decision-making as defined in planning legislation, including ways of undertaking (or participating in), the planning process (see, among others, Healey, 2009). However, as noted in the discussion on planning theory, the planning process is frequently undertaken in dialogue with other

actors, and frequently with considerable influence from professional planners (Rydin, 2007; Healey, 2009). It is significant to understand the context of planning, including the following: (1) political, physical and cultural aspects; (2) current and previous conditions; and (3) existing plans and policies (see also Rydin, 2007). The above description illustrates the necessity of employing sources of knowledge including planners' knowledge when making any projects or plans. Wilson (2001, p.15) emphasised that:

> *Planners are not just facilitators – they articulate economic, social and technical knowledge and represent values that might be neglected by other participants, such as social justice or the interests of future generations. (Wilson, 2001, p.15)*

### 2.3.4.2.     Decision-making

Decision-making is crucial within the planning environment, as it influences opportunities to establish a planning path within all sectors. Michel (2007) noted that such decisions are significant to stakeholders, enabling them to align with the strategic intent of the sector. However, in order to a decision to be effective, it is necessary to consider the positive and negative aspect of each alternative, prior to determining the most appropriate option (Harris, 2012). Vesikko (2013) considered that most decisions are undertaken in an uncertain environment, but, in order to reduce risk, more detailed preparation is required for important decisions.

Firstly, in the decision-making process is to decide the method by which a plan is established, i.e. through group consensus or an individual decision. Harris (2012) and Vroom and Yetton (1973) considered that the planning environment (along with the availability of information and data) defines whether the style of decision-making is collective or individual. They differed on the significance of the difference between the stages of decision-making

within the social sciences and management, while some believed that the decision-making process involves a number of stages, as follows (see Figure 2.11 A). Schoenfeld (2011) proposed six steps for the decision-making process (see Figure 2.11), viewing decision making as an iterative activity, based on a logical sequence, giving the decision maker the facility to learn from previous decisions.
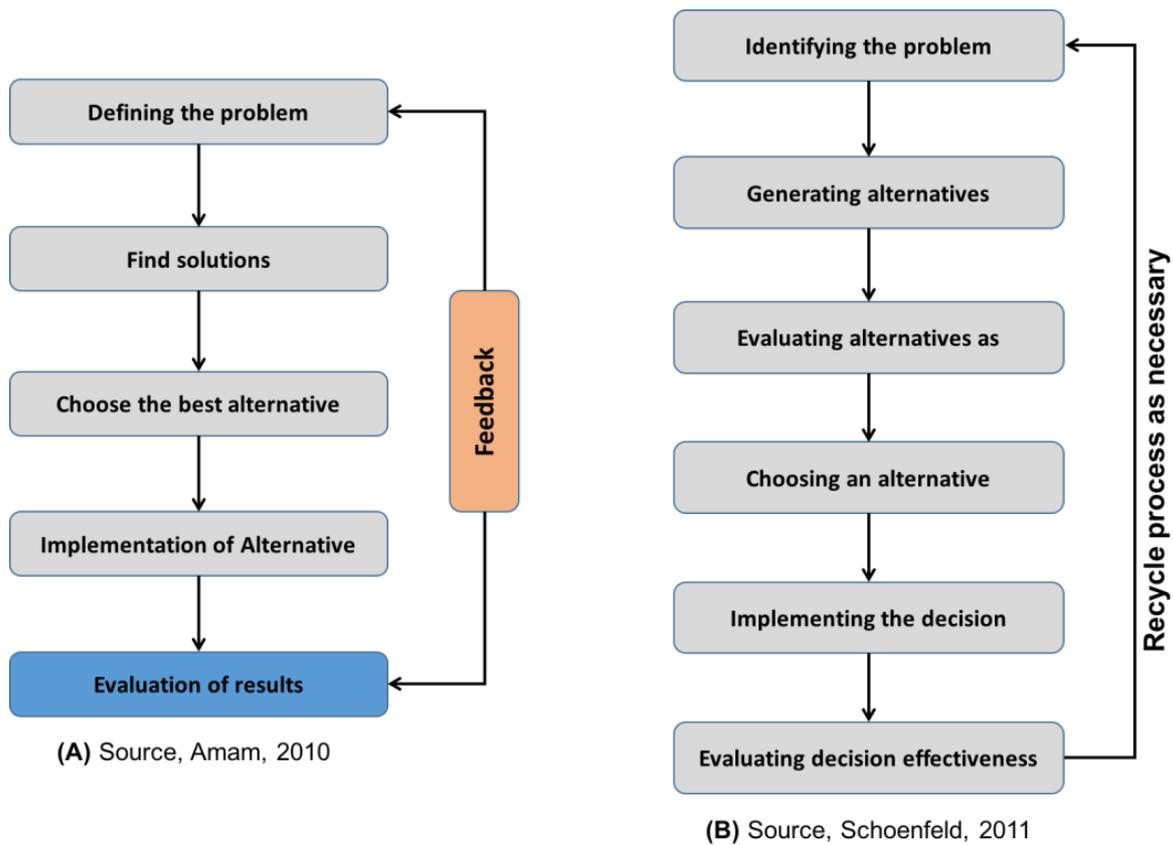


Figure 2.11 Stages of the decision-making process

The planning process was previously limited to addressing minor issues, with a focus on simple solutions for planning problems commensurate with limited possibilities. A number of planning methods (or a series of decisions) have appeared (e.g. Chadwick, 1971; Lichfield et al., 1975), in an attempt to improve the methodology of work to a level commensurate with the interlocking conditions faced by planners (Esam, 2004).

The majority of modern curriculum planning is based on a single philosophy, i.e. that the ultimate goal of planning activities is to reach decisions appropriate for specific situations

(Amam, 2010). This goal requires that the basic information for decision making is both clear and accurate, leading to the use of systematic, comprehensive and scientific methods to: (1) compile the information; (2) undertake the analysis; and (3) undertake the drafting of resolutions. This results in the development of appropriate planning solutions indicates integration between the process of planning and decision-making, as demonstrated in Figure 2.12.
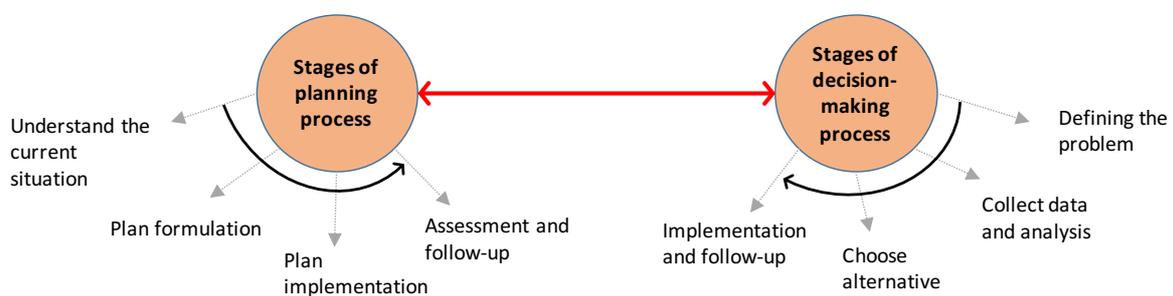


*Figure 2.12 Integration between stages of the planning process with the decision-making process*

*Source: figure based on (Amam 2010) .*

### 2.3.4.3.    The Data

Providing the updated data of urban city is the main challenge of decision-maker, experts and planners to make a more creative decision to support development of city. Simple and easy methods of data gathering for planning of cities and their development should be invented. However, confidentiality of data whether spatial, social, economic, etc. is a problem of urban development (Azizi, 2007).

A fundamental aspect of good decision-making concerns access to accurate and relevant data, thus ensuring legitimate and meaningful decisions are made in technical, economic or political decision-making, despite the complexity of urban problems and the intractability of traditional processors. Kaiser et al. (1995) confirmed the importance to the

planning of any project of the key economic, environmental and social facts and information. This is due to the success and effectiveness of planning outcomes depending on the input data, as the planning process is initiated with a definition of the problem and the setting of goals. Figure 2.13 reveals the role of data in the formulation of plans, along with its relationship to the addressing of planning issues.
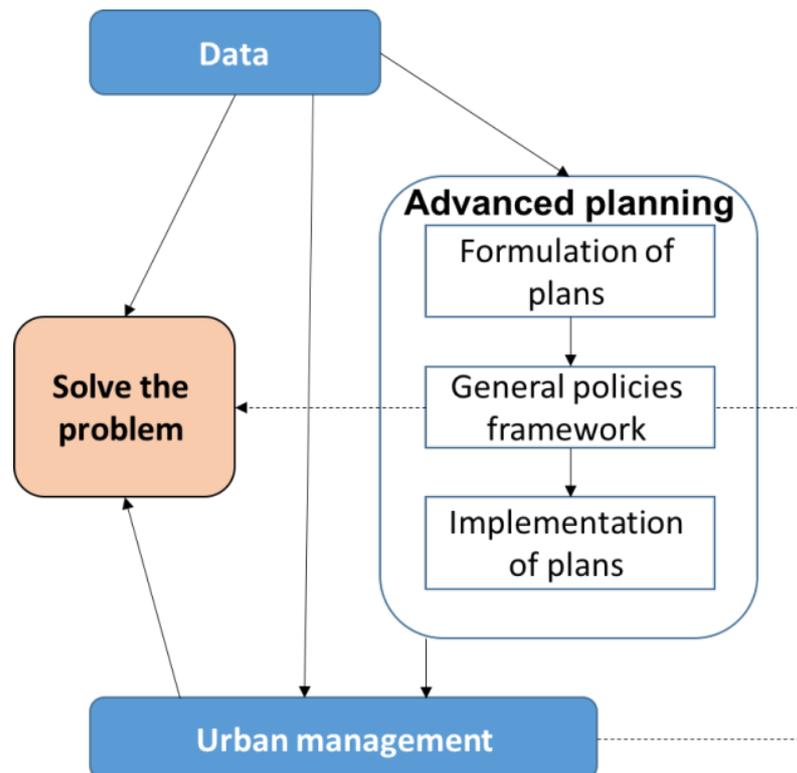


*Figure 2.13 Data relationship with formulation of plans and solve problems*

*Source: figure based on (Kaiser et al., 1995)*

It is important to differentiate between statistical data and indicators, as demonstrated by the informational pyramid (see Figure 2.14). The base of the pyramid represents raw information, which, through analysis, is transformed into indications of outcomes, in order to facilitate stakeholder understanding. However, it is also necessary to establish the relationship between data, indicators, indices, and information for planning actions, as well as the interactions between planning measures and planners or decision makers.
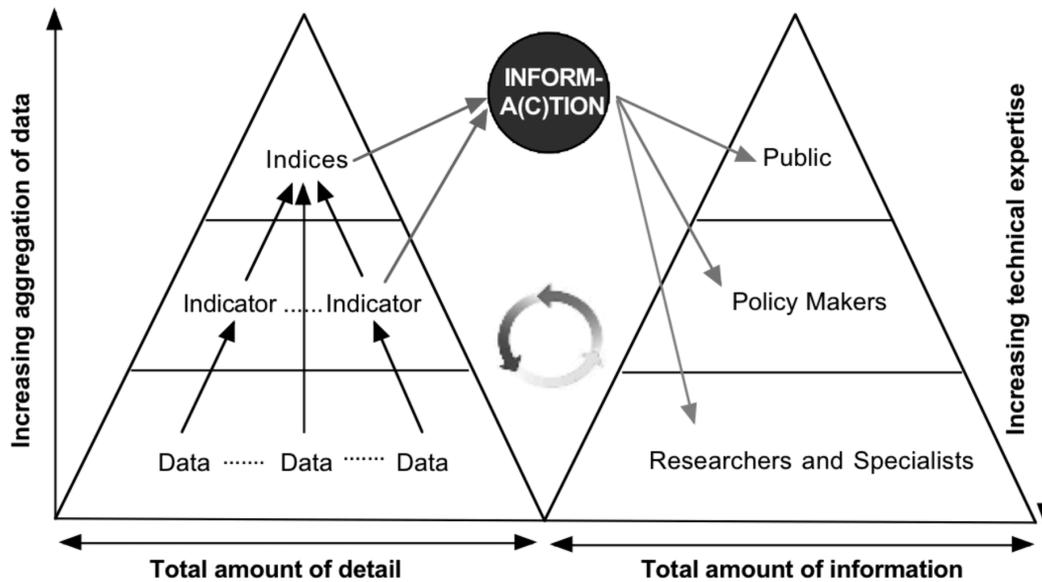
*Figure 2.14 The relationship between data, indicators, indices, and planning actions.*

*Source: (Wu and Wu, 2012, p.71)*

Cities currently produce a large amount of data, including information on economic, social, environmental and physical aspects. Batty (2013) noted that big data enriches the experience of the function of urban developments, offering many new opportunities for planning, along with more informed decision-making among planners concerning the most effective planning within urban areas. However, shortages or invalidity of information can impact on a city's policy for growth.

Planning sets the future course of any growing city. Large amounts of data are available to the planner, which must be interpreted effectively, in order to predict the future direction of city growth, and so draw up appropriate plans. Data concerning urban areas can prove useful for urban designers and planners, however, open data and transparency is important to planners, including sharing and increasing the availability of data, thus facilitating the ability of planners to obtain critical information concerning development and more rapid methods of planning (Lee and Hancock, 2012). A number of researchers, including (Harris and Ventura, 1995; Laurini, 2002), noted that the nature of the data and information

required depends on the conditions of each individual city, including: (1) the current size of population; (2) the size of the urban area; (3) land use and transport; and (4) predictions relating to future developments.

### 2.3.4.4. Work Environment

Thompson and Strickland (2001) and Wheelen and Hunger (2012) focussed on performance planning, believing that a work environment has a fundamental impact on an employee's performance. The concept of ergonomics covers processes including: (1) regulations; (2) laws; (3) working relationships; (4) culture; (5) rules; (6) policies; (7) the physical environment (e.g. air conditioning, lighting and office furniture); and (8) the external business environment. Shikdar (2004) viewed the workplace as an environment in which employees perform, with an effective environment being one in which employees meet the expectations of management, while ineffective or unpleasant environments lead to ineffective employee performance (Westerman and Yamamura 2007). The working environment is thus crucial both to the performance and well-being of employees (Ajala 2012).

Jones (2004) and Wheelen and Hunger (2012) stated that the working environment is divided into three levels: (1) the general environment, which has an equal impact on all organisations (i.e. the economic and political situation, laws and regulations, and environmental, demographic, cultural and social factors); (2) the specific environment, (i.e. elements of the external environment directly impacting on the organisation, including stakeholders, government, or other private organisations); and (3) the internal environment (i.e. factors and forces affecting the work of the organisation, including organisational structure, culture, and financial, human, and research and development resources).

Ooi and Arumugam's (2006) study established that the following have been associated with a positive commitment to assisting workers in effectively undertaking their roles: (1) communication; (2) training and development; and (3) rewards and recognition. Moreover, a study undertaken by McMurray et al. (2004) revealed a significant correlation between an organisation's climate and level of commitment, including in relation to: (1) creativity; (2) confidence; (3) independence; (4) support; (5) justice; (6) appreciation; (7) cohesion; and (8) pressure of work. On the other hand, the physical working environment has a direct influence on human senses and productivity, and thus impacts on how professions perform tasks, including improving effectiveness and efficiency (Soewardi et al., 2016).

## 2.3.4.5.    Participation

Liggett and Perry (1995) stated that the subject of the city needs to be open to public debate, in order to establish future developments, adding that expectations concerning the most appropriate actions are always controversial, i.e. planning goals seek to satisfy the values of the local community, rather than global views of how to establish a utopian city. Banovetz (1984) noted that the most effective way of influencing local plans (i.e. "the values and wishes of the local community") is to actively involve the city's population in the planning process, through the participation of local councils. This confirms the view of Herr (1989) that planners need to involve residents in the planning process, in order to: (1) raise social awareness and (2) create a popular consensus. Kaiser et al. (1995) also demonstrated that city planners require the agreement of the local community to achieve the desired implementation of plans.

Godschalk and Stiftel (1981) suggested a need for dialogue and discussion with the parties concerned in order to achieve a consensus on planning, i.e. investors; real estate developers; stakeholders; and leaders of government and private sectors.  Healey (1997) also

confirmed about collaborative planning for successful the planning path. Discussion, along with the exchange of information and ideas, leads to the creation of solutions. The main objective of the debate is to ensure that plans, policies and developments ensure a balance between the three main values: (1) social; (2) economic; and (3) environmental. Kaiser et al. (1995) (see Figure 2.15) stated that, in order to inform the city's community, the concerned parties should draw up a planning model to ensure the planning is realistic, and capable of being employed.
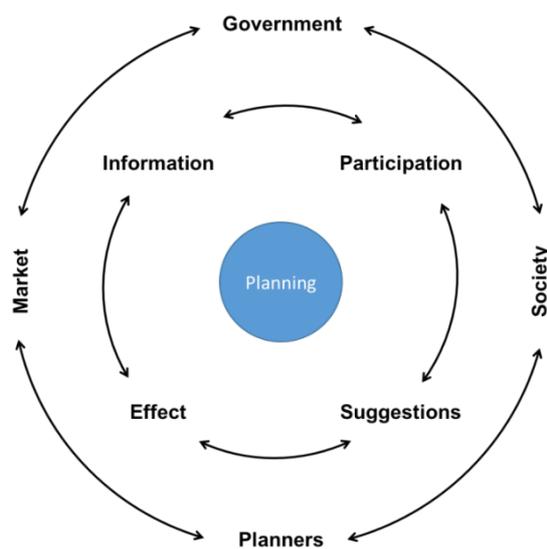


Figure 2.15 The concerned parties of planning

Source: (Kaiser et al., 1995 p.53)

Urban planning requires local participation, within a framework of sustainability and efficiency, in order to transform cities to promote sustainable communities (Amado et al. 2010). However, increasing local participation in urban affairs can play a significant role in balancing the different aspects of urban growth (Safari and Ziyari, 2014). This has been previously confirmed by researchers including (Monnikhof and Edelenbos, 2001; Pelletier et al. 1999), who stated that participation in urban planning widens the knowledge and support for planning policies. This contributes to improved planning outcomes and decision-making.

## 2.4. Compact City and Transit-Oriented Development

Development and planning are intrinsically linked to urban growth and expansion, and spatial planning is a basic tool of development (Pallagst, 2012). However, development can also prove to be both a source of problems, as well as a source of potential solutions. Nonetheless, urban growth continues to occur, both with and in the absence of planning, but that unplanned growth is likely to result in a number of problems. For example, in urban cities infrastructure created to accommodate dependence on cars has led to the emergence of low-density areas that contribute to a considerable degree of dispersion of cities. One planning solution is that of the Compact City and Transit-Oriented Development (TOD) concept to reach sustainable growth or as a guide for future growth management in urban cities.

This concept is a spatial arrangement for locating activity centres around the transit areas (Hasibuan et al., 2014). It involves a mixture of uses, along with the development of a moderate to high density of population, or the renewal of existing neighbourhoods (Fertner, 2012). The compact city "in general is taken to mean a relatively high-density, mixed-use city, based on an efficient public transport system and dimensions that encourage walking and cycling" (Burton, 2000, p. 1969). On the other hand, the TOD definition is: "A compact, mixed-use community, centred around a transit station that, by design, invites residents, workers, and shoppers to drive their cars less and ride mass transit more" (Bernick and Cervero, 1997, p. 5).

The concept of Compact city and TOD seeks to link the population density with the place, and though difficult to implement, it has the potential to curb urban sprawl. For example, Figure 2.16 shows the relationship between population density and growth patterns of cities, which means that wherever there are low-density residential areas, they contribute

to the expansion of the city. Allen and Browne (2010) noted that by mixing land uses in urban areas the distance between housing and the workplace, and other urban activities, can be reduced, and this could affect growth patterns in terms of urban sprawl. On the other hand, the compact city can reduce problems of automobile dependency associated with urban sprawl. A study by Newman and Kenworthy compared 32 cities, and the key result of this study is that denser cities have lower car use than sprawling cities (Newman and Kenworthy, 1991).
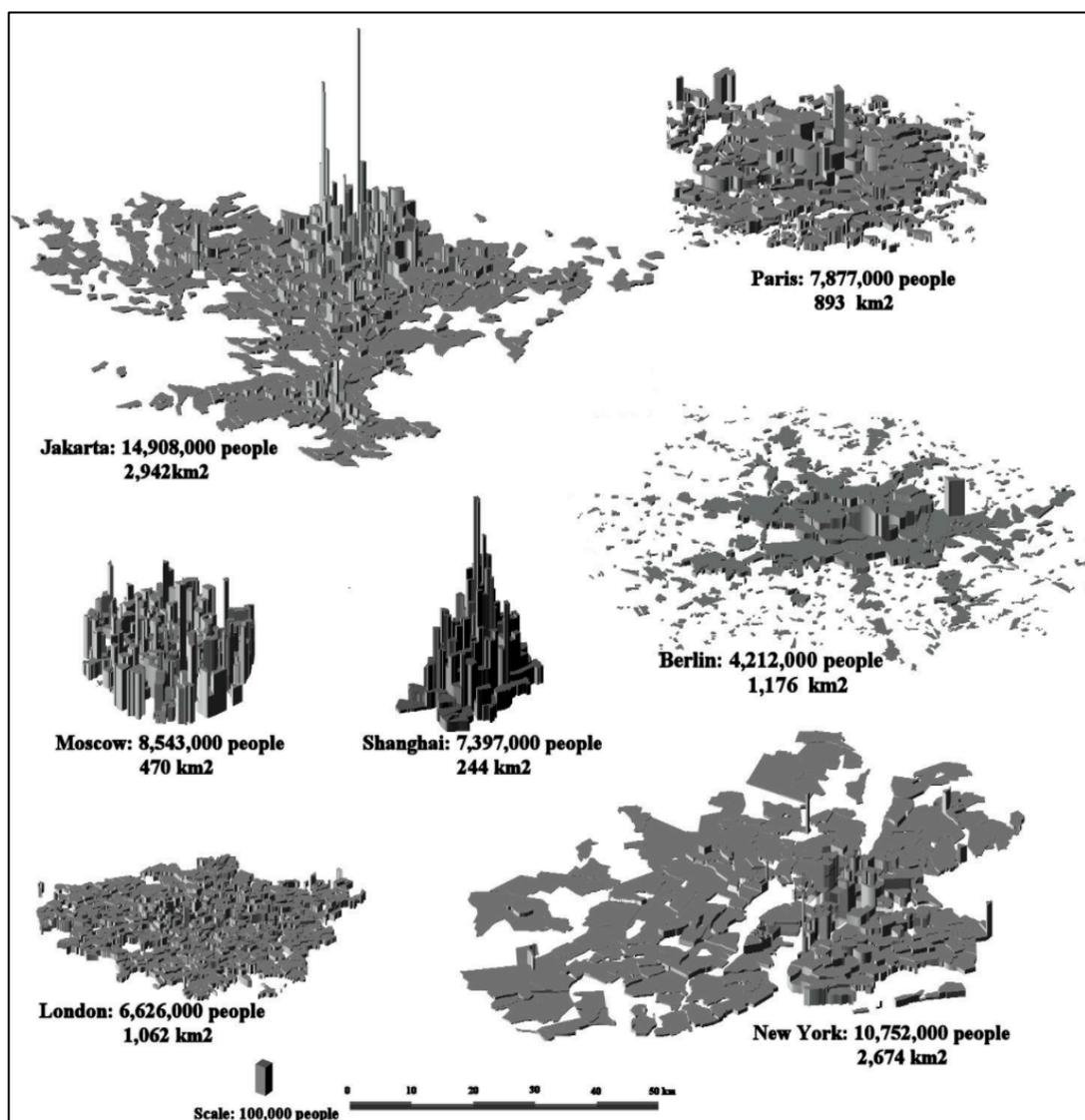


*Figure 2.16 The spatial structure of 7 cities*

*Source: (Bertaud, 2001, p. 3)*

The goals of TOD and compact city are correspondent with the sustainable development concept in terms of social equality, economic efficiency and environmental protection (Burton, 2000; Bertaud, 2001; Li and Lai, 2006). Following are guidelines (see Table 2.4) that provide direction and potential options on how to achieve sustainable growth. Also, these guidelines are strategies that seek to accommodate projected growth in urban cities.

| Guidelines | |
|---|---|
| **Supportive Land Uses** | Mix land uses |
| | Transit-supportive land uses |
| | Limitation of non-transit supportive land uses |
| **Increased Density** | Optimisation density |
| | Minimisation of the impacts of density |
| **Pedestrian Oriented Design** | Quality pedestrian connections |
| | A compact development form |
| | Integrated public systems |
| | Locating pedestrian-oriented uses |
| | Human-scaled architecture |
| | Incorporate climatic design |
| **"Place" as a Unique Environment** | Emphasis of important buildings |
| | Street and block layout |
| | Use open space |
| | A place for the local community |
| **Manage Traffic** | Reduction of parking |
| | Parking in appropriate locations |
| | Developing parking that integrates with pedestrians |
| | Transportation management strategies |
| | Long-term redevelopment |
| **Plan in Context with Local Communities** | Working with local communities |
| | Providing needed community services |
| | Build a form that complements the local structures |

Table 2.4 Guidelines for sustainable growth

Source: Table based on (Burton, 2000; Bertaud, 2001; Maher and AbuRass, 2012)

## 2.4.    Chapter Summary

Urban growth affects the economic growth, environment, land use, housing and transportation of any city (Brueckner, 2000; Carruthers, 2002; Paek, 2006), with the possibility of positive or negative consequences on any of these aspects. Achieving sustainability in urban areas is important for the future of the city.  As Portney (2003) points out, if a city is to achieve sustainability, it must manage growth in a way that is consistent with the vision of the city or region. In overall, the style of urban growth has a large impact on determining sustainability (Paek, 2006). In light of the rapid urban growth in main cities and change of method of growth there is a growing need for to identify the urban planning pathway to find out the causes of growth.

This chapter discussed the existing literature concerning the planning practices in urban growth, in order to build an appropriate framework for this research. The discussion of the planning practices in the current chapter clarified the epistemological traditions of planning. Moreover, this chapter outlined three issues related to the influential planning practices in urban growth: (1) the driving forces of urban planning; (2) the impact of spatial planning practices on urban growth; and (3) the planning environment that influence on Planning Practice.

The above discussion established the framework of this current study, which is formulated in the subsequent chapter on methodology (i.e. Chapter 3). A number of conclusions have been drawn to formulate the themes of enquiry for this type of study, and thus enrich the empirical study of this research (i.e. chapters 4-8).

# Chapter 3 Research Methodology

## 3.1.    Overview

This chapter is to set out the method of empirical research that used in this study. The objective is to investigate whether current planning practices support sustainable urban growth, and if not, to establish what modifications to practice would ensure effective urban planning in Saudi cities.

This chapter opens with the research gap, stating the proposed research questions; and analytical framework, and then explains the methodology to be employed in subsequent chapters. It presents the methodological framework for the research, stating providing details of specific research methods. The chapter also outlines and justifies the research procedures employed, focusing on in-depth interviews and questionnaires with decision makers, academics and planners.

## 3.2.    The Research Gap and Questions

As shown in the literature review chapter (Chapter 2), aspects of the planning practices' role are associated with urban growth. When evaluating the previous studies, we have revealed insufficient attention directed towards those urban planning practices driving urban growth in Saudi cities. However, it became apparent that there is a growing need for an experimental study to evaluate contemporary urban planning practices. This means that the study will focus on the urban planning practices associated with urban growth in Saudi Arabia. Including understanding the urban growth and planning context, it will also require an understanding of the planning system between government and private organisations

such as authorities and developers. From this, we will be able to draw out the main points and lessons for planning practices that can be more effective in Saudi cities for creating a better pathway for more sustainable growth.

To bridge the research gap, it is helpful to set research questions that will assist the direct thesis. Table 3.1 shows the main research question with a number of sub-questions. Each question has an aim as to what is being considered within this research.

| The main aim | Illustrating the effectiveness of urban planning practices as a means to enact a new path of planning in Riyadh, through understand the practice and path dependency of planning; and then develop a range of recommendations to improve planning practices and urban growth method. | | |
| --- | --- | --- | --- |
| The main question | What is the influence of urban planning practices on urban growth in Riyadh - Saudi Arabia? | | |
| | **Sub-questions** | **Objective** | **Chapters** |
| 1 | How have the driving forces (planning law, planning structure and energy discourse) in Riyadh influenced urban planning and growth? | To clarify the extent of the interaction between the driving forces of planning and urban growth to address the problems and difficulties facing. | Chapter 5 |
| 2 | What are the major challenges that face current spatial planning practices and how have they influenced urban growth? | To evaluate the spatial planning practices and how it causes on Riyadh's rapid urban growth. | Chapter 6 |
| 3 | What changes are needed in the planning environment to improve urban planning practices so that the challenges of urban growth can be met? | To evaluate the current planning environment and identify how this influences the urban planning path. | Chapter 7 |
| 4 | What role do urban planners play in dealing with planning and growth problems? | To assess the role, knowledge and practices of urban planners in planning. | Chapter 8 |

*Table 3.1 Structure of the research questions and objectives and linkage to chapters*

## 3.3. The Analytical Framework

The research questions above provide the necessary starting point for beginning the empirical study. However, the analytical framework of this thesis in order to understand the background of planning practices considered in Saudi Arabia - Riyadh. The literature review has drawn the framework of urban planning practices that helps to discover the urban planning practices that contributed to the rapid urban growth of Riyadh. However, the analytical framework of the study has three steps (see Figure 3.1). The first step, understanding the context of urban growth; secondly, by three points, the driving forces of urban planning, spatial planning practices and the planning environment; third step by understanding the practices of planners. All of them centre on the urban planning practices as a pivot for urban growth.
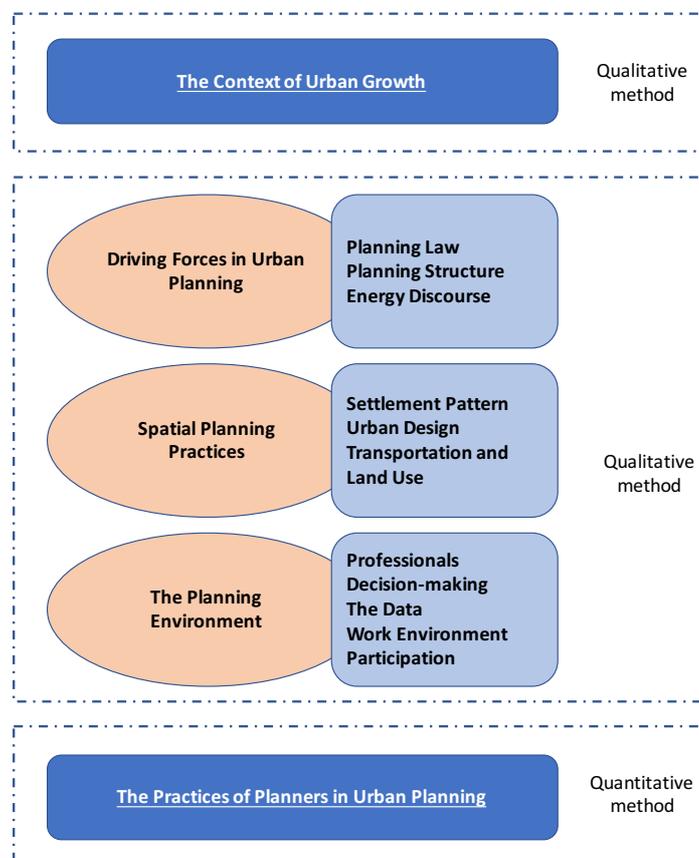


*Figure 3.1 Analytical framework of urban planning practices*

*Source: by the author*

The requirements of practices for planning have, apparently, come in response to the need to move towards improved and control the process of rapid urban growth. There is a need to identify and address a set of factors that affect urban growth, when seeking to achieve sustainable growth. This includes the need to consider the points extracted from the literature reviews when examining planning practices, to establish a new path of planning for sustainable growth. Such a framework is appropriate in a research case such as this, where the problem lies in the rapid urban growth in Saudi Arabia. However, to apply the framework of this subject to the case of Riyadh, need to go analysis of points of this framework, to gain some understanding of the factors that hinder sustainable growth. Moreover, with this framework, it ensures that the study is consistent in its approach.

## 3.4.    Research Design and Process

Methodology is a view or philosophical stance that underlies a specific research style (Sapsford and Jupp, 2006). Philosophical stance refers to methodology as a set of ideas, fundamental beliefs and principles, which typically guide the design of a research. Therefore, this part seeks to establish 'what is the design of this study?' It emphasises the design of the research steps at all stages, clarifying the research tools used in this study. The research strategies employed are important as they address a number of research problems including; case study, mixed methods and empirical research as mentioned by Dawson (2009) and Clarke (2005).

However, it is helpful to highlight the research strategy and offer a research plan using appropriate methodologies to ensure research questions are answered. As this research is performed in different stages employing different strategies, it can be termed a multi-strategy research study (Creswell and Clark, 2007; Creswell, 2013). To achieve the aims of this study,

the researcher first devised a research design. A study design is a plan that identifies the steps that will be undertaken while completing a study. The current study is divided into three phases: 1) the context of urban growth in Riyadh and previous studies (exploration stage); 2) the stage of data collection and analysis; 3) the stage of discussing the study findings and providing appropriate recommendations. The research design can be classified into two types; one is outcome-driven and quantitative and the second type is process-driven and qualitative (Yin, 2013).

> *A research design is a program that guides the investigator in the process of collecting, analysing and interpreting observations. It is a logical model of proof that allows the researcher to draw inferences concerning casual relations among the variables under investigation. The research design also defines the domain of generalisability, that is, whether the obtained interpretation can be generalised to a larger population or to a different situation. (Frankfort-Nachmias and Nachmias, 2008, p.88)*

Moreover, Yin (2013) explains that a research design can be described as "the logical sequence that connects the empirical data to a study's initial research questions and ultimately, to its conclusion" (Yin, 2013, p.20)

This study seeks to investigation urban growth pathways in Riyadh, Saudi Arabia, through attaining an understanding of contemporary urban planning practices. However, it is further aimed at appraising the need for urban planning practices to address the problems associated with urban growth, as referred to above in previous studies (section 2.2.5). The structure for data collection and analysis in this study is designed to achieve key goals set out in Chapter 1. However, the study design is determined by the intention to collect evidence that answers the research questions (Kitchin and Tate, 2000). Therefore, this section provides guidelines for the collection and analysis of data concerning urban growth and planning practices in Saudi Arabia.

To understand the progress of urban growth in Riyadh, this study was designed around a methodology comprising two approaches: firstly, the theoretical approach included a review of relevant literature, while the experimental approach explores the experiences and situation as regards urban growth in the context of Riyadh, Saudi Arabia. Key data and information on this topic have been collected from academics, decision makers and planners associated with urban planning measures.

Therefore, herein, qualitative and quantitative methods were blended. The qualitative methods include secondary sources analysis and interviews, while the quantitative method was a questionnaire providing statistical data (Osborne, 2008). A mixed approach to this research was adopted to provide a comprehensive perspective of the urban planning practices that would reveal a view of the issues associated with urban growth in Saudi Arabia. The qualitative method included in-depth interviews with the experiences of decision-makers, senior planners and academics, while the quantitative method employed involved gathering survey information and data from planners working in urban planning.

## 3.5.    Research Methods

Research methods are the instruments of data collection and analysis. As stated above, this research employs both qualitative and quantitative methods. This is described as a mixed methods approach, and is applicable to studies in the domain of urban studies (Dawson, 2009; Yin, 2013; Creswell, 2003). Mixed methods enable the researcher to deliver an in-depth understanding of the research problem (Dawson, 2009). This section elaborates the case study, the data collection tools used and considering key data analysis methods.

### 3.5.1.    Choice of Riyadh in Saudi Arabia

In this research focuses on the investigation of urban planning practices in Saudi Arabia. The rationale for selecting Riyadh in the middle part of Saudi Arabia to investigate planning practices is discussed here. Riyadh is Saudi Arabia's largest city, and its capital, occupying an area of approximately 5,961 km$^2$ up to the boundary of development (Riyadh Municipality, 2015). The city is 400km from the east coast, 1,000km from the west coast, and 800km from Mecca and Medina. Riyadh is situated in the desert, on the Najd plateau, at latitude 24' 38' N and longitude 46' 43' E in the east central part of the Arabian Peninsula, with an urban altitude ranging between 570 and 690 metres above sea level (see Figure 3.2). The city is bounded to the east and south by major steep escarpments, and to the west by the Wadi Hanifah, the main and immediate topographical feature of the surrounding region (ADA, 2003).



*Figure 3.2 Map of Saudi Arabia*

*Source: http://www.landinfo.com/country-saudi-arabia.html*

In terms of urban growth, Riyadh region has undergone the highest level of urbanisation in Saudi Arabia. The population of the region is estimated to be 8 million, with 6.5 million, approximately 79% of the population, living in Riyadh City (ADA, 2016). This is equivalent to 19% of the total population of Saudi Arabia. The area covered by Riyadh City in 1940 was about 2.2 km$^2$ rising to 180 km$^2$ in 1980. By 1996 it covered an area of 765 km$^2$, then in 2010 rising to 1200 km$^2$. The latest update in 2015 showed that Riyadh City itself comprised an area of about 1,554 km$^2$ (Riyadh Municipality, 2015).

On the other hand, the choice of the case study was based on three key criteria. Firstly, rapid urban growth is leading to spatial growth problems and urban sprawl. This case of study is the most affected by the uncontrolled level of urban growth in Saudi Arabia, through a rapid transformation of the urban environment. Secondly, the growing population has created problems on the socio-economic side and also growing demand for land and housing. The third criteria based on my job: I have experience and background of Riyadh city gained during the period of job in Riyadh Municipality, and also during the period of my bachelor's and master's degree. Having selected Riyadh as a case study, the following section describes the data collection and its analysis.

## 3.5.2.    Data Collection and Analysis

There are various sources of data collection and analysis; for example, secondary sources, interviews and questionnaires). The results from all the methods will be combined to inform a discussion section of the stated goals of the study (Dawson, 2009). In regard to the monitoring of the information and data relating to the study, this research identifies the main areas that have the capacity to support development in the context of Saudi cities. These include the Ministry of Municipal and Rural Affairs, Riyadh Development Authority and Riyadh

Municipality, both of which are concerned with the planning and supervision of local municipalities. Other bodies contributing to the development of the city include additional sectors of government, private interest groups, and academics.

The interviews for this study will be limited to individuals identified (Riyadh city) as holding some responsibility in the field of development and planning. In order to ensure the collected data contributes a range of perceptions regarding ways to contribute to the rebalancing of growth in Riyadh and also development within Saudi Arabia's cities. Moreover, this section will aim to identify the steps adopted when analysing data obtained. It is divided into sections that include qualitative and quantitative data. Furthermore, a range of techniques used in the analysis were considered.

### 3.5.2.1.    Secondary Sources

Understanding the context of urban growth could be through the collating secondary sources such as official statistics, government journals, and project reports, and also can be used to supplement and check other data obtained via questionnaires, interviews, etc. (Yin, 2013). Often, these sources involve the ability to get a large amount of data without the need for permission or an appointment, such as would be required with interviews. Thus, Denscombe (2014) notes that accessing information provided in secondary sources is often less problematic than other research methods. However, certain secondary sources can be difficult to access due to confidentiality and privacy concerns.

This study reviewed vital secondary sources, such as growth plans for Saudi cities (1960s - 1970s) (1980s - 1990s) and (2000s and beyond), national strategic plans, and five-year plans for regional and urban planning in the Riyadh region. In addition, certain aspects related to expansion of the urban boundary in Riyadh city (Chapter 4).

However, understanding these sources is important and useful when conducting a case study, as revealed through exploratory research, which provides clear information and hints to progress investigations (Yin, 2013). Thus, to analyse the current situation in the city of Riyadh, official secondary sources and related research papers were analysed. These secondary sources provided useful background information concerning the history of the growth and development of Riyadh in relation to urban planning. The secondary sources analysis was carried out by reviewing materials and related statistical data for the period until 2017.

### 3.5.2.2.    Semi-Structured Interviews (Face to Face)

Qualitative methods of data collection play an important role in providing useful data to help understand the processes observed when stakeholders or specialists engage in planning (Saunders and Mark, 2009; Dawson, 2009). Interviews conducted for data collection purposes can be classified into three types: structured, semi-structured and unstructured, and usually involve key stakeholders (Saunders and Mark, 2009; Dawson, 2009, Yin, 2013). In this research, semi-structured interviews were adopted as a method of data collection.

The main objective of the interviews was to facilitate appraisal of the current state of planning in Riyadh according to three aspects: the driving forces of urban planning, spatial planning, and planning environment for later analysis. The interview was designed to reflect the analysis stage, detailing key themes selected from the literature review chapter. The main themes used were divided into sub-themes, which emerged from the empirical research, and illustrated the sub-themes of the analysis.

However, the following chapters (chapter 5,6 and 7) logically follow up the analysis of the urban planning practices with a more detailed analysis in order to understand some issues

that are difficult to extract by only a use of the questionnaire. This is undertaken through an analysis of the interviews with decision-makers, senior planners and academics. These next empirical chapters will be focused on three subjects that have been addressed in the literature review - the driving forces of urban planning, spatial planning and the planning environment – so as to understand the planning practices more accurately in an attempt to discover the reasons that led to the current situation of urban growth in Riyadh.

*The driving forces of urban planning* - In this research, using the thematic analysis approach helps to provide sub-themes and coding from the interview data. Chapter 5 will show the outcomes of interviews as to how the interviewees conceived the state of growth and planning in Riyadh under the impact of the driving forces of planning. This chapter is divided into three themes based on the analysis of the interviews (see Table 3.2 below).

| | | Themes | | Sub-Themes |
|---|---|---|---|---|
| **Chapter 5** | 5.2 | **Planning Law** | 5.2.1. | Appropriateness of planning law |
| | | | 5.2.2. | The National Spatial Strategy (NSS) |
| | | | 5.2.3. | Modification or development |
| | | | 5.2.4. | Acceleration in city development |
| | | | 5.2.5. | Analysis of the future expectations |
| | | | 5.2.6. | The city vision |
| | 5.3 | **Planning Structure** | 5.3.1. | Centralization |
| | | | 5.4.2. | Urban management |
| | 5.4 | **Energy Discourse** | 5.5.1. | Support of energy cost |
| | | | 5.5.2. | Energy versus planning actions |

*Table 3.2 Themes and sub-themes of driving forces*

*Spatial planning* - According to the review of the literature, four themes can be used to organise: settlement pattern, urban design, land use pattern and transport. The participants also discussed different ideas about the situation of spatial planning in Riyadh. Chapter 6 will present the outcomes of the analysis of spatial planning in Riyadh. These themes are divided into several further sub-themes based on the analysis of the interviews (see Table 3.3).

| | Themes | | Sub-Themes | |
|---|---|---|---|---|
| **Chapter 6** | 6.2. | **Settlement Pattern** | 6.2.1. | Urban Sprawl |
| | | | 6.2.2. | Absence of city centre |
| | | | 6.2.3. | Population distribution |
| | | | 6.2.4. | The dominant building typology |
| | | | 6.2.5. | Shortage of land |
| | | | 6.2.6. | Isolated development |
| | 6.3. | **Urban Design** | 6.3.1. | The design of neighbourhoods |
| | | | 6.3.2. | Housing density |
| | | | 6.3.3. | Urban design criteria |
| | | | 6.3.4. | Impact of change |
| | | | 6.3.5. | Impact of decision maker |
| | 6.4. | **Land Use Pattern** | 6.4.1. | Land use change |
| | | | 6.4.2. | Many plots still blank |
| | | | 6.4.3. | Lack of zoning plans |
| | | | 6.4.4. | Land use upgrades |
| | | | 6.4.5. | Land tax |
| | | | 6.4.6. | Granted plots |
| | 6.5. | **Transport** | 6.5.1. | Cheap fuel |
| | | | 6.5.2. | Problems of transport |
| | | | 6.5.3. | Transport and land use |

*Table 3.3 Themes and sub-themes of spatial planning*

***Planning environment*** – In this stage, there were five themes according to a review of the literature, and the participants' interviews which focussed on: the role of planners, decision-making, work environment, participation and the data. Chapter 7 will present the outcomes of the interviews of how the participants conceived the situation of the urban planning in Riyadh under the impact of the planning environment. These themes are divided into several sub-themes based on the analysis of the interviews (see Table 3.4 below).

| | Themes | | Sub-Themes | |
|---|---|---|---|---|
| | 7.2. | **Professionals** | 7.2.1. | Shortage of local planners |
| | | | 7.2.2 | Planners' limited experience |
| | | | 7.2.3. | Development of planners |
| | | | 7.2.4. | Reliance on consulting offices |
| | 7.3. | **Decision-making** | 7.3.1. | Decision-making |
| | | | 7.3.2. | Decision-maker |
| **Chapter 7** | 7.4. | **Work Environment** | 7.4.1. | The work environment |
| | | | 7.4.2. | Evaluation and follow up |
| | | | 7.4.3. | Personal relationships |
| | | | 7.4.4. | Awareness |
| | 7.5. | **Participation** | 7.5.1. | Public participation |
| | | | 7.5.2. | Municipal council |
| | | | 7.5.3. | Participation of stakeholders |
| | 7.6. | **The Data** | 7.6.1. | Availability |
| | | | 7.6.2. | Reliability and quality |
| | | | 7.6.3. | Data accessibility |

*Table 3.4 Themes and sub-themes of the planning environment*

The method of sampling for the interviews was based on snowball sampling. A small group of participants, including government officials, decision-makers and local planners, were selected as a starting point (they had practical experience), and this initial group were then asked to recommend other appropriate participants. This method proved useful in accessing a range of participants with diverse experiences, engaged in different sectors with varying levels of education, as this helped to ensure the realisation of the aspirations of the study. The research method in this chapter was semi-structured interviews (qualitative), and 35 interviews were conducted in total, Table 3.5 below illustrates the details of 5 different organisational categories of participants (see participants' details in Appendix B.2).

| | Organisation | Total | % |
|---|---|---|---|
| 1 | Riyadh Municipality (RM) | 11 | 31% |
| 2 | Arriyadh Development Authority (ADA) | 4 | 11% |
| 3 | Ministry of Municipal and Rural Affairs (MOMRA) | 6 | 17% |
| 4 | Academics (ACD) | 7 | 20% |
| 5 | Others in Government and Private sectors (OS) | 7 | 20% |
| **Total** | | **35** | **100%** |

*Table 3.5 Participants in interviews by organization*

The data obtained in the interviews (semi-structured) was analysed using thematic analysis (David and Sutton, 2009; Denscombe, 2014). However, Yin (2013) and Dawson (2009) point out that the quality of any data analysis relates to the way the data is analysed; thus, when the produced data is in a readily manageable format, the analysis will be stronger. For this data set, thematic analysis has used to analyse the qualitative data through using the coding method of interviews (coded into nodes: themes and sub-themes). The process of combining data for themes and sub-themes made it easier to retrieve data for subsequent analysis (Saldana, 2015). During the interviews, the participants it is advisable to record their interviews, to preserve key facts mentioned by the interviewees (Bryman, 2008). The transcription of the interviews is a time-consuming process, which provides a rich source of text for analysis and supports the selection of important details from an interview.

The researcher employed a thematic analysis method to analyse the interviews data. This is a recursive process, in which the researcher moves backwards and forwards throughout the phases. Therefore, the first step was to transcribe the interviews and then re-read them to develop codes and themes manually. Further re-reading was then performed, using ATLAS.ti software to develop the final themes for the qualitative analysis for comparison with the quantitative data.

### 3.5.2.3.    The Questionnaire

The questionnaire was designed to collect information from planners and urban planning practitioners. Therefore, planners were encouraged to complete the questionnaire, to enable the researcher to perform an effective data analysis. In the questionnaire closed ended questions were used to gather specific opinions about the phenomenon being investigated (Dawson, 2009). It is easier for respondents to answer a questionnaire, and it requires less skill and time to complete (Oppenheim, 2000). For this research, some open-

ended questions were included to allow clarification of responses, to establish attitudes and opinions about the phenomenon being researched.

The questionnaire pilot study was conducted with three people (two academics and senior planner) to ensure sufficient clarity and feedback could be attained using the questionnaire. The pilot also ensured that sufficient time would be allowed to answer the questions, and that opinions could be derived based on the style of the questions after proofreading for grammar and syntax. The researcher designed the questionnaire carefully to reflect the research questions and objectives of the study, to maximise the responses rate through the use of simple and clear language, as well as to design an electronic questionnaire to facilitate respondents' responses. Denscombe (2014) states that questionnaires containing direct questions, are likely to get the best results.

The questionnaire was accompanied by an introductory page, detailing the study objectives and the intended contributions to be derived from the research. Moreover, the layout of the questionnaire is comprised of three main parts. The first is general data (9 questions), including specialisation, degree, sector, and job title. The second part refers to knowledge about planners or urban planning practitioners (12 questions). Finally, the third section concerns methods and the current situation regarding planning practices (28 questions). Chapter 8 we present the results of the role of planners and their practices in urban planning. These two themes are divided into several sub-themes based on the literature review and the findings of the empirical chapters (see Table 3.6 below).

| | Themes | | Sub-Themes | |
|---|---|---|---|---|
| **Chapter 8** | 8.2 | **Planners' knowledge** | 8.2.1. | The Number of Planners |
| | | | 8.2.2 | The Gender of Planners |
| | | | 8.2.3. | Planners' Expertise |
| | | | 8.2.4. | Higher Education and Planners |
| | | | 8.2.5. | The Nature of the work of planners |
| | | | 8.2.6. | The relationship between the scientific specialization and type of work |
| | | | 8.2.7 | The work of planners within the organization |
| | | | 8.2.8 | Training Programs for Planners |
| | 8.3 | **Practices in Urban Planning** | 8.3.1 | Using the Planning Guides |
| | | | 8.3.2 | Planning Booklets (Issued By MOMRA) |
| | | | 8.3.3 | The Practices in Spatial Planning |
| | | | 8.3.4 | Relationship to energy and economic issues |
| | | | 8.3.5 | Relationship to community culture |
| | | | 8.3.6 | Evaluation and following up of planning path |
| | | | 8.3.7 | Information and data |
| | | | 8.3.8 | The structure of planning |
| | | | 8.3.9 | The actions of planning path |
| | | | 8.3.10 | Satisfaction with the planning Practices |

*Table 3.6 Themes and sub-themes of questionnaire*

With any study, it is important to choose an appropriate sample of research participants. The choice of sample depends largely on the degree availability of appropriate participants, and the cost involved in conducing the study (Smith, 1990). In this study, sampling was governed by the desire to avoid collecting a biased sample, and the time available. To achieve a maximum number of possible participants, random sampling and a snowball strategy were adopted. The sample was sent to institutions working in urban planning, as coordinated by a conference in Riyadh, "SAUDI URBAN FORUM" to generate a list of planners registered to receive questionnaires.

The data was collected from a sample of 121 respondents working in the field of urban planning. These were divided into four groups (Table 3.7), which were classified by employer: 1) Municipality, 2) Ministry of Municipal and Rural Affairs (MOMRA), 3) Consulting offices, 4)

other organisations, e.g. the Housing Ministry, Transportation Ministry, and other sectors such as the service sectors. The data gathered from the questionnaires was analysed using SPSS, which is a statistical analysis software that facilitates the handling of large data sets for analysis (Acton et al., 2002).

| Categories of organisation | Percentage of respondents by group | |
| --- | --- | --- |
| Municipality | 37 | 31% |
| MOMRA | 20 | 17% |
| Consulting offices | 42 | 35% |
| Others (government and private sectors) | 22 | 18% |
| **Total** | **121** | **100%** |

*Table 3.7 Percentage of respondent types*

## 3.6.    Ethical Considerations

Ethics relates to the rights and influence of the research participants (Dawson, 2009), so is an important consideration for researchers. This section presents the ethical issues that informed the progress of the research, highlighting ethical considerations informing the validity of the research. According to Wiles et al. (2008), the researcher should commit morally to methods of interviewing or compiling questionnaires that are as unobtrusive as possible from the perspective of participants. From the outset, we explained to the participants about the subject and its significance, and ensured they were happy to proceed. The participants who were interviewed were drawn from various sectors. Therefore, as a first step the author established who the responsible party, or decision-maker was. Communication was then engaged in directly with that individual, either in the form of a visit or by calling to make an appointment for an interview.

The researcher sought to obtain approval from the participants before the interview, offering a brief presentation of the study and obtaining agreement to participate using a consent form (see Appendix B.1). The research was subject to review and then approved by

the research ethics department at the University of Birmingham. Therefore, all the interviews were conducted with appropriate consideration of ethical issues, and the participants were informed of their right to refuse to answer any question asked. The instructions stressed that the participants were free not to complete their interviews, or to choose not to answer questions without providing an explanation. Throughout the research, an external hard disk was used for data storage. Digital versions of paper documentation were created in 'docx' file formats, and printed at regular intervals. In addition, stored data was organised and clearly labelled to facilitate accessibility and security; finally, data integrity was checked at regular intervals.

## 3.7.    Research Limitations

As with all studies, the researcher encountered some challenges and barriers that affected the outcomes of the research. However, all possible efforts were made to avoid a negative impact on the study results. The key challenge encountered during the study was the difficulty in gaining access to some of the participants for the interviews, although the total of interviews conducted and the data collected was satisfactory. However, after selecting the participants, some of the participants could not be contacted because of the nature of their work, or difficulty arranging an appointment. The study was also constrained by resources and time, as it was essential that all phases of the interviews be completed within the time frame allocated to the fieldwork.

## 3.8.    Chapter Summary

The chapter served as a bridge between the preceding literature review chapter and the subsequent empirical analysis. It showed the research methodology used in the research and identified the key research questions asked to establish the main study objectives, and to assess urban planning practices by addressing rapid urbanisation and establishing a framework in Riyadh, Saudi Arabia, based on an interpretive and constructive philosophical position.

The approach adopted in this research was mixed methods, quantitative and qualitative, and reliant on inductive reasoning. The researcher employed a mixed methodology as described, bringing together mixed methods to comprise a coherent research strategy. The data was collected by reviewing secondary sources, completing face-to-face interviews with 35 decision-makers, senior planners, and academics and distributing 121 questionnaires for planners. However, the following chapters (chapters 4-8), will examine the context of urban growth in Riyadh City and the relationship between urban growth and planning practices, concentrating on aspects of essential driving forces, spatial planning, the planning environment, and the role of planners engaged in urban planning in Riyadh.

# Chapter 4 The Context of Urban Growth in Riyadh - Saudi Arabia

## 4.1.    Overview

Urban growth has primarily been the outcome of economic development over several years in Saudi Arabia, stimulated by government policy (Al-Hathloul and Mughal, 2004; Mubarak, 2003; Al-Mubarak, 1999). The main Saudi cities such as Riyadh, Jeddah and Dammam are subject to rapid growth, which have created some major problems in terms of urban growth management. This chapter will focus on the case of Saudi Arabia's capital city Riyadh, to illustrate the different approaches taken to planning and controlling urban growth.

## 4.2.    Growth and Development in Saudi Arabia

The system of government in Saudi Arabia, which was founded first as a nation-state, is a monarchy. During the early stages of incorporation, specifically in 1937, the initial statute was established. However, the structure of the government was not formulated until 1953, when a Council of Ministers was first created. In the late 1950s the government made several attempts to organise the structure of development in Saudi Arabia (Al-Qahtani, 2003), and in 1970 produced the first overall plan for economic and social development. This was an important achievement, being the first development plan for Saudi Arabia (Al-Hathloul and Anis-ur-Rahmaan, 1985).

Saudi Arabia, as a newly established country, has faced many difficulties; for example, a lack of skilled manpower (Mashabi, 1988; Al-Hammad, 1995; Berch *et al*., 1995), a centralised system of government with weak local autonomy (Mubarak, 2004a), and a lack of

ideas about or plans for confronting urban problems (Al-Hathloul and Edadan, 1995). However, there were good opportunities and increasing revenue from oil production, which along with the systematic development work being done by the government, became more organised from the 1970s. This opened the door for Saudi Arabia to invest heavily in modern infrastructure and the provision of public services (Mashabi, 1995; AlMubarak, 1999). Most of those developments were concentrated in major urban areas, which contributed to the creation of many attractive jobs (Al-Ankary and El-Bushra, 1989; Mubarak, 1995).

Development in Saudi Arabia has faced many internal and external challenges and difficulties during the four decades since its inception (Heller and Safran, 1985; Al-Mobarak, 1993; Al-khalifah, 1995; Mubarak, 2004a). These have led to the government preferring development to restructuring social and economic systems. Weak social relations and migration from rural areas to cities and major urban centres coincided with a trend toward abandoning traditional work, especially in agriculture and seasonal trade (Mubarak, 2003). Saudi Arabia has witnessed several stages of economic and urban development in recent decades; these will be discussed in the following subsections.

## 4.2.1. The Beginnings of Development

Long before the unification of Saudi Arabia, the economic and urban system in the Arabian Peninsula had been dictated by trade and Hajj routes, which pass through Saudi Arabia (Al-Rasheed, 2002). The Islamic holy cities of Makah and Medina have urbanised as their economies rely on their location on trade routes (Al-Hathloul, 1991). However, Muslims travelling from cities across the world to these holy cities have helped to enhance the status of those cities, and extended their influence (Held and Cotter, 1989). The trade and Hajj routes leading to the Islamic holy cities have contributed to development, an improved

economy, and the urbanisation of other cities and villages along these routes (Al-Rasheed, 2002). Thus, development in this period was confined to the holy places, and some cities along trade and Hajj routes. These historic forms and patterns of urbanisation, although they are important in their own right, are of limited importance in this study, since more recent economic and political events have significantly changed most historically urban cities.

## 4.2.2. Stages of Development and Growth

The unification of Saudi Arabia in the 1930s was in itself a political event, one which contributed to the alteration of the old economic and urban system, and promoted more rapid urbanisation (Al-Hathloul, 1991). However, the transformation of the old economic and urban system in Saudi Arabia was a gradual process (Al- Rasheed, 2002). In 1938, the single most important event in Saudi Arabian history, besides unification, was the discovery of oil; this changed the economic and urban system in two ways. The first, according to Al-Ibrahim (1982), was the urbanisation of cities and villages that were geographically close to oil industry activities. The second was that oil revenues led to an increase in public spending, which contributed to the urbanisation of the population. This post-oil era can be broken down into three distinct periods of time:

### 4.2.2.1. The 1960s and 1970s

This period in Saudi Arabian history was characterized by rapid urbanisation (Al-Hathloul, 1991). In terms of growth, in the period between 1963 and 1974 the urban population increased from 0.98 to 3.1 million, representing a 10.5% annual growth over that period (Al-Ibrahim, 1982). In particular, the population of cities changed in this period; for example, the population of capital city Riyadh increased from approximately 168,000 in 1962 to approximately 666,000 in 1974. In the same period, the population the city of Jeddah

increased from approximately 147,000 to approximately 506,000 (Al-Hathloul, 1991). An increase of almost one million, half of the increment in urban population over that period, occurred in these two cities alone. The urban population growth during this period was mainly the result of internal migration; the flows to cities were motivated by the new job opportunities in the main cities. The government was not adequately prepared for this population influx to the urban areas (Al-Rasheed, 2002). At this time, the Saudi Arabian government acknowledged the need for direct planning and development in cities (Al-Hathloul and Anis-ur-Rahmaan, 1985).

### 4.2.2.2.    The 1980s and 1990s

This period marked the first urban planning for cities, first in Riyadh, due to it being the capital of Saudi Arabia (Al-Rasheed, 2002). Although the planning of urban cities had begun, there was a greater increase in population than in the previous period, due to the government granting citizens land and interest-free loans for a period of 25 years, which contributed to an increase in the number of migrants from rural villages to the main cities (Al-Hathloul, 1991). In addition, increased numbers of non-local residents came from cities outside of Saudi Arabia to work on the oil projects (Al- Hathloul, 1991). In fact, the Saudi government was forced to bring in workers for these projects, as in that period there were no workers with sufficient construction and planning experience (Al-Hathloul, 1991).

Growth resulted from natural population increase; rural-urban migration and international migration to Saudi Arabia. At the end of this period, the government noted the increased population in some cities, and, in contrast, a decreased population in villages and rural areas, and other cities close to large and major cities (Al-Ibrahim, 1982). This forced the Saudi government to undertake regional and local studies in order to reduce the number of immigrants to those cities (Al-Ibrahim, 1982).

Therefore, moving to the larger cities, especially major urban centres in which greater services are available, increasingly came to be seen as a way to achieve a better quality of life (Al-Yemeni, 1986). Other motivations for migration included pursuing higher education, applying for a government job, or working in industries that rely on oil (Arishi, 1991).

> *"There was definitely a big change in the physical environment for all cities and many villages of Saudi Arabia, in material standards of living, and some changes in lifestyle, and there have been significant changes in the distribution of the population, with a high rate of drift in the urban areas and the migration of the rural population"* (Ministry of Planning and Economy, 1980, p.67).

### 4.2.2.3. The 2000s and Beyond

From the 2000s onwards it was in the interest of the Saudi government to act on the findings of the regional and urban studies by promoting the urbanisation and economic development of medium and small sized cities to reduce immigration to the big cities (Al-Hathloul and Mughal, 2004). One finding and consequent recommendation related to the need to raise the standard of living in medium and small cities, through the allocation of funds to those cities by their municipalities to increase economic and social development (Looney, 2004). However, despite conducting these studies and acting on the findings, the problem of migration to large cities continues. For example, the Riyadh region, where urbanisation and increased economic activity has been significantly concentrated in one city, Riyadh (Garba, 2004), whilst the level of economic urbanisation in other cities in the same region has remained weak.
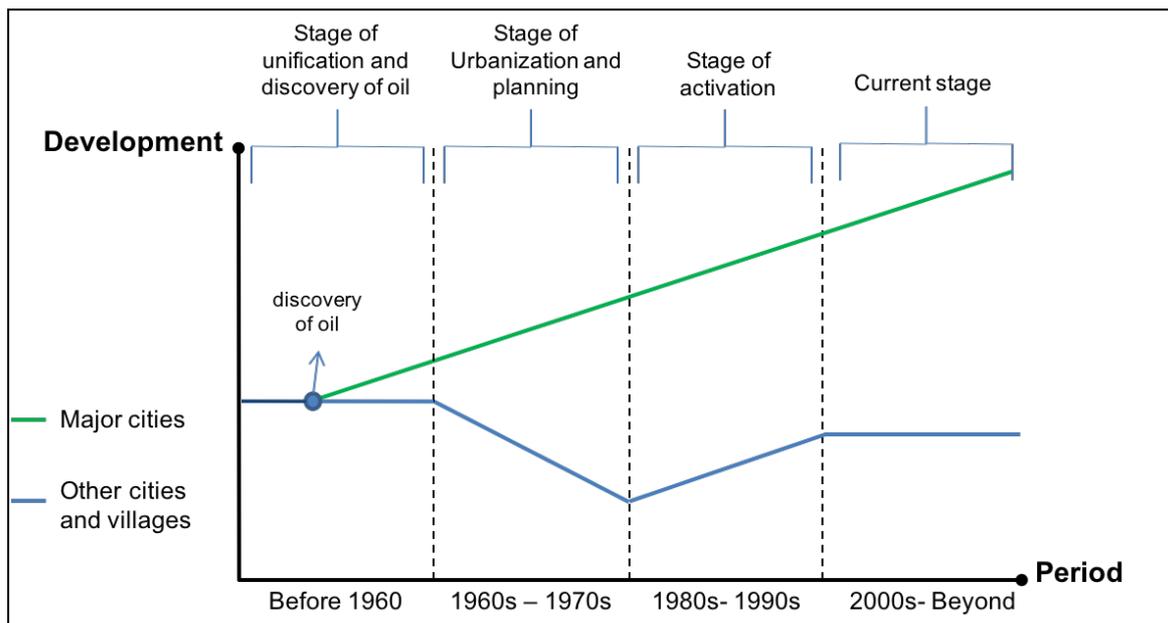
*Figure 4.1 Situation of development in most of regions in Saudi Arabia*

*Source: Illustrated by the author.*

In turn, impact on the development of cities in Saudi Arabia, as shown in (Figure 4.1) the difference between the development between the major cities and other cities. For example, in the Riyadh region, almost 75% of the population live in one city (Riyadh), and 25% live in the rest of the cities and villages in the region (CDOAI, 2013). Then the Riyadh's population has increased in 2016 to 79% (ADA, 2016). During the last 20 years, the gross domestic product of Riyadh has raised twenty-fold, to approximately 60 million riyals, due to the rapid development of the city and the change in the general economic structure of Saudi Arabia (Riyadh Principality, 2011). Many factors have contributed to this economic development, including the growth in population and employment opportunities. Therefore, the Riyadh region in particular suffers from urban and economic development problems, specifically an imbalance between population distribution and urbanisation; this imbalance in the economic distribution of the region has led to the accumulation of the population and residential and economic development in the city of Riyadh.
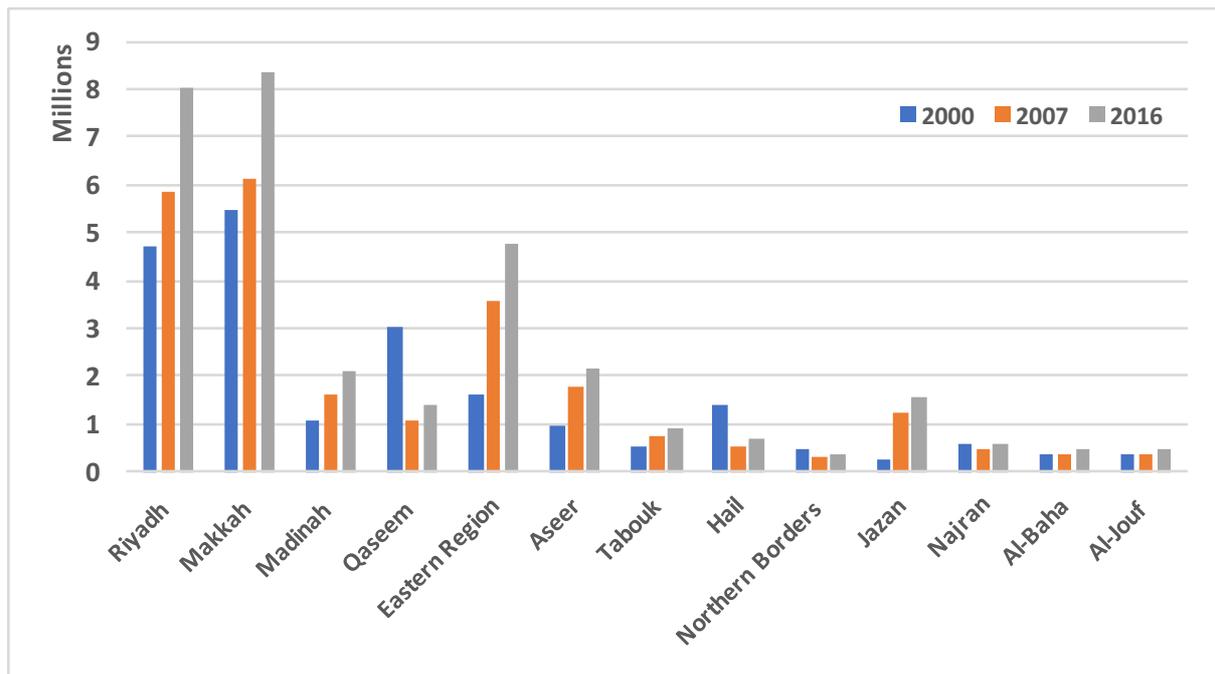
*Figure 4.2 The population in the region of Saudi Arabia (2000, 2007, 2016)*

*Source: General Authority for Statistics in Saudi Arabia*

The distribution of the population in the region (Figure 4.2) shows that the population continues to be concentrated in three provinces (Riyadh, Makkah, and the Eastern Region). There is a widening gap in the development provision among regions and cities, and between rural and urban communities, moreover, the implementation of strategic plans in order to achieve a more balanced pattern of development.

## 4.2.3.    The Structure of Planning

The power in Saudi Arabia is vested in Saudi Arabia's King, whilst the law includes the Council of Ministers as the formal body for legislative and executive powers. Also, the law included establishing the Majlis Al-Shura as a consultative council and also regional assemblies (councils), which consist of the members appointed and the region's governor (Cordesman and Obaid, 2005). At the national level the focus is on the legislation of the government, while regional and local levels focus on implementing the government's projects.

However, urban planning as local level in Saudi Arabia is essentially based on the planning structure and the administrative framework within urban development procedures. However, the system of planning in Saudi Arabia may be described as possessing a three division of power (ADA, 2005). The first, the Ministry of Interior, is a central governance, which organizes the scales of planning and defining responsibilities for each administrative unit. Second, the Ministry of Economy and Planning, is represented by five-yearly national plans. Third, the Ministry of Municipal and Rural Affairs (MOMRA), its actions concentrated in spatial planning for regional and urban space across the country. On the other hand, the municipal and services sector to implement those programs and projects.

### 4.2.3.1.    Five-year plans

The huge influx of population to urban cities has resulted in problems relating to use of energy and water, industrial, agricultural and commercial areas, and the lack of infrastructure. In addition, the pressure on residential land development as a result of the increasing demand for housing, required the Saudi government to begin to put the necessary measures in place for the management of growth in all regions of Saudi Arabia. The Saudi government has adopted a 5-year cycle of plans for national development, the most recent being the ninth in the sequence (2010-2015). The Eighth Development Plan (2005-2009) addressed issues relating to environmental protection and promoted sustainable urban development, laying out the future national vision for urban growth, as shown in Table 4.1.

| | Goals |
|---|---|
| 1 | Transferring most powers from the central level to the regional and local. |
| 2 | Establishing the legal framework for spatial planning at the national, and regional levels through a comprehensive and standardized system of urban planning which clearly defines the powers and responsibilities of all concerned agencies, development directions and growth centres. |
| 3 | Upgrading environmental health with defined and effective environmental criteria including protection of the air, water, soil, and fauna and flora, as well as protection of the built environment through proper planning of land use, noise control, recycling and treatment of urban waste, and waste water. |

*Table 4.1 The Eighth Five-year Development Plan* (MEP, 2005)

The Ninth Development Plan (2010-2015) continued the two-pronged strategy of the Eighth, by setting out provisions for environmental protection and promoting sustainable urban development, and reiterated that the sustainability of natural resources was a key challenge for the nation. It emphasised the strategic role of environmental management and the enforcement of the General Environmental Law and Rules for Implementation (MEP, 2010). On the other hand, the Ninth Plan acknowledges the rapidly sprawling nature of Saudi cities, and commits to sustainable development through the multi-dimensional challenges shown in Table 4.2. Moreover, the plan set out thirteen objectives; those relating to urban growth are shown in Table 4.3. However, those goals did not contribute to the success of growth in Saudi cities.

|   | Goals |
|---|-------|
| 1 | Adherence to long-term strategic plan as a national goal by prescribing Structure Planning as a mandatory style of planning for all municipal authorities. |
| 2 | Inter-agency coordination to provide adequate public services in health, education, and infrastructure for water, sanitation, electricity, transport, communication through a comprehensive data-base. |
| 3 | Strict application of urban boundary and land use regulations; |
| 4 | Encouraging vertical development of cities within the capabilities of services such as water and sanitation; |
| 5 | Providing an integrated, modern public transport system in major cities and suburbs; |
| 6 | Developing radical solutions for vacant lands within cities, to ensure their optimal utilization; and |
| 7 | Distributing economic opportunities and services facilities in a way that reduces horizontal expansion of large cities. |
| 8 | Application of technologies for safe disposal of organic waste; enhancing technologies for recycling solid waste; ensuring wide spread coverage of the sanitation system; reducing pollutants in petroleum products; and reducing carbon pollutants emitted by vehicles and means of transport through strict traffic controls |
| 9 | Expanding participation of citizens through empowerment of elected members in the municipal councils. |

*Table 4.2 The Ninth Five-year Development Plan (MEP, 2010)*

|   | Goals |
|---|-------|
| 1 | To achieve balanced development among regions of the Kingdom and enhance their role in social and economic development. |
| 2 | To enhance human development, expand the range of options open to individuals to enable them to acquire and use knowledge, skills and expertise, and provide appropriate healthcare services. |
| 3 | To raise the standard of living and improve the quality of life of all citizens. |
| 4 | To diversify the economic base horizontally and vertically, expand the absorptive and productive capacities of the national economy and enhance its competitiveness, and maximize the return on competitive advantages. |
| 5 | To move towards a knowledge-based economy and consolidate the basis of an information society. |
| 6 | To enhance the role of the private sector in socioeconomic and environmental development and expand domains of private investments (domestic and foreign) and public-private partnerships. |

*Table 4.3 The Ninth Five-year Development Plan (MEP, 2010)*

## 4.2.3.2.    The Planning Guides

The six key planning guides which can be considered as the most important that have been developed in recent years in Saudi Arabia to adjust the growth are identified in the following; **National Spatial Strategy (NSS),** It is a general framework to guide the spatial development. The NSS is a top level (national) of processes of the planning practices, which is based on integration with the regional and local levels. **Regional Plan Guide (RPG),** It is the second level of urban planning in Saudi Arabia. It is a long-term vision for the development and it impacts on urban activities during a specific time period including the expected distribution of land uses, population structure, economic, service and networks infrastructure, as well as it is the link between NNS and SPG.

**Structural Plan Guide (SPG),** It is a vision of the distribution of land uses and activities of the city's main and associated development until the target year, that is reflected from the NNS and RPG. **Master Plans Guide (MPG),** It is the local plan for Urban Planning in Saudi Arabia, which is a vision for the development of the city within the structural plan through identification of detailed land uses, facilities and road networks, and also provides requirements and controls for development. **Rules of Urban Boundary (RUB),** It is a spatial framework that draws the limits of the current and future urban structure, including urban development activities, land use, population centres, services and places that are important and influential parts of the city. **Roads and Buildings Guide (RBG),** Is tantamount to a system that focus in the instructions and specifications of physical and planning. It is considered the main pillar in the measures and actions relating to construction and planning. It has been created and utilized since 1941.

**Planning booklets** for improve the planning practices, there has been collaboration between MOMRA and the Consulting offices, with the preparation of some manuals for

development of the planning practices in Saudi Arabia. About 20 booklets have been so developed in various fields, such as neighbourhood planning, urban design amongst others. Overall, these guides and booklets did not reflect the growth of the main of Saudi cities such as Riyadh in a sustainable manner. In section 8.3.1 and 8.3.2 will know how to use these guides and booklets by planners through a questionnaire to determine the level of use.

## 4.3. Urban Growth in Riyadh

Several scholars (Albrechts and Swyngedouw, 1989; Moulaert and Nussbaumer, 2005; Bengston et al., 2004; Glaeser and Kahn, 2004; Bhatta, 2010) have highlighted the importance of understanding the policies of urban growth, to understand the growth stages evolve over time, aggravating non-sustainable urban growth in the city. This section will begin by the growth context of Riyadh, providing a brief overview of the city's development, followed by a detailed description of its future plans. The key issues are the uncertain population growth rates and fragmented urban spatial character of the city, which have impacted on its Infrastructure, transportation, housing, and urban sprawl.

### 4.3.1. Population growth

The Saudi Arabian urban growth process has passed through three stages: the pre-oil era; the era of pre-planning; and, the era of post-planning. In the pre-oil era, government policies contributed to resettlement and settlement in urban areas, which transformed the lives of the rural population to become more civilised. Thus, rural-urban migration contributed significantly to the subsequent growth of cities (Al-Hathloul and Mughal 2004).

In 1940, commercial oil production began, and new cities began to emerge. This was the real beginning of the urban landscape in Saudi Arabia. Wealth and immigration have been one of the factors driving population growth in urban areas. In addition to the natural increase

in the population, which is another cause for the rapid growth in urban cities, according to Smith (1985), a boom in oil revenues prompted further migration of people away from rural areas to go in search of better living conditions and jobs. However, The Ministry of Municipal and Rural Affairs has, since 1996, set goals to facilitate more carefully planned urban development. This reflects the guidelines for urban development in Saudi Arabia based on the values and principles that underpin its objectives for future development, and includes the following guidelines (MOMRA, 1996):

| | Goals |
|---|---|
| 1 | Seeking to make the urban cities healthier and convenient places to live. |
| 2 | Seeking to make the big and medium cities as centers operate commercial, industrial and service. |
| 3 | The provision of basic municipal services and infrastructure and improving housing and living conditions in urban and rural areas. |
| 4 | Promote the health, social and environmental aspects of urban and rural areas. |
| 5 | The development of residential and commercial areas and the potential for industrial action in cities and towns. |
| 6 | Seeking to develop and improve transportation and communication systems. |
| 7 | Improve the organizational and administrative structures of the sectors of municipal and rural services. |

*Table 4.4 Objectives for future development*

*Source: Table based on (MOMRA, 1996)*

The rate of urbanisation increased in the period between 1960 and 1985, from 15% to 75% (Daghistani, 1991), which in turn caused rapid expansion in the main Saudi cities, such as Riyadh, Dammam and Jeddah. However, during this period there were no plans to adjust the growth process (Al-hathloul and Edadan, 1995). As a result, in 1985 (Phase III of the five-year plans) the Saudi government began to plan the layout of all the regions and provinces in Saudi Arabia, engaging the participation of the Ministry of Municipal Affairs and local authorities and municipalities to develop urban plans within these five-year plans (Daghistani, 1991). This led to the emergence of many systems that helped improve the provision of public utilities, such as electricity, telecommunications, and safe drinking water, as well as municipal utilities, a network of roads, and healthcare and education facilities for local communities.

Population growth in urban areas is a demographic phenomenon that resulted from several factors, the most important of these being the economic factors, according to Al-hathloul and Edadan (1995). Economic prosperity has helped to provide many job opportunities, especially for people in rural areas. Another factor that has contributed to the growth in the urban population has been the increased number of foreign workers. The stable political system was another important factor in the transition from nomadic patterns of life to more urban lifestyles (Richardson, 1993). However, by contrast, the increase in the population in urban cities will continue to place demands on various municipal, health, and education services and sectors, increasing the need for an improved and more fully developed style of growth, as was expressed by the United Nations goals stated in 2008.

| Year | Population | Source |
|------|-----------|--------|
| 1862 | 7,500 | Palgrave, W.G. (1908) |
| 1919 | 19,000 | Phillby, J.P. (1922) |
| 1930 | 27,000 | Rough, W. (1969) |
| 1940 | 47,000 | Ministry of Interior (1969) Building Survey |
| 1949 | 83,000 | Ministry of Interior (1968) |
| 1954 | 106,000 | Ministry of Finance & Nt'l Economy(Census,1962) |
| 1962 | 169,000 | Ministry of Interior (1968) T.P.O. |
| 1970 | 350,000 | Ministry of Finance & Nt'l Economy (Census,1976) |
| 1974 | 609,000 | Ministry of Municipalities & Rural Affairs (1978) |
| 1977 | 690,000 | Al-But'hie Dissertation (1996) – RAMP Socio-econ. Survey |
| 1982 | 1,206,700 | Daghistani (1985) |
| 1983 | 1,323,750 | Mecci (1987)/Daghistani Forecast (Al-But'hie Dissertation) |
| 1986 | 1,389,000 | Arriyadh Development Authority (1987) |
| 1990 | 2,200,000 | Based on the rate of growth between the two (Al-Naim,1990;Mecci,1986 estimate) |
| 2000 | 4,194,000 | Arriyadh Development Authority |
| 2006 | 4,600,000 | Arriyadh Development Authority |
| 2010 | 5,271,991 | General Authority for Statistics |
| 2016 | 6,506,000 | Arriyadh Development Authority |

*Table 4.5 Growth of Riyadh's Population to 2016*

*Source: Compiled by the author*
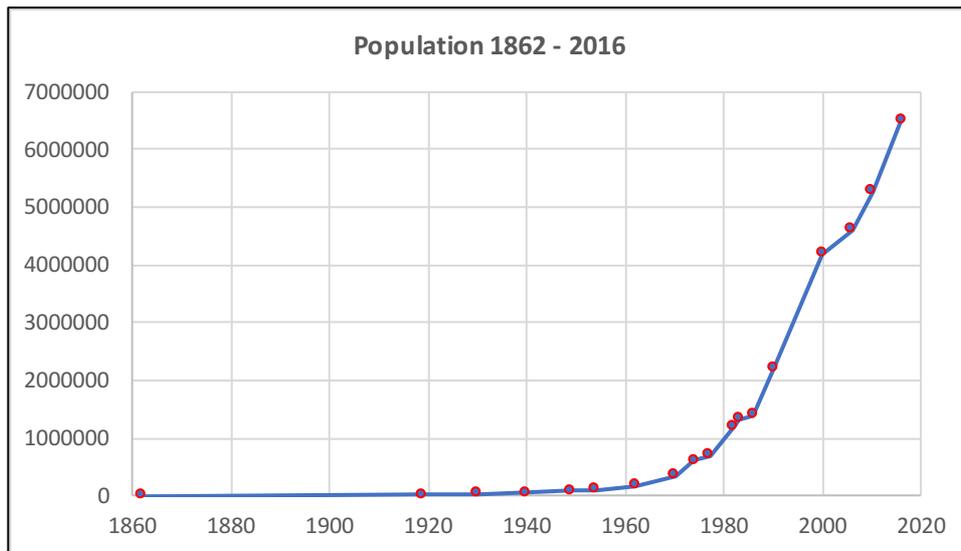
*Figure 4.3 Growth of Riyadh's Population to 2016*

*Source: Illustrated by the author*

According to the table and figure above, the population estimates and growth projections for Riyadh became a serious challenge requiring continuous revision. The official view in Saudi Arabia estimates the current population of Riyadh to far exceed the results of the population survey that was conducted. This population growth was considered to be substantially higher than most of the earlier estimates (ADA, 2015), which put the Riyadh's population at more than 6 million people. This is expected to increase as a result of high population growth and urbanisation rates.

## 4.4.    The First Master Plans in Riyadh

The city of Riyadh has required some plans to guide and control its growth. However, the Saudi government had to consult foreign planning firms, as there was a lack of planning expertise in the local population. In 1971, the Doxiadis Associates prepared the first five-year plan (Middleton, 2009). Figure 4.4 shows how the plan sought to drive growth along a north-south axis. This plan introduced the concept of growth boundaries of Riyadh city, and featured a large modular grid of neighbourhoods (2 km$^2$ by 2 km$^2$) that encouraged sprawl. By the end

of the 1970s, the city had exceeded the plan's boundaries, meaning a second plan had to be developed (ADA, 2005).
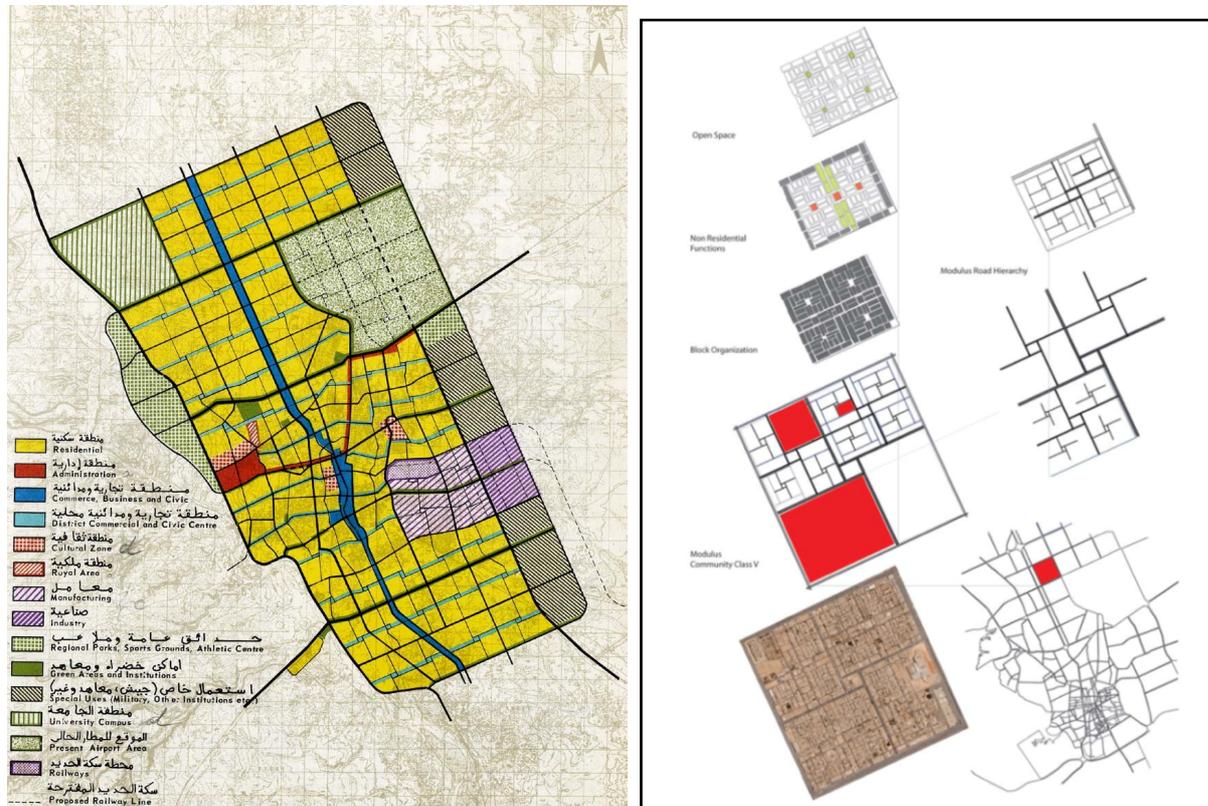


*Figure 4.4 The First Master Plan Riyadh, 1972, Doxiadis Associates*

*Source: (*Middleton, 2009, p.116 and p.132*)*

*"By 1979, according to Al- Sahhaf the areal extents of the city had expanded to 162.3 square kilometres and included 38.60 square kilometres of vegetated lands. The city had achieved the Doxiadis projections of urban growth in seven years, a sharp contrast to the area expansion outlined by Doxiadis, which was to unfold over thirteen years"* (Middleton, 2009).

The major failure of the Doxiadis Master Plan for Riyadh is that it did not have accurate, or even approximate, predictions of the speed and size of the city's growth (Al-Nowaiser, 1994). Furthermore, some of the Doxiadis Plan goals and provisions contradicted the plan itself. For instance, for population overall density, the Plan's stated goal was that 60 persons per hectare was desirable, and that total residential net density would be

approximately 200 (Doxiadis, 1971). The Plan included rules and regulations that ensured that the overall residential density would never exceed 87 persons per hectare and net residential density would never be more than 142 per hectare (Al-Hathloul, 1981).

On the other hand, Doxiadis's master plan for Riyadh was developed so as to leave the frontal and other sides of all residential houses in the city clear (Middleton, 2009). This contrasts with the old urban character of the city, indicating that in the modern urban development of its cities, Saudi Arabia has not taken into account the city's traditional Saudi characteristics. Figure 4.5 shows the differences between old and modern building designs, where example B features a waste of land within the residential neighbourhood, unlike example A which provides the largest amount of residential space.
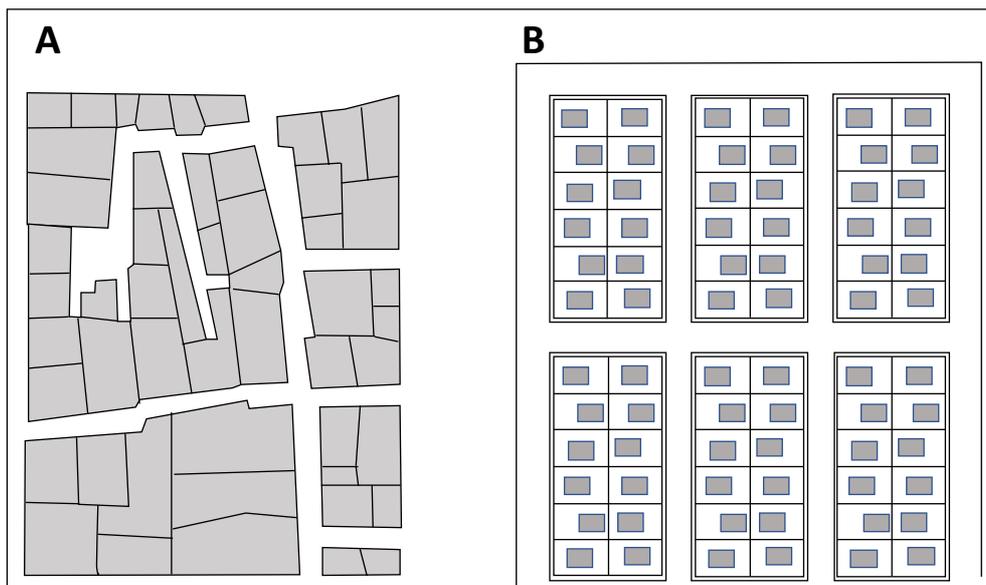


*Figure 4.5 shows the old design (A) and modern design (B)*

*Source: Designed by the author*

However, urban planning is still continuing in this pattern, taking up space within residential blocks; in the frontal space taking up five tenths of the street display between 3 - 6 metres, and on other sides of the land, taking up 2 metres on each side (see Figure 4.6). This

method will cause a deficit in the provision of residential areas within the city of Riyadh, which in turn will drive the demand for greater urban sprawl.

*Figure 4.6 Copy of residential building license*

*Source: Sub of Riyadh Municipality - Malaz*

This situation has caused a lot of households, especially those with a middle income, to divide residential land in order to minimise wasted space. According to study (Al-wahaibi, 2009), pointed out that the Riyadh Municipality has been divided approximately 9067 lands, to reached to 18283 lands until 2009, means an increase of approximately 201%. However, the study, pointed out that the demand for reducing space of land from people will continue until 2018. Therefore, the plans to divide land are aimed at reducing residential land tracts in order to keep pace with the requirements of Saudi families.

In 1982, the French company SCET International developed the second five-year plan for Riyadh. It included the detailed land-use and zoning systems for curb growth and sprawl, and developed a new growth boundary for Riyadh city (Al-Nowaiser, 1994), (see Figure 4.7).

Urban sprawl was at last acknowledged as an issue that could be addressed through planning, this plan was replaced in 1996, following continued growth (ADA, 2005).
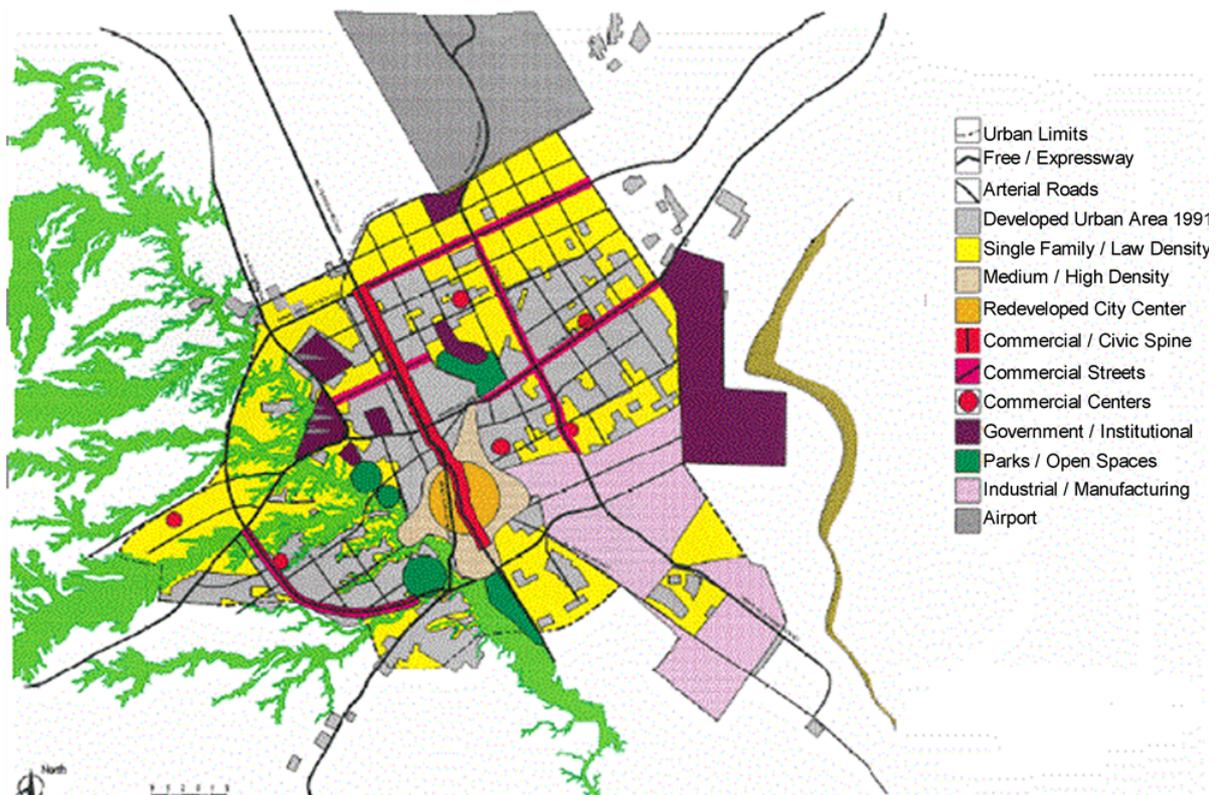


*Figure 4.7 SCET Master Plan*

*Source: (ADA, 2003, p.5)*

The previous Plans had predicted an urbanised area of 300 square kilometres by the year 2000, but this size developed area was reached in 1986 (Middleton, 2009). According to (Al-Nowaiser, 1994; Middleton, 2009) the two plans share some similar mistakes and failures. It can be concluded, in general terms, that the same failures and deficiencies that can be found in the SCET Master Plan were, though to a lesser degree, the same as those that had occurred previously within the Doxiadis Master Plan, mainly the failure to provide accurate predictions of urban and population growth and, thus, the failure to project accurately the need for utilities and services. The Action Master Plan for Riyadh, therefore, aimed to solve the problem of rapid urban growth and harmonise the various land-use activities.

## 4.5.    Drawing Urban Growth Boundaries

Dissatisfaction with the Doxiadis and SCET plans exist, although planning continues in a grid style, which is based on the concept of each neighbourhood being 2km$^2$ by 2km$^2$ fuelling ongoing urban expansion in the city of Riyadh; this has prompted the Ministry of Municipal Affairs (MOMRA) to institute a nationwide moratorium on urban expansion. As a result, the MOMRA instituted boundary controls aim to limit urban development until new urban development strategies can be developed, in order to determine Urban Growth Boundaries to avoid unplanned growth in areas distant from Riyadh. The implementation of Urban Growth Boundaries passed through several stages:

### 4.5.1.    The First Urban Boundary on Growth

In 1994 the first urban boundary was established by the Saudi Council of Ministers, broken down into first and second phases (ADA, 2004). The first phase of the urban boundary was implemented between 1995 and 1999, and the second phase between 2000 and 2005, with a view to accommodate growth in those specific periods (ADA, 2005).

*The first phase:* covering the land available for development until 1999, the total area of this phase was 632 km$^2$ (ADA, 2003). This phase took into account the existing development pattern, and provided sufficient land to meet housing and urban facilities requirements. The concentration of development operations in adjacent areas ensured efficiency and ease of movement between the various residential areas and between areas of work and public services (ADA, 2013). *The second phase:* the land available for development in the city until 2005, the total area of this phase was 1149 km$^2$ (ADA, 2003). The residential land available in this phase could accommodate approximately 1.7million people, with a carrying capacity of

the land within the urban boundary of ten million people, who were expected use the land

for rural and residential purposes (ADA, 2005).
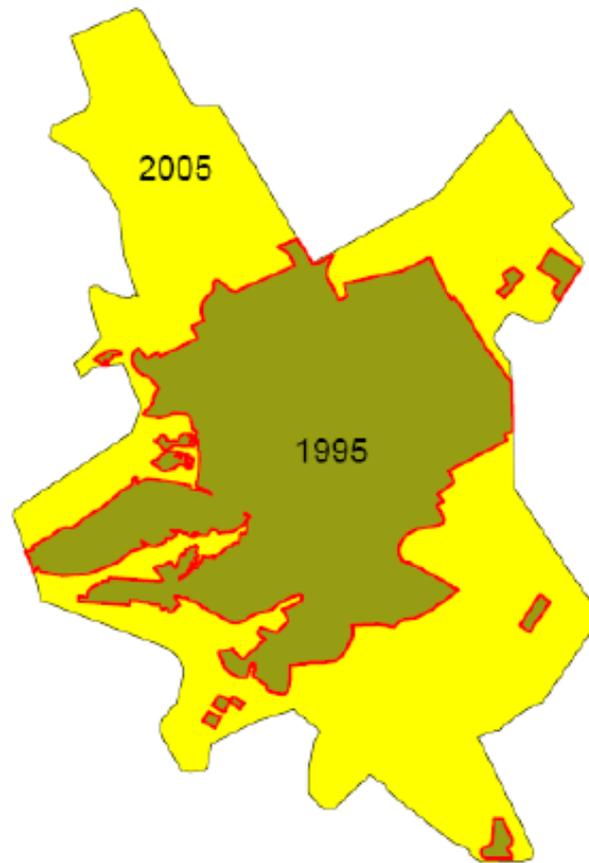


*Figure 4.8 The first urban growth boundary*

*Source: (Aina and Merwe, 2008, p.53)*

The Urban Growth Boundary was the most important urban planning work done by

the city of Riyadh at that point; the urban boundary policies achieved their objectives and

succeeded in focusing urban growth within the first phase (1995), shrinking growth from 50%

to less than 30% (ADA, 2013).

## 4.5.2.      The Second Urban Growth Boundary

The second Urban Growth Boundary was adopted following the resolution of the

Council of Ministers Resolution Number 157 in 2005, which increased the urban boundary

area to 3115 km$^2$ (an increase of 27% from the previous range), and increased the area of

development to 5961 km$^2$ (an increase of 9.5%) (ADA, 2009). The reason for this was that lands in the north and east of the city of Riyadh were distributed to citizens, in addition to the initiation of Residential schemes outside of the boundaries of the urban development area. This change to the Urban Growth Boundary affected the policies and directives of the previous strategic plan, including planning, economic, and social aspects (ADA, 2013).



*Figure 4.9 The second Urban Growth Boundary*

*Source: (ADA, 2009, p.6)*

ADA (2009) study showed the continued rapid growth of the urban area in Riyadh, especially in the outskirts of the city. However, between 2005 to 2009 the increase in urban growth reached 176 km$^2$, an increase of 16.8% compared to the previous survey. It is noted that the urban growth and expansion of the city of Riyadh is concentrated in the outskirts of the city, especially the north-east and north side. Constituted undeveloped land (white land)

within the Urban Growth Boundaries covered a significant proportion of the city's area, approximately 49% until 2014 stage, while about 58% unit 2029 stage (ADA, 2013).
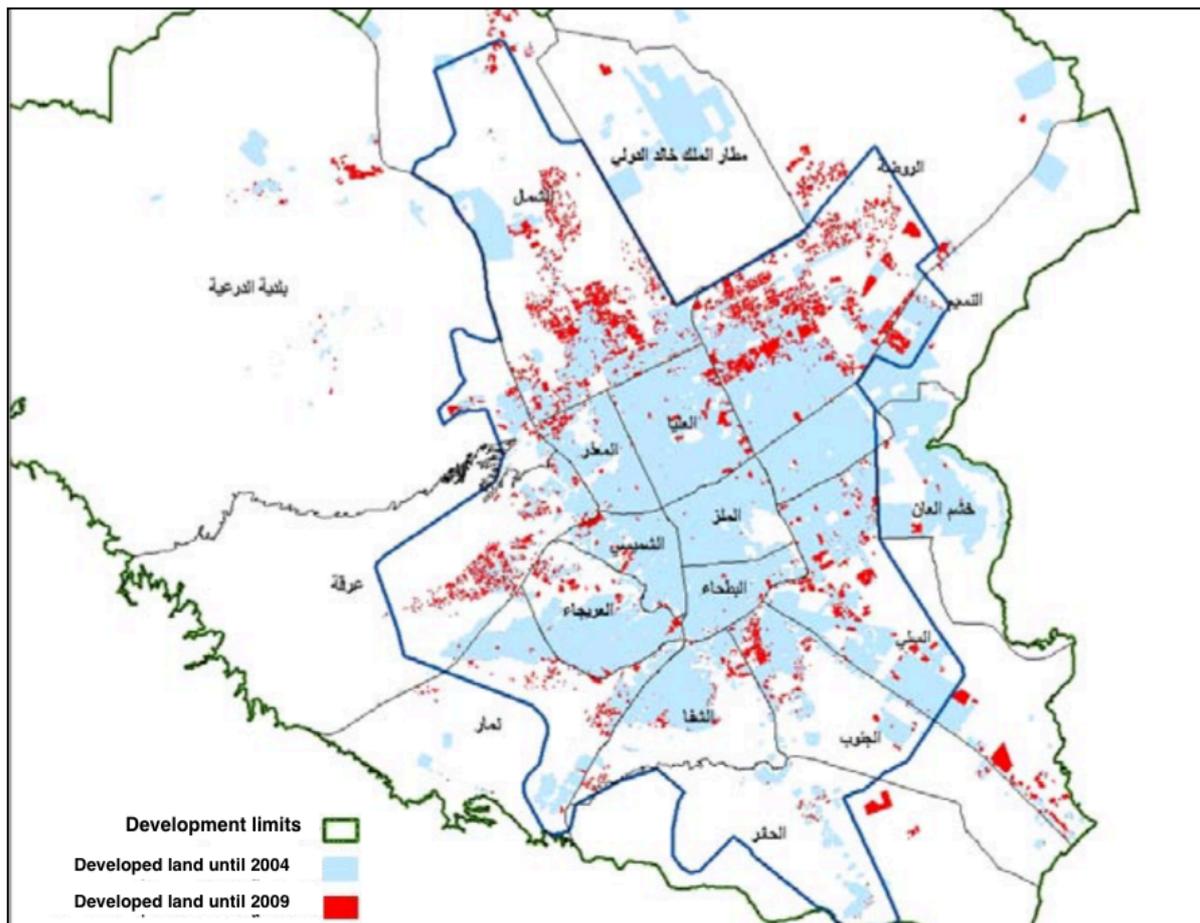


*Figure 4.10 Developed land between 2004 and 2009*

*Source: (ADA, 2009, p.5)*

The apparent pressure on space resulted in the emergence of new residential neighbourhoods distant from the city centre, causing some movement of the population to these neighbourhoods (ADA, 2013; 2015). For example, the appearance of neighbourhoods on the outskirts of the city, although there are neighbourhoods, that were closer to the city and had not been completed, and most of the lands were vacant, see Figure 4.11.
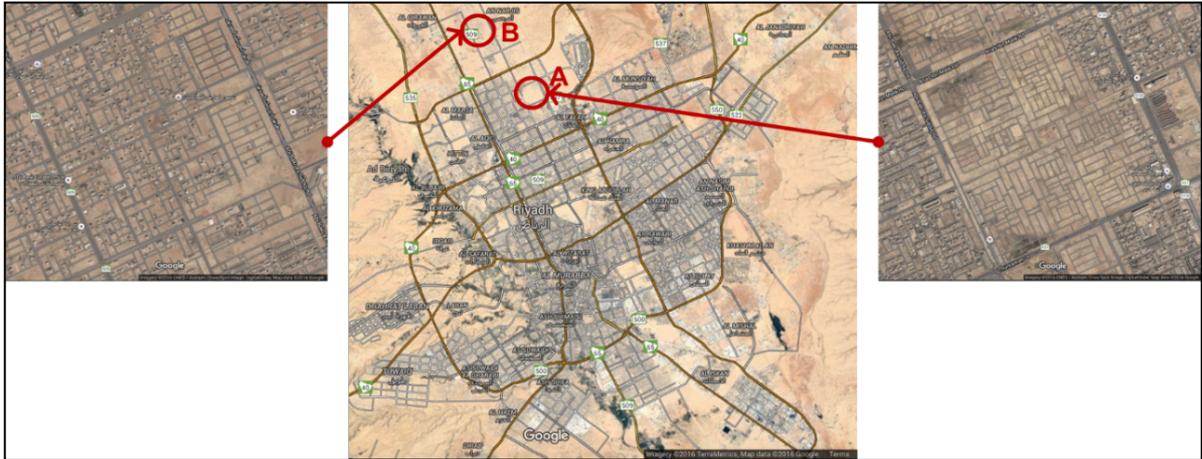
*Figure 4.11 Shows the difference between A and B in terms of vacant land*

*Source: by the author (Google Maps, 2016)*

## 4.5.3.    The Urban Growth Boundary up to 2029

The Arriyadh Development Authority has approved the division of the Urban Growth Boundary in Riyadh over the next 15 years into three stages: the urban development phase up until 2009; the urban development phase up until 2024; and the urban development phase until the year 2029. Certain controls are associated with each phase. By contrast, the limits on urban development until the year 2014 still include many schemas that have not yet evolved, although available on public utilities' networks (ADA, 2015). Additional to the availability of this phase of the urban boundary, unplanned land that has not yet evolved would accommodate more than the predicted population increase to 2029 (ADA, 2015).

In addition, the Arriyadh Development Authority (2015) has adopted plans and controls for the development of the northern and eastern suburbs in Riyadh, as part of its aim to establish development plans, including to improve the process of granting land to citizens. However, the total area of this areas to approximately 804 km$^2$ (see Figure 4.12). This raises the question of why the urban growth was expanded. However, it will be discussed in Chapter 6 by understanding the spatial planning practices and its impact on urban growth.
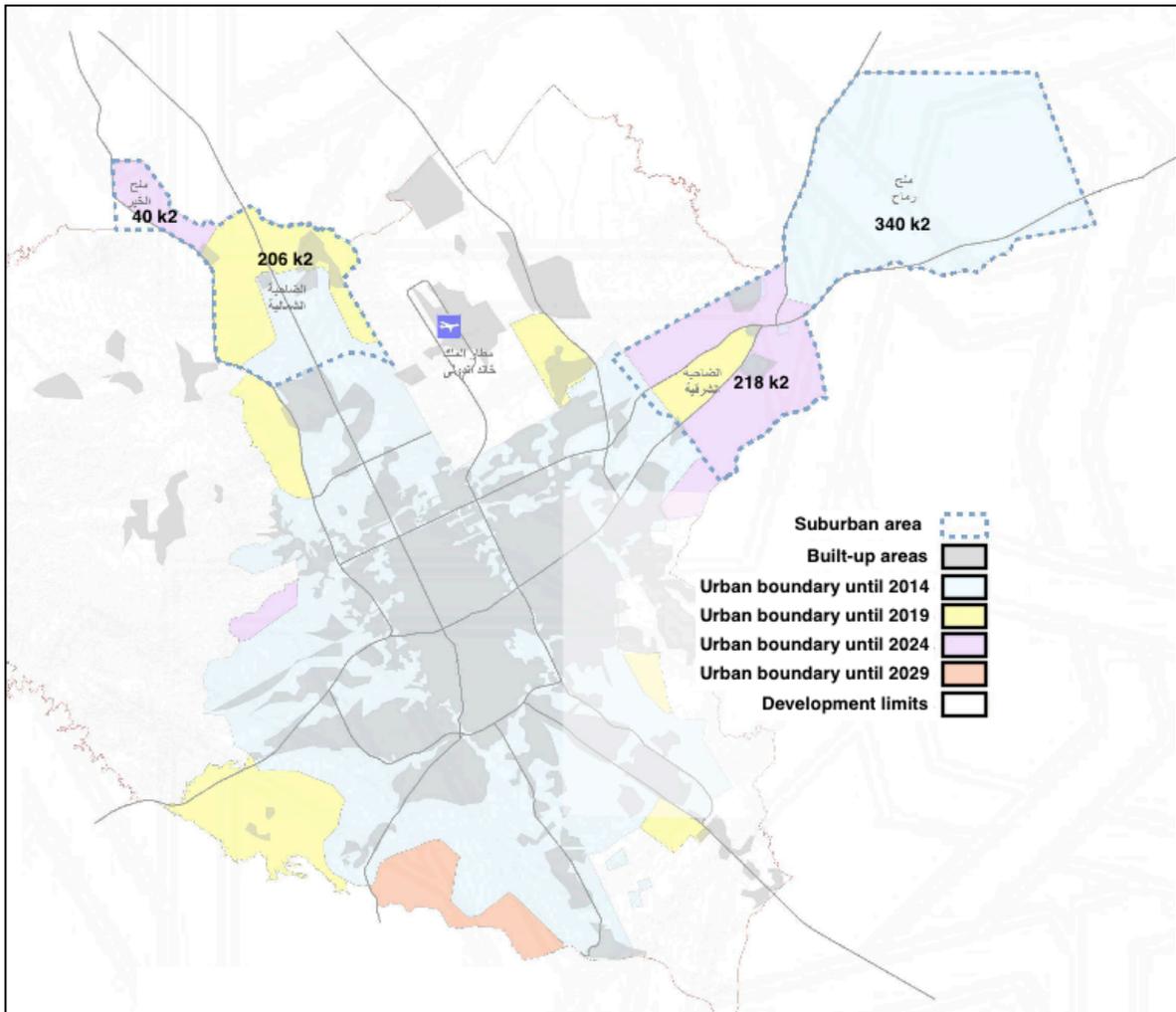
*Figure 4.12 The northern and eastern suburbs in Riyadh*

*Source: (ADA, 2015, p.5)*

## 4.6.    The Causes of Exponential Growth

There is evidence that the urban growth of Riyadh has occurred in accordance with the theory of diffusion and coalescence (Herold et al., 2005). Beginning within the city walls in the 1940s, urban growth gradually expanded until the 2010s (see Figure 4.13), when the rate of development increased, eventually leading to the leap-frog growth then the unregulated sprawl. That led the growth to exceed the city boundary defined by the Doxiadis and SCET plan (Al-Hathloul, 2017). Many of Riyadh's growth problems have stemmed from the actions of the Saudi government.
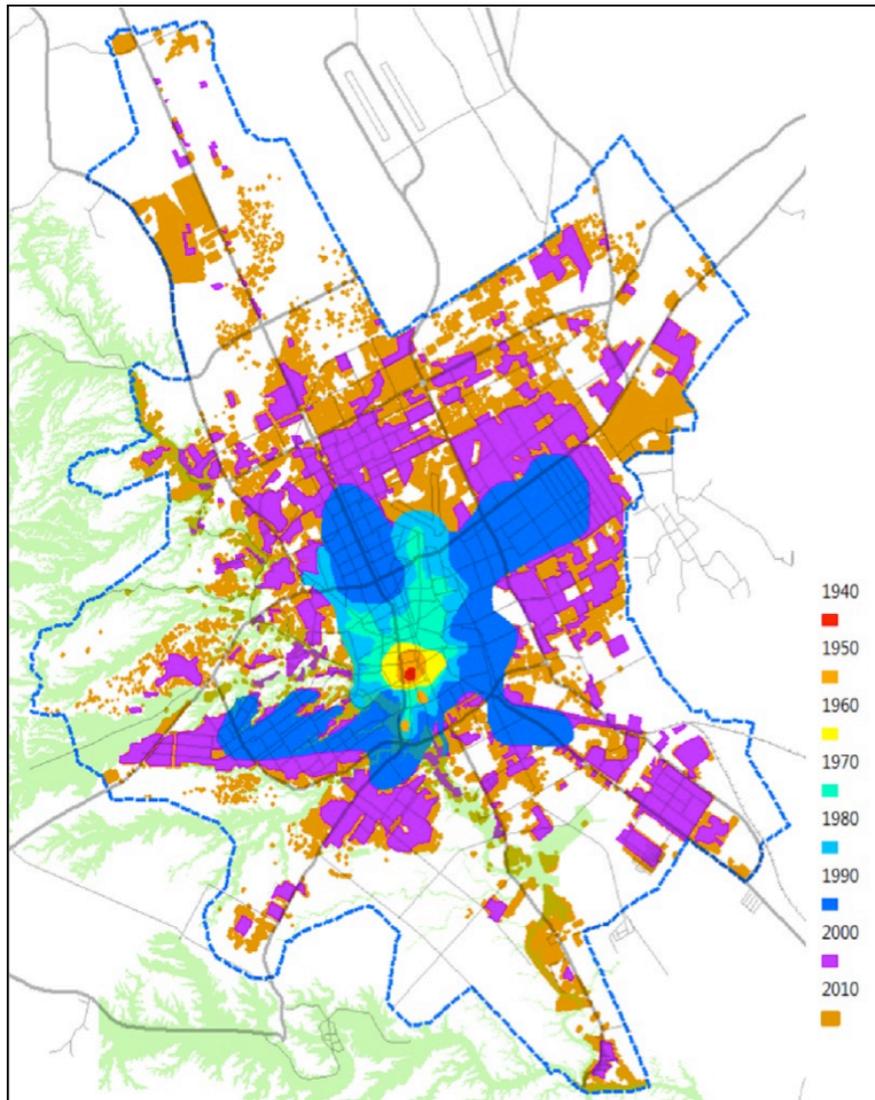
*Figure 4.13 Stages of the expansion of the growth in Riyadh*

*Source: (Arriyadh Development Authority)*

However, the oil boom of the 1970s created the city in its modern state; to establish Riyadh as the functional capital, the government instigated various phases of development to grow the city as necessary. Its growth beyond the walled-city gave an effectively infinite space for growth and urban sprawl, but this led to many problems in terms of providing adequate facilities for people (Al-Hemaidi, 2001). On the other hand, the oil boom provided the government with huge financial resources, which allowed the expansion of growth and for continued urban development (Mubarak, 2004a). However, one of the most important issues that influenced the expansion of Riyadh city can be summarized in 5 points:

## 4.6.1.　　Local Governance

In Saudi Arabia, the relations of governance remain dependent on the bureaucratic model of interaction. However, Al-Shiha (2008) stated that the difficulties that face local governance in Saudi cities stem from the lack of a single body responsible for the management and local policy-making. Municipal sector is restricted to supervising municipal services, and do not have administrative and financial independence. However, the current situation of management of cities in Saudi is based on the delivery of services through Municipal branches that implement the decisions of the central ministry.

Moreover, planning decisions depend on the bureaucracy of the central ministry, without a local body to draw local people opinion and reflect the aspiration of them about the services to be offered. Currently, the administrative organization within local governance is based on delegation of powers, includes executive administration units as branches of the central government; but, they do not have the capacity to make decisions for local context. Sectors include most of the public services branches such as municipalities, transportation, education, etc.

On the other hand, one major issue in the urban development has been the lack of communication between ministries. Road construction was often not coordinated with residential construction, leading to problems of transport. This absence of coordination became critical, however, in 1985 when the government stopped most of their projects until urban development provision could be brought under control (Mubarak, 2004b). But in reality, projects still exist, especially in Riyadh .The problems currently facing Riyadh remain the responsibility of the local governance. Changes to infrastructure and use of land could alleviate the problems of urban sprawl and create better environments for all residents, but

the process may take several generations.

## 4.6.2. Urban Planning from Traditional to Modern Form

The traditional form in Saudi cities is similar to Islamic form, for example, the streets followed an irregular and zigzag pattern, with housing characterised by organic arrangement, contiguity, and homogeneity (Aina, 2013). For example, in Riyadh urban concentrations could be found around mosques, which provided many social and educational benefits. Houses were open to the inside via courtyards (Figure 4.14), with areas of various design. Several religious, environmental, social, economic, and cultural factors influenced urban development. For example, the pattern of housing with courtyards for "privacy" was based on religious concepts, but also adapted to the local climate, providing shade.
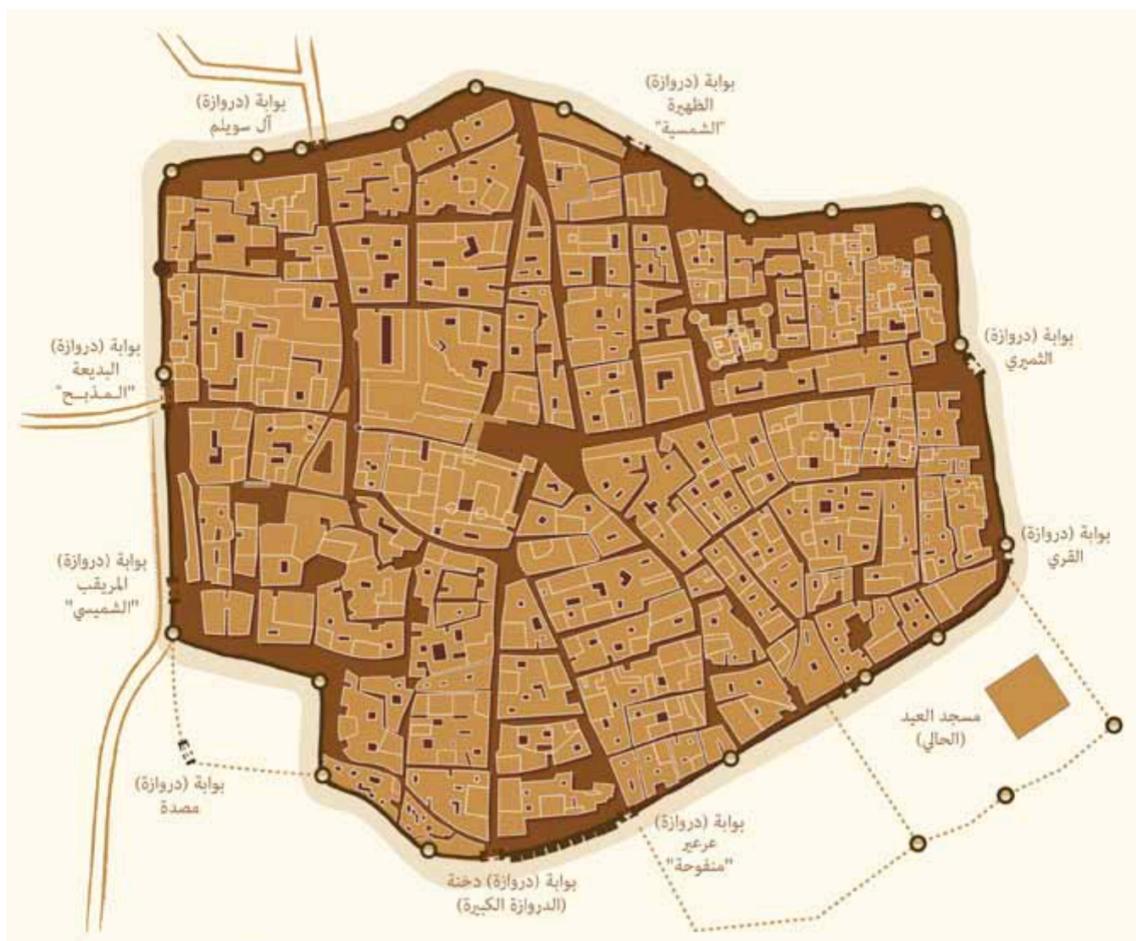


*Figure 4.14 Traditional Form of Riyadh*

*Source: (ADA, 2011, p.16)*

Bianca (2000) notes that the principle of traditional urban form was not subject to purely quantitative division of areas, or the division space into small plots, but was based on division by household. Irregular patterns in traditional cities do not necessarily signify the absence of planning, but rather reflect a harmonious and coherent integration of different elements (Aina, 2013). Although the traditional urban forms seen in Riyadh developed without overall urban planning, they were flexible enough to allow for diversity and reflect the needs of individuals and the community. The traditional of urban planning were derived from the Islamic style; examples include privacy, and the provision of both public and private space.

In the 1930s the first modern urban forms appeared in Riyadh with the construction of new buildings and streets patterns. There is no doubt that the introduction to Saudi cities of new models used in developed countries without accommodating the principles of traditional style had had an impact on the Saudi lifestyle (Aina, 2013). The economic boom of the early 1970s prompted the largest surge in urbanisation in Riyadh, and saw the launch of the five-year development plan cycle. Hence, the Saudi government started with urban planning by intervention in urban areas, characterised by new spatial models including "villa" styles of housing and low-density (Saleh, 2002).

The modern Saudi urban form follows a network of streets characterised by a hierarchical style, rectangular blocks, and houses that are square in form (Figure 4.15). The Al-Malaz neighbourhood is a typical example of a contemporary Saudi form structure. The main roads have a width of 30 meters, 20 metres for secondary streets and 10 to 15 meters for access streets. The blocks are designed to be 100 by 50 metres, and each unit's size is 25 by 25 metres, with some differences in presentation (Al-Said, 1992).
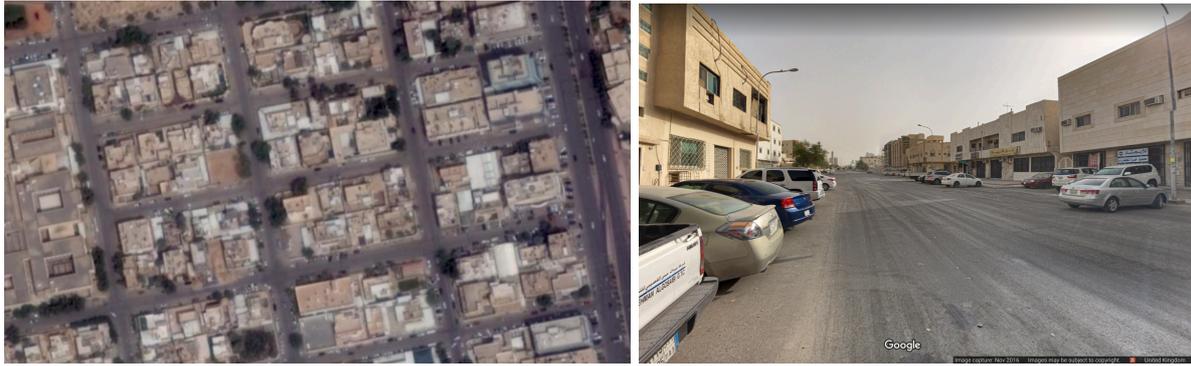
*Figure 4.15 Modern Form of Riyadh*

*Source: (Google Maps, 2016)*

The objective behind the establishment of wide roads was to enable rapid transportation between different city sectors by car. Modern urban development has primarily considered efficiency and economic factors, but neglected social, cultural, and environmental factors. For example, Al-Hemaidi (2001) pointed out the social dynamics of the neighbourhood changed as people started travelling to services and facilities such as to schools, parks, clinics, the mosque, or the stores by car instead of walking. According to Elaraby (1996), the Western design techniques that have emerged in recent times have spatially changed many Islamic cities for the worse. Also, the Western model encourages contemporary, large-scale spaces, so in essence, the contemporary form is dynamic, while the traditional form is steady and human in scale.

However, Western urbanisation theories may not apply to all cities; indeed, Robinson (2006) could not predict future urban growth by applying urban theory globally. For example, most residential houses in Saudi Arabia are Western models, while the percentage of single-family units is approximately 30% of all dwelling units (ADA, 2004). In the 1970s the master plan reflected the ideas of the international advisers who prepared it, introduced the low-density, Western suburban model. For example, in Riyadh, this de-densification was facilitated by the development of over 175,000 villas. Moreover, government subsidies for

Saudis with no interest mortgages, and an expanded road network, has marked a sharp change from traditional Saudi form (Al-Hathloul, 1981).

An important factor affecting Riyadh's urban sprawl is the introduction of the foreign-inspired house-style dwellings (Struyk, 2005). This design did, however, contribute to the expansion of the city beyond its bounds (Al-Gabbani, 1991). Although the external yard offers more space than the inward-looking courtyard, the space is not well utilised. According to Struyk (2005), less than 10% of houses use the open space surrounding their houses. In Saudi cities, as in many other cities in Arab countries, there is a struggle between the desire to be a globalised, modern city and also to retain the traditional Muslim ideals. However, the Western concept of community was totally foreign to Saudi Arabia.

## 4.6.3.    Land Grants for Citizens

The Saudi government grants citizens free plots of land on which to build homes. One consequence of this practice is that it promotes urban sprawl outside the city, as most of the land granted is at the edge of the city. Saudi citizens must meet the following criteria to be eligible for this land grant: be over the age of 18; have never owned land before; and, have proof of residence, to be submitted with their application (Alskait, 1993). This system can be used to guide growth in certain directions. However, when citizens receive land but have no desire to build on it, because they already own a house or intend to retain the land until it becomes more valuable, it contributes to the already high proportion of white land (Alasiari, 2010). Low-income citizens, on the other hand, rush to build on their land in order to benefit from the Real Estate Development Fund, increasing growth away from the city centre. Consequently, the metropolitan zone has grown from 2.2 km$^2$ to more than 1,554 km$^2$ in a little under 100 years (Riyadh Municipality, 2015) (see Figure 4.16).

*Figure 4.16 Comparison between the Old and Present Riyadh*

*Source: (http://www.alwatan.com.sa)*

In the period from 1990 to 2008, the area of residential land offered for sale ranged from 441 to 1,309 square metres; the most common sized area in that period was 750 square metres. This is evidence for the effect of government grants decisions, as the land that attracted government grants ranged from 400 - 900 square metres (Al-Hathloul, 2010). This in turn influenced the plans of developers and investors in selecting areas of land for residential schemes. In addition, the plans and perceptions of developers for residential schemes were based on previous experiences and personal opinion, not on a thorough scientific analysis consistent with the social and economic characteristics and needs of the population.

## 4.6.4. Real Estate Development Fund (REDF)

Another issue causing urban sprawl and exponential growth in Riyadh was the government's fund of $71 million, established in 1970 (Al-Hathloul and Edadan, 1995). The REDF provides loans without interest and over long terms in order to increase homeownership for citizens. Therefore, Saudi citizens who have land can obtain loans to help build the house, but to apply for the REDF a person must already have land. This has encouraged most Saudi families to own a house, and adds to the demand for land. However, the individuals with low incomes often look for cheap land which is usually far from the city

centre, and which in turn causes the urban sprawl or that which is called leapfrogging and low-density development (Alasiari, 2010).

## 4.6.5.    Energy Issues

The growth of the city and urban planning are closely linked to energy issues (Phdungsilp 2006). Energy is a vital factor affecting urban growth in Saudi cities, due to the good availability of oil and the consequently low cost of energy. The Saudi government has adopted a policy to subsidise energy within Saudi cities, supporting the middle classes and those with low income, which comprise the largest proportion of Saudi society. Saudi citizens are suffering from a decline in annual income; the average person's income in Saudi Arabia in 2007 was approximately 1947 SR (519 US) per month; this increased to 2262 SR (603 US) in 2013 (General Authority for Statistics, 2014a).

Saudi Arabia pays approximately 70-75% of the true cost of energy when consumed locally (Alshahrani, 2013). UN statistics estimate that the government energy subsidy in Saudi Arabia accounts for approximately 10% of GDP (68% on ad hoc fuel subsidies, and approximately 32% on electricity). It is expected that these percentages will rise, due to the relationship between support and consumption which are linked to population size and urban growth (Alshehry and Belloumi, 2014).

The government subsidy for electricity for the residential sector has impacted on the urban expansion of the city, especially in residential buildings that benefit from government support. This support is not a deterrent to reduce the size of houses, but rather encourages the emergence of large areas of houses in residential neighbourhoods. This has led to the need for more neighbourhoods to meet the city's demand for housing. However, the weakness of discourse on the energy relationship with regard to residential neighbourhoods

has led to variation in the residential land areas, where the value of the land has become greater than the attendant expenses such as electricity, water, and gas. By contrast, the availability of residential grants from the government to citizens in areas ranging from 400 to 900 square metres, especially in residential neighbourhoods, were not affected when reducing land area covered, due to the low operational cost of homes.

The relationship between residential neighbourhoods and energy discourses is important, in the sense that neighbourhoods cannot function without electricity. Therefore, once the support was delivered to neighbourhoods on the outskirts of the city encouraged residents to move because of the low price of land there compared to in the city centre. Thus, the availability of infrastructure in the new residential neighbourhoods contributed to the changing the style of the city's growth.
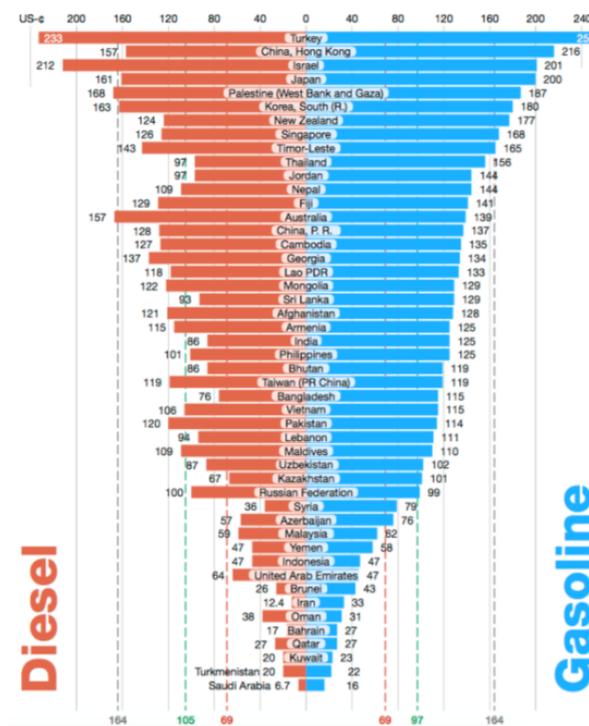


*Figure 4.17 International Fuel Prices, 2013*

*Source: (https://www.giz.de)*

In 2006, the Saudi government subsidised fuel prices, where the cost of petrol (type 95) dropped from 0.90 to 0.60 litre/riyal (0.23 to 0.16 litre/US), type 91 dropped from 0.60 to

0.45 litre/riyal (0.16 to 0.11 litre/US), and diesel from 0.37 to 0.25 litre/riyal (0.09 to 0.06 litre/US).  The government subsidy of transport energy is still ongoing until (see Figure 4.17).
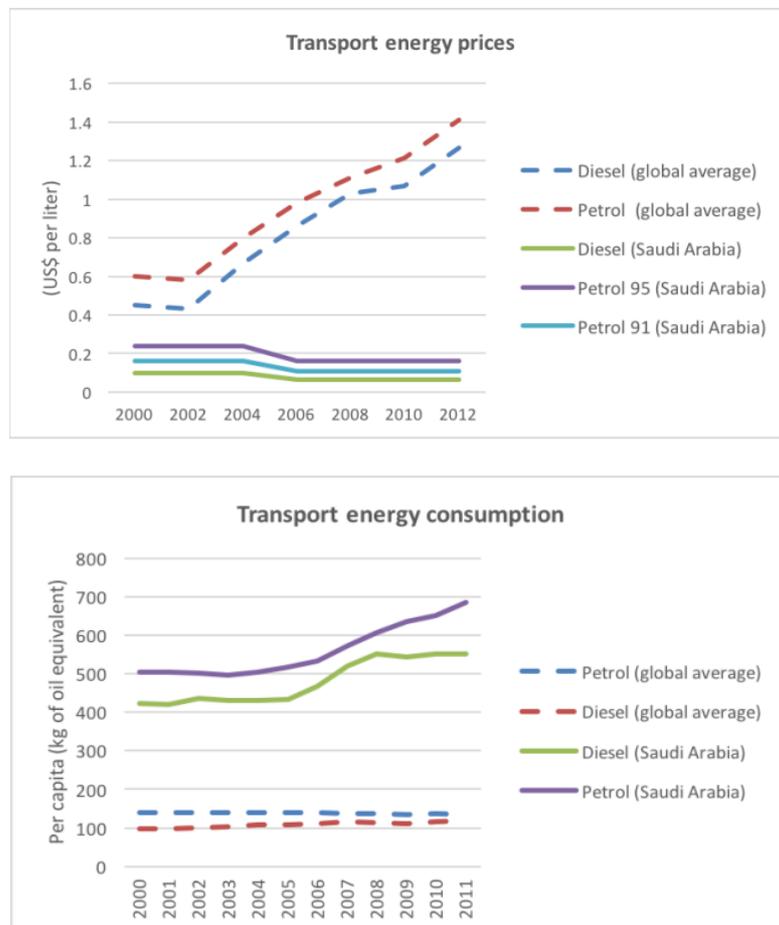


*Figure 4.18 Transport energy consumption and prices in Saudi Arabia and the rest of the world*

*Source: (http://www.worldbank.org)*

Figure 4.18 shows that the prices of transport energy remained at a steady rate during the period from 2000 to 2012. On the other hand, energy consumption was high, caused by:

1. The increasing population size in Saudi Arabia due to high rates of growth, estimated at 2.15% per annum from 2004 to 2013 (General Authority for Statistics, 2014b).

2. urban expansion in most major Saudi cities doubled the urban area of the cities (Alshammari, 2011; Mandeli, 2008), leading to more use of private cars. On the

other hand, urban expansion requires the provision of sufficient energy to meet the city's transport needs. This means that there is a reciprocal influence between transport energy consumption and urban growth.

3. The low cost of transport energy, where the low cost of fuel in Saudi Arabia has contributed to the increased use of cars, and a high number of daily trips within the city.

4. The rapid increase in road vehicles and dependence on private car use.

## 4.7. The Different Problems Associated with Growth

There are some different problems associated with poorly managed growth in Riyadh e.g. congestion, pollution and some social problems. Firstly, congestion traffic has increased within Saudi cities, and the number of cars in Saudi Arabia in 2014 was estimated at 18 million. As a point of comparison, the population in that year was estimated at 29 million (General Authority for Statistics, 2014b). For example, in the city of Riyadh it is estimated that there are 1.72 cars per household, suggesting that multiple cars are required within the same family. In 1996 and according to the ADA (2004) report, 4.5 million automobile trips were made each day. By 2010, this number had increased to 6 million daily trips (ADA, 2010a).

The development of high-quality highways and the movement of the population to the outskirts of the city have driven this car-dominated culture. Fuel prices are amongst the lowest in the world, making use of private cars higher than in other countries. Moreover, there is no road tax, which adds to the attraction of car use. As a result, controlling the urban sprawl and building such a high-density area would not be easy when use of cars is so prevalent.

Car use is further reinforced by the lack of public transport within Saudi Arabian cities, which has resulted in increased demand for and use of private cars. This is supported by the findings of a study undertaken by the ADA (2010a), which showed the horizontal expansion of Riyadh city due to the average length of a car trip increasing from 13 km to 17 km. Statistics reveal that in 2016, in the city of Riyadh, approximately 2 million vehicles were registered, compared with 1.4 million in 2011, representing an increase of 35.1%, and an average annual increase of 7% (see Table 4.6). By contrast, the population of the city of Riyadh by 2016 had reached approximately 6.5 million people, a growth rate of 4% during the period 2010-2016. This shows that the increase in the number of registered vehicles in Riyadh per year has been higher than the rate of population growth.

| Year | The number of vehicles (not including government vehicles) |
|------|-----------------------------------------------------------|
| 2011 | 1,474,259 |
| 2012 | 1,511,288 |
| 2013 | 1,562,902 |
| 2014 | 1,612,542 |
| 2016 | 1,992,000 |

*Table 4.6 The number of vehicles in Riyadh (2011 to 2016)*

*Source: Table based on (ADA, 2016)*

The current transport system depends on private cars whereas the share of public transportation is very low in Riyadh city. This large number of cars contributes to the increase in congestion, due to the culture of society and the relative increase in per capita income and the low proportion of the cost of operating the car. This, in turn, contributes to the rise of private car ownership and overcrowding with an increasing population. In addition, this congestion has had an impact on the environment and the levels of pollution.

Riyadh is considered one of the world's worst cities for pollution (see Figure 4.19). This is due to the air pollution caused by a number of factors, most significant of which is the large

number of vehicles releasing exhaust fumes. According to a report by ADA about air quality in Riyadh between 2014 - 2016, the car exhaust products on Riyadh's main roads account for 70% of the major sources of air pollution in nitrogen oxides. Also, the impact of the expansion of roads in the city of Riyadh has increased the temperature due to global warming caused by asphalt used in roads. Moreover, the factories located on the outskirts of the city, and the high proportion of household waste and shops and workshops have impacted on the environmental situation in Riyadh city.

PM10 particulate concentration, micrograms per cubic meter, annual mean

| City | Value |
|------|-------|
| Onitsha, Nigeria | 594 |
| Peshawar, Pakistan | 540 |
| Zabol, Iran | 527 |
| Rawalpindi, Pakistan | 448 |
| Kaduna, Nigeria | 423 |
| Aba, Nigeria | 373 |
| Riyadh, Saudi Arabia | 368 |
| Al Jubail, Saudi Arabia | 359 |
| Mazar-e-Sharif, Afghanistan | 334 |
| Gwalior, India | 329 |
| Hamad Town, Bahrain | 318 |
| Allahabad, India | 317 |
| Shijiazhuang, China | 305 |
| Karachi, Pakistan | 290 |
| Dammam, Saudi Arabia | 286 |
| Umuahia, Nigeria | 274 |
| Raipur, India | 268 |
| Kabul, Afghanistan | 260 |
| Ma'ameer, Bahrain | 257 |
| Boshehr, Iran | 255 |

*Figure 4.19 The 20 most polluted cities in the world*

*Source: (World Health Organisation Urban Ambient Air Pollution database, 2016 update)*

The spatial expansion and population growth in Riyadh have led to problems related to the emergence of incomplete neighbourhoods that suffer from a lack of public services and facilities. The continued population growth in Riyadh and the continued influx of rural populations place the city under pressure to provide utilities and services with electricity and water resources.

Furthermore, rapid growth has also caused pressure on water demand in Riyadh. At present, water sources come from seawater desalination. There is a rise in the cost of delivering these waters because there is no sea in Riyadh, and the nearest maritime city is

about 400 km away. Despite this, the Riyadh region was the highest in terms of the cost of consumption of drinking water in the Kingdom at an estimated cost of 5 billion riyals during 2016 with the proportion of consumption of 33% of drinking water in the Kingdom (Ministry of Environment, Water and Agriculture, 2016). Thus, the expansion of the city of Riyadh requires the establishment of a larger water network, which is expensive. On the other hand, studies also indicate that there is a large waste of water occurring within the city of Riyadh which may cause future problems in the ability to withstand the demand for water, as the average per capita water consumption is estimated at 353 litres/day (Ministry of Environment, Water and Agriculture, 2016). This will in turn affect the small and medium-sized cities as a result of the water consumed in Riyadh.

In addition, there has also been an impact of rapid urban growth on the social side of the population. The study of the population of Riyadh (ADA, 2016) showed that the percentage of native Saudis in Riyadh's population is 64% while the proportion of non-Saudis is 36%. In contrast, the results of the study show that 48% of the households in Riyadh city came to Riyadh by internal migration from 13 regions in Saudi Arabia. However, there is a lack of social cohesion in the city of Riyadh. The reason is that the city has become a group of different social groups, whether ethnically, socially or culturally. Each group represents different urban patterns, educational levels, functional interests and different tendencies. These differences make civil society a source of social disintegration.

## 4.8.    Chapter Summary

This chapter aimed to explain the context of urban growth in Riyadh. In overall, Riyadh city has experienced huge growth, transforming from a small town to a large city. The city's growth has caused many urban problems, related to urban sprawl, growing demand for housing, and pressure on services and facilities. The expansion of the city is expected to continue, and the urban planning strategy will need to address the long-term challenges this raise.

However, as shown in the case study of Riyadh, there is an urgent need for an experimental study of the urban planning practices amid rapid urban growth. This means that the planning practices is at the centre of the structure that supports growth and planning in the urban city. So, can take the planning practices as a starting point to analyse the status of current urban growth, in order to sustainable growth.

To this end, the forthcoming chapters seek to explore in depth the empirical study of urban planning practices processes, through the driving forces of planning, the spatial planning of city and the planning environment.

# Chapter 5 Analysis of the Driving Forces of Urban Planning

## 5.1. Overview

The aim of this chapter seeks an understanding and examination of the attitudes of the participants in relation to the main driving forces' effects on the urban planning and growth process. However, this chapter is an analysis of the interviews that the researcher undertook, with a focus on issues concerning the key driving forces included energy discourse, planning structure, planning law that have caused the impact of planning and a resulting non-sustainable growth in Riyadh.

## 5.2. The Driving Forces of Urban planning

Interviews were designed in this chapter to begin with a review of the three driving forces by the participants. It aimed to elicit some important points that influenced the path of growth, and thus understand more of Riyadh's planning problems. However, the researcher has posed two key questions to the participants within the interviews to understand these driving forces.

*What is the role of driving forces that includes planning law, planning structure and energy discourse on planning practices in Riyadh? and How have these forces influenced the urban planning and growth process?*

These questions were designed to examine the participants' opinions of the role of the driving forces of planning and to gain a sense of how they viewed the role it had on planning and growth of Riyadh city, whether negatively or positively. In their responses to this

question, participants were mostly criticizing the current driving forces of planning. Participants agreed that these driving forces in Riyadh marked a negative transition towards a more rapid growth, but with unsustainable and non-control of planning development. As such, the participants believed that these three issues (planning law, planning structure and energy discourse) were influential in the growth pattern and planning of Riyadh and other Saudi cities as well. However, there were some differences in their answers. For example, participants from the academic group responded by focusing more on the influence of the planning law and centralization on the growth of Saudi cities. For instance, ACD2 said:

> *Planning law has had a remarkable influence on Riyadh's growth. It has allowed for the planning approach to change, but negatively.*

ACD1 noted:

> *What we are seeing now in Riyadh or in other Saudi cities, occurs because of the planning law. I still emphasize that what we need now is an improvement of those discourses of planning for improving the planning level in the Saudi cities.*

ACD3 said:

> *I believe that the most important obstacles for the management of cities is centralization and the issue of determining the tasks and responsibilities. This is a key point in the management of cities and that has impacted on growth and planning of the city.*

However, the responses of senior planners in RM, ADA and MOMRA were more focused on the situation of the urban management and discussed the discourses of energy in order to improve the growth. For example, MOMRA 3 said:

> *Sure, the discourse of energy is a part of the reform movement, but there are problems that emerged after that.*

RM 5 said:

> *I believe that the issue of energy has not been given adequate attention. The focus on the improving the planning outcomes without paying attention to their causes, is the reason for the neglect of the planning side.*

On the other hand, the participants who serve in other sectors focused mostly on the planning weakness towards energy, and the impact of planning law on growth and planning. For example, OS 1 said:

> *Unfortunately, the planning law does not have clarity, at present it could be said that the absence of planning law in Saudi Arabia is a cause of poor planning outcomes.*

OS2 noted:

> *Energy has heavily influenced the development of Saudi cities, in less than 50 years the growth pattern has changed*

However, the interviewees believed the driving forces in Riyadh as a negative pathway of growth and planning for the reason that they were a step toward development, but not as was required. Participants were in agreement that the driving forces were and still are not right for moving towards a control of growth and planning, without inflicting unnecessary complexity on the planning and development process in Riyadh. However, to encourage an understanding of how the driving forces were influenced. This chapter is divided into three themes and several sub-themes based on the analysis of the interviews (see Table 3.2).

## 5.3.    Planning Law

All the participants argued that the poor planning law has a big impact on unconstrained growth in Riyadh. They agreed it is a challenge to the path of planning in Riyadh, and this weakness will cause negative effects on the city in the present and the future.

Participants also pointed out that the previous plans and policies in Saudi Arabia ignored planning law, and this negatively affected the growth and development of Riyadh city. Through the interview data and thematic method that followed, this theme has been divided into several sub-themes (see Table 5.1).

| | Summary of planning law issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Appropriateness of planning law | ● | ● | ● | ● | ● | 5 |
| 2 | The National Spatial Strategy (NSS) | | ● | ● | ● | | 3 |
| 3 | Modification or development | ● | | ● | ● | | 3 |
| 4 | Acceleration in city development | ● | | ● | ● | | 3 |
| 5 | Analysis of the future expectations | | ● | ● | | | 2 |
| 6 | The city vision | | | | ● | ● | 2 |

*Table 5.1 Summary of planning law issues obtained from interviews*

## 5.3.1.     Appropriateness of Planning Law

Participants from all groups agreed with the absence of the planning law in the stages of the planning process. As a result, they believed that attempts to improve and develop the planning path were unsuccessful. Most of the interviewees raised this issue more than once in their responses, appointed members of the academics and planners in RM and ADA. The interviewees believed that the planning law which is used currently in Saudi cities is old law and which depends on the roads and buildings system which was established in 1941; it is the system that was adequate for and reflected the reality of Saudi cities in a previous period. They believed the system was acceptable because Saudi Arabia did not have any prior experience in planning and because there were not large urban communities classified as integrated cities. However, the planning law has not kept pace with complexity of globalized or the rapid growth, for example, ACD5 said:

> *Planning law goes back to the history of King Abdul-Aziz when he established a municipal system. It was acceptable for a country that did not have any prior experience in planning; however, there were not urban*

*gatherings that were classified as integrated cities. This law when it appeared led the planning in Saudi. I thought it was an excellent step in the past, but now the law has become unacceptable.*

MOMRA1 said:

*Saudi Arabia does not have a clear law of planning; only the roads and buildings system that practiced by the Saudi cities for 70 years … I believe the law of planning was not a priority in the previous period.*

ACD6 noted:

*There is an absence of planning law; so far there has been no planning law in Saudi Arabia. There is not an overview of planning strategy, in the sense that determines the roles of the cities and the optimum size of cities. Now cities like Riyadh grow without limits in terms of population growth and three or four cities in Saudi Arabia are on the same level.*

However, academics believed the planning law was considered appropriate for previous planning and development pathway. The interviewees raised this issue more than once in their answers. Also, the academics and planners in RM and ADA were believed that the planning laws have been inspired by the Western culture. For example, ACD6 said:

*The roads and buildings system in Saudi Arabia is a system practiced by Aramco and is inspired by the American system, but which does not fit to Saudi cities, and especially the city of Riyadh because of its large expansion, land shortage and high land prices. This situation has continued until the present time, and is a cause of the doubling of the growth problems in that city.*

Furthermore, some of participants believed that the planning law focuses heavily on plot distribution, so it takes the lion's share of attention in planning issues having the effect of overlooking social, economic and environmental issues. For example, ACD1 said:

*… currently working on taking 40% of the land for services for each residential scheme when planning; however, this may be incorrect due to*

*the different nature of the land, such as valley. It is possible to utilize more than 50-60%, depending on the nature of the land.*

Participants argued about which government sector was responsible for planning law, observing that there is no specific authority responsible for dealing with it. This means there is a lack of clarity regarding the scope of planning law, which has led to the worsening state of planning and management of development and growth in the city. The academics were the most focused on this subject. For example, ACD5 said:

*.. When the Ministry of municipalities was created there was supposed to be an automatic review of the law in order for it to comply with the new reality of cities and urban development, but which did not take place. In contrast, when the regions' municipalities were developed, including Riyadh Municipality, they were given a good role in the planning, but there has not been a review to modify the law. The reason for this is attention given to meet the growth needs rather than the development of the planning law.*

On the other hand, interviewees, especially by planners, pointed out that the real estate impact on planning law has become a problem because it has impacted the city. This creates an obstacle to the growth in the city in the planning pathway. For example, ADA2 noted:

*The system of roads and buildings are old and unsuitable for the present; the owners of the land are the beneficiary of this system, and these owners it can be argued are in favour of the application of this system, causing the confusion of growth and planning in Riyadh.*

Meanwhile, interviewees raised the important point that, through a strategic urban study in 1986-1988. At that time, the focus was on the strategy of urban growth in Saudi Arabia, the Land Registry, the development priorities, ownership system, and land tax. However, the planning outcome did not come out as agreed upon by specialists. For example, one of the participants, ACD3, who took part in the preparation of the NSS said:

*Most of those plans were not approved as a whole, only certain parts of these plans, which led to a change in the goals of the Planning law.*

## 5.3.2.    The National Spatial Strategy (NSS)

The weakness of NSS has impacted on growth in the city of Riyadh, and the imposition of a concentration on these major cities, because of the requirements of these cities. This causes difficulty in controlling the growth furthermore a fast growth. As well as, the major cities that are attracting from the smaller cities that allow a continuation of the problem of growth within Riyadh, which requires a meeting of the growing demands of housing and the needs of the population. For example, MOMRA1 said:

> *The cities of Saudi Arabia have become of two kinds: those that are growing and those that are shrinking.*

ACD2 said:

> *With the major cities growth strategy, we knew that it will have a different growth, but growth became a problem, then the city suffers from inflation, due to weak implementation of growth strategies among Saudi cities.*

However, the interviewees believed that the NSS is the most important tool owned by Saudi Arabia. It was intended to transmit growth to the cities of the country through proper planning, but which has not been implemented as required. This point was raised by academics and senior planners in ADA and MOMRA. For example, ACD6 said:

> *It is true that the National Spatial Strategy has been adopted, but was adopted weakly, and did not assign any sector to implement it and follow up the implementation; there was floundering.*

ADA5 stated:

> *The National Spatial Strategy appeared to be limp, in the sense that it is not appropriate to the current of Saudi cities.*

However, interviewees also believed that the cause of the weak implementation of the strategy is at planners who prepared this strategy moved to another workplace. Therefore, their experience is not being taken advantage of, which caused atrophy of the strategy and it not being activated properly. This point has been pointed out by some senior planners and academics. For example, ADA2 noted:

> *The people who prepared the National Spatial Strategy are no longer within the Planning Department, whether due to retirement or have switched to other work.*

ACD3 said:

> *The National Spatial Strategy is the roadmap, but the exit the team who prepared it caused difficulties in achieving its objectives, because, at present, those who lead these goals are other people and do not clearly understand the sense of the details of that strategy.*

Moreover, interviewees also believed that the actual implementation of the strategy has not taken place at the required time, it being adopted late. In addition, it was not assigned to any sector for its implementation and follow-up activities. For example, ADC6 said:

> *… approved of universities that located outside of Riyadh came late in 2007, while the idea was in 1988, if approved at that time, then it would have resulted in better outcomes for planning and growth in Saudi cities.*

In the view of participants, since being established, the NSS did not change the planning process, which is still the same. They argued there is no specific vision held by all; each sector works with a different strategy and interests, which leads to isolated acts and not a collective action. Some planners and academics were most focused on this point. For example, ACD2 noted:

> *With the National Spatial Strategy, another reason could have been a collision of interests, which has required radical changes to the administrative structure and local labour, so, it faced rejection.*

ADA1 said:

> *… the team that prepared the study are far away from the decision-makers, as well as that the decision-makers did not understand the National Spatial Strategy.*

Moreover, interviewees also believed that the planning process needs to focus on the strategic; it is the first element that needs to be taken into account, and after which can commence the preparation of a master-plan for the city. If the strategy is absent, the planning and growth will be unsuccessful. Hence, find that the answer to the question of why the city of Riyadh has grown so quickly, is because there is no clear strategy, and that the objective was economic, and not a comprehensive goal including urban issues, social, economic as well as environmental. For example, ACD3 said:

> *In 1970, the focus was on the main cities, the reason for it being clearer outputs and lower costs. So, 20 universities in the cities of Saudi Arabia could not have been created in that period, as the focus was on the main cities and this goal was economically driven.*

Moreover, interviewees also believed that the city of Riyadh suffers as with other cities of Saudi Arabia through the weakness of local planning. In the sense that the strategy currently used is a strategy that is applicable to all cities in the country whereas, in fact, there is a disparity between cities in Saudi Arabia, whether this is economic, social, urban, or environmental. In addition, changes in the strategy at frequent intervals cause disruption in planning and development. For example, ADA1 said:

*The transport strategy adopted in 2006 has not been implemented, because of the delay in implementation, moreover, the strategy having been changed in 2010.*

### 5.3.3. Modification or Development

Participants believed the modification or development of the planning law to be a long path because the planning development is being pursued with the same approach without any advantage. However, the process of altering planning law takes time meaning delays to the improvement of social and environmental conditions. This means that urban problems that had been occurring in the previous period will continue, and then increase the appearance of growth and planning problems. This point was raised by all groups, with the exception of the ADA and OS groups. For example, ACD5 said:

*… officials believe that the development of the system is a long path, they believe that staying on the old system is easier than changing it, as well as the change or edit of the system not under the ministries or municipal.*

Furthermore, survey argued that the additions to planning law such as building systems by some consulting companies resulted in a poor planning system. They believed the reason for the additions is that they were not present in the original system of roads and buildings. This point has raised by some planners in RM and MOMRA. For example, RM3 stated:

*Some additions to the system have been implemented by some consulting companies, such as the density and building heights, which were not be in the original system of roads and buildings, why the system is not fully updated.*

MOMRA4 said:

*Adding some standards or requirements by some consulting companies may be inappropriate with the standards or requirements of other aspects.*

Some participants believed that the urban growth in Riyadh has been fast, thus requiring the providing population needs in a manner consistent with the pace of growth. This has contributed to the rise in actions and pressure on officials and professionals to solve problems of urban growth. In addition, participants think that this also made the planning pathway more complicated within the urban growth issues. For example, RM2 noted:

> *Over the past 19 years, 159 residential schemes have been adopted, which has resulted in there not being enough plots of land that are valid for planning. The reason for the speed of adoption is the lack of a clear mechanism to adjust the layout of the city.*

## 5.3.4. Acceleration in City Development

Interviewees took a negative view of the manner of the acceleration in city development, which is not compatible with planning law. They believed that ignoring laws that constrain growth will have influenced the process, and then has influenced the planning outcomes in Riyadh. Therefore, a problematic at the present is that the acceleration in the development in Saudi cities is not compatible with the acceleration of the systems and controls that regulate and control growth and development. For example, ACD5 said:

> *During the last 40 years, the focus has been on pushing ahead with development, with less attention given to the system. Most of the sectors in Saudi Arabia are interested in development, so we see that the cities have been racing each other.*

MOMRA1 said:

> *There are initiatives to amend the law, but the situation still has not changed. I believe that the reason is the acceleration in development that has caused the weak of attention in the improvement of the planning law.*

Moreover, interviewees also believed that the increasing complexity of the city and the failure of governance to recognize and exclude certain viewpoints or failure to adopt

pluralism. For example, RM1 said:

> *the city of today is more complex in terms of urban sprawl and huge increase in population; the city has become that of many inputs.*

ACD5 said:

> *When the roads and buildings system came out there were approximately 10-12 Ministries. Today in Saudi Arabia, this has grown to more than 25, with the power distributed among the many ministries. This has included a switching of some of the responsibilities of municipalities to other sectors. Thus, the system of planning must now reflect the change that has occurred.*

## 5.3.5. Analysis of Future Expectations

Participants believed that analysis of the future expectations is still an issue even after the NSS or planning law. They argued that the analysis creates a kind of success of the planning that did not previously exist. They believed it can be assumed that what is required is a strategic study that properly and more accurately accounts for each city according to their need, and seeks implementation according to the plan's proposed timelines. However, in contrast, a strategic vision for the future was not undertaken properly, which then contributed to the emergence of floundering in the planning process. Interviewees from the MOMRA and ADA groups raised this point. For example, ADA4, noted:

> *The population growth has exceeded significantly the previous forecast of 15-20 years ... The increase was nearly 700%, which shows that the analysis of the future expectations for the cities of Saudi Arabia has not been true, meaning that the population has been affected more than the expected rates.*

This was confirmed also by MOMRA3, who said:

> *It shows the importance of studying the last strategy and restructuring it to reach appropriate solutions that can be applied. Because there are still dramatic mistakes in the forecasts, especially in a city like Riyadh.*

## 5.3.6. The City Vision

Participants argued that the service sectors have a different vision in each city in Saudi Arabia. This a problem because they forbid the planning law relation with urban issues and by city conditions. The impact of this, they believed, means the planning law needs to be revised as every city has a different vision, and this dispersion of ideas will not reach a suitable solution. The academics and senior planners pointed out this point. For example, OS3 noted:

*The current planning law needs to be reviewed because each city has a different vision. The planning law has to be under the state level, but we have to emphasize the issue of decentralization because of the different nature of cities and regions in Saudi Arabia; Riyadh is not similar to the cities of Jeddah, Dammam or Abha.*

ACD3 said:

*Leaving opportunities for each city or region for the development of a private planning system as supporting systems that emerges from the state's planning system.*

## 5.4. Planning Structure

Most of the participants believed that the planning structure is one of the discourses that has affected planning negatively in Riyadh. Among all participants, it was noted that the planning structure with its centralized way and weakness of urban management is one of the key reasons determining the success of planning in Riyadh. The following two points highlight the participants' opinions about planning structure in Riyadh.

| | Summary of planning structure issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Centralization | ● | ● | | ● | ● | 4 |
| 2 | Urban management | ● | ● | ● | ● | ● | 5 |

*Table 5.2 Summary of planning structure issues obtained from interviews*

## 5.4.1.     Centralization

Participants argued that centralization is still an issue even after expansion of urban

growth and rising problems of planning in Riyadh. They believed that the general plan of the

city is difficult to control because of the rapid acceleration of development, especially in

Riyadh, where the current administration is not effective and so there will therefore be

problems in controlling the growth of the city. The most important obstacle to the city

administration is to continue on the principle of centralization of planning, in particular where

the tasks and responsibilities have not been specified. This is the main points in the

management of cities but are absent in the cities of Saudi Arabia. Moreover, they believed

that the weakness of the efficiency of local agencies is happening because of the central

decision-making. For example, ACD3 said:

> *I believe that the most important obstacles in the Saudi city management*
> *are the issue of centralization, and of identifying the responsibilities.*

ACD7 said:

> *... the decision does not connect with local bodies such as the municipal*
> *council, municipalities and service sectors ...etc. That has not solved the*
> *issue of centralization.*

Also, RM3 noted:

> *Our work is limited, so the decisions and management system have not*
> *changed, the ministry is the basis when requesting approval for any project*
> *or decision, it means we need to raise everything.*

Most of the senior planners believed that the planning structure with centralization is

the key reason that makes it difficult to control planning budgets. Hence, they believed

financial centralization of projects and plans, specifically at the local level, has contributed to

the delays in the implementation of those plans and projects. For example, ADA1 said:

*The budget is important to carry out any work, but if the budget of any project is centralized, hence, you see many plans not implemented.*

ADA4 said:

*Plans proposed by local agencies take a long time to implement because the first and last decision is centralized.*

In contrast, participants believed decentralization is an important way for improving the planning path and growth in Riyadh. They also believed there is a need for more focus on decision-making at the local level. For example, ACD5 said:

*The need to focus on decentralization for the formulation of regulations and controls that are compatible with the nature of the city ... In the past, development was simple, so it was normal to be centralized, but now it not be able to be centralized, cannot deal with Buraidah city in the same way as dealing with the city of Abha or Riyadh; therefore, the best step is to trend towards decentralization.*

ACD1 said:

*The current situation is still over-centralized. Therefore, we need decentralization. Secondly, understanding the needs of society comes from local sectors.*

ADA4 noted:

*Where is the level of local participation? It is weak. So, it is important this participation as support for the development process.*

## 5.4.2.  Urban Management

In the view of the interviewees, there were concerns with the urban management within the planning path, in that the management style was not clear or compatible with rapid growth. The participants believed that in order to control Riyadh's growth, the planning

process must be adjusted by reviewing the administrative model for the management of the city or the region and the state. They believe that the urban management is not confined to implementing streets or houses within the city, but is for managing the lives of humans, meaning is not just about planning physical and environmental outcomes but also social outcomes So, it is supposed to be that the residential neighbourhood has met all the necessities of life and uses of land so as to have thereby activated the principles of development and planning. They argued that the urban management is not confined to the ministry or the municipality. There are other partners that have influence, but the problem is that they are not following the same direction, for example, MOMRA1 said:

> *The urban management has tried through bodies such as the Riyadh Development Authority to develop the city, the members of the administration are representing different sectors, but each sector has a different strategy.*

OS4 said:

> *All neighbourhoods within Riyadh follow the Municipality of Riyadh except the Al-Safarat quarter, which is still continuing with the same previous methodology of management, which will lead to hard to control the neighbourhoods' needs in the future.*

ADA4 said:

> *The principalities of regions in Saudi Arabia have a strong role in the local administration but relating to security. But the local management of the city is still not clear, and which has led to the continued city problems.*

Interviewees believed that the change in vision and goals of development, means that there is no systematic model for the development of the localities in Saudi Arabian cities. According to the National Spatial Strategy, evidence is lacking on the system of local government, so cities in Saudi Arabia are development-driven by individual initiatives from

multiple sectors. However, in the view of the interviewees, there is no single vision to

encompass all of them; and each one works in respect of a different strategy, which leads to

isolated actions and not teamwork. This point has been raised by RM, ADA and ACD groups.

For example, RM4 said:

> *Whenever the mayor of a city is changed, there will be change in the vision and goals of development. So, the absence of the local administration and the unclear of local power has led to weak the planning approach.*

ACD4 said:

> *Urban planning is part of the work of the municipalities, but in fact, the municipalities do not have the administrative power on some infrastructure sector such as water and electricity, or service sectors such as education and health.*

RM1 said:

> *Each sector works independently from the others. One consequence is street-digging that occurs continuously in Riyadh, due to poor urban management.*

Also, some participants believed that the city administration is at the disposal of the

administrator of planning. However, their opinion, the development and planning in the city

depend on the personal efforts that impact its outcomes. For example, MOMRA6 noted:

> *The city administration is through the personal efforts, those who have the ability to contribute to the desired outcomes, but this few in the city of Riyadh region.*

Likewise, participants believed that there is a need to utilize a sector that focuses on

the preparation of the legislation, another that will implement it as well as a sector for

following it up, and with there being clarity in each of these roles. They argued about the

problems of duplication, of who is responsible for regulations and standards legislation and

who carries out this legislation, affects the path of the planning process. For example, ACD4 said:

> *For example,* the electricity sector has been working on legislation, but is actually supposed to work only on the implementation, not legislation, and thus there is overlap across sectors.

OS2 stated:

> The urban management system for cities must be separated into two functions. The body responsible for the legislation can have representatives of the sectors providing input to it, so that they thereby have a connection with it, and thereby the resulting legislation could benefit from the experience of the implementers.

ADA2 said:

> The risk is that the implementation function takes over the legislation, and so the legislation ends up working for the benefit of the implementers, and which is what has happened in Saudi cities.

In contrast, participants believe there are some successes in urban management in Saudi Arabia, but to a limited extent, such as the Al-Safarat quarter, which were supervised by the Supreme Riyadh Development Authority, as well as the success of the Royal Commission in Jubail and Yanbu to achieve excellence in residential neighbourhoods. They believed the reason for the success is the presence of management that manages these neighbourhoods in line with the concepts of urban management. For example, ACD4 said:

> These authorities have autonomy in administrative and financial affairs, as well as in providing all the services and facilities of these neighbourhoods; therefore, this is a notable distinction.

## 5.5.    Energy Discourse

Participants believed that the energy discourse was the key factor that influenced the rapid growth in Riyadh. However, all participants from five groups agreed on this issue, and they pointed out that the negligence of energy issues at any phase of the planning path was what led to urban sprawl in Riyadh. The following two points show the participants' opinions of the impact of the energy issue on the planning process in Riyadh.

| | Summary of energy discourse issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | The comfortable cost of energy | ● | ● | ● | ● | ● | 5 |
| 2 | Energy versus planning actions | ● | ● | ● | ● | ● | 5 |

*Table 5.3 Summary of energy discourse issues obtained from interviews*

## 5.5.1.    The Effects of Low Energy Cost

All the participants argued that the low cost of energy had major effects on the path of planning in Riyadh. The interviewees generally concurred in saying that this continual low rate in energy cost was the main challenge to the growth in the present and the future. In addition, the weakness of dealing with this issue at the planning and development level has had, and continues to have, negative impacts on city growth.

The low cost of energy helped the growth of Saudi cities and had a positive effect on development aspects. On the other hand, the cost of energy also had unexpected negative effects, and the main one is the population jumping to the outskirts of the city, because of its ease of population mobility. The participants believed that, during the last period, this problem was aggravated by a series of poor energy discourses. However, in analysing the facts, the participants believed that the low cost of energy was a key determinant of development in Riyadh. So, they believed that the cost of energy, supported by the

government, including in respect to fuel and electricity, contributed to the emergence of the scattered settlement pattern. Academics and senior planners believed that the low cost of energy was a major mistake. For example, RM2 said:

> *Currently in Saudi Arabia there is support for the energy value of the government, which led to a decline in the price of energy. This means that the urban growth will continue unless controls limit planning, such as raising energy costs.*

ADA1 noted:

> *the lengthening of streets within the city of Riyadh contributed to the changing pattern of settlement. Furthermore, urban sprawl caused a rise in the number of journeys, and the trip takes a long time. The main reason for this is the fuel prices which changed the growth of the city.*

In contrast, the participants believe that the neglect of the issue of the low cost of energy led to another problem in the development, sustainability and growth of the city. For example, OS3 said:

> *The weakness of sustainability is due to three reasons. First, the cost of energy and oil is cheap, and has led to an increase in energy use in an excessive manner. Second, the weakness of studies related to the field of energy, as well as the absence of a decision or policy. Third, the duplication of the energy business; there are several sectors working in the field of energy...*

RM7 said:

> *Most of the work undertaken within the Urban Planning Department is linked in terms of design, planning and approval of plans, but unfortunately there is no concentration on the energy issue and its effect on urban growth.*

The participants agreed that the cost of energy is one of the key reasons that changed the settlement pattern in Riyadh and led to the emergence of urban sprawl, that was impacted by growth and did not allow for control.

## 5.5.2.     Energy Versus Planning Actions

Interviewees from all groups mentioned that the continued increase in energy demand requires a suitable mechanism to adjust the planning and provision process for the current and future generations. They were concerned that it seems the growth of urbanism and population is increasing rapidly and, further, that the present high growth in the consumption of energy on residential, commercial and transport in turn impacted on the environmental, social and economic issues in Riyadh city.

Also, they mentioned that the influence of urban energy use or consumption does not come from urban energy policies alone; for example, whilst there are aspects related to energy prices and the availability of energy, amongst other issues, there are other factors that may be more influential. One of those factors is the urban planning practices. These practices are considered to be issues of rapid urban expansion in housing and neighbourhoods, and the quality of construction and design which are influential in increasing urban energy use. For example, ADA3 said:

> *We did not know the importance of energy in previous years, because we did not have a clear vision for planning and its impact on the city's energy, so the work undertaken previously was concentrated on the aspects of pollution, whilst not touching the aspects of energy.*

MOMRA2 noted:

> *There are rules and guidelines for urban energy to raise energy efficiency, and that their success is difficult in the case of the continuation of the style of planning, as is the current practice.*

MOMRA3 said:

> *... to the work being confined to following the growth and planning, but that there are not any contributions or programs that are interested in educating the community on energy issues.*

On the other hand, the participants believe that the weakness of dealing with the energy issue through planning actions has resulted in planning and urban growth problems. They agreed poor experiences in the energy field was one of these reasons. So, the participants believe that continuing to deal with energy discourse in the current way without imposing new policies, will increase the cities' problems, whether in economic terms, environmental, and also in respect of urban renewal and planning. For example, ACD1 said:

> *The current situation with energy issues is weak, therefore causing problems for urban growth or the planning process. Policies of energy associated with the planning policies must be established.*

RM9 said:

> *Urban growth control will not contribute to the energy-control, now that prices are cheap and consumption is increasing, so it is important to study urban growth and energy policies simultaneously.*

In contrast, participants believe that there are weaknesses in the awareness of energy issues within the planning work, causing a neglected area of energy and a focus on planning outputs. For example, RM1 stated:

> *Previous acts in the Riyadh Municipality with regard to energy has been limited to lighting roads. The department lacks a lot of the owners of expertise in the field of energy, and there were no courses to help them to understand the importance of energy. Unfortunately, this matter did not get taken seriously.*

MOMRA2 said:

> *You cannot apply the guidance of energy-related issues without providing a successful planning environment. The current focus on urban growth and urban sprawl, which are the most important current issues we have, but without related to energy.*

## 5.6.    Consensus of Opinions

This section presents a quantitative summary of how the driving forces theme ranked after showing the results of interviews (see Table 5.4). This section has used the technique that depends on consensus between groups to represent a weight of the sub-themes with participants, where (5 of 5) is the maximum consensus while (2 of 5) is the minimum consensus.

| | Themes | Sub-theme | | | |
|---|---|---|---|---|---|
| | | 5 of 5 | 4 of 5 | 3 of 5 | 2 of 5 |
| The Driving Forces | Planning Law | - Appropriateness of planning law | | - The National Spatial Strategy (NSS)<br>- Modification or development<br>- Acceleration in city development | - Analysis of the future expectations<br>- The city vision |
| | Planning Structure | - Urban management | - Centralization | | |
| | Energy Discourse | - The low cost of energy<br>- Energy versus planning actions | | | |
| Total | | 4 | 1 | 3 | 2 |

*Table 5.4 The consensus of the driving forces theme*

***Consensus (5 of 5),*** regarding to driving forces, the participants mentioned within four points, under the planning law theme, that they agreed there is absence of the planning law in the phases of the planning process. On the other hand, in the theme of planning structure the participants agreed that the urban management in the stages of the planning process is limited and closed off. Furthermore, the participants agreed on two points under the energy discourse, where they see the comfortable cost of energy as being one of the main causes of the settlement pattern in Riyadh. However, they agreed that the weakness of dealing with the energy issue with planning actions resulted in planning and urban growth problems.

***Consensus (4 of 5),*** the participants had consensus on one point, which is under the theme of planning structure. However, the participants agreed that the centralization is still an issue even after aggravation of urban growth and rising problems of planning in Riyadh.

***Consensus (3 of 5),*** under the planning law theme, the participants consensus was on three points. The first is that they agreed the NSS did not change the planning process, which is still at the same level of yielding poor planning outcomes. Second, they agreed that the modification or development of the planning law being a long path is a sign that the development path is occurring through the same approach without any advantage. Third, they agreed that the acceleration in Riyadh's development is not compatible with planning law; they believed that has influenced the urban growth process in this city.

***Consensus (2 of 5),*** the lowest consensus among the participants was under the planning law theme and in respect of two points. The first is that they agreed the weakness of analysis of the future expectations has impacted on growth Riyadh. Second, that the service sectors have a different vision in each city in Saudi Arabia. They agreed on this a problem because they forbid the planning law relation with urban issues and city conditions.

## 5.7.   Discussion

The aim of this chapter has addressed the sub-research question of "How the driving forces (planning law, planning structure and energy discourse) in Saudi Arabia have influenced the issues of urban planning and growth?" and provided context for understanding the various driving forces within. The results that are presented in this chapter indicate that three points are the most important and have impacted on urban growth.

### 5.7.1.    Activating the Role of the Planning Law

The results of the above analysis have shown that the variable of planning law has relationships with urban growth, which is the main element of planning control for effective urban growth. But the absence of planning law in the planning and growth stages led to poor growth outcomes for the Saudi cities. In addition, a continuity without updating has increased the deterioration of the planning level due to not keeping abreast of modern development and the acceleration of growth which happened in Saudi cities. In addition, the length of time of the development and modification of planning law, which has remained the same without the implementation of change measures. Furthermore, the urban strategy, which is designed as a road map, has not been implemented properly. In contrast, future expectations were not in conformity with the current reality, with there being a very large difference in expectations.

These findings agree with studies that show how planning law controls the expansion of cities, that precise zoning leads to better growth steps, and that a system of development permission ensures certain levels of growth (Okata and Murayama, 2011). Regards to the planning system having not been updated, Omotola (1991) believes that the old system of planning, or which could be referred to as a traditional system, affects the planning outcomes and which causes urban problems due to being contradictory with current principles and objectives of planning. These results describe the need to pay attention to the issue of planning law in the cities that suffer from acceleration in urban growth. It is likely to be the fault in the incompatibility of the planning law with the current reality, either because the law is unclear or outdated. Constant updating is essential to avoid mistakes that occur in the path of growth within the urban city, which are difficult to be adjusted later.

## 5.7.2.     The Need to Improve Existing Urban Management

This study demonstrates that the weakness of urban management caused the confusion in the path of growth in the major Saudi cities. As well as the style of the central administration for most of the planning business that causes a growth perspective and planning with limited vision, which restricted to persons or a specific sector. Thus, the findings of planning outcomes are limited to specific acts, such as the implementation of the layout, the allocation of housing etc. In contrast, there are not paying attention to the more holistic issues pertaining to the growth issues which are participated by stakeholders of the public and private sectors, multi-level governance. Urban management between urban service sectors in Saudi cities has been through different policies and measures that have taken effect during different periods of city construction. This means that urban development has lacked consistency in terms of policies and implementation. Thereby, this has resulted in a significant change of urban form and growth path in a short period of time.

Krasilnikova (2014) refers to the planning structure being an efficient factor of city growth and its development. However, analysis of the planning structure allows for a determination of the stages of the planning in the city structure in order to understand the opportunities and ways of its development. Urban management ensures the efficient allocation and utilization of urban space. So, urban management arrangements have impacted on the effectiveness of urban government in managing urban growth (Davey, 1993). Fekade (2000) points out that the objective of urban management is to guide and control the growth of cities in an orderly manner, with effective provision of housing, services and facilities. However, the role of local government is providing leadership, to organize and control all local resources and adaptation to the forces of economic change (Mawson, 2009).

The need to reform existing urban management in Saudi cities implies reorganizing and reorienting the urban management bureaucracy through streamlining urban management, and making the bureaucracy less corrupt and more responsible. Moreover, financial and administrative decentralization of planning acts, along with transparency, is a vital component of urban management reform (Dillinger, 1994). The mechanism should be reformed urgently because the old/traditional management mode of the urban cities in Saudi Arabia cannot adapt to city development.

## 5.7.3.    The Path Dependence of Energy

According to the results referred to above, the energy discourses in Saudi have shown an influence on growth in the main cities such as Riyadh. Therefore, the issue of energy in terms of support of residential and transportation has contributed to inflation and rapid urban sprawl of the city. Accordingly, the weakness of the relationship between energy policies and practices and process of urban planning has contributed to the conflicting outcomes between sustainable growth and welfare of society. Moreover, the growth of the city and urban planning are closely linked to the energy issue (Phdungsilp, 2006). However, the situation differs across cities, regions and countries. The energy sector in urban cities is poised to meet growing demands for energy, along with energy security and environmental issues. But a sustainable energy system which addresses environmental issues is still not present in most cities, with an ongoing reliance on fossil fuels (Phdungsilp, 2006).

Patterns of urban settlement, transportation systems, the price of energy, incomes, lifestyles, technologies, industry and climate all influence urban energy use (Dhakal, 2004). Furthermore, as most energy consumption in the world is within urban cities, it is very important to develop energy use strategies. The cost of energy is particularly significant in

mega-cities, especially in countries that export oil, and energy use can be reduced through efficiencies of both users and supply systems.

In parallel with the urban growth literature review, urban development literature has debated whether development or underdevelopment is better explained by history. Several studies have shown that natural features (e.g. energy that uses natural resources such as oil) have a strong impact on long-term development and planning pathway, in both developed and developing countries (Maloney and Caicedo, 2012; Gallup et al., 1999; Motamed et al., 2014; Beeson et al., 2001; Bosker and Buringh, 2015), yielding evidence for how path dependence of energy has had influences on city development (Jedwab et al., 2015). The path dependence of energy relates to both the physical and psychological infrastructure. Patterns of work life and transport reinforce one another. If people become accustomed to commuting by car, it is difficult to get them to revert to other, less wasteful, forms of transport (Patrick, 2010).

Energy has an influential part to play in the urban form and growth of the city, because residential neighbourhoods and growth cannot be established without the presence of energy. However, the path dependencies of energy have important implications for planning decisions in Saudi cities. As a result, one of the roots of path dependence is human decision-making. Fortunately, most decisions are within the reach of governments and leaders that help to control development (Marshall, 2008). This means that decisions of planning may have an impact on urban development.

## 5.8.    Chapter Summary

This chapter has examined the impact of driving forces on planning outcomes through interviews of planners, academics and decision-makers in different sectors, whether government or private. It showed a detailed interpretation of the problem of driving forces through three themes (planning law, planning structure and energy discourse). This was followed by the quantitative summary of the findings. Clearly, the focus among the participants to sub-themes yielded the following ranking of importance: first, planning law, followed by energy discourse and then planning structure.

Overall, by analysing and discussing the findings, the absence of planning law has caused the lack of discipline in the planning and growth process in the Saudi cities. In addition to the strong support of energy, it led to unprecedented growth that resulted in the inability to control the speed of growth in the large cities such as Riyadh. Moreover, the structure of traditional planning had a role in the slow decision-making process in the city that was growing rapidly. The current driving forces of planning law, the structure of planning and energy need to be improved to address the growth outcomes.

# Chapter 6 The Existing Situation of Spatial Planning Practices

## 6.1.    Overview

As was explained in chapter 4, Riyadh suffers from uncontrolled growth due to rapid growth that caused a weakness of infrastructure, inefficient urban services and crowded transportation. The outcomes of the literature review indicate that the spatial planning path has a role in the development and urban space of the city. In Riyadh, the outcome is that the planning practices have not helped to control growth or assisted with the provision of a growth that is sustainable. However, this chapter is a consideration of the in-depth interviews with 35 participants, with the focus being on questions relating to the path of spatial planning practice through four points; settlement pattern, urban design, land use pattern and transport.

## 6.2.    The Spatial Planning Practices

Reviewing the urban growth context of Riyadh (chapter 4) is not enough to understand the framework of how urban planning has developed during the latest period. In this chapter, two key questions were discussed that participants addressed within the interviews, namely to understand the spatial planning situation.

*What is your view of the spatial planning of Riyadh (settlement pattern, urban design, land use pattern and transport)? What do you think are the reasons for the spatial planning situation?*

The objective of the first question was designed to ascertain the participants' opinions on these themes, as a means to obtain some points of the spatial planning practices.

However, the answers of participants from the five groups showed dissatisfaction with the current planning situation of Riyadh. There was a consensus among the participants that Riyadh has a clear problem in urban outcomes such as transportation, rapid urbanization, uncontrolled growth, the weakness of urban design and problems in the distribution of land use.

By analysing interviews, a difference in the balance of participants' concerns was observed. Participants from the academic group focused on (1) urban expansion of the city, causing pressure on services; and (2) transportation and land use problems. For example, ACD5 said:

> *... we find that the same situation, increases in growth and expansion. The reason, there has been a weakness in the relationship between growth and land use. There are many people living in neighbourhoods that are not connected up to services and facilities.*

Further, the academics were concerned about the monopoly of land and the spread of squatters across the city. For example, ACD5 again stated:

> *The big problem in Riyadh is spaces … what we can find in Riyadh is much land that has undeveloped in many areas, north, south, west or in the city centre; that has caused spatial, social and economic problems for the city.*

On the other hand, the senior planners' group in RM, ADA and MOMRA had concerns on the issue of Riyadh's urban design, and they focused on the transport theme. For example, ADA2 said:

> *… the most important issue of urban planning in Riyadh is the problem of transportation. Mobility in Riyadh has become a difficultly, the total dependence on cars. Now, the trip time has increased due to congestion in the city.*

MOMRA3 said:

> ... the important thing in spatial planning is the urban design; in Riyadh, it is still bad and suffers from poor outcomes.

Before the interviews took place, it was expected that the participants of senior planners RM, ADA and MOMAR would be a more response because of their practices close to planning problems. But it transpired that the extent of the planners' criticism was more conservative than other groups.

The last group (OS group), consisting of others in government and private sectors, was concerned about urban growth, but there were not large differences in the answers given by participants in those groups. This group discussed urban sprawl and transport problems as the key problem. For example, OS2 said:

> Riyadh has several problems in urban planning, the more important one is the urban sprawl... and environmental problems that come from the high number of people and the number of cars.

However, the objective of the second question was to discuss the first question's answer, as it was designed to be an open-ended question. All participants' answers were negative responses, meaning all of their follow-up answers were explanations of the reasons for the poor spatial planning situation in Riyadh. According to a review of the literature, the data of the interviews are organised into four themes. These themes are divided into several sub-themes based on the analysis of the interviews (see Table 3.3).

## 6.3.  Settlement Pattern

In the view of all five groups of interviewees, there are serious problems with the settlement pattern, in that it is unclear due to the fast pace of spatial growth and in different directions. As a result, attempts to develop the urban planning path in Riyadh are becoming

more difficult with increased growth. Most interviewees raised this issue of settlement pattern many times in their responses. Academics and senior planners were very interested in this theme. Table 6.1, shows the sub-themes of the settlement patterns conveyed by the participants in the interviews.

| | Summary of settlement pattern obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Urban Sprawl | ● | ● | ● | ● | ● | 5 |
| 2 | Absence of city centre | ● | ● | ● | ● | | 4 |
| 3 | Population distribution | ● | ● | ● | ● | | 4 |
| 4 | The dominant building typology | | | | ● | ● | 2 |
| 5 | Shortage of land | ● | ● | | | | 2 |
| 6 | Isolated development | | | | ● | | 1 |

*Table 6.1 Summary of settlement pattern obtained from interviews*

## 6.3.1.     Urban Sprawl

Most of the participants believed that urban sprawl during the 20 past years, with its development on the outskirts of Riyadh city, was one of the issues that has influenced the outcomes of planning. In fact, this sub-theme was mentioned more than once, with it being the first issue focused on in the interviews by most participants, given that urban sprawl can be observed visually on the ground. However, they agreed that urban sprawl is the main reason for the problems of urban planning in Riyadh. For example, the Riyadh Municipality planners' concerns focused on the problem of the city's urban sprawl and development in outskirts of the city. For example, RM8 said:

> *... the absence of a clear mechanism to control city planning, for example, inside Riyadh there is no governmental land. Currently, there are private lands, because of no land tax, leaving these land without planning contributed to the expansion on the outskirts in order to obtain government land for planning, this contributed to the distortion of the city's growth.*

By contrast, some academics described the change in the urban boundaries as impacting on urban sprawl. Some confirmed that the urban sprawl process appeared more clearly after the city became indirectly managed by real estate interests, looking for a gain in remote areas. For example, ACD1 said:

> *The city has turned into a real estate project, so you see planning decisions that are not strong, meaning there are changes in urban boundaries, because there is pressure from a group of traders who have a good relationship with the Prince of Riyadh.*

On the other hand, some of the participants from Riyadh Municipality pointed out that the dominant settlement pattern is the horizontal growth pattern. They believed this pattern led to scattered developments in Riyadh city. However, they think this pattern causes pressure on the planning actions in the municipality of Riyadh. For example, RM11 said:

> *It is noticeable that in recent times there has been a rise in requests by people to provide services and facilities, due to the horizontal growth within the city of Riyadh; the implementation these facilities, of course, need to be planning, this causes pressure on the planning actions within the municipality.*

RM7 said:

> *Riyadh is still growing by horizontal due to the high increase in urban growth, unfortunately so far, no specific criteria are taken into account in the planning or design of residential neighbourhoods, thereby contributing to the reduction the pattern of horizontal growth.*

OS2 said:

> *If there is no real solution to the pattern of settlement in Riyadh, and therefore the horizontal growth will continue and then will cause create new residential areas close to industrial zones that have been developed outside the urban boundary.*

From the above, it can be seen that horizontal proliferation has been causing glitches in the city of Riyadh, in terms of the style of the city's growth or in pressure within the planning within organisations. In contrast, rapid development was recognised as an influence on the settlement pattern in Riyadh, which in the 1980s, 1990s and even 2000s played a role in development and growth trends. Therefore, rapid development, as a driver of Riyadh's growth, contributed to urban sprawl. ADA2, who works in the Arriyadh Development Authority (ADA), confirms this:

> *... has affected Saudi cities through rapid development in a short period of 50 years and took the repeat style. In the sense that residential neighbourhoods are implemented in a similar manner, an area of 2km by 2km. This approach has been repeated in Riyadh until the city expanded dramatically.*

In contrast, some academics emphasised that the emergence of major projects inside the city caused a change in the growth mode. For example, ACD5 said:

> *The emergence of major projects that have been adopted rapidly, such as Princess Noura University and King Abdullah Economic City. This has contributed to attracting residents, resulting in new growth around these projects, knowing that these projects were not part of the strategic plans for the growth of the city.*

## 6.3.2.    Absence of City Centre

In the view of the interviewees from all groups (except the OS group), there was a serious issue with the city centre in the stages of the planning process; it was and still is a neglected. As a result, attempts to improve the city centre through the planning approach was limited and weak. However, most participants confirmed the importance of the city centre and its association with other areas of the city. The current reality is that the weakness

of the city centre has led to the deformation of the settlement pattern and irregular growth of the city's outskirts. For example, MOMRA1 said:

> *The city centre is the most influential in Riyadh's growth. For example, the old airport is still located in the centre of Riyadh, causing the current growth in Riyadh, which shows ring roads and highways.*

ACD2 said:

> *Although there are important buildings in Riyadh city, such as universities, King Fahd Library, Alfaisalia and Kingdom towers and some commercial centres, these buildings are far away and completely separate from the city centre.*

### 6.3.3.     Population Distribution

The participants who were senior planners of RM, ADA, MOMRA and academics believed that the disparity in population distribution negatively influenced the urban planning in Riyadh. They were also interested in the population distribution, and believed it too can affect the planning path. One of the senior planners who worked in MOMRA indicated a disparity in the density of population. MOMRA3 said:

> *Riyadh is growing, day after day, the variation in the density of the population. For example, the centre of Riyadh has decreased in the density. But, areas with low and medium incomes increased in density. On the other hand, there is low density in some of the new neighbourhoods, because of lack of housing, or the large size of villas. This has resulted in the emergence of an inappropriate settlement pattern.*

Aside from this, the interviewees took the view that migration is affected by city growth, and this was not taken into account. This then leads to a dramatic rise in the proportion of immigration to Riyadh for various reasons such as work, investment or learning. Moreover, many of the municipal members believed that the migration to Riyadh from other cities is the main driving force in changing the pattern of settlement, as there was no government control of this migration. For example, ADA4 said:

*The expectations that have been proposed in previous years, according to the proportion of the population growth. There has been a very large difference. By this, I mean that the issue of immigration has more significantly affected the growth of the city.*

RM1 said:

*Migration to Riyadh has led to overcrowding and everyone wants to live there, due to all government services being available.*

## 6.3.4.    The Dominant Building Typology

The participants who were academics and in the OS groups believed that the previous policies in Riyadh ignored the dominant building typology and demand for land, and its relationship with the planning path. They believed this issue had negatively affected the planning outcomes. This sub-theme appeared in the interviews in two ways: (1) when discussing how the single-house as the dominant building typology had been followed in the neighbourhoods of Riyadh; and (2) when discussing how the urban planning in Riyadh was still related to growth through demand for land. In addition, academics participating in the research stated that the size of villas contributed to the settlement pattern remarkably, with villas different from the Saudi style. For example, ACD6 said:

*The current system for the construction of villas in Riyadh, in general, is taken from the American system. We find the villas are similar and contain a space within each villa, and then leads to a waste of space within the city.*

Senior planners who work in the private sector said that villas are still dominant, even if they do not match the basic design. For example, OS6 said:

*We have so many requests to change the size of residential land into smaller plots for the establishment of small villas, without thinking to move the use pattern of residential apartments. The reason; either the municipal requirements prevent it, or because of the desire of the population for the*

*acquisition of villas. I think these reasons contributed to keeping the villas'*
*pattern.*

On the other hand, participants found that the demand for land on the outskirts of the city is higher than inside the city. Also, they argued that price is the main reason for the demand for land located on the outskirts, and this makes it very difficult to control the growth. Senior planners and academics mentioned this point. For example, ACD2 said:

*Residential land prices within Riyadh city are very expensive, whilst the most of land is large spaces. As a result of prices and the lack of suitable land for middle-income people, there was a search process on the outskirts of the city.*

The participants stated that the majority of land within Riyadh is owned by landowners, while there are few available government lands. Thus, it would not be easy to restructure the urban structure of the city. Hence, the participants believed that the private ownership of land is a driver of growth, both inside the city through the monopoly of the land, and on the outskirts of the city. For example, OS7 said:

*Because of a large number of requests from citizens to obtain the land grant. In addition to the lack of government land within the city, there is vacant lands but owned. There is no system to forcing the owners to plan their land. Therefore, the municipality is obliged to look for other places, even that is far.*

ACD6 said:

*Private ownership of land within Riyadh contributes to disabling urban growth. For example, there are untapped areas in neighbourhoods that have been established for more than 40 years.*

Therefore, the participants believed that the lack of attention to the issue of ownership of land in the earlier phases of the planning process affected the settlement pattern in the later stages.

## 6.3.5.    Shortage of Land

The senior planners in RM and ADA acknowledged that the shortage of land for development can be considered a barrier, and is becoming a critical issue. There is not enough land for development, allowing decision makers the opportunity to put forward ideas to change the city boundaries. Linking this across development projects dispersed around the city presents another obstacle to urban structure. Interviewees argued that the land available for development is detailed enough to control planning. For example, RM5 said:

> *There are requests from the service sectors, unfortunately, it is difficult to find land for the establishment of such facilities for the service sectors. The reason, the shortage of government land in the face of rising population numbers, causing a problem in the growth process.*

ADA1 said:

> *Lack of available land has caused a crisis for housing. The Housing Ministry has a place to set up housing for the citizens, but the place is far and separates from the urban cluster of the city of Riyadh.*

The absence of available land makes development difficult within the urban growth boundary and will impact on future growth as well, if the same planning approach continues.

## 6.3.6.    Isolated Development

Isolated development is a constraint on infrastructure provision. Academics believed that this isolated development has been caused by the authorities. In their opinion, there is a difference in development between the Riyadh Development Authority and Riyadh Municipality, which has led to the emergence of some areas being better than others. For example, ACD1 said:

> *What it did by Arriyadh Development Authority is not like what it did by Riyadh Municipality. Arriyadh Development Authority is focused in the north*

*of Riyadh, and we see Alolaya quarter in the north of Riyadh better than the east of Riyadh in terms of services, facilities and infrastructure.*

So, academics think that the isolated development that comes from various stakeholders makes development difficult and disperses growth. This mean, part of the city is weak and the other part is good, that affected the population to move to the better-served areas.

## 6.4. Urban Design

All the participants believed that urban design is an important factor that has negatively influenced the urban planning in Riyadh. Most participants mentioned it several times, with academics and RM groups mentioning it the most. Maybe they focused on this point more than other groups as a result of field experience and practice. The following sub-themes show the interviewees' beliefs about problems of urban design in Riyadh (see Table 6.2 below).

| | Summary of urban design aspects obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | The design of neighbourhoods | ● | | | ● | ● | 3 |
| 2 | Housing density | ● | ● | | | | 2 |
| 3 | Urban design criteria | ● | ● | ● | ● | | 4 |
| 4 | Impact of change | ● | | | ● | ● | 3 |
| 5 | Impact of decision maker | | | | ● | | 1 |

*Table 6.2 Summary of urban design aspects obtained from interviews*

### 6.4.1. The Design of Neighbourhoods

The participants think the weakness of urban design has impacted on the shape of the city and its growth. The interviewees, especially the academics, believed that urban design with its limited form of 'copy and paste' approach, has impacted on the outcomes of urban planning in Riyadh. Moreover, they said that this design form has been followed by most of

the local planners who work in government sector. They agreed that the current urban design

weakens the efficiency of neighbourhoods, as well as weakening the creativity of design. For

example, ACD1 said:

> *Neighbourhood design goals are four: community, environment, justice and efficiency … Always planners believed that the goal of the design is to collect and analyse data, but this is not the goal of design, although it is the design path. Therefore, now we have boring residential neighbourhoods and similar outcomes, in addition to the large spaces, until the neighbourhoods reached the outskirts of the city.*

The senior planners in Riyadh Municipality believed that most of the plans were done

by the involvement of consulting offices in design, while the involvement of municipality

planner was weak within the process of design. This led to many poor outcomes, because of

the different culture and desire of the designer or owner. For example, RM9 said:

> *In the municipality, there is the freedom in design by the owner and consulting offices, which in turn contributes to change in the form of designs. The most designs do not constitute good characteristics; most are looking for easy implementation and financial returns. Also, I think the weakness of the qualifications of some consulting officers contributes to poor outcomes; I mean they usually follow the style of 'copy and paste'.*

## 6.4.2. Housing Density

A participant (ADA2) from the Arriyadh Development Authority believed that plans

lacked key details about the housing density, specifically the number of houses. He believed

that the number of houses in most residential neighbourhoods was inadequate, due to the

size of housing and architectural systems which were not suitable for the current reality of

Riyadh, and that this led to the proliferation of residential neighbourhoods. He said:

> *Waste of land space has come from two reasons; the number of houses and the practice of building systems. We are still linked to the old system, causing a reduced number of houses in the neighbourhood. Of course, the*

> *lack of a sufficient number of houses in the neighbourhood led to a demand to find another neighbourhood to meet the needs of people.*

Therefore, this participant from ADA pointed out an important issue that has to be taken into account, which is the housing density and its relationship with urban design. On the other hand, participants from the Arriyadh Development Authority and Riyadh Municipality believe that increasing density created challenges for infrastructure. This imbalance contributed to the worsening of some neighbourhoods and pressure on infrastructure. Therefore, the participants from ADA and RM believed that the density issue is not clearly addressed, which means the urban design outcomes do not match reality. For example, ADA3 said:

> *Residential neighbourhoods in Riyadh grow strangely; either a busy neighbourhood or low-density. The question is, what are the criteria used in urban design? Is it taking the side of population density or the expected number of the population? I think these things are missing in the design of neighbourhoods.*

The opinion of RM1 was that:

> *The most crowded neighbourhoods, especially in the east or west of Riyadh, suffer pressure on infrastructure, because of the rising population and the weakness of the neighbourhood design.*

## 6.4.3. Urban Design Criteria

Most of the interviewees (except the OS group) believed that the current urban design criteria are not clear in Riyadh, and in fact in all Saudi cities. However, these opinions were most focused on by some planners and academics, who argued that leaving the urban design criteria in the hands of the private sector, such as consulting offices, reduced the outcome level of urban design and diminished the efficiency of the planning outcomes. They believed

that the urban design criteria currently implemented are different from those adopted by

MOMRA. As ACD6 mentioned:

> *The majority of contemporary residential neighbourhoods in Riyadh city lack the application of design criteria. However, the dominant feature is the division of land. So, we see the design focus on the division of land with land use. So, the city did not achieve urban planning in its comprehensive concept. That's why 40 years ago and to this day, the design still mainly depends on the division of land.*

RM2 said:

> *... the owners of schemes or agencies are responsible for the implementation of residential schemes. I think are the most influential in the implementation of those criteria. This is what we find, the residential schemes on the map do not match reality.*

Therefore, it can be seen that the participants believed that the weakness of the

design criteria, either in application or implementation, resulted in poor planning outcomes,

which in turn affected the growth of the city. On the other hand, the interviewees believed

that there is duplication between specialisation and practice. So, the action of urban design

is under the management of people who are not qualified in urban design issues, causing the

weakness of urban design outcomes. For example, ADA4 said:

> *It is the gap between the architect who works in designing the buildings or the planner who works in designing the neighbourhoods, or the engineer who works in designing the roads and the infrastructure. So, if blunders in responsibilities happen, it causes confusion of urban design within the neighbourhood.*

Therefore, the interviewees believed that the loss of responsibility across the

specialisms increased the number of bad outcomes of urban design in residential

neighbourhoods. Moreover, some of the participants believed that the poor experience of

designers resulted in a lack of creativity in urban design. Also, they agreed that this weakness

led to the poor design outcomes in Riyadh, which in turn affected the urban planning of the city. For example, RM5 said:

*Riyadh Municipality suffers from a lack of good experience in urban design. This shortage leads to repeated design in most residential neighbourhoods in the city.*

In the opinion of ACD1:

*Urban design is still missing, it remains without a clear identity, with everyone working as a designer. An urban designer must know what the community wants, not just draw lines on the map.*

## 6.4.4. Impact of Change

The interviewees believed that urban design professionals showed no initiative for the change in urban design style. However, the planners who worked in urban design departments believed that modifying the decisions relating to urban design is difficult, due to the limits of administrative centralisation that hinder the chance for change. For example, RM2 said:

*Design ideas issued by the Ministry of Municipal Affairs have a significant influence on the design outcomes in Riyadh, given the fact that those criteria are developed for all the cities of Saudi Arabia, whilst knowing that there are significant differences between the cities. Whenever there are centralised standards, change initiatives become difficult.*

Also, the interviewees believed that, despite rapid growth and the number of projects in Riyadh city, people still resisted change. However, urban design is made much more difficult by the opinions of people, which diminishes the quality of design. Therefore, the participants believed that people are the basis of the design process. If they are not part of the plan, there will be resistance from at least one group people, even if the remainder accept the change. Most academics highlighted this point. For example, ACD5 said:

*We can say that urban design, if not placed in accordance with the needs or wishes of the people, will not succeed. However, changes to the style of design is imposed by people, whether it is regular or non-regular.*

### 6.4.5.  Impact of Decision Makers

Two of the academic participants believed that, in the context of poor design outcomes in Riyadh, there is an issue with the decision makers in their implementation of many design decisions. They pointed out that many of these decisions are not thoroughly analysed or studied, due to a lack of checking by the decision makers, which leads to a negative scenario of planning path. However, still this style of design decisions continues with Riyadh until the present time. For example, ACD3 said:

> *To this day, still the decision makers are not interested in urban design, either for lack of experience or because they believe that urban design is kind of beautify the place and is not important compared to the division of land.*

ACD 1 said:

> *... decision maker influential on urban design outcomes, how can this be? When the requests from people increase, the decision maker has no time to check the outcomes of urban design.*

## 6.5.  Land Use Pattern

The participants believed that land use pattern in Riyadh had been ignored until the city reached the poor urban environment, and had negatively affected the growth outcomes in Riyadh. They believed also that the land use approach in Riyadh had not been comprehensive enough. The sub-themes appeared in the interviews in two ways; (1) by discussing the land use planning approach. The argument was that the land use in Riyadh has been very traditional and with the process recurring in the land use planning. (2), by

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discussing that the urban planning path in Riyadh did not consider issues of land use pattern. Table 6.3 below summarises how the interviewees viewed the land use pattern effect on Riyadh.

| Summary of land use pattern issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|
| | RM | ADA | MORMA | ACD | OS | |
| 1 Land use change | ● | ● | ● | ● | | 4 |
| 2 Many plots still blank | ● | ● | ● | ● | ● | 5 |
| 3 Lack of zoning plans | | ● | | ● | ● | 3 |
| 4 Land use upgrades | | ● | | | | 1 |
| 5 Land tax | | | | ● | | 1 |
| 6 Granted plots | ● | | ● | | | 2 |

*Table 6.3 Summary of land use pattern issues obtained from interviews*

## 6.5.1.     Land Use Change

The interviewees believed that the change of land use is one of the urban problems that has impacted on the current land use pattern in Riyadh. Some senior planners argued that there was a lack of clarity in the use of land, with the process of change in land use occurring after the adoption of the basic of the master-plan. Moreover, they believed that the change mostly to residential use, however, the neighbourhoods in Riyadh were dramatically predominantly residential in character. For example, MOMRA3 said:

> *... in the neighbourhood, each direction you look at, it is residential, so, my question is, was the neighbourhood only designed to be residential? If yes, this is a problem, but if it was given a change in land use from facilities or services to residential land, the problem would be greater.*

Therefore, interviewees believed that the impact of land use change has had a negative influence on the results of urban planning, which in turn has resulted in the neighbourhood having a high of population density and poor services and facilities. The interviewees also pointed out that the problem of land use change comes by the re-division of public facilities to residential plots. For example, RM10 said:

*In the past, there were some changes in the use of public facilities to residential use, of course, this has impacted on the neighbourhood ... why the change in those facilities? So, I believe there were problems in the past, and we see the bad results at this time.*

## 6.5.2.    Many Plots Still Blank

All five groups of interviewees believed that there is neglect of the empty or 'blank' land that has still not been used for development, and which has impacted on the urban planning processes through a resultant expansion of the city. They believed that this neglect has contributed to uncontrolled in the city's growth. For example, OS 1 said:

*Empty spaces of land in neighbourhoods caused the problem in the growth of Riyadh city. The problem is that the decision maker still does not provide a clear solution for that land.*

ACD6 mentioned:

*...today, choose any neighbourhood in the city of Riyadh, for example, Sulaimaniya quarter, it was created 50 years ago, but to this day, is still under construction, meaning there are not integrated neighbourhoods.*

Some participants pointed out, there is an availability of a very large plot of land, and it is suitable for the establishment a full neighbourhood within the city of Riyadh, but is still blank and without development. This has impacted on the growth of the city. For Example, RM1 said:

*...the land, which is beside Aljazeera quarter is a large area and the best place for housing but is still not developed. In contrast, we see the request to expand in the north of Riyadh, and whilst we have suitable land in the middle of Riyadh untapped.*

Therefore, the participants believed that the high number of undeveloped plots of land in the neighbourhoods had an influence on the city growth. Hence, if the current situation continues as it is it will lead to more expansion of the boundaries of the city in the

future. On the other hand, most of the participants from the five groups have identified that the limited land within Riyadh city became a barrier. They believed that this limited land resulted in the expansion of the city with the resulting current situation. For example, RM7 said:

> *The tendency of some people, especially real estate traders to hold or monopolise the lands. This led to the shortage of available land whether residential or commercial, whether inside or outside the city. This has hampered the city's growth and developed it.*

ACD5 said:

> *Where can you go if you do not have lands within Riyadh for development? Certainly, you will go outside the urban growth boundary.*

On the other hand, participants believed that the context of the high number of plots of land occupied by government sectors in Riyadh is another reason for the lack of land. Moreover, they agreed most of these this government lands were exacerbated by not using it and maintaining it as blank land. Therefore, the participants believed that the government maintaining ownership of an amount of land that is greater than is needed has contributed to the shortage of land within Riyadh city, which in turn has contributed to the expansion of the city's growth. For example, MOMRA6 said:

> *The largest area in Riyadh city not been exploited and it is located in the centre of Riyadh. The reason is that the land ownership is in the hands of one of the government sectors.*

OS7 said:

> *… close to the eastern ring road, there are large plots of land owned by the government sectors, which was supposed to be placed elsewhere.*

### 6.5.3. Lack of Zoning Plans

The interviewees highlighted the lack of zoning plans, with some of them believing that there is discrepancy with the land uses within each zone. For example; the areas of car workshops are located in good places in Riyadh. Hence, neighbourhoods which are located next to such areas are prone to be undesirable land, and thus will increase the preparation of untapped lands. For example, OS2 said:

> *I am convinced the industrial area in the past was suitable for the establishment of such activity, because it was at that time far away from residential areas, but now it being left without improvements has come to damage the city.*

In contrast, some of the participants described that the zoning to classes of population in the city of Riyadh has impacted on the city's growth process. This shows that the lack of clarity in the zoning plans in Riyadh city in terms of land use or classes of the population will result in floundering growth and unexpected growth. For example, ADA3 said:

> *The city centre of Riyadh has become an area for low-income earners and the poor, and become discouraging to live in. Unlike most other countries, where it is considered the centre of the city is the best place to live.*

On the other hand, variation in land use and development between zones within Riyadh city contributed to the imbalance in growth. A resulted in some land uses in an area, but not be available in another area. This has contributed to leading the growth of the city toward the multiplicity of land use areas. This point came from academics and some senior planners in consulting offices. For example, OS4 said:

> *Land uses in the north of Riyadh being better than the south of Riyadh, in turn, contributed to the growth trend being towards the north of Riyadh.*

## 6.5.4.	Land Use Upgrades

The participant from ADA believed that one of the current problems of growth in Riyadh that can be traced back to the land use planning is the lack of upgrades. However, the planning and development of land use have ceased when the neighbourhood was completed. They believed, many of the neighbourhoods now need upgrading in respect of land use, but these issues have not been revisited. ADA2 said:

> *Improvement in land use within the residential neighbourhood contributes to a curbing of wants to get out of the neighbourhood, whenever the diversity in land use of the neighbourhood became desired. But, the neighbourhood not being updated after its adoption, many changes will have happened.*

As referred to by one of the participants of ADA as being an important issue, changes in the neighbourhoods occur with the passage of time, which requires an understanding of the current needs of the neighbourhood, especially in regard to the land use.

## 6.5.5.	Land Tax

The participants in the academic group took the view that land in Riyadh still without tax is causing incorrect growth in the city. Moreover, they believed that this approach also caused a monopoly of the land. This was confirmed by other participants, who considered that continuing to keep blank land within the city without the imposition of any fees will increase the opportunity for expansion of the city and leave lands untapped within the city. For example, ACD1 said:

> *I undertook a study, which is about charged 1 SR on each metre in Riyadh; as you know this saying, 'no taxation no representation'. Anyway, I have calculated the area of a neighbourhood of 2km by 2 km, yields about 60 million SR. With this, many things could be done, such as in terms of education and health provision, and urban design, etc. At the present, the*

*spending of money incorrectly does not contribute to the improvement of the neighbourhood's situation.*

ACD4 mentioned:

*A monopoly of land within Riyadh city occurred because of a lack of fees for the land, causing extensions on the outskirts of the city.*

RM3 said:

*Most of the lands within the city of Riyadh is owned, causing inflation in the Riyadh city, as there is no land tax and kept it without planning, contributed to the urban sprawl of the city.*

## 6.5.6.     Granted Plots

Some of the interviewees believed that continuous demand from people to get a plot as a grant is a driver that has influenced the planning path and growth outcomes in Riyadh. The most focused on this sub-theme was senior planners from RM and MOMRA. For example, RM10 said:

*Demand for granted land by the people is on the rise, but there is no land in Riyadh. What is there to do? In the past, we were looking for land outside the urban boundary and then submitted it to the Ministry for approval, but this has been stopped by the Ministry, although granted land demands are still on the rise.*

On the other hand, a senior planner from MOMRA group believed that the current housing pattern needs time to change due to the people's traditional perception of how to get a house. MOMRA5 posed this point as a driver in the issue of land use in Riyadh:

*A lot of people want a single house, this caused rapid growth and there was a shortage of available land. However, the rising of demand for villas without thinking about apartments as another solution would require the expansion of the outskirts of the city.*

## 6.6.    Transport

All the participants argued that transport has had negative influences on growth in Riyadh whether in the past or now. The interviewees agreed that the high rate of transport in Riyadh specifically presented a challenge to the planning path and development process. On the other hand, the interviewees agreed that the fast growth rate that has happened in the last years, with the oil available, has led to increased use of fuel in Saudi Arabia. The interviewees all believed that transportation was a key impact on city growth. Table 6.4 shows the participants' views about the transport effect on Riyadh's growth divided into three sub-themes.

| | Summary of transport issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Cheap fuel | ● | ● | ● | ● | ● | 5 |
| 2 | Problems of transport | ● | ● | ● | ● | ● | 5 |
| 3 | Transport and land use | | | | ● | ● | 2 |

*Table 6.4 Summary of transport issues obtained from interviews*

### 6.6.1.    Cheap Fuel

The cheap fuel, in combination with the government's policies in Saudi cities, had an effect on Riyadh's growth and planning. However, it had negative outcomes, such as higher mobility that led to rapid growth and pressure on the urban infrastructure. As a result, there emerged a challenge for Riyadh's urban transportation, and these challenges were aggravated because of the poor decisions that had been made in the past.

Most of the participants believed that the poor coordination between the cheap fuel phenomenon and the planning path has consistently impacted on the growth in Riyadh, as well as other Saudi cities. They also agreed that reducing the fuel cost led to rapid urban growth in Riyadh. However, urban expansion of the city is always linked to the development

of transport and the extent of the availability of energy sources. So, the participants believed that the cheap fuel has impacted on the planning process, and become a problem in Riyadh and the other main Saudi cities. This point was mentioned more than any other in the transport theme, with participants raising it more than once in their responses. For example, RM6 said:

> … that one of the reasons for growth within Riyadh City is the low price of fuel; whenever the price has increased, there has been less consumption whereas, in contrast, the lower the price in Saudi cities leads to a rise in growth within the cities, with an increase in the cars use.

OS5 said:

> The low cost of fuel in Saudi Arabia has contributed to the increased use of cars, and in the high number of daily trips within the city.

On the other hand, the reliance on cars being a cheap and cost-effective form of transport influenced the changing lifestyle of the population in Riyadh City. The participants believed that this led to a change in the distribution pattern of land use, with people finding that the workplace, services and facilities were becoming far away from their accommodation. This has been confirmed in the interviews, for example, ACD1 said:

> The style of life of the community in rural and urban areas has changed because of the rise in the use of cars. This has been affecting the city's growth and the distribution style and land use, as well as the places of concentration of population and the densities and the demographics.

In addition, participants believed that the poor outcomes in Riyadh came from stakeholders who were not working together from the beginning, such as MOMRA, RM and ADA. Moreover, there is lack of a clear vision of the full scope of the planning. For example, ADA3 said:

> *There was not a good correlation between the decline in the price of fuel and planning issues in Riyadh, causing the current growth.*

Furthermore, the participants believed that the issue of fuel prices has a role in controlling urban growth within Riyadh. Whenever there is a control on traffic and transport, there is the ability to control the growth, and thus improve the level of planning in the city. For example, RM1 mentioned:

> *Higher energy prices will contribute to the reduction of the daily trips, and reduce the demand for the extension of the city.*

## 6.6.2.    Problems of Transport

Most of the interviewees from all groups believed there is a transport problem, with the high number of cars and traffic. As a result, attempts to solve the transport issue in Riyadh using planning practices were unsuccessful. Many of these points were discussed in the interviews: public transport, parking, the high number of cars, and traffic and awareness of transport. Therefore, the participants believed that the problems of transport have impacted on the planning process and urban growth within Riyadh.

Some of the interviewees believed that the non-existence of public transport was one of the issues that impacted on urban planning outcomes. Moreover, interviewees believed that the rise in the private transport rate in the city created a serious problem. They believed that the most important reason is the current absence of public transport. For example, ACD4 said:

> *Surprising that the public transport still neglected in Riyadh, and in the cities of Saudi Arabia. Also, ownership of the car is still dominant in the city. So, you see the expansion of the city is increasing rapidly.*

ADA1 said:

> *Rapid growth and development pay the price of the absence of a public transport system ... my opinion is that the reason for the absence of public transport is that the company that took the public transport project focused on the transportation between cities and ignored the transportation within the city.*

Some of the interviewees pointed out that the plans of transport in the last period have ignored the social patterns within Saudi Arabia. Moreover, they argued that the plans for public transport came with weaknesses in awareness. For example, ACD2 said:

> *There is a poor correlation between community culture and public transport in the city of Riyadh.*

RM1 said:

> *I think a misconception from the community, they believe the public transport is for workers and the poor, and which has contributed to the community ignoring the issue of public transport.*

On the other hand, participants believed that neglect of the issue of transport within the planning process could be attributed to problems with the planning outcomes. As such, participants from the academic group confirmed that Riyadh's transport plans have led to unsuccessful planning. For example, ACD1 said:

> *A poor transport outcomes appeared from the planning of landowners, because they are looking for the best return and left out the issue of transportation. Then, if you need to improve transport in the future, you have to pay high sums such as 500 million SR to build a bridge to solve those problems.*

ADA4 said:

> *The problem is Riyadh planning, how you want to activate the public transport, while the city is not designed in order to use public transport.*

In contrast, some of the participants from academics and senior planners believed that car parking is a poor outcome in Riyadh, with increased the growth of the city. Furthermore, the car parking situation, in particular within residential areas, showed another insurmountable obstacle to an unclear planning path. In this aspect, participants believed that the car parking policies were not sufficient for the success of the planning process. For example, ACD4 said:

> *One of the biggest problems in Riyadh city is the car parking, it is almost never available, and it is difficult to get a parking space... the reason is, in the planning process there was a lack of interest in the issue of parking.*

RM2 said:

> *Through the last 10 years, there have been changes in land use from residential to commercial and mixed land use, which has led to the height of buildings in residential neighbourhoods ... of course, the parking number would be insufficient for these places.*

On the other hand, the concept of everyone wanting a private car and having an addiction to the automobile has impacted on the planning and growth of Riyadh. That has led to a rise in the number of cars and traffic which has caused pressure on the planning process. This point was highlighted by some planners who are working in RM and ADA. For example, RM3 said:

> *Everyone has a car within Saudi society, there are no restrictions or strict conditions for the acquisition of the car ... we find in one house more than two cars, a car for father, car for son, car for wife. Those high numbers of cars cause pressure on the planning process.*

## 6.6.3.    Transport and Land Use

The interviewees believed that the gap between transport and land use has impacted on urban planning in Riyadh, with it not being an interlinked process that sustains urban

planning and allows for improvement of the planning outcomes. This theme was highlighted by senior planners in the OS and academics groups. Participants did not use many different terms to make this point, instead mainly using the term 'transport and land use'. The interviewees took the view that limited transport relationship with land use had affected the urban growth in Riyadh, primarily by making it the case that land use influenced movement within the city of Riyadh, and which had led to pressure on transport networks. Therefore, the participants believed that the weakness of the relationship and integration between transport planning and land use has resulted in poor planning outcomes, and in turn caused unsustainable growth. For example, OS1 said:

> *…mobility between the north and south of Riyadh comes because of land use. I can say there is no adjustment of land use, for example, certain essential uses of land located in the north of Riyadh ware not available in the south of Riyadh, and so on.*

ACD5 said:

> *The integration of the distribution of transport and land use planning in Riyadh could be described as missing, with transport planning acts in isolation from land use causing disruption in the movement within the city.*

# 6.7. Consensus of Opinions

This section shows a quantitative summary of how the spatial planning theme was ranked after showing the results of interviews (see Table 6.5). The same technique has been used here as in chapter 5, which depends on consensus among groups to represent a weighting of the sub-themes with participants. However, (5 of 5) is the maximum consensus while (1 of 5) is the minimum consensus.

<table>
<tr><td rowspan="2"></td><td rowspan="2">Themes</td><td colspan="5">Sub-theme</td></tr>
<tr><td>5 of 5</td><td>4 of 5</td><td>3 of 5</td><td>2 of 5</td><td>1 of 5</td></tr>
<tr><td rowspan="4">The Spatial Planning</td><td>Settlement Pattern</td><td>- Urban Sprawl</td><td>- Population distribution<br>- Absence of city centre</td><td></td><td>- The dominant building typology<br>- Shortage of land</td><td>- Isolated development</td></tr>
<tr><td>Urban Design</td><td></td><td>- Urban design criteria</td><td>- The design of neighbourhoods<br>- Impact of change</td><td>- Housing density</td><td>- Impact of decision maker</td></tr>
<tr><td>Land Use Pattern</td><td>- Many plots still blank</td><td>- Land use change</td><td>- Lack of zoning plans</td><td>- Granted plots</td><td>- Land use upgrades<br>- Land tax</td></tr>
<tr><td>Transport</td><td>- Cheap fuel<br>- Problems of transport</td><td></td><td></td><td>- Transport and land use</td><td></td></tr>
<tr><td colspan="2">Total</td><td>4</td><td>4</td><td>3</td><td>5</td><td>4</td></tr>
</table>

*Table 6.5 The consensus of the spatial planning theme*

*Consensus (5 of 5),* as the first issue, the participants ranked in the urban planning theme 'many plots still blank' in the theme of land use pattern, as well as 'cheap fuel' and 'problems of transport' in the theme of transport. Also, under the settlement pattern theme, the participants were in agreement that the urban sprawl and development in outskirts of the city was one of the reasons that caused the uncontrolled growth in the city of Riyadh. Their agreement was that this outcome failed in the planning path in Riyadh. In contrast, there was no consensus (5 of 5) on the theme of urban design.

***Consensus (4 of 5),*** in respect of the settlement pattern theme, the participants were in agreement that the disparity in population distribution and weakness of the city centre were reasons that caused the uncontrolled growth in the city of Riyadh. On the other hand, in the urban design theme, the participants believed the weakness of the application of urban design standards had caused poor planning outcomes in residential neighbourhoods and the city. Also, they see land use change under the land use pattern theme has had a negative impact on the results of urban planning, which in turn had caused the neighbourhood high population density and poor services and facilities.

***Consensus (3 of 5),*** in the urban design theme, the participants agreed that the poor urban design weakens the efficiency of neighbourhoods, as well as the impact of change has contributed to the success of planning. Through land use patterns, participants were in agreement that the lack of zoning plans in Riyadh city in terms of land use has resulted in floundering and unexpected growth.

***Consensus (2 of 5),*** there were four points of consensus on the subject of urban planning in respect of two of the groups. Under the settlement pattern theme, the academics and OS groups were in agreement that ignoring the dominant building typology and demand for land and its relationship with the planning counted among the issues that negatively influenced planning in Riyadh. Moreover, under the settlement pattern theme, the planners from ADA and RM agreed that the shortage of land for development allowed the decision makers the opportunity to put forward ideas to change the city boundaries. In terms of urban design, there was agreement that the housing density and its relationship with urban design has impacted on the growth of the city. Under the land use pattern theme was that the continuous demand for grants of plots has been a driver that has impacted on the growth path in Riyadh. On the other hand, in respect of the transport theme, there was agreement

that the weakness of the relationship and integration between transport planning and land use resulted in poor planning outcomes, which in turn caused unsustainable growth.

*Consensus (1 of 5),* in terms of a single opinion, academics agreed under the settlement pattern theme that the isolated development that comes from various stakeholders makes development difficult and disperses growth. Also, the academics agreed under the urban design theme that the weakness of the role of the decision maker in the urban design issues allowed for negative scenarios of outcomes. Under land use pattern, planners from ADA see many of the neighbourhoods in need of upgrades in land use, but that these issues have not been revisited. In contrast, academics believed that the issue of not pay tax land had caused city's growth incorrect, and causing a monopoly of the land.

## 6.8.    Discussion

The objective of this chapter is to assess the impact of the spatial planning practices on the issues of urban growth, and to provide a context for understanding the various practices within. The results that are presented in this chapter indicate that four elements have contributed to change the urban growth pattern in Riyadh, those of settlement pattern, urban design, land use and transportation. These were influential in the current pattern of growth in Riyadh, although there was a difference in consensus between the participants' responses as shown in the previous section.

### 6.8.1.    Dealing with Settlement Pattern

The main finding of settlement pattern is that it is unclear and dispersant, causing the growth of Riyadh city to occur randomly. It was obvious from the responses that there was concern among the participants about the issue of urban sprawl, where there are still practices for the establishment of residential neighbourhoods on the outskirts of the city.

That means continued growth, whereas in contrast there is empty land within the city, as mentioned in chapter 2. These findings concur with other studies that show that urban sprawl must induce growth in urban cities (Glaeser and Kahn, 2004; Bhatta, 2010). These results describe the impact of those practices that are still practised by decision-makers and planners in respect to the city's growth, and are required to be stopped.

The study showed that the design of housing caused the expansion of the city because of the size of the buildings, with these being characterized by large- and medium-sized properties. The preparation for a high population in Riyadh included the requirement of the provision of housing and this in turn contributed to the city's growth and urban sprawl. In contrast to some studies in the literature (e.g. Burgess and Jenks, 2002; Burton et al., 2003), this study refers to the importance of compact cities by making use of the land area as much as possible without an overstatement of buildings size.

Further, this study showed that the monopoly of some large lands within the city by government sectors caused the search for alternative areas on the outskirts of the city. This is in line with what is referred to by Bhatta (2010) and Okata and Murayama (2011), in that the lack of available land in the centre of the city is one of the reasons for the growth in the city's outskirts. Through the above-mentioned, it may be possible to adjust the pattern of settlement that affects the growth of the city through three elements: control of urban sprawl, reconsider the sizes of buildings, and consider the monopoly of land within the city.

## 6.8.2.    The Development of the Style of Urban Design

The findings of this part are in line with previous research where a strong relationship between city growth and urban design has been reported in the literature (see Sternberg, 2000; Arbury, 2005; Porta and Renne, 2005). The current study found a relationship that

emphasized the impact of urban design on urban growth. This part of the study has shown that the status of the urban design in Riyadh was weakening the efficiency of neighbourhoods. The reason is redundancy in the style of the design and exaggeration in the neighbourhood size that was causing the expansion of the city.

Another point that was yielded by this study was the issue of leaving the urban design criteria in the hands of the private sector, such as consulting offices, of those who have a limited experience given that most of them do not have a good background on the local reality of Riyadh, and most of the staff in these offices are not local planners. This reduces the outcome quality and also reduces the efficiency of the urban planning process. So, we find that some urban designs that have been carried out by those special advisory offices have tended to target real estate more than in achieving the wishes of the community. This refers to the importance of the interrelationships between urban design, the property industry and the development process (Rowley, 1998), in order to maintain an appropriate balance between the objectives of the real estate sector and the requirements of society in the urban design process.

Moreover, there are weaknesses in the review and study of urban design decisions by decision-makers. It has been confirmed by Batty et al. (2000) that the improvement of the city depends on the understanding of decision-makers on urban design issues. These points that come out of the urban design situation in Riyadh reinforced the recommendation for the introduction of development of urban design programmes for improvement of the planning and growth outcomes.

### 6.8.3.        Uncertainty in Land Use Pattern

This chapter has shown that the lack of clarity in the use of land in Riyadh, with the process of change in land use that occurs after adoption of the basic outline of the neighbourhood, the long distance between land uses and the weakness of land use relationships with each other are the other reasons for expansion of the city's growth. These findings concur with other studies (Meyer and Turner, 1992; Aljoufie, 2012) that show the strength of the influence of changing land use on the expansion of urban growth. Additionally, Zitti et al. (2015) agreed that the urban land use efficiency has an impact on adjustment of city growth. However, this finding of land use in Riyadh was expected due to the weakness of urban design outcomes.

This study reinforces the recommendation for linking urban design to land use with an emphasis on no change in those uses. In addition, there is the need to update land use, especially in residential neighbourhoods which are still suffering from a shortage in the availability of services and facilities as pointed out by the participants.

Furthermore, interviewees emphasized an issue that was mentioned in chapter 4, namely the presence of large empty areas of land that have not been utilized in solving the problem of the city's growth. Therefore, the development of that land commensurate with its surroundings is essential to curb urban sprawl. One of the solutions indicated by some participants is a need to impose taxes for the land to limit the search for land in the outskirts of the city, suggesting that the land tax is potentially a powerful tool for rapid urban growth and urban sprawl (Banzhaf and Lavery, 2010).

### 6.8.4.      Fast Growth of Private Transport

The results of this chapter have shown that private transport, in tandem with cheap fuel, has had a large influence on growth and the planning of Riyadh. Therefore, the lack of coordination between the phenomenon of cheap fuel and the process of planning in Riyadh, was one of the key episodes that has governed the continuous growth process in Riyadh. These results are consistent with those of Ortuño and Fernánde (2013), who found that changes in fuel prices have an impact on the growth of the city, but only if there is a corresponding decrease in urban sprawl. High fuel prices lead to a decrease in mobility, leading to a rise in the mutual spatial proximity of destinations (Dodson and Sipe, 2008). Therefore, cheap fuel could be a major factor causing Riyadh's growth. Whenever there is a control on traffic and transport, there is the ability to control the growth, and thus improve the level of planning in the city.

It was agreed by participants with a background of transportation in Riyadh that problems of transportation are not restricted to the price of fuel only, but that the lack of public transport within the city caused a dependence on private transport. These results corroborate the outcomes of some studies (e.g. Hart, 2001; Handy, 2005; Ma and Xu, 2010; Bhatta, 2010) which suggest that public transport is the key driving force to curb the spatial expansion. Although this study was conducted in Riyadh, the results should be similar for other cities of Saudi Arabia due to them following the same approach of planning practice. So, the most likely explanation of the negative finding is the weakness of transport policies in Saudi Arabia, and not a link to urban growth issues. However, an implication of these findings is the need to improve the level of transportation to avoid continuing the growth, which is causing a burden on Riyadh city.

## 6.9.    Chapter Summary

This chapter encompasses the second section of the empirical research. The objective was to evaluate the situation carried out in the chapter in the context of urban growth in Riyadh (Chapter 4). Furthermore, it sought an understanding of planners, decision-makers and academics' opinions towards planning, through determination and analysis of the themes of spatial planning that control the growth of Riyadh city. According to the interview analysis, it can be seen that the four themes did not help to solve the issues that related to the urban growth path in Riyadh, but instead resulted in a worsening of the growth problem.

Participants in the research raised several issues which were the reasons for the current situation of planning and growth in Riyadh city, and they agreed that the current approach to planning needs to be changed to address the growth issue. These findings can contribute considerably to require attention to be paid to the development of spatial planning practices, which include the settlement pattern, urban design, pattern of land use and transport to improve the growth and planning outcomes in Riyadh. The next chapter seeks to present and discuss the situation of the planning environment and its relationship with the practice of planning in order to identify other reasons that have been led to weak growth management in Riyadh.

# Chapter 7 The Planning Environment Versus the Urban Planning Practices

## 7.1.    Overview

After analysing the discourses of the driving forces that have impacted on urban growth (chapter 5) and the situation of spatial planning practices (chapter 6), the focus now turns to the urban planning environment, with it being a key element that affects the path of growth and planning in the city. Whenever the planning environment can be considered as successful, the planning outcomes can be expected to be better. In contrast, whenever the environment suffers from problems, the planning outcomes will tend to experience weakness and failure.

## 7.2.    The Planning Environment

The chapter focus on matters concerning the planning environment through five points that identified in the literature review (professionals, decision-making, work environment, participation and data). To gain an understanding of the changes and improvements that may impact on the planning and growth process. In this way, the researcher hoped to extract some points that may not have been expressed in the spatial planning and discourses that have been reviewed and the perception of the planning environment situation in Riyadh. In this chapter, the researcher posed two key questions to the participants within the interviews to understand the situation of planning environment.

*What is your view of the planning environment (professionals, decision-making, work environment, participation and data)? What do you think are the reasons for the*

***weakness or success the planning environment?***

The objective of the first question was designed to see the participants' opinions on the existing planning environment of Riyadh, as a means to get some findings in support of the thesis. It was clear from the answers of the participants from the five groups that they showed dissatisfaction with the current planning environment. There was a consensus among the participants that Riyadh has a clear shortfall in the basic necessities of the planning environment. The participants also pointed to the situation has become increasingly worse, because it has continued in the same way. However, by analysing participants' responses, a similarity is noticeable in the balance of their concerns about this situation. For example, ACD2 said:

> *Here in Riyadh or in other Saudi cities as well, the plans are thrown into the open air, you do not know who is responsible for these plans, so you see chaos in the environment of planning.*

ADA1 mentioned:

> *The planning environment is not good, we are still suffering from the same problems, especially in the municipalities, which are considered an influential sector in the development of planning for the city.*

RM3 said:

> *What we are experiencing in municipal Riyadh is the weakness of the planning environment, so the planning outcomes have not changed; the environment has become inappropriate to the reality of the city.*

OS6 who is working in a consultant office in Riyadh, said:

> *The situation of the planning environment in the sectors that are responsible for the planning has not developed yet. So, we see there is a big difference between the planning environment in the private and the government sectors.*

However, the objective of the second question was to open a discussion about the causes of the weakness or success the planning environment in Riyadh and, furthermore, to allow us to compare the participants' views. However, it was designed to be an open-ended question. Most of the participants' answers were negative responses which means all of their follow-up answers were explanations to understand why the planning environment situation is weak. According to a review of the literature, the data of the interviews are organised into five themes, under the influence of the planning environment. These themes were divided into several sub-themes based on the analysis of the interviews (see Table 3.4).

## 7.3.    Professionals

The participants involved in the research believed that most of the professionals had not given a good solution for the growth path in Riyadh and these professionals' positions had an impact on planning outcomes. In contrast, they believed that the professionals are a key driving force for reaching sustainable growth, so, necessarily they need to develop them. In this part, the participants addressed this theme under four sub-themes, as follows.

| | Summary of the professionals obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Shortage of local planners | ● | ● | ● | ● | | 4 |
| 2 | Planners' limited experience | ● | ● | ● | ● | ● | 5 |
| 3 | Development of planners | ● | ● | ● | ● | | 4 |
| 4 | Reliance on consulting offices | ● | ● | ● | ● | | 4 |

*Table 7.1 Summary of the Professionals obtained from interviews*

### 7.3.1.    Shortage of Local Planners

All groups (except the OS group) agreed that the shortage in the number of local urban planners in Riyadh proved to be disadvantageous in the planning environment, with drawing up and implementing urban plans and its development. The planners were the most frequent

to mention this issue because of their closeness to the practice. For example, MOMRA6 said:

> *The planning actions are often undertaken by persons either from an engineering background or other disciplines. So, you see the number of planners who have worked in the planning is few and low experienced, or mostly turning to administrative jobs. The question is, how many local planners are practicing planning at the present? I believe the number is still not enough.*

RM9 said:

> *Before we discuss the employees' expertise, we have a shortage of staff in local planners, which has led to a burden of the work outcomes due to the pressures that accompany the employee.*

Many participants argued that the difficulty to attract planners with good experience in urban planning area has contributed to the low level of the planning process and needs to be given some serious consideration. They believe steps should be taken to improve the outcomes in this respect. The interviewees believed in the importance of facilitating procedures to attract planners who have significant qualifications and experience in the planning field. For example, RM1 said:

> *Choosing planners is something that has been suffered by most government sectors, the choice of local planners is not made by us, but by the Ministry of Civil Service. This has caused us some problems, as a few of them have been found to be outstanding in the urban planning field, and some have had backgrounds as an architect or civilian.*

ACD2 said:

> *Responsible sectors for development and planning suffer from a shortage of competencies in the field of planning. At the level of Saudi Arabia, ask me how many excellent planners are there? I cannot mention the names of those who have a good experience on the issue of urban planning.*

Also, some participants in RM and MOMRA raised the issue of the weakness of taking advantage of the people who have retired, and those who have a history and knowledge

about the changes that have occurred in Riyadh city. Moreover, those who made this point believed in the importance of previous experiences which have come from retired planners. For example, MOMRA6 said:

> *It's sad to lose some people after retirement, those who have had a long experience in planning. I see it is necessary to take advantage of them because they have a better vision than others due to their long experience.*

On the other hand, participants suggested that it is necessary to increase the number of local planners for involvement in urban planning. They believed that would ensure local needs of planning would be improved in the planning path and its outcomes. For example, ACD4 said:

> *To improve the planning outcomes, we need to focus on local planners; they are the people who best know the city's needs.*

## 7.3.2.     Planners' Limited Experience

The participants believed that the lack of experience is a problem. They considered that the planners still have limited practical experiences, even the planners who had studied in the field of planning and urban studies. The argument is that the local planners, including the new graduates, have limited experience, while most actions in the planning field are still managed by foreign planners. This argument was noted by academics and by some senior planners in ADA and MOMRA. For example, ACD3 said:

> *For almost 30 years, the Saudi planners were very few in number, with many planners from nearby countries or western countries. This is one of the reasons for the low level of local expertise.*

ACD2 said:

> *Do not say those who got a degree in Planning from King Saud University or Dammam University, they are planners. They are not planners, they are*

*assistant assistant assistant planners; after 10 years of hard work and perseverance, they can be thought of as planners.*

Some participants believed that the local planners are not qualified to the required level within the planning institutions that are very strongly linked to the government sector. From all three groups (RM, ADA and MOMRA) pointed out this point. For example, RM4 said:

*Planners have expertise but which is limited, and those who have expertise leave after a period of time.*

ADA1 said:

*Governmental sectors are suffering from poor experiences, unfortunately, the planning and development are done by those who have a little experience.*

On the other hand, the weakness of the link between the theoretical side and the practical side was raised by some participants. The point was mostly addressed by some planners and academics. For example, RM11 said:

*… need to bring employees with high expertise in order to build a team contributes to raising the level of planning and development. Also, by taking advantage of the local academics who have a high level of expertise, and who contribute to linking theoretical issues with practice issues.*

In addition, another issue raised by some participants was in regard to experience, notably the large gap in experience between the manager and senior planner. They believed that this impacts on the planning process and will impact the future vision. For example, RM3 said:

*The expertise level in Riyadh Municipality is uneven, sometimes you find that the difference in experience and knowledge between a manager and planners is large. This has caused an imbalance in the planning outputs.*

The participants from RM, ADA and MOMRA stated that the planners often work with

people's requests. However, they believed that the planners' time was mostly spent dealing with people's issues and the most important problems on the plots, but that not enough time was spent on urban planning or its development. This impacted the current planning, and if it remained the same, it would impact planning in the future. One of the planners in ADA was very critical about this issue. ADA1 said:

> *The Ministry of Municipal and Rural and Riyadh Municipality are focused on granting land to citizens or solving their problems. This has led to no understanding of the urban context, and has caused sprawl.*

Moreover, the participants believed that this lack of Interest in the planning field such as land use by specialists in the concerned authorities in the planning process has affected Riyadh's growth. RM9 commented:

> *To be honest with you, the planners in Riyadh Municipality have not succeeded in how to best use the land in the area.*

Overall, without the knowledge that comes from experience, participants agreed that the two sub-themes that are mentioned negatively affect the planning outcomes. The two sub-themes below address the participants' views of the deficiencies in the role of Riyadh's local planners.

### 7.3.3.    Continuing Professional Development

In this sub-theme, many participants considered that the increase in the skills of local planners is necessary at present to be able to improve the planning path. On the other hand, they argued that the skill programme is still poor, and they also believe there are problems in the development and training issues. This is not conducive to an improvement in urban development. For example, RM8 said:

> *We need to develop local expertise to improve and develop the city's planning actions. If foreign planners leave the country without developing local planners this will affect the city outcomes.*

MOMRA6 said:

> *I think that the problem is not only in the municipal sector, but all sectors of the state. There are young and enthusiastic planners but they are surprised with three things: first, lack of training and developing noticeably...*

ACD1 said:

> *The development of human competencies is able to advance urban planning responsibilities to achieve development, but most planning decisions in ministry do not touch the competencies of local professionals.*

Some of the participants considered that there is a real need to find a mechanism to improve the training programs. They argued that the current training programs do not provide the required development due to being limited and weak. For example, RM5 said:

> *We as planners, we are suffering from how choice the courses for improving planning skills. The choice of the training programs is made by the sector, not by planners, which has led to a reluctance of local planners to the personal development.*

ADA4 mentioned:

> *A knowledge clause within the terms of developmental projects is one of the most important things that can be developing local planners. However, when the project cost becomes high, the first thing they do is cancel the knowledge clause. Of course, this will not lead to developing the local expertise.*

Also, some participants raised the issue of availability of institutions interested in the development of local planners. They claimed there is a need for improvement of institutions, most notably owing to the weakness of the institutions in respect to training. For example, ACD5 said:

> *There is a need for special training programs for planners, however, the issue is the lack of institutions that interested in the development of local planners.*

ACD1 said:

> *There are weaknesses in the teaching at universities, due to lack of link with reality and thus the outcomes will be poor.*

ACD5 stated:

> *Shortcomings in academics are possible. Because the demand for the profession is very high and even professors have become not able to teach adequately.*

MOMRA1 said:

> *It's not good to put the graduates into practice directly. Take the example of doctors - Do they do operations immediately? So, we need institutions to develop planners, and also associations to develop the graduates. They are not ready to work immediately in planning.*

## 7.3.4. Reliance on Consulting Offices' Expertise

The participants in the research indicate there is a reliance on foreign expertise more than on local expertise. They argued that experts were still limited in the sector who had responsibility for planning to develop the city; this led to the hiring of foreign experts as consultants. As a result of this, the urban policies came in with western concepts. However, participants for the four groups (RM, ADA, MOMRA and ACD) did not agree with this continued reliance on foreign expertise in the planning of Riyadh. For example, RM3 said:

> *The number of local planners in Saudi Arabia is few and there is limited experience. As some government sectors are associated with the foreign offices for some development projects, unfortunately, the result is foreign ideas that do not relate to the local reality.*

Also, participants believed that the reliance on consulting offices has become a

problem, due to the weakness of outcomes from these offices. They believed the administrative framework needs to be reorganized and with an adjustment to the level of participation of consulting offices. Most of the senior planners and academics call for a restructuring of the whole planning system. For example, MOMRA2 said:

> *There are weaknesses in the planning outcomes of consulting offices, and we see some consulting suffer to complete planning projects.*

RM3 mentioned:

> *Unfortunately, consulting offices have become more interested in bringing foreign labour from abroad than in the completion of their work.*

ACD2 stated:

> *The big problem that we observe in the consulting offices is the lack of creativity, similarity in planning outcomes with just a copy and paste approach. This means that what's done in the planning in southern Saudi is transferred to central or northern Saudi, while that the situation there is different.*

Participants of the ADA and academics groups believed that there is a limitation of local consulting offices. Therefore, the concentration of planning authorities to choose the foreign consulting offices. For example, ACD2 said:

> *There is a lack of trust of local offices in all areas. So, now the projects are mostly for foreign companies. The market of architecture and planning in Saudi Arabia is mostly for foreign offices and few projects are being contested by Saudi offices.*

ADA4 said:

> *We still to this day, through updating the master-plan for Riyadh city, we find the same style and the same problem. Only two consultants who responsible for planning, and they are foreign consultants, and with the local consultants being completely isolated.*

On the other hand, some participants said that the constraints that restrict the process

of participation of local offices were confined to two points: the procurement system and centralized decision-making. On these points, ACD3 said:

> *when there is an insistence on the same procurement system, this will not contribute to the development of the Saudi planners.*

ACD7 stated:

> *The centralized decision maker choosing some foreign offices has contributed to the weakness of participation of the local offices, so we see that the Saudi planners of local offices are weak.*

## 7.4. Decision-making

One of the issues that affected the path of growth and planning in urban cities and has faced in Saudi cities for planning is decision-making, with the question being who is the decision-maker and how is the decision made? The researcher found through the interviews that the decision-making processes are seemed to be a lack of coherence and deviate from the basic plan. However, all participants addressed this theme under two sub-themes, as follows.

| | Summary of decision-making obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Decision-making process | ● | ● | ● | ● | ● | 5 |
| 2 | Decision-maker | ● | ● | ● | ● | ● | 5 |

*Table 7.2 Summary of decision-making obtained from interviews*

### 7.4.1. Decision-making Process

The participants believed that the improvement of the urban development path in Riyadh needs to improve the decision-making, not only to find possible solutions to urban problems but also to develop the decision-making process. Most of the participants believed a need for a rapid intervention in the issue. Due to, they argued achievement of the main

objectives from the decision-making currently could be reaching low levels. All groups involved in the research referred to this sub-theme. For example, ADA4 said:

> *Planning decisions have been made on the basis of global methodologies without taking into consideration the current situation of the social and administrative sides.*

MOMRA6 said:

> *There are problems in decision making priorities in different services, such as education or health. You see that the priorities are not the priorities approved by the municipal sector, according to the national strategy.*

Most of the participants believed that the issue of the length of the decision-making process can affect the course of the decision-making and its outcomes. They argued that the decision process in Saudi Arabia, particularly in Riyadh, pass through a lengthy or unclear procedure. However, interviewees agreed that the speed of the decision-making will impact on improving the urban planning path. For example, ACD2 said:

> *The decision process in urban planning issues take many years, however, after the decision adoption, the decision could be inappropriate by that time.*

ACD6 said:

> *The decisions which have been adopted late are needed further development or change due to them not being suitable at the present time. So, it is important to develop the decision-making path and implement the decisions rapidly.*

For example, in the paradox cited by ACD2, he mentioned that the Qatar is a small state but quick in its decision-making, can be more influential than a large state as Saudi Arabia, due to slowness in the decision-making process. Indeed, it is observed that the State of Qatar is enjoying a positive change in its planning and growth at present, unlike what exists in Saudi Arabia. Also, ACD5 said:

*Modifying the planning system is a very long process. The administrator can reach the conclusion it is better to focus on achieving outcomes without seeking to change the processes, but this will lead to continued problems.*

Many participants stated that the implementation of the decision-making is limited to implementing just a few decisions. They argued that developing the urban planning and the development path both need to be implemented as part of the earlier decisions along with the formulation of aims for the next phases. They raised that the city management success is through the implementation of planning programs, but that Riyadh, as with other Saudi Arabian cities, suffers in the implementation. For example, ACD6 said:

*It may be, you have a good idea, but there is a difficulty or barrier to implementation; there are a lot of reports on the shelves in each sector and which would have yielded advantage.*

ADA4 said:

*60 to 70% of planning decisions are not being made due to political management barriers. For instance, the decision-maker, such as a provincial governor and his team make the main decision, while they are not taken part within the decision-making process as well as not being qualified to participate in decision-making.*

## 7.4.2. Decision-maker

Participants believed that there was a weakness of decision-makers in term of knowledge and skills, and which creates a hurdle to planning and development and prevents a fulfilment of local planning. Also, they believed that the decision-maker must be qualified on technical and leadership issues regarding the urban planning in order to be able to make the right decision. For example, MOMRA6 stated:

*… people not holding appropriate knowledge and skills, result in their inability to accommodate planning issues properly.*

Many participants see that the participation of decision-makers in the decision process is necessary as a step towards developing the planning path in Riyadh. They argued that the weakness of the role of decision-makers to participate in the developmental and professional ideas, it being only limited to adoption, affects the planning outcomes. Moreover, they emphasised the importance of local decision-making. For example, ACD7 said:

> *The planning of the city at the present is undertaken through the municipalities; however, the governor does not take part in this at all, and yet he is the decision-maker. This means, the municipality plans for something but adopts the decision from another person.*

ACD3 mentioned:

> *planning needs a person who understands the planning issue. Thus, he will be a decision maker. If presented to him some issue, the results could be discussed, criticized and assessed, and then he will select the appropriate option.*

Another point raised by some participants was in relation to the multi-decision-makers within the planning institutional structure. They believed that one of the reasons that led to the slow decision-making process in Riyadh is a large number of decision-makers. Some of them suggested they should change this way in order to be more organised. For example, ADA4 said:

> *The decision-making cannot be through both the region's governor and the Mayor of the region at the same time; it is necessary that it is only one person.*

OS1 stated:

> *The reason of slow decision-making process in Riyadh is the large number of decision-makers, starting from the study's author or the team and then the approval of the director, the mayor, prince of the region, the Shura Council, Council of Ministers, the Panel of experts, and then sent to the King*

*for approval. These stages and the slow pace between each stage can take years to complete.*

Furthermore, the participants believed that some of the actions in some decisions that come from some decision makers are not thought-out properly. This causing floundering in the planning and growth of the city's outcomes. They believed that the development of qualifications for the decision-makers is important, as well as, set up the clear strategy and applied in all departments instead of working individually. For example, RM1 said:

*Some of the decisions issued by the decision-makers caused problems in the planning actions. I suppose the decision should be presented to everyone from all areas to take their views that are related to the decision.*

## 7.5.     Work Environment

In this theme, most of the participants felt that the effect of the work environment is directly related to whether the outcomes of planning are either positive or negative. Indeed, most of the participants were dissatisfied with the quality of the work environment. They claimed the problem is that this environment still has not changed, especially in the government sector. The interviewees pointed out that the work environment in Riyadh has always been and still is traditional and has not changed with the passage of time. The focus has only been on the accomplishment of planning actions without paying attention to the employees and their work environment and this view was expressed by most of the interviewees. Table 7.3 below showed the sub-themes of the work environment.

| | Summary of work environment issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | The work environment | ● | ● | ● | ● | ● | 5 |
| 2 | Evaluation and follow up | ● | ● | | ● | ● | 4 |
| 3 | Personal relationships | | ● | | ● | ● | 3 |
| 4 | Awareness | | | | ● | ● | 2 |

*Table 7.3 Summary of work environment issues obtained from interviews*

## 7.5.1.    The Work Environment

The interviewees believed that previous plans ignored the work environment aspect. They believed that the absence of the right person to manage the planning actions caused weakness in the planning process and affected a proceeding on the right path. For example, ACD7 said:

> *Some departments that are involved in the planning and growth issues suffer from the loss or lack of the right person who can lead the planning process.*

The interviewees also pointed out the issue of routine work. They believed the fear of change had become dominant in a majority of government sectors. This led to the similarity of the old and current outcomes. All of them believed that the current situation is not commensurate with the old planning. For example, RM11 said:

> *We need to change the style of our work. The work is still the same since its inception. Multiple and diverse ideas of methods need to be developed and then take the right ones to reach a successful outcome.*

ADA2 stated:

> *I believe now we need to stop working in the usual way that we have done since years ago, and to commence employing a different manner to achieve the objectives of the strategy, in order to obtain results for society as well as the future generation.*

Additionally, administrative work was a point discussed by some interviewees. They felt that the style of current administrative work within the action planning is unsuccessful, that it does not reflect the planning path and hinders development. Thus, they confirmed the importance of improving the style of administration work. For example, ACD1 said:

*The environment of administrative work is not good, the old administrative is not effective, the half solve is to put your hand on the problem and identify it.*

ACD3 stated:

*Some municipalities are taken advantage of issues outside the scope of work by the consulting offices. This causes the dispersion of the work. So, when discussing with the offices, their answer; the municipality makes requests that caused delays or departures from the scope of the work, but this reason is unconvincing.*

Some participants stated there was a need to improve the incentives, as a lack of them affects the planning process. They pointed out that the money spent on projects and planning should be provided for professionals as incentives. For example, MOMRA3 said:

*government incentives are less than hoped for and, therefore, the private sector is the place to attract professionals.*

RM10 noted:

*The issue always spoken by professionals is the issue of incentives. I think it causes weakness of the Saudi planners, so there should be improved incentives.*

ACD3 said:

*There are no incentives, maybe a few, so the external market provides much higher chances. So, the people in the ministry were taking a monthly salary of nearly 12,000, whilst the out of ministry gives 70-100,000. So, most of them went out from the government sector.*

## 7.5.2.    Evaluation and Follow up

In the view of the interviewees, there were problems with the evaluation and follow up of planning after implementation, in that they were limited and poor. The interviewees that mentioned the point came from four of the groups (RM, ADA, ACD and OS). The

interviewees believed that the weakness of evaluation and follow up throughout the planning path has impacted on the development outcomes in Riyadh. For example, ADA1 said:

*Follow up and accountability not active, especially in the government sector. I discussed this in a meeting with officials, I told them that the mayor had not asked him mistakes that happened, but their response was strange.*

ADA4 said:

*From my point of view, regarding follow up, departments of urban planning have not been established for follow up of the plans. When the plans are completed, there is not any continuity, although it's possible in some cases that there is a simple follow up in a few departments.*

Furthermore, the interviewees believed that there was an absence of questioning of employees' neglect of their work. They argued that the worsening of planning actions came about because of weak employee productivity, whether administrators or planners, which has influenced the planning outcomes in Riyadh. For example, OS1 said:

*It is observed in most government sectors that there is a suffering from a weakness of employee work and productivity, whether an administrator, planner or architect. Causing slowness in the improvement of planning, although there was a rapid growth within the city.*

ACD1 noted:

*A question I raised during teaching students who work in the government sector; Has anyone suggested to change anything in the planning during his work? the answer was no ... so the question is, why is there no change? From my point of view, it is because there is no accountability and responsibility, working in the government sector is similar to social security.*

Some of the participants believed that the change in management positions causing weak follow up to the issues of planning. Therefore, the participants agreed on the importance of the establishment of a department to follow up on the issues of negligence and accountability for the planning mistakes within the government sectors. For example,

ACD3 said:

> *There has been a change in administrative positions frequently. Whenever the official begins to follow up an issue of planning, happens changed in position, every responsible set up a plan different from those who developed the previous plan.*

RM1 said:

> *... we need the department to follow up on the plans. The municipality of Riyadh is appropriate, but in giving it power, it is not reasonable to create an institution and then restrict it.*

## 7.5.3.    Personal Relationships

Under the sub-theme of personal relationships, some participants claimed that the reduction or avoidance of this issue in planning decisions is necessary for the improvement of the planning path and its outcomes. The theme was mentioned in various ways, most directly by the term 'personal relationships' or other terms such as 'personal interests' or 'compliments'.  However, the interviewees believed that this issue influenced the practices of the planning in Riyadh. For example, ACD1 said:

> *The responsible person seeks to please people even if the planning is not allowed, causing a change in the course of planning and then will drain finances.*

OS7 stated:

> *We see some courtesies within the planning actions that have caused the failure of planning. Personal interests cannot enter into the planning path ... the outcomes are meant to be planning for the community, not for the benefit of certain persons.*

ADA4 said:

> *This is a significant issue, but which is being overlooked in most studies and conferences, which is a personal relationship, personal interests,*

*compliment or because he is a prince. All of these have impacted on the decision-making and planning process.*

In contrast, some academics argued that the relations have affected the selection of consultants from universities. They believed that most of the selection was not in accordance with the qualifications or experience, but according to the relationship with the decision maker. So, it is agreed that this kind of lack of justice in choosing the consultant, causing the poor planning outcome in Riyadh. For example, ACD2 said:

*It is good to participate the Saudi universities in the planning process. The choice must be in accordance with specific criteria, not for a relationship with certain people. At the present, the ministry gives some universities and some academics opportunities to participate and avoids others. This should not happen. There are personal relationships, the ministry is not fair in dealing with this issue.*

## 7.5.4.  Awareness

The participants referred to awareness as an important step towards urban sustainability in Riyadh. They argued that the low level of awareness in the current situation has been negatively affecting the planning process. However, participants spoke about awareness and its importance, whether at the level community or in terms of who was working in the field of planning. The theme was mentioned directly by the term 'awareness', with it being a point raised mainly by the ACD and OS groups. Participants from the academics believed that the lack of awareness in the community with regard to planning contributed to raising the proportion of weakness in planning outcomes. For example, ACD7 said:

*When the community does not know the importance of planning, in the future the outcomes will be unacceptable. Whether in the building regulations, or the lack of interest to participate in the improvement. I believe increasing awareness of the issues of the community planning is necessary.*

OS3 mentioned:

> *The media is still weak on planning issues and presenting to the community. So, you see that the level of awareness in the community and among the people is weak.*

Therefore, some participants believed that this weakness has caused difficulty in achieving the objectives of planning. The reason is the different wishes of the people and lack of perception of the meaning of the plans that have been developed for the city. For example, OS7 said:

> *The community does not understand the plans that done by the sectors and authorities with regard to planning and development for the city. So, always see the objections and claims from the community that cause a slowness in the planning and development process.*

Moreover, some participants emphasised the need for improving the awareness of planners, as weakness in this affects the planning process. Participants argued that there is a lack of integration of skills of planners to help solve the growth and planning problems despite recent developments in world cities. This demonstrates the weakness of awareness of planners to deal with problems in urban planning. For example, OS3 stated:

> *Planners who are working in the public sector suffer from low awareness, so you see the results of planning is unacceptable.*

ACD1 said:

> *Mostly the level of awareness of the planners in the government sector has not changed, meaning that, since they entered the work environment, to this day the same thinking has not changed.*

## 7.6.    Participation

The interviewees stated that there are difficulties with participation in the planning path, and they argued that the participation of local agencies or with stakeholders was limited. As a result, they believed that the non-existence of participation in the planning path weakened the planning outcomes, and this has weakened the planning environment. Three sub-themes of participation were discussed: public participation, municipal council and participation of stakeholders. The following sub-themes of participation have impacted the planning process.

| | Summary of the participation issue obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Public participation | ● | ● | ● | ● | ● | 5 |
| 2 | Municipal council | ● | ● | ● | ● | ● | 5 |
| 3 | Participation of stakeholders | | | | ● | ● | 2 |

*Table 7.4 Summary of the participation issue obtained from interviews*

### 7.6.1.    Public Participation

The participants believed the weakness of opportunities for people to participate caused many mistakes in the planning outcomes due to lack of taking into account the opinions of the people. Academics and some senior planners believed that the particular sector was responsible for the city development monopolising the planning process, and that this was a serious mistake, which thereby limited the public participation. They considered there should be means of activating people's participation in planning. For example, ACD2 stated:

> *... keeping people away from the decision-making process impacted on the outcomes. The planning process is the process of complementarity ... When those who affected by the decision-making - which are the people and*

*residents of the city - are removed from this dimension of the planning process, planning will fail.*

ACD6 said:

*The problem is that many of the planning decisions have not participated the people. I think we lost a big power ... in the municipalities in the Western societies, the success of the plans comes because of people's participation. The mayor has difficulty in dealing with the private sector, but can control the private sector through the approval or rejection of the people.*

Some of the participants believed that a result of the lack of public participation is that the planning outcomes do not reflect the wishes of the community, causing many requests to modify those outcomes. They believed this impacted the instability of the planning path being on the right track in Riyadh. A point highlighted by interviewees is the need for people's participation in the planning process because of the benefits and successes of outcomes of planning. For example, MOMRA6 said:

*The first master-plan of Riyadh city did not reflect the reality that was hoped for by the community, due to lack of understanding of the culture of the community. Society issue must be taken into account by each city.*

RM2 noted:

*Residential neighbourhoods have proved that the plan has not been studied properly. The population seek to modify the land and divide it into smaller plots to meet their needs.*

OS4 said:

*Living with the community yields useful outcomes for planning. For example, one planner was playing a game Albulot, and I asked him why playing this game. He said, through this game can get a good information and took the opinions. After that, he understood what the people need.*

RM7 said:

*Our relationship is mostly with developers; we have no link with the community. This is not good, supposed to be the link between planners and*

*community, in order to increase community awareness on development issues.*

Furthermore, some interviewers believed that there was a low proportion of young people and women who participated in the planning process. This resulted in poor planning outcomes because they are part of the community. For example, ACD4 said:

*There are no women among planners who work in the public sector because of the system of government. Of course, this causes an imbalance in the planning process. So, the importance of youth participation in the planning, as well as the importance of women's participation.*

## 7.6.2. Municipal Council

Some participants felt the involvement of the municipal council members in the last years had slightly improved the planning path. They saw this participation as limited, but they believed the establishment of the municipal council was a good first step for participation. For example, OS4 said:

*Municipal councils were not available, but the idea of the establishment of a municipal council is a first step for the participation of people in the planning.*

ACD5 stated:

*I believe one of the best decisions that has been adopted in the past is the municipal council. We hope to do as is required to participate in the planning process because the current reality is unsatisfactory.*

In contrast, some participants believed that there has been no clear impact on the process of decision-making. They believed that the municipal council role was and still is limited, particularly with regard to participation in decision-making. Furthermore, they felt the role of the council was only limited in monitoring and set up recommendations, and they confirmed that the municipal council needed a more effective role in planning and development decisions. For example, ADA3 said:

*The municipal council must be given a role in decision-making because currently the municipal council has no role in decisions, it is just limited to monitoring the municipal projects and making recommendations.*

However, some participants argued that the weak experience of current municipal members, with most of the members not knowing their roles. As well as the mechanisms of nomination and election, are not ways that guarantee the delivery of a good person for a place on the municipal council. They believed that the acquaintance and tribal issues influenced the choice. So, that only a few correct persons are nominated. For example, ACD1 said:

*... not choosing the right person, because of personal or tribal matters. I have heard from officials in the municipal sector that some members of the municipal councils have become a burden to the work because they do not understand. The problem does not stop here. The problem is, need to train the members, after four years, they will leave and others will come and need to train them again.*

RM6 mentioned:

*.. with the international system, any citizen over 18 years of age can nominate himself. I think this does not suit with Saudi Arabia at present, because the candidates are mostly unsuitable. So, we see the mayor suffering from the council members.*

In contrast, some participants believed that the proportion of qualified people must be raised so that the council members come from different disciplines such as economic, social, planning, environmental and others. They argued that half should be elected by the people and the other half be people with the necessary experience. For example, ACD5 said:

*My opinion should be some disciplines within the municipal councils, such as financial, planning and civil. Thereby, the council would be divided into a number of disciplines, but the system does not allow this.*

### 7.6.3.     Participation of Stakeholders

The participation of stakeholders was an issue discussed by interviewees from the ACD and OS groups. They believed that the stakeholder participation in the urban planning and development path is still limited. They argued that each sector works independently without the participation of stakeholders. They agreed that to improve the path of planning and its outcomes they need to involve all stakeholders, whether governmental or non-governmental agencies. Furthermore, some participants believed that to improve the planning practices in Riyadh they need to involve many other important planning and development agencies including service agencies, such as housing and transportation, etc.  For example, OS4 said:

> *There are weaknesses in the participation of stakeholders, and this has a negative impact on the planning or growth of the city in the present and future.*

ACD7 said:

> *The participation of planning is limited to some sectors without the others. There is a need to increase the participation of stakeholders especially the wider service sectors.*

## 7.7.     Data and Information

In relation to this theme, the participants referred to three sub-themes and they believed that progress in this matter is important for the improvement of the planning path. Many participants claimed that there is poor access to data required for development in Riyadh and that this has impacted on the planning path. They argued that the city information is required to successfully achieve the outcomes of any plan, but that Riyadh's current urban planning data is insufficient for improving the planning path. The following sub-themes show the participants' opinions about the data theme and how it has impacted the planning path.

| | Summary of the data issues obtained from interviews | Participants | | | | | Rank out of 5 |
|---|---|---|---|---|---|---|---|
| | | RM | ADA | MORMA | ACD | OS | |
| 1 | Availability | ● | ● | ● | ● | ● | 5 |
| 2 | Reliability and quality | ● | ● | | ● | | 3 |
| 3 | Data accessibility | ● | ● | ● | ● | ● | 4 |

*Table 7.5 Summary of the data issues obtained from interviews*

## 7.7.1.    Availability

The participants stated that data is not stored in one place owing to the absence of a responsible agency for collecting and making the city data accessible. As such, they agreed that the lack of availability of data has impacted on the planning path and decision-making. Moreover, they believed that the outcomes produced by decision-makers and planners based on the available data could be incomplete or incorrect. For example, ADA1 said:

> *The data in Riyadh city is weak, there is no a centre for the city data. Each sector has a way of collecting data separately. The planning results will be different according to data availability.*

Also, OS5 noted:

> *Still, some obstacles with some government agencies to provide some of the required data. Either due to unavailability or because of their belief that the data is only for them, whilst knowing that the required data is not confidential, but general data such as numbers of vehicles. It took a long time before we were able to get those data.*

On the other hand, planners in RM and ADA pointed to the issue of the updating of data, with a majority of planning decisions still being based on old data. So, they argued that the planning outcomes may not fit with reality due to the use of old data. For Example, RM8 said:

> *Updating of the data is the most important issue that has to be mentioned in the study because when the decision-making depends on the old data, it will lead to failure in the planning. This problem now, either the difficulty of access to the updated data or data that have not been updated.*

## 7.7.2. Reliability and Quality

As a result of the lack of a data centre, some participants believed this has led to the employment of consulting offices for collecting the data. Furthermore, the academics and planners in the RM and ADA groups pointed out there is no way to measure quality, which has resulted in wrong decisions being taken based on potentially incorrect data. Moreover, some participants were frustrated with the data reliability, and they argued that planning without reliable data led to poor decisions and outcomes. Therefore, the participants agreed on the need to establish an urban data centre which is easily accessible to all the relevant authorities in the development and planning of the city. For example, RM3 said:

> *Most urban data are collected through consulting offices, so, the question is: what is the quality of the data? I do not have the tools to verify the data ... consulting offices are looking for financial gain. So, it is necessary to pay attention to this issue.*

ADA4 said:

> *Data reliability is the basis of planning actions and has influenced many planning decisions ... Now, what is happening in Riyadh like an urban expansion is caused by incorrect readings and data.*

ACD6 stated:

> *I believe we need to stop reliance on the consulting offices in urban data collection; we must create a national data centre.*

## 7.7.3. Data Accessibility

Participants claimed that gaining access to the available data meant going through many obstacles. They argued that most of the agencies do not usually collaborate to access the data and this creates difficulties in communication between agencies. Moreover, the participants believed the current government structure has made it difficult to access the

data. They also believed that searching for data usually takes a long time and that the routine actions to get the data, and the monopoly of data, have caused delays in the time it takes to obtain it. Thus, planners have had to divide worktime between finding the data and undertaking their work. For example, RM10 noted:

> *The weakness of communication between sectors or authorities makes sharing and accessing data difficult. And then each sector goes to collect its own data and keeps it for itself.*

ADA3 said:

> *There is a long procedure to get to the information you need, starting from your boss. It may be up to the minister to allow a sending of the request to another sector to provide the data. I believe this is causing delays.*

RM7 stated:

> *The time it takes to get the data is a very long time in most cases, however, see some studies has prepared according to the old data.*

Moreover, academics believed that the researchers who are interested in urban studies often could not access the data needed to complete their study. Therefore, they believed that in order to develop the planning path, the process of getting data to researchers who are providing solutions to the problems of planning should be facilitated. For example, ACD4 said in relation to this point:

> *The problem is the researchers who are interested in urban studies have a difficulty in obtaining data. It requires many letters, it might be refused, or old data may be provided.*

# 7.8.    Consensus of Opinions

This section gives a quantitative summary of how the planning environment themes are ranked after showing the results of the interviews (see Table 7.6). This section uses the same techniques that were used in chapters 5 and 6, which depends on consensus among groups to represent a weighting of the sub-themes with participants. Here, (5 of 5) is the maximum consensus while (2 of 5) is the minimum consensus.

| | Themes | Sub-theme | | | |
|---|---|---|---|---|---|
| | | 5 of 5 | 4 of 5 | 3 of 5 | 2 of 5 |
| The Planning Environment | Professionals | - Planners' limited experience | - Shortage of local planners<br>- Development of planners<br>- Reliance on consulting offices | | |
| | Decision-making | - Decision-making<br>- Decision-maker | | | |
| | Work Environment | - The work environment | - Evaluation and follow up | - Personal relationships | - Awareness |
| | Participation | - Public participation<br>- Municipal council | | | - Participation of stakeholders |
| | Data and Information | - Availability<br>- Data accessibility | | - Reliability and quality | |
| Total | | 8 | 4 | 2 | 2 |

*Table 7.6 The consensus of the planning environment theme*

**Consensus (5 of 5),** there was a consensus on some points in all sub-themes. The consensus was in eight points which is the highest when compared with the spatial planning and driving forces themes. In regard to the theme of the role of planners, the participants agreed that the lack of experience has negatively affected the planning outcomes. In relation to decision-making, the participants agreed with the need to improve the decision-making,

not only to find the problems and solve them, but to develop the decision-making procedures in the city to improve and develop the planning path.

Moreover, the participants agreed about the problems of the weakness of the role of decision-makers to participate in the development and professional consideration. Furthermore, there is a multi-decision-maker that has led to the slow decision-making process. In terms of the work environment, the participants agreed that the work environment in respect of the actions of urban planning or urban issues is not good, which caused a weakness in the planning process. Within the participation theme, the participants agreed that the weakness of opportunities for people to participate and the weakness of the role of the municipal council caused mistakes in the planning outcomes. On the other hand, there was an agreement on the data theme that the lack of availability of data has impacted on the planning and decision-making process. Moreover, they agreed there were difficulties and long delays in obtaining data.

*Consensus (4 of 5),* under the umbrella of the role of planners there were three points which have been agreed upon. The first is that the shortage in the number of urban planners in Riyadh highlighted disadvantages in the planning environment, and in drawing up and implementing urban plans and development. Second is the weakness in the path of the development of planners and the need to improve. While third is the reliance on consulting offices that impacted on planning outcomes that are not consistent with the needs of Saudi society.

*Consensus (3 of 5),* in this part the participants agreed on two points. In terms of the work environment, the participants agreed that the personal relationships influenced the outputs of the planning in Riyadh. Furthermore, they agreed that the evaluation and follow up of planning outcomes were limited and poor. Secondly, under the umbrella of the data

theme, the reliability, they argued that planning without reliable data led to poor in decisions and outcomes. Therefore, the participants agreed the need to establish an urban data centre.

*Consensus (2 of 5),* there were two points of consensus on the theme of the planning environment, which was in respect of the ACD and OS groups. The first, under the work environment theme, the participants agreed that the low level of awareness in the current situation has negatively affected the planning process. Second, under the participation theme, they agreed that the stakeholders' participation in the planning area is limited and they believed each sector work independently.

## 7.9. Discussion

The objective of this chapter is to assess the impact of the planning environment on urban planning practices. Moreover, this chapter seeks to answer the sub research question of "What are the changes needed in the planning environment to improve the urban planning practices so that the challenges of urban growth can be met?", and to provide context for understanding the planning environment. The following five issues emerge that are the most important impact on urban planning practices.

### 7.9.1. Professionals in the Planning Practices

The results of this study indicate that there was a weakness of local planning, with a shortage of local professionals proving to be a severe drawback in the planning environment, and that impacted on urban plans and its implementation. This means that there is somewhat of a crisis in urban planning education in Saudi, which has a massive shortage of planners to address burgeoning urban growth issues. Another possible explanation for this referred to by the participants is that the planners had turned to administrative jobs. Further, the results described the problems in the teaching and training of planners, and which were not

conducive to an improvement in urban planning practices. This is because that the teaching at universities and training at workplaces were not associated with the true reality of the city's growth and planning problems, and thus the outcomes became weak.

Moreover, this study has shown that the practical experience is limited amongst local planners, particularly in the area of urban planning. The argument is that the local planners, including the new graduates, do not practise widely in this area, and so most actions in the planning field are still managed by foreign planners. However, the most obvious finding to emerge from the analysis is that the absence of a local perception by professionals caused a lack of planning outcomes that are compatible with the needs of the community.

According to Krueger and Agyeman (2005), the local planners may successfully help to develop urban policies, because of their understanding of local realities and the culture of society. Likewise, Brody and Highfield (2005) have mentioned that if environmental planning analysis was undertaken by local planners, this could assist an adaptive approach to planning and its management. The findings of this current study confirm the importance of the association between local planners and urban growth outcomes, which requires raising the level of preparation of local planners in planning practices and developing their professional skills as required.

## 7.9.2. The Process of Decision-making

As mentioned in the literature review, the decision-making process is crucial within the planning environment (Vroom and Yetton, 1973; Michel, 2007; Vesikko, 2013). The decision-making is a tool that has an impact on the path of growth and planning and its outcomes (Breuste, 2004). However, the main finding of this section is that the decision-making processes are in disarray and deviate from the basic plans, which has led to a rapid

growth and failure of urban planning in Riyadh. The weakness of the process of decision-making in Riyadh is confined to four main causes.

Firstly, there are the priorities to take when carrying out the decision-making. The results suggested that some decisions were taken too late. However, if the planning decision is not taken in an appropriate period of time, it inevitably affects the planning outputs (Payne et al., 1996; Ritov, 2006). Therefore, it is important to determine the priorities of decisions that are to be taken in respect of the growth and planning issues for Riyadh. Secondly, complexity and length of the decision-making path have caused a deviation from the main goal, with the results indicating that the planning decisions have taken several years make, and in return the outcomes have not been suitability for the then current reality when implemented. The mechanism of the decision-making process is an important step in analysing the planning decision, with not having appropriate  knowledge and experience for making complex decisions potentially being the reason for the failure of decisions (Ramser, 1993), and so which requires improving the mechanism of the decision-making process in Riyadh for the success of the urban growth path.

The third reason is the impact of the personal/individual interpretations on planning outcomes.  The results indicate that some decisions have been made without the involvement of specialists and which has caused urban growth problems in Riyadh. Furthermore, the achievement or otherwise of an objective can be dependent on the opinion or interpretation by an individual. A final reason given in the study suggests that a reason for the weakness of the planning process in Riyadh is that of ignoring or delay in the implementation of some of the decisions, causing duplication in implementation between the previous decisions with the current decisions. There has been a process of implementing the earlier decisions before moving on to the new ones so as not to affect the work output. Through a focus on addressing

the four points above-mentioned, it may be possible to improve decision-making, and thereby improving the planning practices approach towards the growth of the city.

### 7.9.3. Why is the Work Environment Not Suitable?

This study demonstrates that the work environment was not suitable and that it impacted on urban planning practice. Most of the participants through the interviews stated that they were dissatisfied with the quality of the work environment, due to the style of the traditional work and which had not changed with the passage of time. Summarizing, there are seven points that have caused this situation - 1) the absence of an appropriate person to put into effect improvement to the working environment, 2) fear of change and so remaining in the old situation, 3) an administrative system that was still undeveloped, 4) the weakness of incentives, 5) the weakness of the evaluation and follow-up of the work environment, 6) impact of personal relationships in employing persons or in the completion of the planning work, and 7) the low level of awareness.

These results corroborate the ideas of Thompson and Strickland (2001), Westerman and Yamamura (2007), Wheelen and Hunger (2012) and Ajala (2012), who suggested that the work environment had a fundamental impact on the employee's performance, and then on the outcomes of the actions. An implication of these findings is that the weakness of the work environment caused the poor planning practices in Riyadh. This study reinforces the recommendation for the introduction of development programmes for the work environment by improving the seven points referred to above, in order to improve the urban planning practices.

### 7.9.4.    The Level of Participation

This chapter assesses the levels of participation in the planning practice. The main finding of this section is the weakness of participation that impacted on the planning path and then impacted on growth outcomes in Riyadh. There are two types of participation that have emerged from this study: 1) public participation or the municipal council and 2) stakeholder participation.

The first type showed that the weakness of opportunities for people to participate caused many mistakes in planning outcomes, due to a lack of taking into account the opinions of the people; thus, the planning path has not reflected the wishes of the community, causing many requests to modify outcomes. Despite the establishment of a municipal council to represent the community's role, it was not effective as required. Irvin and Stansbury (2004) showed that increased public participation in the decision-making process leads to many important benefits. Thus, planners could use the participatory concept as a means of gaining local knowledge to solve the planning problems (Barletta, 2011). According to this situation, it can be inferred that there is the need for people's participation and an activating of the role of the municipal councils in the planning process to avoid community requests that affect the growth and planning path in Riyadh.

Furthermore, this study has shown that there has been a low level of stakeholder participation of government sectors, such as health, education, housing and transportation in urban planning, or participation of private sectors such as investors and real estate developers. This has been a negative influence on the planning and growth of Riyadh city. As such, this has shown that urban planning practices are limited to specific sectors such as

municipalities, causing the lack of understanding of the opinions and strategies of other sectors, and also contributing to the increase in work pressures in the municipal sector.

These results agree with Godschalk and Stiftel (1981), who suggested that the necessity for consensus in the plans would require dialogue and discussion with the parties concerned with planning, in particular the government and private sectors, in order to reach solutions to the problems and needs of the development. These findings can contribute to a reconsideration of the participation issue in urban planning practices in Riyadh, to improve the status of participation either by the public or stakeholders.

## 7.9.5.    The Availability of Data and Information

The literature review has noted the importance of data within planning practices, due to it being one of the most important pillars in the process of drawing up plans and decision-making, whether these decisions are technical, urban, economic or political. This study highlights the difficulties of data availability, as the traditional ways of obtaining data usually take a long time, therefore impacting on the planning path and decision-making process. Furthermore, this study has shown that the researchers who are interested in urban research have themselves had difficulty in obtaining data, and therefore old data is used. Thus, the planning outcomes may not fit with reality due to the use of out of date data. In order to study the needs of a city, the data must cover the current conditions and future estimations (Harris and Ventura, 1995; Laurini, 2002).

However, there has been no database centre for Riyadh city. Instead, each sector is seeking to set up an information centre of its own. This in turn will lead to different data, and then differences in the results. Smith and Rhind (1999) state that in order to achieve good planning, there is a need to establish an institutional structure to ensure that the required

data for urban planning are regularly collected and updated. Moreover, this current study has shown that compiling of the data has depended on involvement of the consulting offices. Further, there has been no action by the stakeholder to ascertain the reliability and quality of the data. Sometimes decisions and policies have been based on incorrect data, which have resulted in the city having incorrect plans. For example, urban expansion came from false readings of the available data. It can thus be suggested that there is the need to stop reliance on the consulting offices for urban data collection, and that a national data centre must be created.

## 7.10.  Chapter Summary

The chapter's objective is to gain an understanding of the role of the planning environment and its impact on urban planning practices. Furthermore, it yielded the views of the decision-makers, planners, and academics through determination and analysis of the sub-themes of the planning environment that impact on urban planning practices in Riyadh city.

According to the majority, it was argued that the aspects of the planning environment were and still are either weak or absent. Overall, from the analysis of the interviews, it was shown that the current status of the planning environment was causing a weakness of the level of practices, and an inability to solve the problems of the planning and growth, resulting in the planning and growth of the city of Riyadh being unsuccessful. Participants in the research raised various issues including relating to improving the role of professionals in the decision-making, improvement of the work environment, the level of participation and the availability of data.

# Chapter 8 The Practices of Planners in Urban Planning

## 8.1. Overview

According to previous results in the empirical chapters, which showed a weakness in urban planning practices. However, this chapter's aim to understand the background of planners, with the planners' practices in more detail, of those who work in urban planning, and the urban planning practices at the present. This is an impact on the pathway of planning and affects the city's growth; furthermore, it is a driver of the development process.

The questionnaire was designed to determine the views of planners (121 responses) on the current situation of urban planning. This chapter was designed to seek views and suggestions on the following; the planners practice and how this relates to different aspects of urban planning issues. This was based on the findings of the previous empirical chapters and the literature review (see Table 3.6). The research method in this chapter is quantitative, with analysis of data collected through the questionnaire, utilizing the SPSS statistical software to facilitate the process of analysis.

## 8.2. Analysis of Planners' Knowledge

### 8.2.1. The Number of Planners

According to the previous studies and official statistics in Saudi Arabia, there is not any study has tried to identify the number of planners who are working in planning field in Saudi Arabia. So, this section seeks to determine the level of participation of planners in sectors which deal in the field of urban planning. From Figure 8.1 it is clear that there is a great

shortage of planners, as 60% of respondents pointed to a participation of planners was less than the number that was needed, with 38% of respondents indicating that the numbers were appropriate, while 2% of the respondents indicated that planner numbers were more than were needed.
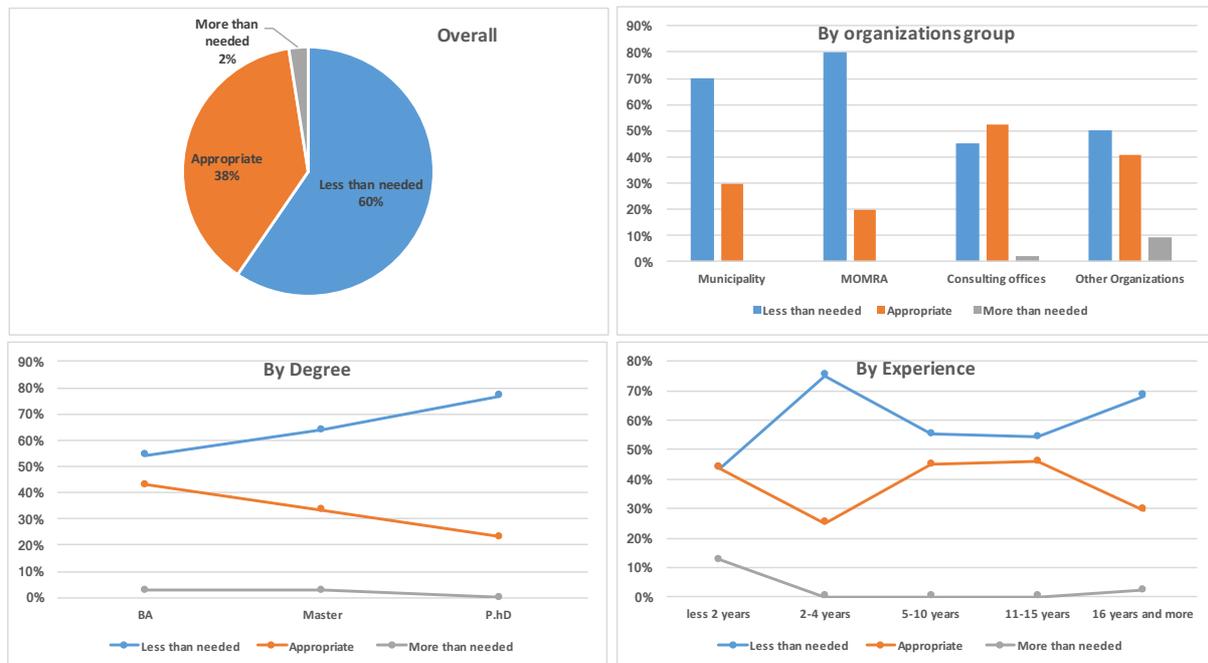


*Figure 8.1 The number of planners*

However, through Figure 8.1, for the four groups, it is clear that the largest percentages who indicated that the number of planners is less than needed are in the Municipality and the MOMRA groups, and so this indicates there is a problem in the recruitment of planners in those sectors. In contrast, in the other groups, there is equality in the results between the categories of number of planners being less than needed and the number being appropriate. While the Other organizations group was the highest in identifying that the number of planners was more than needed. Moreover, the above figure confirms the insufficient number of planners when increasing the experience or qualification of responders.

## 8.2.2.　　The Gender of Planners

Following up to identify the number of planners, the objective of this question was to define the level of gender participation in planning issues, because the output of urban planning field from Saudi universities is currently limited to men.  However, Figure 8.2 portrays a great variation of the respondents in terms of gender of participants in the survey. 93% of the respondents were men, with only 7% being female.
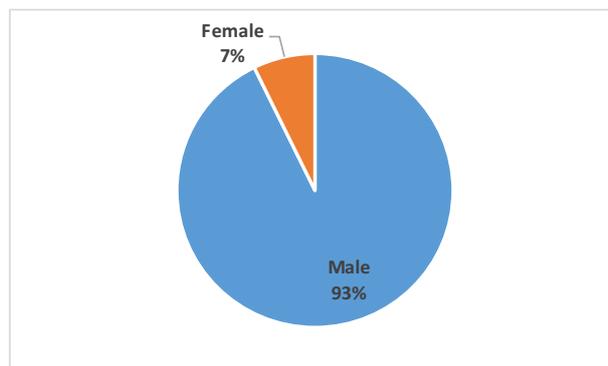


*Figure 8.2 The gender of planners*

The reason for the poor participation of women is that few women work in this area, as the system in the government sector has not permitted the employment of women in the field of planning until the present time. A second point is that there is not a scientific specialization of urban planning within Saudi Arabia to teach women, it instead being limited to men. This caused the weakness of women's presence as an element in the field of planning in Saudi Arabia in general. Therefore, women who have taken part in this survey are working in planning under the umbrella of the private sector, and their specialization has not been within planning, but instead within areas such as the economy or electronic business.

## 8.2.3.　　Planners' Expertise

According to the results of the experiences of planners (section 7.3 and 7.9.1), this question was sought to learn more about the experiences of planners. However, it is difficult

to know the level of experience of planners by asking them directly about themselves, so, the section sought to ask the participants in the questionnaire about other planners' experience who work in urban planning.
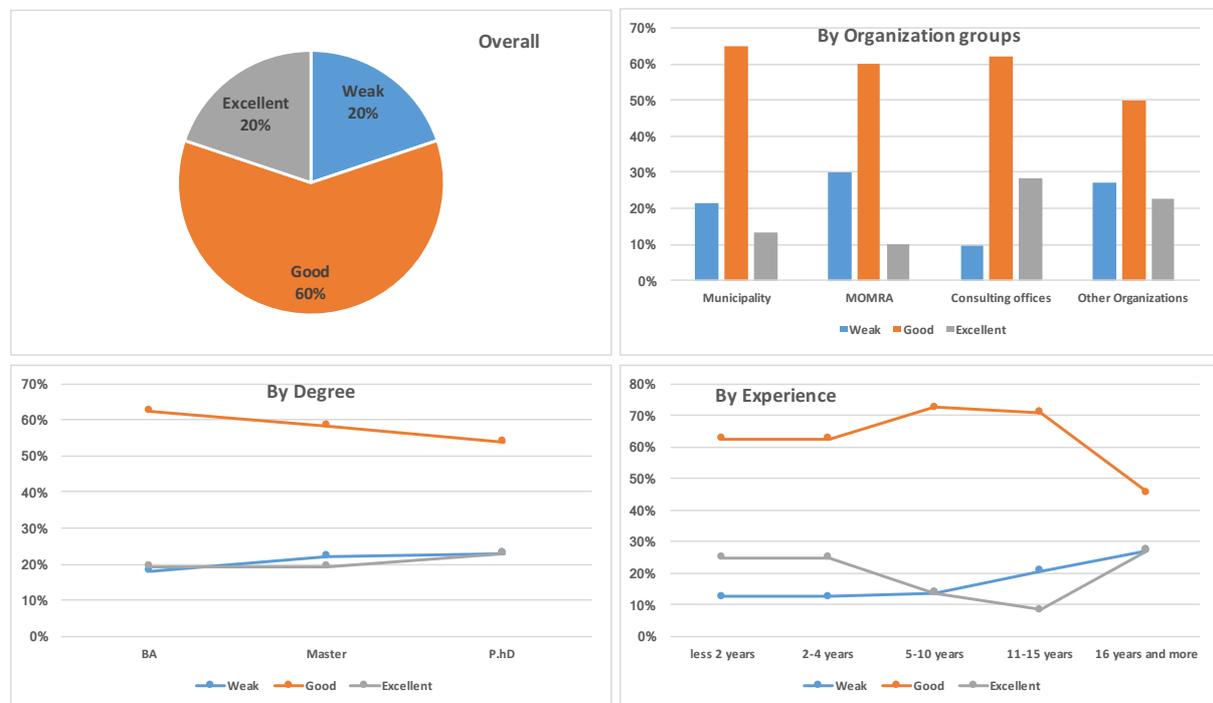


*Figure 8.3 The level of expertise of planners*

From Figure 8.3 it can be seen that in respect of the participants' responses about the expertise level of planners, 60% of them see it as 'good', 20% as 'excellent', 20% as 'weak'. In respect of the four groups, it is clear that the 'good' categorization is the largest for all of them, while 'weak' was the more prevalent choice in the MOMRA and Other organizations group. In contrast, Consulting offices was found to have the largest percentage of the 'excellent' level. In total, these results indicate that the level of expertise of planners is characterized as a medium level in all groups, and that they need to raise their levels of expertise. On the other hand, according to experience and qualification, a good selection rate is the highest with a slight decrease when increasing the qualification or experience.

## 8.2.4.　Higher Education and Planners

One of the issues that contribute to raising the level of planning work is the level of education, so this aspect seeks to know the degree levels of the respective planners. However, the questionnaire contained a degree option in order to determine the proportion of planners who have the three respective classes of BA, master's and doctoral degrees and in respect of the four groups that have been classified. As Figure 8.4 shows, of the three classes of degree, BA was the biggest percentage at 59%, then 30% for master, and lastly PhD at 11%.
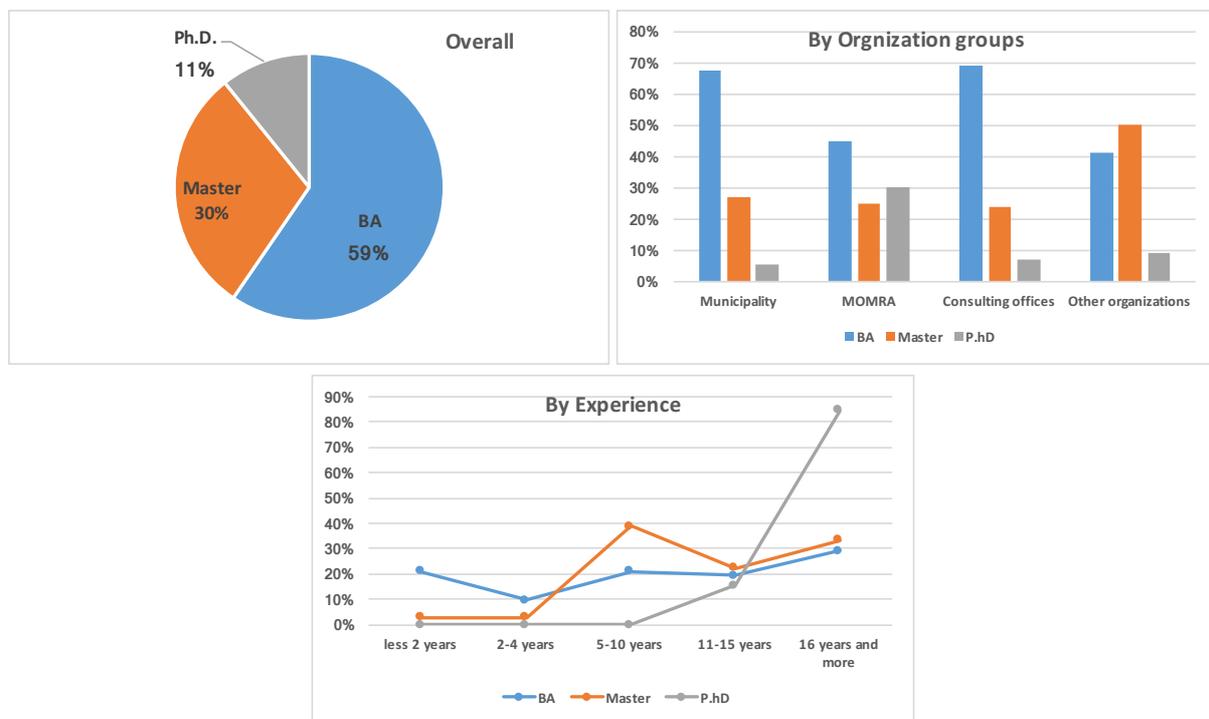


*Figure 8.4 The degree classes of planners*

Whilst figure 8.4 shows that the distribution of degrees in all categories is fairly good, the MOMRA group holds the most in the number who carry PhD degrees, while the Municipality and the Consulting offices predominantly contain those who carry the bachelor degrees. While those who carry the master degree is similar in all categories, but highest in the group of Other organizations. Further, the figure above shows the low acceptance of

highly qualified MSc and PhD to work in the field of planning, while the doctoral degree higher when increasing the experience.

## 8.2.5. The Nature of the Work of Planners

The results of the interviews showed in (section 7.5 and 7.9.3) there was the weakness between the planning actions and the field of urban planning, which requires asking planners about the nature of the work. So, the purpose of this part is to understand the nature of the work associated with the planners who are working in urban planning. From Figure 8.5, it is apparent that very few planners focus on the urban planning field through their work. Instead, 81% of respondents also undertake other work such as administrative and office work, of which 38% have other work but which does not outweigh the work in the field of urban planning. While for the other 43% their work is concentrated in other work more so than in the urban planning field.
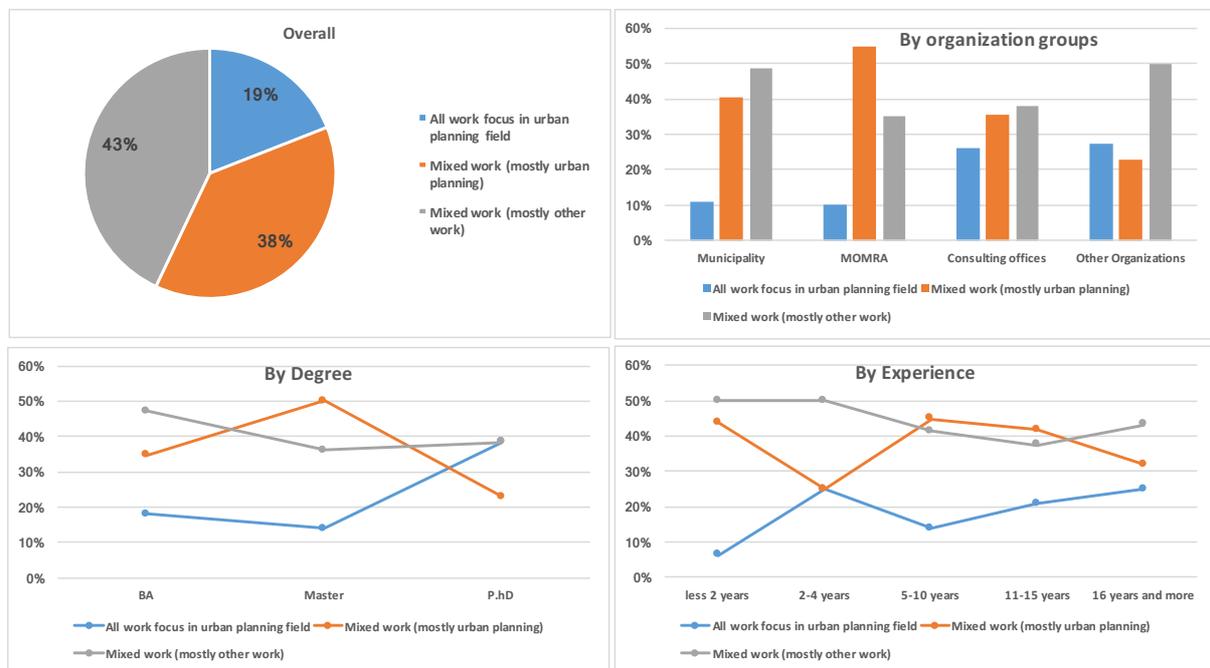


*Figure 8.5 The nature of the work*

On the other hand, from Figure 8.5 we can see that all four groups have a low focus on urban planning work. However, this table indicates that the results in the Municipality and

MOMRA groups were similar. In contrast, the Other organizations and the Consulting offices indicate a varying percentage between the concentration and lack of concentration in the field of planning. So, there is a lower focus on the urban planning work in MOMRA and Municipality in comparison to the other two groups.

As Figure 8.5 shows, there is a difference between the three groups. It notes that the PhD degree holders have the most focus on the planning work, with a decline then commencing in those who are holding master's degrees, with the highest rate of decline in the group who hold bachelor degrees. What is interesting about this data is that the focus on planning work rises whenever the planner holds a higher degree.

Meanwhile, Figure 8.5 shows the relationship between the planners and the work experience of urban planning. This table indicates that there is a reduction in the concentration of planning work in all categories. However, it is noted that at the beginning of the experience, less than two years of experience and the experience of between 5-10 years, have a higher percentage in the lack of focus in the field of planning. While the categories of 2-4 years, 11-15 years and more than 16 years, are considered to be better than the other categories.

As the figures show, there is a difference between the three categories of planning work focus. The big difference between the 'all work focused on urban planning field' option and the other two 'mixed work' options are highlighted in the above figures. Furthermore, most of those who were asked about what other work they were involved in stated that they were concentrated in administrative and office work.

## 8.2.6.   The Relationship Between Scientific Specialization and Type of Work

Following up the above section, the questionnaire asked: Is there relationship between your job and speciality? The purpose was to see how specialization was associated with the nature of the work. Figure 8.6 shows there is 60% of respondents who have a good relationship between their scientific specialization and their work. This proportion is not good, as there is supposed to be a higher level of relationship between the specialization and functional area.

The figure shows also that 32% have some relationship, while 8% do not have any. The causes of weakness or lack of relationship between specialization and work were identified as two reasons by the participants within the questionnaire. The first was that some who work in the area of planning have no specialization in planning, but instead within civil engineering, or administration. The second reason was that some of the planners who have specialized in the planning field were assigned to do administrative acts, which is far from the area of planning, and which hinders taking advantage of them in the issue of urban planning.
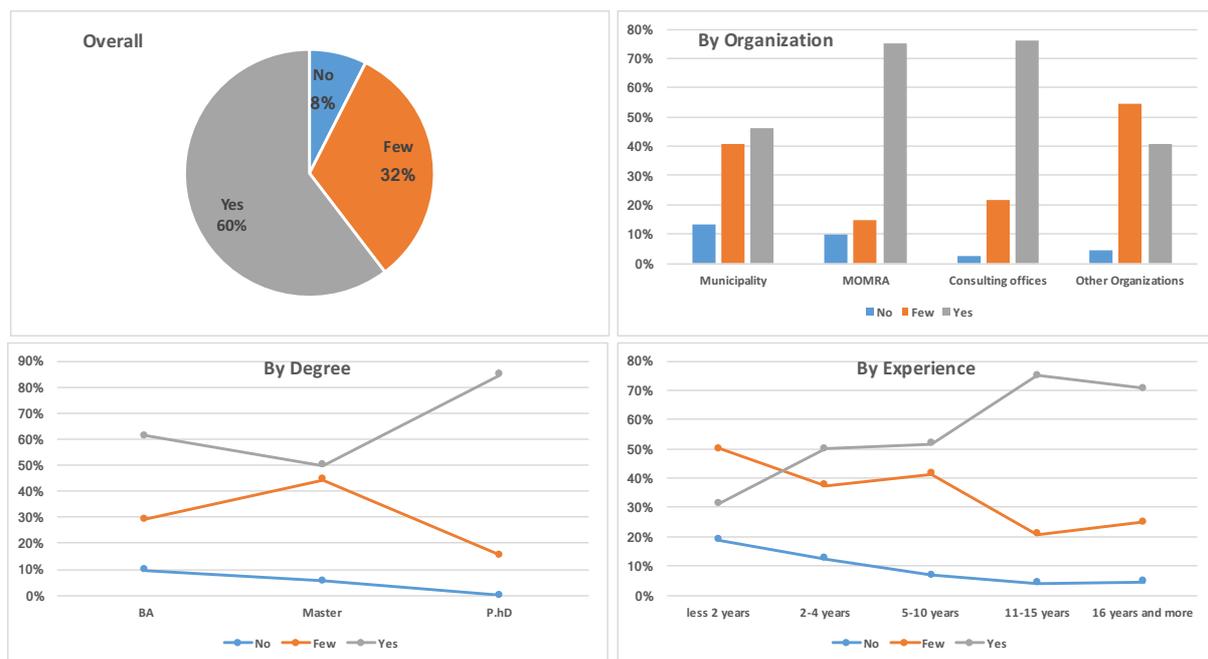


*Figure 8.6 Relationship between scientific specialization and type of work*

Figure 8.6 shows that the weakness of the relationship between the specialization and type of work is higher among planners in the Municipality group, and then planners in the Other organizations. In return, there is a good percentage in the relationship in each of the groups of Consulting offices and the MOMRA. On the other hand, the correlation the type of work with scientific specialization increases when increasing the level of qualification and experience. This is a good indicator of correlation between the theoretical side and the practical side, but it decreases when planners have a few experiences and least qualified.

## 8.2.7. The Work of Planners within the Organization

Given the concern of participants in the participation of local planners in the field of planning (see section 7.3.1 and 7.3.4). This section seeks to identify the proportion of planners working in the field of planning; planners within organizations is usually undertaken by three categories - either local planners, Arabs or foreigners.
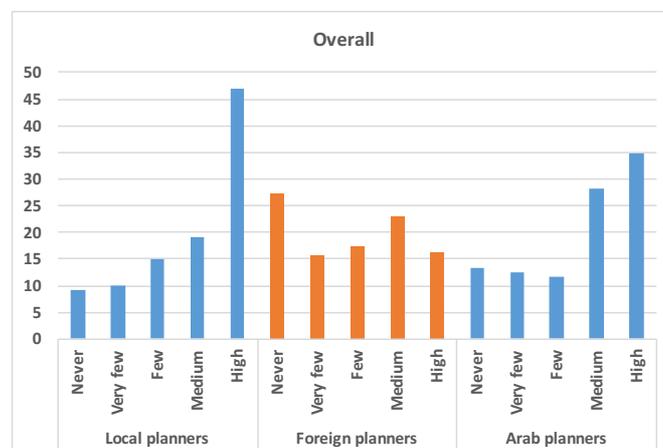


| | Mean * | | | | | |
|---|---|---|---|---|---|---|
| **Groups** | Local planners | | Foreign planners | | Arab planners | |
| Municipality | 3.1 | Few | 1.1 | Never | 2.3 | Very few |
| MOMRA | 2.9 | Few | 2.1 | Very few | 3.2 | Few |
| Consulting offices | 2.7 | Few | 2.3 | Very few | 2.9 | Few |
| Other Organizations | 2.7 | Few | 2.0 | Very few | 2.0 | Very few |

* Never= 1 - 1.7; Very few= 1.8 - 2.5; Few= 2.6 - 3.3; Medium= 3.4 - 4.1; High= 4.2 - 5

*Figure 8.7 Planners within organizations*

It is noted from Figure 8.7 that the four groups are associated highly with local planners, while the link with Arab planners is less, while they do not have a significant involvement with foreigners. These results are interesting, as they are in notable contrast to the other groups, as there is much work in the field of planning within the city is undertaken through the utilization of foreign expertise.

On the other hand, from the participants' responses it is clear that Arab involvement in the MOMRA and Consulting Group has the greatest percentage, then followed by local planners and with the least being the foreign planners. In the group of Other organizations, is also clear that local planners constitute the largest proportion. However, based on the opinion of the participants in Chapter 7 about the weakness of participation of the local planners, it is clear through this questionnaire that the weakness is not related to the number of local planners but is related to practices, because there are sufficient numbers as indicated in results of the questionnaire.

On the other hand, (section 7.3.2) did not show the results of the level of benefit from experiences of planners, which necessitated to put a question within the questionnaire to know the level of benefit from the experiences of planners. However, the benefit from the experience of the planners varies across the participants' responses. Figure 8.8 shows that in the municipal sector, the lack of benefit from foreign expertise is very high, with up to 60% stating the 'never' option in their responses, while the mean of benefit taken of the experience of Arab and foreign planners is 'few'. This shows the weakness of yielding benefits from the experiences of Arabs and foreigners in the field of planning. On the other hand, it must be noted that the level of benefit from the experiences of local planners did not have a good image, and where the rate of utilization of local planners is between 'high' and 'never'.
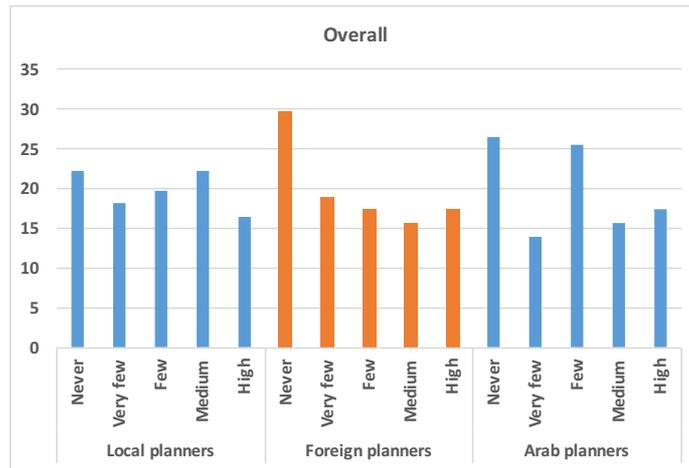
| | **Mean** | | | | | |
|---|---|---|---|---|---|---|
| **Groups** | Local planners | | Foreign planners | | Arab planners | |
| Municipality | 3.1 | Few | 2.0 | Very few | 2.6 | Few |
| MOMRA | 2.7 | Few | 2.6 | Few | 2.9 | Few |
| Consulting offices | 3.0 | Few | 3.3 | Few | 3.1 | Few |
| Other Organizations | 2.7 | Few | 3.0 | Few | 2.6 | Few |

*Figure 8.8 The benefit from experience of the planners*

Figure 8.8 that the perceived of benefits from the experiences of foreign planners is greater in MOMRA than the Municipality group. But still there are weaknesses overall, whether in respect of local, Arabs or foreigners, as identified by most answers of these participants being limited to 'few', 'very few' and 'never'. On the other side, the Consulting offices group shows that utilization of foreign expertise, Arabic or local differentiated but was better compared with the Municipal group and that of MOMRA. The Other organizations group has a relatively high percentage of non-benefiting, with 'never' being chosen strongly in each of the local, Arab and foreign experiences categories. In total, Figure 8.8 shows the weakness of the exchange of experiences between the planners in all groups.

### 8.2.7.1.  The Collective Decision of Planners

As indicated by the participants (section 7.4) their concern in the decision-making process as well as decision-makers skills, which affected the planning outcomes. Therefore, it

was necessary to ascertain the level of collective action within the planning work to determine the level of teamwork among planners.
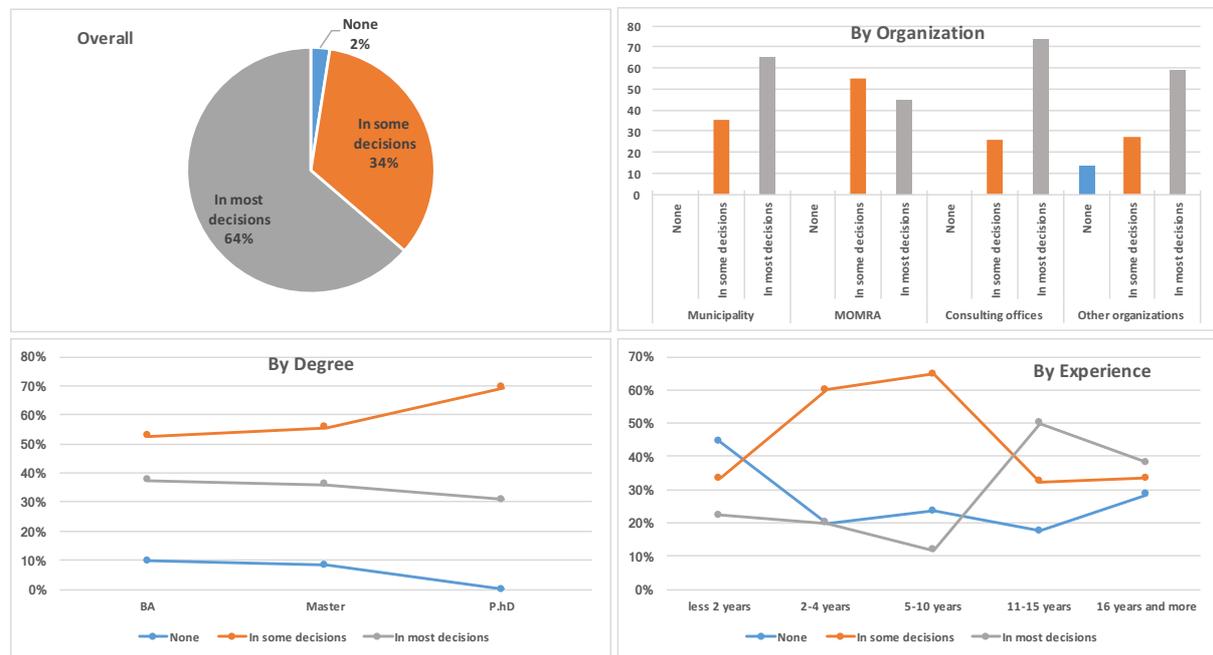


*Figure 8.9 A collective decision with planning actions*

As seen from Figure 8.9, the degree of collective action between the planners is a high percentage. The participants indicated 64% for the option of 'in most decisions', 'sometimes' stated at 34% and the option of 'none' chosen only by 2%, which means that only some action is undertaken by the use of individual decisions. On the one hand, the groups show that the option of 'in most decisions' was high with the Consulting offices group at 74%, followed by the Municipal group at 64%. Whilst in contrast, the MOMRA group is the lowest at 45%. As well, it is clear from the above figure (by experience) that the teamwork increases significantly after 5-10 years. Overall the situation can be considered as good with regards to the existence of collective action in urban planning issues.

### 8.2.7.2.    Committees and Meetings

Following up the above section, the goal of this question is investigate the availability of committees and meetings that help to improve the planners through discussing planning

issues and contributing to finding appropriate solutions. In Figure 8.10, 60% of participants

pointed to the availability of those meetings and committees within the sector, which still

cannot be considered a good situation.
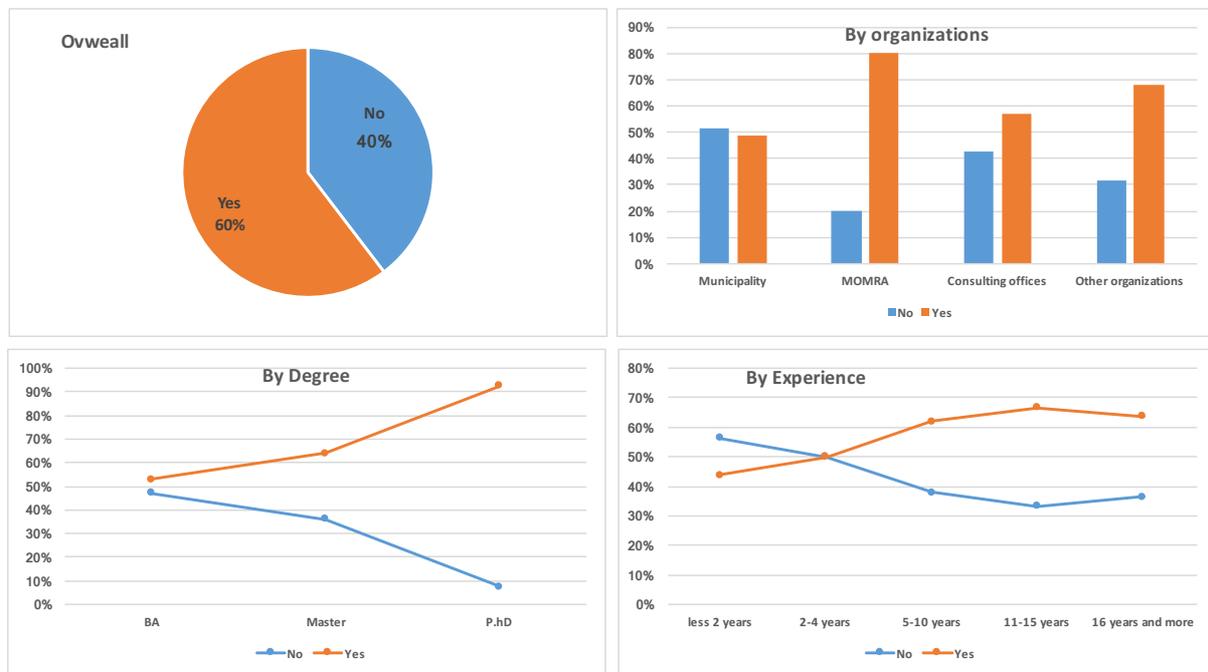


*Figure 8.10 Availability of committees and meetings of planning*

On the other hand, it is clear that the largest proportion of the groups who pointed to

the absence of committees and meetings is the municipal group at 52%. This meaning most

of the planners who work in the municipal sector do not have a chance to participate in

committees and meetings of planning that could develop the planning outcomes and raise

planners' experience as well. In contrast, with respect to the MOMRA and Other organizations

group, it is evident that they benefit from the highest availability of committees and meetings,

while Consulting offices have figures that vary between availability or not availability. It is also

clear from the figure above that participation in these meetings and committees is increased

by increasing experience and qualifications.

Furthermore, the researcher asked a question to yield information about the actual

degree of participation of planners in those committees and meetings. As shown in Figure

8.11, it is clear that 45% of planners are involved 'continuously', while 37% gave their answer as 'sometimes'. In contrast, 18% of respondents indicated that they did not participate in these. From these results, it can be considered that the rate of utilization of these committees and meetings by planners is low.
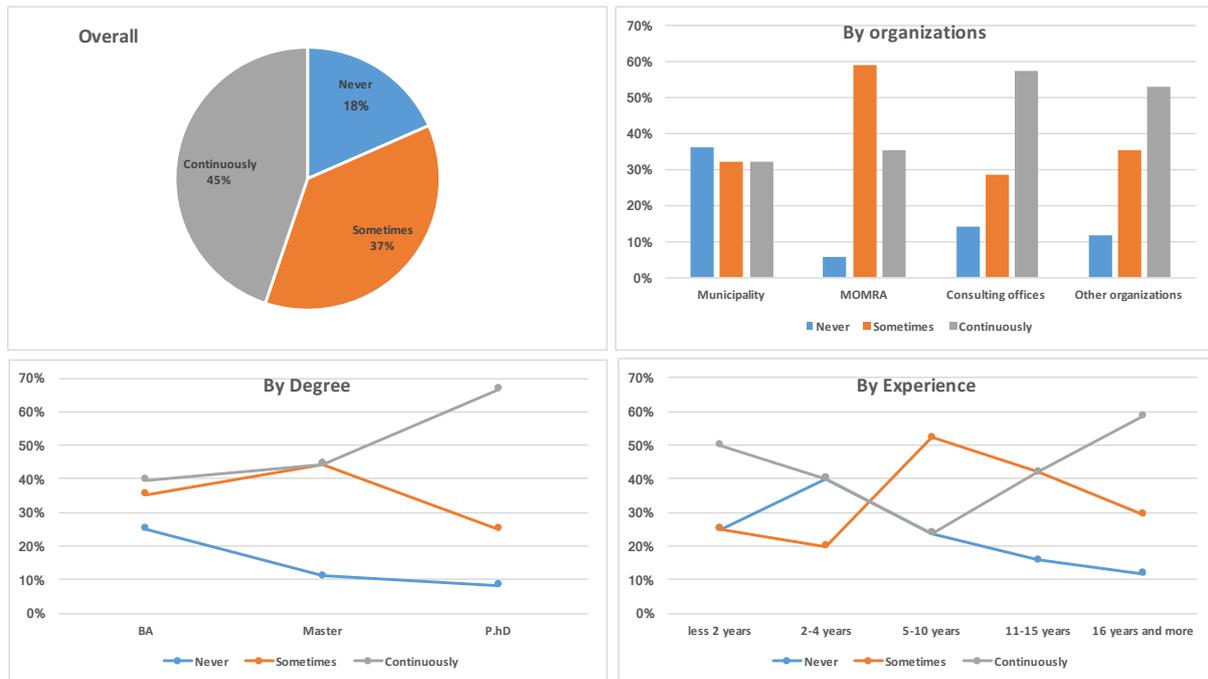


*Figure 8.11 Availability of committees and meetings of planning*

In respect of the groups, it is clear that the municipal sector is the highest for planners that do not take part in those meetings. Whilst, in turn, there is also a weakness in the participation of planners in the MOMRA group as portrayed by their choice of 'sometimes' at a rate of 58%. While the Consulting offices and other sectors groups gain the most benefit from these meetings due to their stated high proportion 'continuously'. Overall, it can be considered that there are weaknesses in the participation of planners in those meetings, especially in the municipal and MOMRA groups**.**

In contrast, what is shown in Figure 8.11 is that most who participate in meetings and committees in the four groups are the ones who have the experience of 16 years and above,

and who have a high qualification. This shows the weakness of youth participation and who have little experience of taking part in the planning committees.

## 8.2.8. Training Programs for Planners

As shown in section (7.3.2 and 7.3.3) that the training programs were weak, however, the goal of this question is to determine the training programs level for planners. From Figure 8.12 it is seen that the largest proportion, 48%, of participants' responses indicated that the training programs are available but need to be developed. In turn, there is a high proportion of 45% who said there was a lack of training programs for planners; this is a high proportion and is influential on the development and planning pathway.
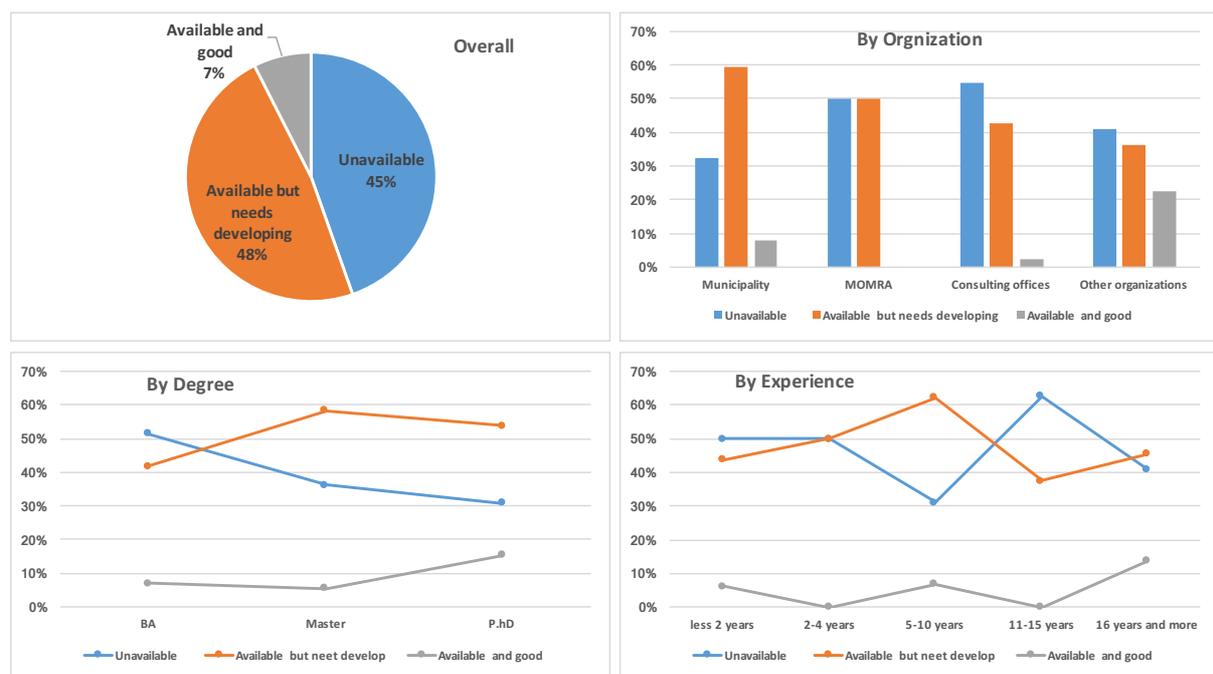


*Figure 8.12 Training programs for planners*

In terms of the groups, it is clear from Figure 8.12 that all sectors refer either to the lack of training programs or the need to develop them, with only the Other organizations group having a relatively high percentage in the answer of 'available and good', at 22%. This contrasts with other groups that have many planners who are under the pressure of work in the urban planning field and that suffer from weaknesses in the training programs.

# 8.3.    Analysis of Practices in Urban Planning

## 8.3.1.    Using the Planning Guides

The six key planning guides that mentioned in chapter 4 (section 4.2.3.2), which can be considered as the most important that have been developed in recent years in Saudi Arabia to adjust and improve the growth, see Table 8.1. This section seeks to gain an understanding of the level of use of these guides within the planners participating in this research.

| | Guides |
|---|---|
| 1 | National Spatial Strategy (NSS) |
| 2 | Regional Plan Guide (RPG) |
| 3 | Structural Plan Guide (SPG) |
| 4 | Master Plans Guide (MPG) |
| 5 | Rules of Urban Boundary (RUB) |
| 6 | Roads and Buildings Guide (RBG) |

*Table 8.1 The planning guides*



| Guides | Mean * | |
|---|---|---|
| NSS | 3.0 | Few |
| RPG | 3.0 | Few |
| SPG | 3.2 | Few |
| MPG | 3.5 | Medium |
| RUB | 3.5 | Medium |
| RBG | 3.3 | Few |
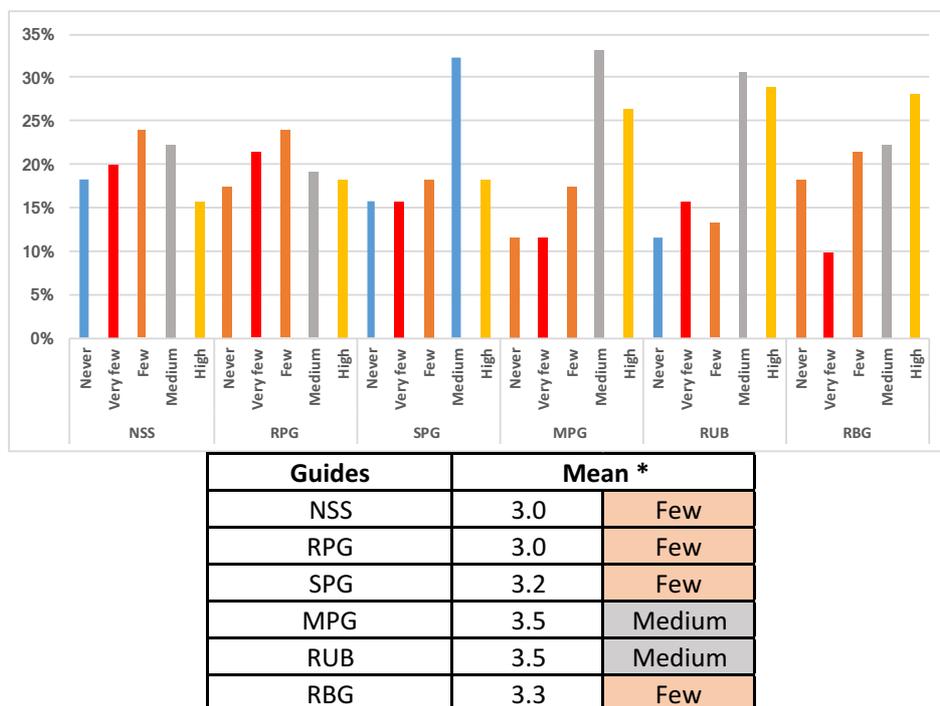
* Never= 1 - 1.7; Very few= 1.8 - 2.5; Few= 2.6 - 3.3; Medium= 3.4 - 4.1; High= 4.2 - 5

*Figure 8.13 Overall use of planning guides*

Overall, Figure 8.13 shows that the results of the use of NSS and RPG are similar to some extent, albeit a weakness in the use of these two guides. In terms of SPG, it has a higher

'average' use than compared with the NSS and RPG. The use of guides of MPG and RUG is better than those of NSS, RPG and SPG, as seen through the figure that the options of 'medium' and 'high' having a high rate. In contrast, the results for RBG had less clarity due to the dispersal across the respective options. From the above, it can be summarized that the most widely used in guides are MPG and RUG, followed by RBG and SPG, while there are notable weaknesses in the use of NSS and RPG.

*National Spatial Strategy (NSS),* From Table 8.2, it can be seen that the use of NNS guide is weak in all groups, however, the mean for using this guide is 'few'. With regards to the groups, it is clear that the Municipal group is the highest in terms of the weakness of use, followed by Consulting offices and Other organizations, whereas MOMRA is somewhat better with a use rate. In contrast, the table describes the weakness of the use of the manual for those with less than two years of experience, and then become weaker between 2-4 years of experience, and then gradually improve when increasing the experience. On the other hand, in terms of qualifications, PhD holders are the best with use this guide within planning actions. In general, the results describe the poor use of this guide, even though this guide serves as the first element in the planning in Saudi Arabia.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 2.7 | Few | Less 2 years | 3.1 | Few | BA | 2.9 | Few |
| MOMRA | 3.4 | Medium | 2-4 years | 2.3 | Very few | Master | 2.8 | Few |
| Consulting offices | 3.0 | Few | 5-10 years | 2.7 | Few | | | |
| | | | 11-15 years | 2.9 | Few | | | |
| Other Organizations | 3.2 | Few | 16 years and more | 3.3 | Few | P.hD | 3.8 | Medium |

*Table 8.2 Use of National Spatial Strategy (NSS)*

*Regional Plan Guide (RPG),* Table 8.3 shows the results were similar to the results of the use of the NNS, which shows that the first and second level of the Planning Guides suffers from the weakness of use. Regarding the use by the respective groups, we see that the municipal sector also is the weakest, and weaker than its use of the NNS, with the mean of

the participants from this sector pointing very few uses. This relatively lack of use is followed by the Consulting offices and MOMRA group, with the mean 'few'. This table is notably in contrast to the other organizations group, and which is the best with the mean 'medium' indicating that it was used well. As regards the experience and qualification, it is similar to the previous guide where it improves with the high experience and qualifications.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 2.5 | Very few | Less 2 years | 3.0 | Few | BA | 2.9 | Few |
| MOMRA | 3.3 | Few | 2-4 years | 2.4 | Very few | Master | 2.8 | Few |
| Consulting offices | 3.0 | Few | 5-10 years | 2.7 | Few | | | |
| | | | 11-15 years | 3.1 | Few | | | |
| Other Organizations | 3.5 | Medium | 16 years and more | 3.3 | Few | P.hD | 3.8 | Medium |

*Table 8.3 Use of Regional Plan Guide (RPG)*

**Structural Plan Guide (SPG),** Table 8.4 shows that the use of the SPG guide is the best compared with the NNS and RPG. Also from the table, it can be seen that all groups except the municipal have a higher rate of use of this guide, the municipal sector is suffering from a weakness in use as shown in the table. Further, the average use of this guide is similar to all experiences. In contrast, PhD holders are the best in using this guide.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 2.8 | Few | Less 2 years | 3.1 | Few | BA | 3.1 | Few |
| MOMRA | 3.3 | Few | 2-4 years | 3.0 | Few | Master | 3.2 | Few |
| Consulting offices | 3.4 | Medium | 5-10 years | 3.0 | Few | | | |
| | | | 11-15 years | 3.4 | Medium | | | |
| Other Organizations | 3.5 | Medium | 16 years and more | 3.3 | Few | P.hD | 3.8 | Medium |

*Table 8.4 Use of Structural Plan Guide (SPG)*

**Master Plans Guide (MPG),** From Table 8.5, it can be seen that the Master Plan Guide has been used more than the other guides. Approximately the mean of the participants' responses indicated 'medium' use. The Consulting offices group indicated a high use, followed by the Municipality group, and which shows a high rate of use of this guide in these two groups. However, the table shows that in all the groups there is a rise in the use of this guide compared to other guides. However, we see that the municipal group, which was weak in the

use of the previously mentioned guides, in contrast, has a high use of this one. As well as, the table describes the high use of this guide both in terms of experience and qualification.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 3.5 | Medium | Less 2 years | 3.4 | Medium | BA | 3.5 | Medium |
| MOMRA | 3.4 | Medium | 2-4 years | 3.4 | Medium | Master | 3.4 | Medium |
| Consulting offices | 3.7 | Medium | 5-10 years | 3.6 | Medium | | | |
| | | | 11-15 years | 3.6 | Medium | | | |
| Other Organizations | 3.3 | Few | 16 years and more | 3.5 | Medium | P.hD | 3.9 | Medium |

*Table 8.5 Use of Master Plans Guide (MPG)*

***Rules of Urban Boundary (RUB),*** Table 8.6 shows that the use of this guide is good to some extent, similar to the rate of the use of the Master Plans Guide. However, the mean of the respondents indicated 'medium' usage, meaning most of respondents were using this guide in their work. It can be seen through Table 8.6 that the Municipality, MOMRA and other organizations group are similar in their results, whilst Consulting offices had the highest percentage at a rate. In addition to, by experience and qualification, the mean use is between the few and medium.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 3.5 | Medium | Less 2 years | 3.4 | Medium | BA | 3.3 | Few |
| MOMRA | 3.5 | Medium | 2-4 years | 2.9 | Few | Master | 3.8 | Medium |
| Consulting offices | 3.6 | Medium | 5-10 years | 3.6 | Medium | | | |
| | | | 11-15 years | 3.3 | Few | | | |
| Other Organizations | 3.5 | Medium | 16 years and more | 3.7 | Medium | P.hD | 3.5 | Medium |

*Table 8.6 Use of Rules of Urban Boundary (RUB)*

***Roads and Buildings Guide (RBG),*** Table 8.7 shows that the results were close to each other in total with similar percentages. However, seen through the groups, the Consulting offices have a high proportion to use of this guide, followed by Other organizations. On the other hand, the results of the Municipal and MOMRA groups show a differentiation in their usage, where there are similar rates of use, with this indicating a defect in the use of this guide. On the other hand, the use of this guide increases with those who have less than two years of experience. In the sense of this guide is the most used for those with little experience.

In terms of qualification, the mean use of this guide is 'medium' for those with a bachelor's or doctorate and lower for those with a master's degree.

| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 3.1 | Few | Less 2 years | 4.0 | Medium | BA | 3.5 | Medium |
| MOMRA | 3.0 | Few | 2-4 years | 3.4 | Medium | Master | 3.0 | Few |
| Consulting offices | 3.6 | Medium | 5-10 years | 3.0 | Few | | | |
| | | | 11-15 years | 3.1 | Few | | | |
| Other Organizations | 3.5 | Medium | 16 years and more | 3.4 | Medium | P.hD | 3.5 | Medium |

*Table 8.7 Use of Roads and Buildings Guide (RBG)*

## 8.3.1.1. The clarity of planning guides

Following up the above section, this question is designed to identify the clarity of the planning guides; it appears from Figure 8.14 that the clarity of the evidence is good for planners. We see that the opinions were of 'very good' at a rate of 26%, and 'good' at 39%, which is the largest percentage in the selection of the participants. The option of 'not bad' was chosen by 27% of the participants, whereas the choice of 'bad' and 'excellent' was low.
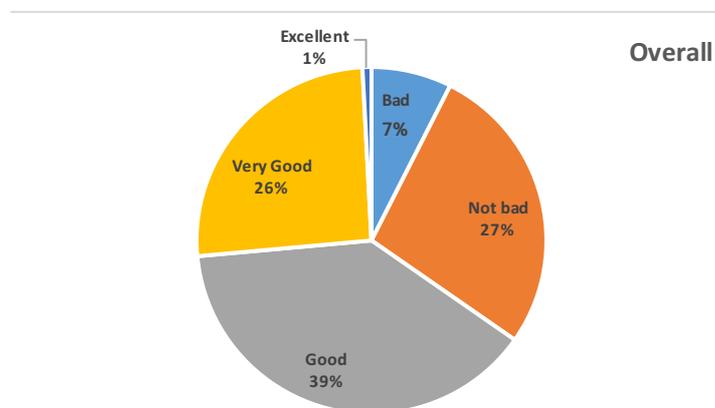


| Groups | Mean * | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 1.9 | Good | Less 2 years | 1.9 | Good | BA | 1.9 | Good |
| MOMRA | 1.8 | Good | 2-4 years | 1.8 | Good | Master | 1.7 | Good |
| Consulting offices | 1.8 | Good | 5-10 years | 1.8 | Good | | | |
| | | | 11-15 years | 1.9 | Good | | | |
| Other Organizations | 1.8 | Good | 16 years and more | 1.9 | Good | P.hD | 2.2 | Good |

* Bad= 0 - 0.7; Not bad= 0.8 - 1.5; Good= 1.6 - 2.3; Very Good= 2.4 - 3.1; Excellent= 3.2 - 4

*Figure 8.14 The clarity of planning guides*

In terms of the groups, experience and degree we see that there is a similarity in the results, with most of the responses falling into the three categories of very good, good and

not bad, and which shows that the planning guides are a fairly good regarding to clarity, and therefore need little development in this respect for planners.

### 8.3.1.2. Suitability of planning guides with the reality of the city

However, the participants were also asked about the suitability of the planning guides in relation to the reality the city. Figure 8.15 shows that the responses were mostly dispersed across four options, with the remaining low amount of 2% being placed in the 'excellent' category. However, the highest percentage of the choices was 'not bad', with this being followed by the selection of 'good' at a rate of 31%.
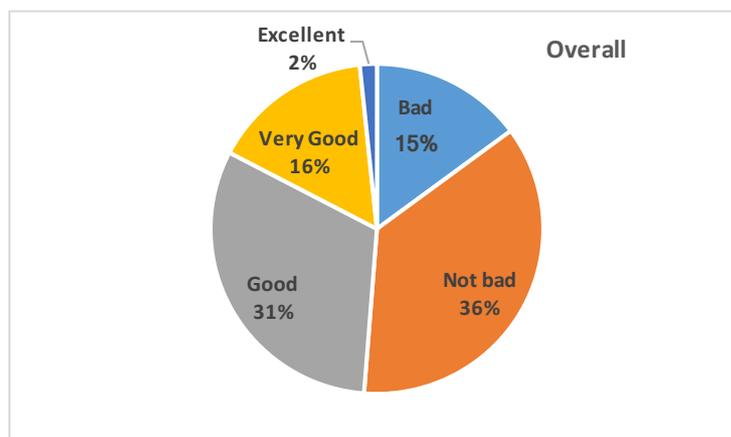


| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 1.5 | Not bad | Less 2 years | 1.6 | Good | BA | 1.5 | Not bad |
| MOMRA | 1.2 | Not bad | 2-4 years | 1.5 | Not bad | Master | 1.5 | Not bad |
| Consulting offices | 1.6 | Good | 5-10 years | 1.5 | Not bad | | | |
| | | | 11-15 years | 1.5 | Not bad | | | |
| Other Organizations | 1.6 | Good | 16 years and more | 1.5 | Not bad | P.hD | 1.5 | Not bad |

*Figure 8.15 Suitability of planning guides with the reality of the city*

Furthermore, the choices of 'not bad' and 'good' were the highest in all groups. 'Very good' was selected most within the groups of Consulting offices and Other organizations. We find that the selection of 'bad' was 15%, with the highest choice of this selection being from the MOMRA group and, in contrast, the least pointing to 'very good' is also the MOMRA group at about 4% and which also did not have any selection of the choice of 'excellent'. Furthermore, while there is approval of guides by MOMRA, this shows there is a difference

between what is being adopted and what is being thought. In contrast, in terms of experience and degree, the average opinion of guides is not bad, which shows the need to improve and develop these guides.

## 8.3.2. Planning Booklets (issued by MOMRA)

As we pointed out in section 4.2.3.2 that the preparation of some manuals for development of the planning practices in Saudi Arabia. About 20 booklets have been so developed in various fields, such as neighbourhood planning, urban design and amongst others. This section seeks to determine the level of use of these booklets. Figure 8.16 shows their high rate of use, with the choice of the 'High' option amongst the participants being the most (at 32%) followed by the selection of 'medium' (at 25%). In contrast, only 8% chose 'never' used, which means the use of these booklets can be considered to be at a good level.
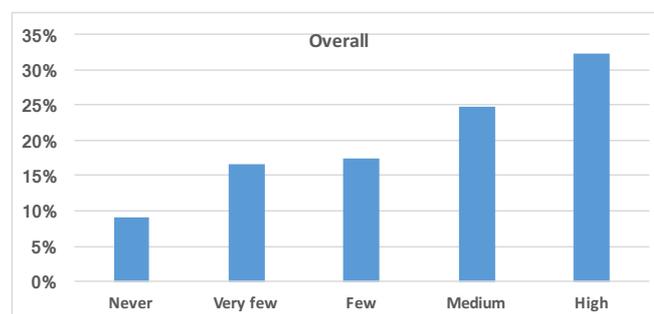


| Groups | Mean * | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 3.4 | Medium | Less 2 years | 3.9 | Medium | BA | 3.5 | Medium |
| MOMRA | 3.7 | Medium | 2-4 years | 2.8 | Few | Master | 3.4 | Medium |
| Consulting offices | 3.7 | Medium | 5-10 years | 3.8 | Medium | | | |
| | | | 11-15 years | 3.8 | Medium | | | |
| Other Organizations | 3.4 | Medium | 16 years and more | 3.3 | Few | P.hD | 3.8 | Medium |

\* Never= 1 - 1.7; Very few= 1.8 - 2.5; Few= 2.6 - 3.3; Medium= 3.4 - 4.1; High= 4.2 - 5

*Figure 8.16 Use of planning booklets (APG)*

In respect of the groups, it is shown that the highest use of planning booklets is in the MOMRA and Consulting offices groups, and indeed who are the authors of these booklets, while the Municipal and Other organizations group used it less. Moreover, by experience and degree groups, the mean use of these booklets was 'medium' and this a good result, while

using the previous guides (the section above) was weaker than these booklets, which requires rising use the planning guides more than these booklets to improve the planning practices.

### 8.3.3.    The Practices in Spatial Planning

As we discussed in chapter 6 (The Existing Situation of Spatial Planning Practices) regarding the impact of spatial planning on urban growth, the results showed that these practices played a role in the problems of urban growth in Riyadh. So, this part contributes to the knowledge of the practices of planners in spatial planning. Five factors have been identified through the results of chapter 6 that are considered the most important factors that have impacted on the city planning, which are; plot division, urban design, land and housing, urban expansion and transportation.
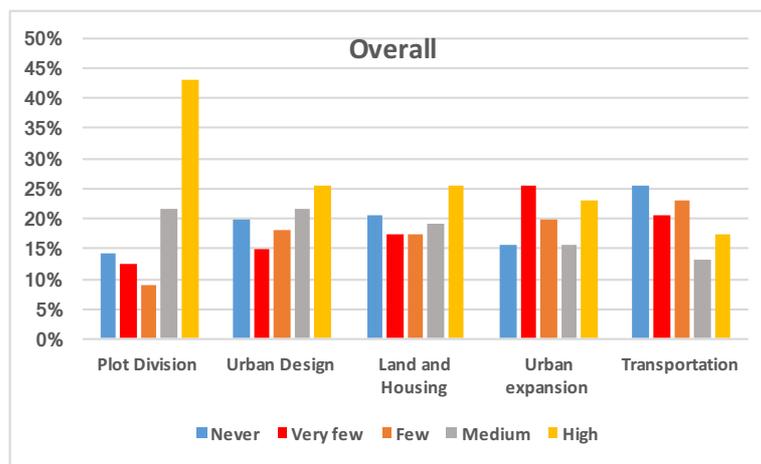


| Groups | Plot division | | Urban design | | land and housing | | Urban expansion | | Transportation | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Mean *** | | | | | |
| Municipality | 3.6 | Medium | 2.6 | Few | 3.0 | Few | 2.8 | Few | 2.3 | Very few |
| MOMRA | 3.7 | Medium | 3.0 | Few | 3.0 | Few | 3.6 | Medium | 2.9 | Few |
| Consulting offices | 3.7 | Medium | 3.8 | Medium | 3.1 | Few | 2.9 | Few | 2.9 | Few |
| Other Organizations | 3.8 | Medium | 3.2 | Few | 3.4 | Medium | 3.4 | Medium | 3.2 | Few |
| **Experience** | | | | | | | | | | |
| Less 2 years | 3.6 | Medium | 2.9 | Few | 3.2 | Few | 3.1 | Few | 3.1 | Few |
| 2-4 years | 3.3 | Few | 3.0 | Few | 2.3 | Very few | 2.0 | Very few | 2.5 | Very few |
| 5-10 years | 3.9 | Medium | 2.7 | Few | 3.1 | Few | 2.9 | Few | 2.0 | Very few |
| 11-15 years | 3.8 | Medium | 3.4 | Medium | 3.8 | Medium | 3.3 | Few | 3.0 | Few |
| 16 years and more | 3.5 | Medium | 3.5 | Medium | 3.3 | Few | 3.2 | Few | 3.0 | Few |
| **Degree** | | | | | | | | | | |
| BA | 3.6 | Medium | 3.1 | Few | 2.9 | Few | 2.9 | Few | 2.8 | Few |
| Master | 4.0 | Medium | 3.3 | Few | 3.3 | Few | 3.0 | Few | 2.4 | Very few |
| P.hD | 3.2 | Few | 3.6 | Medium | 3.5 | Medium | 4.1 | Medium | 3.5 | Medium |

* Never= 1 - 1.7; Very few= 1.8 - 2.5; Few= 2.6 - 3.3; Medium= 3.4 - 4.1; High= 4.2 - 5

*Figure 8.17 The practices in spatial planning*

From Figure 8.17, it can be seen that the planning actions have a varying result in terms of spatial planning practices, except plot division that has a high percentage in the choice of 'high' at about 43%. This gives the sense that the division of land is one of the most important measures focused on at the moment. In contrast was the subject of transport, which has a lower concentration with 25% of respondents identifying 'never', and 42% stating 'few' or 'very few' in respect of dealing with this issue, showing that there is a weakness in focus on this.

Regarding the organizations, experience and degree groups, it is clear from Figure 8.17 that the plot division is the highest in all groups. On the other hand, the urban design practice is highest in the Consulting offices group, indicated as 'High' by 42% of those respondents. In contrast, the Municipality was the lowest in the urban design practice, as indicated by 32% stating 'never'. This is a high rate given that the Municipality group is the most important sector for having to deal with urban design issues, with the average practice of urban design is 'few' for all group of experiences, except those who are 16 years' experience and more, as well as those who hold a doctorate degree.

In contrast, issues of land and housing are a little attention in both the Municipality, MOMRA groups and Consulting offices, while in the Other organizations group these were more focused. in addition, by experience, the average of the practice of urban design is 'few', while, by qualification, slightly improved who holders of a Ph.D. On the other hand, the issue of urban expansion had a high focus in MOMRA and Other organizations group 'high' while the responses varied among the other two groups. Moreover, the result of planners' practices in terms of experience and qualification are similar to "land and housing"

Regarding the transportation issue, it is clear from Figure 8.17 that the Municipality group has the weakest focus, where 40% of respondents pointed to 'never', while in the rest

of the groups the responses varied. As well as, there is a weakness for who have experience between 2-10 years. Overall, in all five factors, the PhD holders are the best in terms of practices.

## 8.3.4. Relationship to Energy and Economic Issues within Planning Practices

Results (section 5.5 and 5.7.3) showed participants' concern about the relationship between energy and urban planning practices that contributed to the rapid growth of the city. Therefore, this part attempts to know the extent of the interest of planners in the field of energy and its link to the urban planning. Through Figure 8.18, it can be seen that energy issues have a poor focus, with the participants' responses yielding the results of 'never' at 37%, followed by 'very few' at 22%. This indicates a low level of dealing with energy issues within the planning procedures.
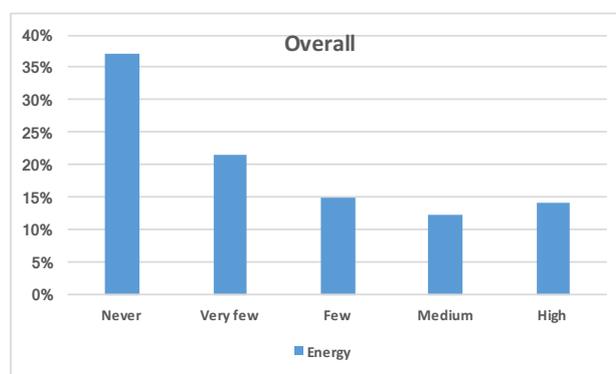


| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|--------|------|---|------------|------|---|--------|------|---|
| Municipality | 1.9 | Very few | Less 2 years | 2.3 | Very few | BA | 2.3 | Very few |
| MOMRA | 2.6 | Few | 2-4 years | 3.1 | Few | Master | 2.4 | Very few |
| Consulting offices | 2.6 | Few | 5-10 years | 2.1 | Very few | | | |
| | | | 11-15 years | 2.4 | Very few | | | |
| Other Organizations | 2.9 | Few | 16 years and more | 2.6 | Few | P.hD | 3.1 | Few |

*Figure 8.18 Relationship to energy issues within planning practices*

However, weaknesses were also seen in all the categories, with the responses of 'few' occurring in all the categories and 'very few' for municipality group. In addition, the table indicates, through the experience and degree of planners, the weak relationship between energy and urban planning.

On the other hand, according to the reference literature (Chapter 2) which refers to the impact of the economic aspect on the growth of the city. Moreover, the fourth chapter (The Context of Urban Growth in Riyadh - Saudi Arabia) showed that the cities of Saudi Arabia grew rapidly due to the strength of the economy which contributed to the acceleration of growth in urban Saudi cities. From Figure 8.19 it can be seen that the economic actions tend to have a lack in concentration within the planning practices. 33% of participants' responses pointed to 'never', with 22% being 'very few' and 21% being 'few'.
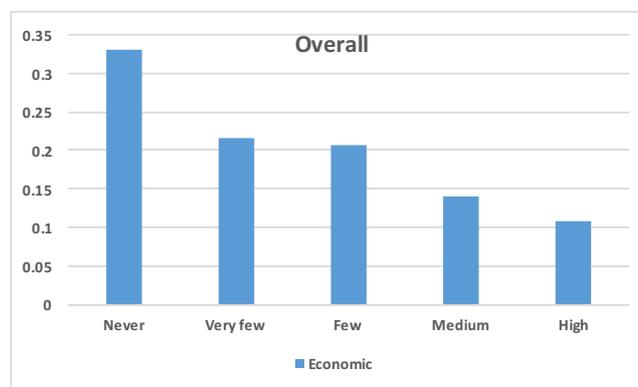


| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|--------|------|------|------------|------|------|--------|------|------|
| Municipality | 2.1 | Very few | Less 2 years | 2.3 | Very few | BA | 2.4 | Very few |
| MOMRA | 2.5 | Very few | 2-4 years | 2.8 | Few | Master | 2.5 | Very few |
| Consulting offices | 2.6 | Few | 5-10 years | 2.1 | Very few | | | |
| | | | 11-15 years | 2.6 | Few | | | |
| Other Organizations | 2.9 | Few | 16 years and more | 2.6 | Few | P.hD | 3.2 | Few |

*Figure 8.19 Relationship to economic issues within planning practices*

From the perspective of the organizations, experience and degree, in all of the groups, we find a weak relationship between the economic issues and planning practices, but that the Municipality group is the highest of the groups that suffer from a weakness of focus on economic issues, with about 49% stating that they never had this focus. Overall, the results indicate a lack of interest in economic issues through planning practices, whereas the economy is one of the most important points influencing the planning path and city growth.

## 8.3.5.  Relationship to Community Culture within Planning Practices

We have pointed in the literature (Chapter 2) that the culture of the community has a role in the success of the path of urban planning. In contrast, (section 6.8) showed the results that one of the reasons for the problems of growth was the plans for urban planning ignored important cultural aspects within Saudi Arabia. However, the social issue is one of those that has a strong impact on the planning ideas, and so this question sought to discover how much attention to this was given within the planning actions.

It can be seen from Figure 8.20 that the community culture issues in urban cities still suffer from a weakness of focus within the planning actions. We find that 29% of the participants' responses pointed to 'never', 20% to 'very few' and 19% to 'few'.
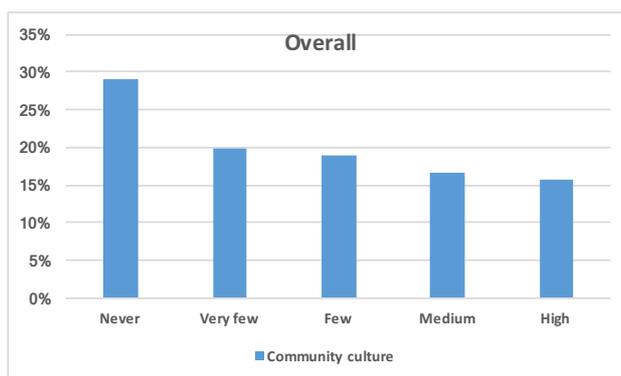
| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|---|---|---|---|---|---|---|---|---|
| Municipality | 2.2 | Very few | Less 2 years | 2.8 | Few | BA | 2.7 | Few |
| MOMRA | 2.6 | Few | 2-4 years | 3.0 | Few | Master | 2.4 | Very few |
| Consulting offices | 2.9 | Few | 5-10 years | 2.1 | Very few | | | |
| | | | 11-15 years | 3.0 | Few | | | |
| Other Organizations | 3.4 | Medium | 16 years and more | 2.8 | Few | P.hD | 3.7 | Medium |

*Figure 8.20 Relationship to community culture within planning practices*

In respect of the groups, it is clear that there is a weakness of concentration in the Municipality and MOMRA groups, but that this is not so marked in the Consulting offices group. In contrast, the Other organizations group has a larger focus on social development compared to the other three groups, as it indicated 'high' focus at a rate of 29%, and 'never'

at a rate of 13%. While the practices of planners in terms of experience refer to 'few', in contrast the correlation of social issues with planning improved with a doctoral holder.

## 8.3.6.    Evaluation and Following up of Planning Path

In this part, the question was to find out the level of evaluation and following up within the planning path. Because of the participants in chapter 7 have pointed to the weak side of the evaluation and follow-up after the completion of the planning process (see section 7.5.2 and 7.9.3). Figure 8.21 shows that the answers in each of the evaluation and follow up issues differentiated in the choices; however, there is a high percentage that points to 'never', as well as high levels that indicate 'high' as well as 'few'.
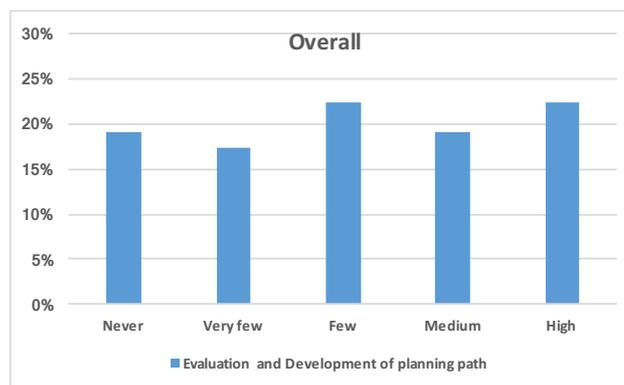


| Groups | Mean | | Experience | Mean | | Degree | Mean | |
|--------|------|------|------------|------|------|--------|------|------|
| Municipality | 2.8 | Few | Less 2 years | 2.6 | Few | BA | 2.9 | Few |
| MOMRA | 3.2 | Few | 2-4 years | 2.9 | Few | Master | 3.3 | Few |
| Consulting offices | 3.2 | Few | 5-10 years | 3.0 | Few | | | |
| | | | 11-15 years | 3.4 | Medium | | | |
| Other Organizations | 3.3 | Few | 16 years and more | 3.2 | Few | P.hD | 3.6 | Medium |

*Figure 8.21 Evaluation and following up of planning path*

In terms of the groups, it is shown that in the MOMRA and Consulting office groups the answers varied between 'high' and 'never'. On the other hand, it can be seen that there is a weakness in the focus of the evaluation and following up in the Municipal group, with about 29% indicating 'never', 24% indicating 'very few' and 30% indicating 'few'. On the other hand, by experience and degree groups was not better because the results are not clear and do not indicate the level of the evaluation and follow-up level within the planning procedures.

## 8.3.7.      Information and data

As noted in the literature review (chapter 2) that the importance of data in monitoring urban growth in the city. In contrast, the results showed (section 7.7 and 7.9.5) as indicated by participants that the difficulty of data availability, because of the traditional way to get the data and it takes a long time to access data, with it impacting on decision-making and planning path. In this part, the planners were asked their opinions on the level of data availability, which is considered one of the most important factors affecting the planning practices. Ten factors have been identified, according to the outputs of the previous chapter that have an impact on the growth path in the city.



| | Mean * | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Groups | Population | Needs of the city | Economic situation | Social status | Environmental situation | Land use | Energy | Transport | Urban growth | Region information |
| Municipality | 1.4 | 1.0 | 0.8 | 1.0 | 1.0 | 1.5 | 0.6 | 1.2 | 1.1 | 1.1 |
| MOMRA | 1.4 | 1.1 | 1.0 | 1.1 | 0.9 | 1.3 | 0.7 | 1.0 | 1.1 | 1.1 |
| Consulting offices | 1.5 | 1.3 | 1.3 | 1.3 | 1.1 | 1.5 | 1.2 | 1.2 | 1.3 | 1.1 |
| Other Organizations | 1.4 | 1.5 | 1.2 | 1.1 | 1.2 | 1.4 | 1.1 | 1.1 | 1.2 | 1.0 |
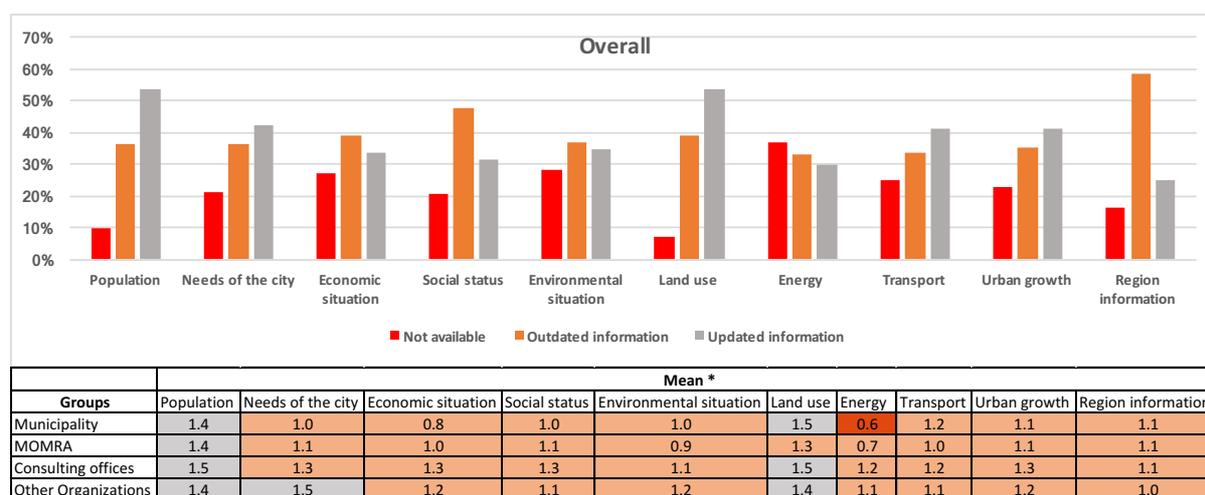
* Not available= 0 - 0.6, Outdated Data= 0.7 - 1.3, Updated Data= 1.4 - 2

*Figure 8.22 Information and data*

Through Figure 8.22 shows that the population data is available as updated data in all groups. In contrast, the table shows that the land use data is available as updated data in three groups, except the MOMRA and Municipality which indicated 'outdated data' for the land use. Also, Figure 8.22 shows a rise in the mean 'outdated information' in all of the remaining factors, except for the city needs in the other organizations group that refer to "updated data". This rate is not good for the urban planning practices. As for where

information is 'not available', this is worst for the data for energy (at 38%), as well as being the high percentage of non-availability of data within Municipality group.

Overall, the indicators of data are not good for the development of planning and growth path within the city. However, it is noted that there are weaknesses in the updating of data, and that the most important data for controlling the growth of the city is still old and has not been updated, this, in turn, impact on planning outcomes.

## 8.3.8.　　The Structure of Planning

According to the results (section 5.4 and 5.7.2) that showed the planning structure has impacted on urban management that caused the confusion in the path of growth in the major Saudi cities as Riyadh city. As well as the style of the central administration for most of the planning business that causes a growth perspective and planning with limited vision, which restricted to persons or a specific sector. This part considers whether, is the planning path within sector follow a clear structure of planning.
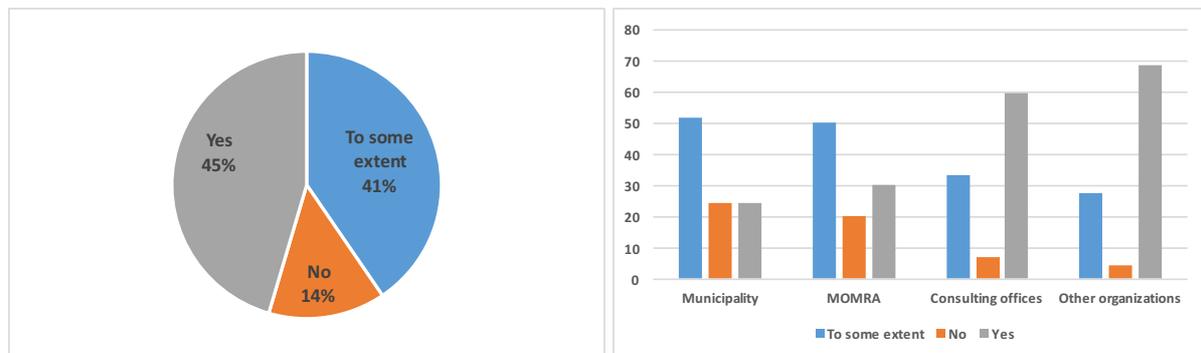


*Figure 8.23 The Structure of Planning*

From Figure 8.23, it can be seen that the participants' responses were 45% 'yes' and 41% 'to some extent'. This shows that the practice of the planning path is good in general. But, by looking more closely at the results by groups, it shows that the groups that chose a high percentage in the option 'Yes' were the Consultancy offices (at 69%) and Other organizations (at 60%). In contrast, the Municipal and MOMRA groups had lower affirmative

responses and instead a percentage of 'to some extent' (at 50%) and an average of 20% for the option of 'no'. This shows that the work in the municipal sector and MOMRA was less organized than other the groups.

Through the questionnaire, an open question was asked to elicit the causes for? the choice of 'to some extent' or 'no, with the responses being summed up in five points:

1. Centralized decisions and a difference of views between the sectors, in addition to the unwillingness of some agencies to a change in a particular system.

2. The lack of competencies and experience and the weakness of possibilities. The participants explained that the government action is based on seniority in the administration and not the best competencies.

3. Transparency and difficulty in obtaining the required information from the relevant authorities; there is no government information centre.

4. A large number of circulars, regulations and standards of planning and which overlap with each other.

5. Financial and administrative corruption within the government and private sectors.

## 8.3.9.  The Actions of Planning Path

Following up the above section, the results in (section 5.3.3 and 5.7.2) showed that the length of the process of planning, and a lack of clarity in the mechanism followed, has contributed to problems in the outputs of urban planning. The purpose of this question is to understand the actions of planning path by planners.
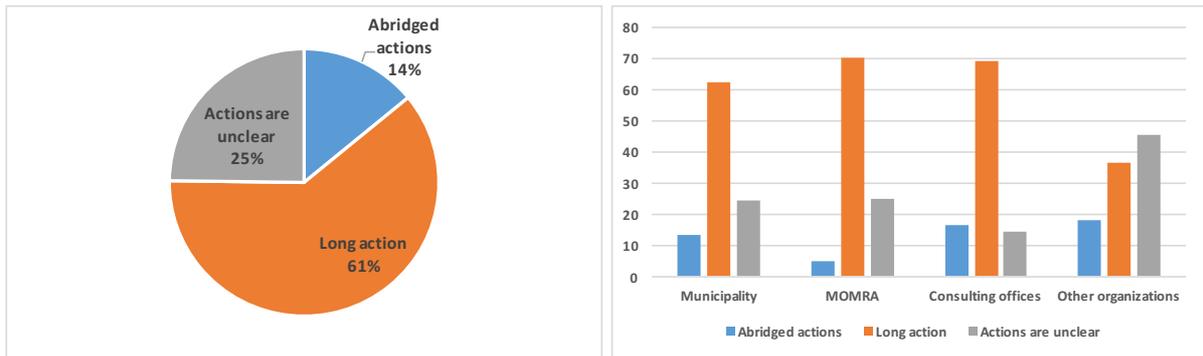
*Figure 8.24 The actions of planning path*

From Figure 8.24, 61% indicated 'long actions', this means the length of the procedure in the planning path, with this being a high percentage and indicating there is a long time for the decision-making to occur in planning issues. We can see that this choice was high in all group categories, except for Other organizations. In contrast, the choice was 'unclear actions' by 25% of the respondents, and with the group of Other organizations stating this the most at 45%. In contrast, in all groups few had chosen 'abridged actions', indicating a need to improve the path of planning.

Through the questionnaire an open question was asked to discover the cause for to the choice of 'long actions' or 'unclear actions', with their responses being summed up in seven points:

1. Routine work, especially in the government sector, the multiplicity of agencies, in addition to the central management and poor coordination with the concerned authorities' planning processes, or difficulty or lack of communication between departments/sections/stakeholders.

2. The large number of revisions and refinements, long waiting periods for the approval from the authority upper, as well as some planning studies requiring approvals from various quarters.

3. The lack of qualified human resources, meaning the absence of a specialists or

professionals who understand and know the detail of the study and its merits. As well as the reason of the decision-maker, or because of differing views between decision-makers and planners. The weakness of knowledge of the planners of some of the regulations and instructions, to the extent that the participants indicate in the questionnaire that most of the planning studies presented have not been studied well

4. The lack of a good description of the tasks required for the approval of planning studies, therefore, unclear responsibilities, thus contributing to the taking of action that is discretionary by employees who have little experience.

5. The weakness of clarity of regulations, the lack of a Saudi system of planning law and lack of commitment to the National plans

6. The weakness of understanding of the study from the decision-makers and change in their opinion, or because of the decision-maker not being a planner.

7. Administrative reasons such as lack of information, or unavailability of financial budgets.

## 8.3.10.    Satisfaction with Planning Practices

This was the last question in the questionnaire to determine the satisfaction of planners in respect of the planning practices. Figure 8.25 shows that there is dissatisfaction with the current situation, with 70% of the participants having indicated this opinion. This dissatisfaction is high in all groups except the Consultancy offices, where 48% stated they were satisfied. In contrast to that, the Municipality and the MOMRA groups indicated a dissatisfaction at a rate of 80%, followed by the group of Other organizations at 72%, which indicates that the planning practices need to be developed. In contrast, the figure shows the

dissatisfaction choice declines with holder the high qualification, while the most choice by experience group is dissatisfactory.
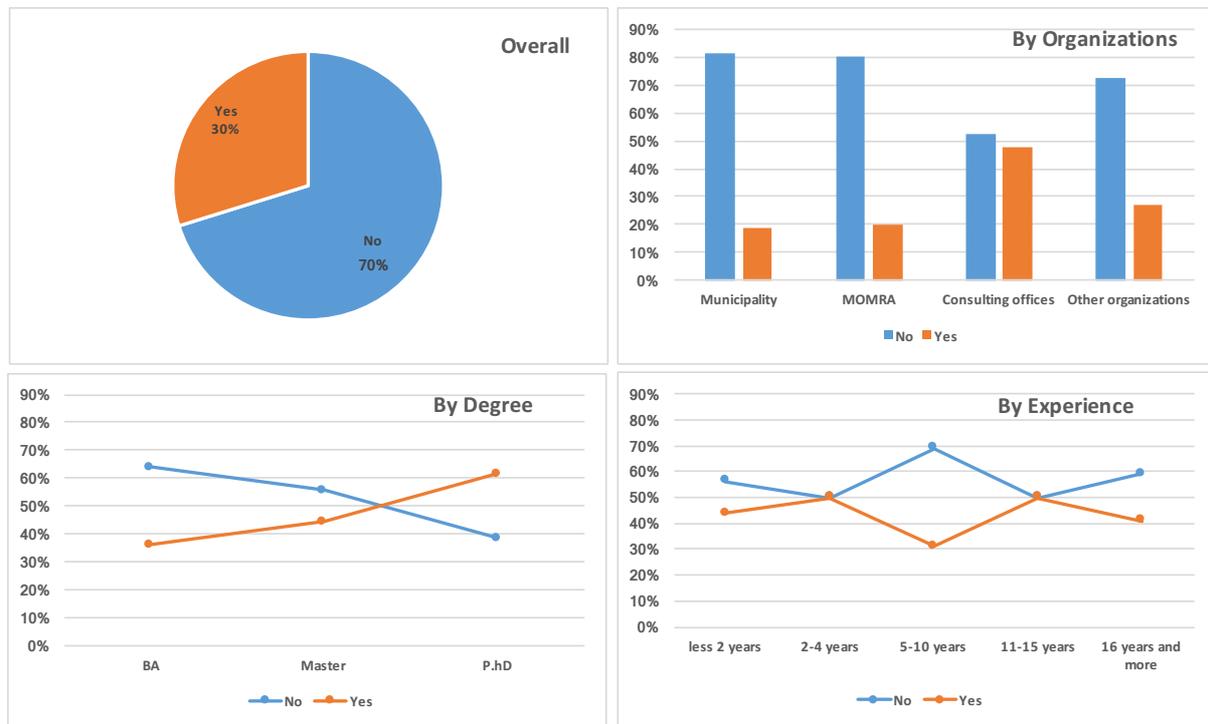


*Figure 8.25 Satisfaction with the planning practices*

An open question was used in the questionnaire in order to identify the causes for dissatisfaction, with the results being summed up in 8 points:

1. Urban planning practices are not in line with the rapid changes taking place in cities in all the spheres of urban, economic or social, that are commensurate with the Saudi context.

2. There is a lack of clarity or understanding of the strategic plans; the planning is still traditional, with a lack of modern methods that are suitable to the urban environment and with the need to raise the level of the urban planning culture. In addition, there is further lacking unified law of urban planning and of a commitment to the proposed plans.

3. There is a lack of community participation in decision-making process, as well as the

general weakness of the authority of the municipal councils and to involve the community in the planning work.

4. Most of the participants pointed to the existence of multiple sectors affecting the guiding of the city's development and urban planning path, there is also the lack of coordination between the relevant authorities on planning issues.

5. There are no rules for an easy exchange of information, with the current urban planning being very weak because of the non-updated information.

6. Regarding central finance, the Ministry of Finance is the power that determines the city's projects and controls their destiny. And yet the participants pointed out that the planning studies are prepared but not implemented due to lack of funds. Furthermore, intervention from the owners of capital guides the planning.

7. There are delays in decision-making. Furthermore, some of the participants pointed out that that some officials in the same position for many years has influenced the practice of planning methods. This issue is in addition to the weakness of competencies and experience.

8. There is no independence for cities to practice planning, meaning the Saudi cities are similar in terms of planning outcomes.

## 8.4.    Chapter Summary

This chapter has sought to present the opinions of urban planners to know their level of knowledge and practices that affect the growth outcomes of Saudi cities. However, the above results indicate the desire of planners for improving the urban planning work. The first part shows the planners' dissatisfaction with their environment within the urban planning work. The most important of those points which noted was the issue of the high rate of administrative or other office work undertaking by planners.

Furthermore, there is the weakness of the exchange of experiences between planners, whether local, Arab or foreign. There are specific results linked to the Municipality and MOMRA groups categories, such as the need to link scientific specialization with the nature of the job, and weakness in the participation of local planners. In terms of the municipal sector, there is the poor participation of planners in committees or meetings for issues of planning, in addition to a poor level of training programs for planners with which they can develop for development of the urban planning path.

In the second part, we see that the most widely used of planning guides is MPG and RUB, followed by RBG, while there are weaknesses in the use of NSS and RPG. In turn, the participants of this research believe that the planning guides are good, and require little development to provide improved clarify for planners. But there is low satisfaction from the participants about the suitability of the guides for the reality of the city. On the one hand, booklets that help to develop planning practices are frequently used in the sector that prepared them, but experience a reduced use in other sectors.

On the other hand, the most used of the planning practices were: in terms of urban planning was plot division, and in terms of the energy issues was poor concentration.

Furthermore, there is a lack of interest in economic issues through planning practices. Moreover, there is a weakness of the relationship between community culture in urban cities with the planning practices. Also, the results do not indicate the height of the evaluation and follow-up levels within the planning procedures. Regarding information, it transpires that the weakness of data updating influences the planning practices, causing incorrect expectations. Furthermore, the structure planning shows that the work in the municipal sector and the MOMRA is less organized.

Overall, most of the participants in the questionnaire showed dissatisfaction with the current situation of the urban planning practices, which was causing weakness in the current planning results, and which in turn has been confusing the growth path of the city, causing rapid and scattered growth. This issue must be addressed by developing the role of planners so as to yield an improved approach and an urban planning pathway that is more effective for improving the path of future city growth.

# Chapter 9 Conclusion and Recommendations

## 9.1.    Overview

The aim of this thesis is to provide a critical understanding of urban planning practices, with a view to providing recommendations to optimise sustainable urban growth. The research began by identifying the concept of urban growth, establishing the causes and drivers of growth, and known approaches to achieving sustainable growth. The review of the planning path revealed some defects in the study context, establishing a need to review the concept and better understand the planning practices.

As specified in Chapter 3 in relation to the research design, the study objective was to support understanding of frameworks surrounding those planning practices that impact urban growth, and which can inform empirical assessments in a case study context. Chapter 4, then furthered understanding of urban growth in the context of Riyadh, to clarify and evaluate the nature of planning and growth in the city. This was followed by empirical research evaluating urban planning practices in Riyadh according to four factors: the influence of the underpinning the driving forces of planning and growth (Chapter 5); the consequences of spatial planning practices upon urban growth (Chapter 6); the influence of the planning environment on urban planning practices (Chapter 7); and the role of planners and their practices in urban planning (Chapter 8).

After providing a basic overview of the findings, this chapter summarises the thesis by presenting the various factors that contributed to the completion of this study, as a response to the research objectives, and to answer the research questions. This is then followed by a summary of the results given in previous chapters (empirical research), to specify

comprehensive and actionable recommendations. Finally, the key benefits of the research are described, and information is given to explain how the future study might be taken forward.

## 9.2.    The Conclusions of the Research

This study explored the contributions of urban planning practices in relation to sustainable growth in Riyadh, a city where rapid growth has occurred. Interviews with representatives of stakeholders indicated a degree of dissatisfaction with the progress of urban growth. The conclusions of the research are summarised below, arranged according to the objectives stated in section 1.3.

**Objective 1:** To clarify the extent of the interaction between the discourses underlying the driving forces behind urban growth, and to address the problems and difficulties facing Riyadh. The driving forces (planning law, planning structure, and energy discourse) in both Riyadh marked a negative change and a significant expansion towards rapid growth, despite unsustainable and uncontrolled planning development. However, the three driving forces could be divided into sub-themes based on the interview analysis (see Table 3.2). Summary of this objective is as follows:

➤ The absence of planning law in the planning and growth stages resulted in poor growth outcomes for Saudi cities. In addition, continual expansion without updates to planning law has led to significant deterioration at the planning level, as existing policy is not relevant to the extensive modern development and accelerated growth witnessed in Saudi cities.

➤ The length of time to develop and modify planning law leads to a resistance to change. However, it remains a concern that urban strategy, which should provide a usable

road map, has not been implemented properly. Meanwhile, future expectations do not conform to the current reality, as there is a huge gap in what is currently possible and expectations of the process.

➢ Weaknesses in urban management have complicated the pattern of growth in Saudi Arabia's major cities. Despite a preference for centrally administered planning, businesses that acknowledge growth are engaging in planning based on their own limited vision, restricted to and individualised or specific sector. Thus, the majority of preferred planning outcomes are confined to specific cases, such as single streets, and the allocation of housing, etc., without consideration of the holistic context and growth consideration of public and private sector stakeholders.

➢ The role of planners at the local level is very limited, and usually isolated from the opinions of the inhabitants and users of the urban environment. Thus, Saudi planning falls under the umbrella of a bureaucratic centralised system, reliant on remotely located planners with no recourse to local cadres or any form of public engagement.

➢ The attitude of leniency regarding the issue of energy, and in terms of support for residential transportation has contributed to the expansion and rapid urban sprawl of Riyadh city. Therefore, weaknesses in the relationship between energy policies, and practices and the process of urban planning can be seen to have contributed to the delivery of conflicting outcomes with regard to patterns of sustainable growth and the welfare of society.

**Objective 2:** To identify the practices of spatial planning in Riyadh from different perspectives. There was a consensus in the participants' opinions that Riyadh has a shortfall in spatial planning such as transportation, the uncontrolled growth of the city, rapid urbanisation, weaknesses in terms of urban design and problems with the distribution of land

use. However, these have been divided into sub-themes based on the interview analysis (see Table 3.3). A brief summary of this objective as follows:

➤ The main findings regarding the settlement pattern were that it is unclear and dispersed, causing the random growth of the city. Responses from the participants concerning the issue of urban sprawl highlighted essential practices underpinning the establishment of residential neighbourhoods on the outskirts of the city. This means continued sprawling growth is expected, although there is currently undeveloped land within existing city limits.

➤ The study revealed that the design of housing has contributed to the city's expansion, because of the relatively large size of the buildings. This combined with the presence of an increasingly expanding population in the city has fuelled the city's growth and urban sprawl. Furthermore, this study revealed that monopolisation of some larger plots within the city by government sectors has driven construction on the outskirts of the city.

➤ The standards of urban design in Riyadh have weakened the efficiency of neighbourhoods, because of redundancy in style and exaggeration of neighbourhood size, causing further expansion of the city. This is exacerbated by weaknesses in the decision-makers' review process when evaluating urban design decisions.

➤ Urban design criteria are now in the hands of the private sector, including consultation offices, many of whom have limited knowledge about the local realities affecting life in Riyadh. This reduces the quality of planning outcomes and also reduces the efficiency of the planning process. Indeed, some urban designs are created by special advisory offices, which prioritise real estate development over the wishes of the

community. However, Saudi planning still lacks a clear understanding of the principles of sustainable city planning and decision-making pathways.

- The lack of clarity concerning land use in Riyadh, and the changes in land use that occurred following the adoption of the basic outline of the neighbourhood, as well as the variations in land use and the weakness of land use relationships with one another are additional reasons for the expansion and growth of the city.

- Private transport has had a significant impact on growth, and in tandem with cheap fuel this has also impacted planning in relation to infrastructure in Riyadh.

**Objective 3:** To evaluate the situation as regards the current planning environment to determine how it influences urban planning pathways. There was some unanimity observed with regard to the participants' belief that Riyadh suffers from a clear shortfall in terms of planning requirements. The participants also suggested the situation has become increasingly worse over time. Several sub-themes emerged from the interview analysis (see Table 3.4). A summary of this objective is as follows:

- A weakness in local planning. The shortage of local professionals has proved to be a severe drawback in the planning environment, and that has impacted on urban plans and its implementation. Additionally, practical experience is limited amongst local planners, particularly in the area of urban planning. The argument here is that professionals and graduates continue to be very limited in terms of experience and the majority of critical planning activities are currently being managed by foreigners (non-locals).

- Problems in terms of teaching and training planners, also inhibits improvements to urban planning practices. The teaching in universities and the training offered in

workplaces is not associated with the genuine needs of the city in terms of growth, development and planning; thus, outcomes are poor.

➢ Decision-making processes are in disarray resulting in deviations from basic plans, and this is the major cause of both rapid growth and urban planning failures in Riyadh. However, weaknesses in the decision-making process in Riyadh are confined to four principal causes. Firstly, the priorities involved in decision-making; secondly, the complexity and length of the decision-making pathway, which results in a dilution of goals; thirdly, the impact of personal/individual interpretations on planning outcomes, resulting in decisions being taken by non-experts; fourthly and finally, the tendency to ignore or delay the implementation of key decisions, causing inconsistencies between decisions on similar projects.

➢ The work environment was not suitable for those engaged in urban planning practice. This was summarised according to seven points: 1) the absence of an appropriate person responsible for improving the working environment; 2) fear of change and a desire to preserve conventional approaches; 3) undeveloped administrative system; 4) weak financial incentives; 5) weaknesses in evaluation and follow-up in the work environment; 6) impact of personal relationships on staff and the completion of planning work; and 7) a low level of awareness.

➢ The limited opportunities for people to participate in planning resulted in many mistakes in planning outcomes, due to the failure to consider people's opinions; however, the planning path does not reflect the wishes of the community, prompting multiple requests to modify outcomes. On the other hand, the low level of stakeholder's participation and urban planning practices limited to specific sectors such as municipalities, causes a lack of understanding of the opinions and strategies

employed in other sectors, contributing to an increase in pressure of work in the municipal sector.

➢ The challenge of data availability, due to the traditional approaches of acquiring it and the time taken to search for it, means it takes a long time to complete the planning and decision-making process. However, there was no database centre in Riyadh city, as each sector is seeking to establish an information centre of its own. This will generate different data resulting in variations in results. Conversely, researchers who are interested in urban research encounter difficulties obtaining data, leading them to rely on old data. Thus, planning outcomes might not fit with current reality.

**Objective 4:** To assess the role, knowledge and practices of urban planners engaged in planning. These two themes are divided into several sub-themes based on the findings of the empirical chapters and the literature review (see Table 3.6). The research found the following:

➢ A shortfall in the number of planners overall; however, in terms of the municipal sector, there is limited participation from planners on committees or at meetings. Additionally, there is a need to link scientific specialisation with the nature of the job. Meanwhile, there are weaknesses in terms of planners' exchanging experiences, whether local, Arab or foreign, and few training programs for planners. The majority of the participants expressed dissatisfaction with the current situation concerning urban planning practices.

➢ There is a low percentage of female participation in planning: this means the majority of ideas and decisions related to urban planning are taken by men. Furthermore, there are a high proportion of holders of doctoral degrees in MOMRA relative to other

stakeholder organisations. Extensive administrative work and office work is undertaken by urban planners.

➢ The most widely used planning guides are the MPG and RUB, followed by RBG: weaknesses were identified regarding the use of NSS and RPG. The participants asserted that planning guides are good, requiring minimal development to provide improved clarity to planners; however, there was low satisfaction among participants concerning the suitability of the guides to meet the needs of the city. However, booklets produced to assist in the development of planning practices are frequently used by the sector that prepared them, although reductions are experienced in other sectors.

➢ The most frequently used urban planning practices were: plot division. In terms of energy issues, there was inadequate attention paid to issues linked to urban growth. Furthermore, there is a lack of interest in economic issues involving planning practices. Moreover, there are weaknesses in the association between community culture and planning practices. Additionally, the results do not indicate significant development, evaluation or follow-up within planning procedures.

➢ Weaknesses affect the data, as updates to planning practices generate unrealistic expectations. Furthermore, the structure planning shows work in the municipal sector and MOMRA is less organised. However, the planning paths are not clear, further indicating inadequate planning practices and require improvement.

## 9.3.    Synthesis of Discussion

This section discusses the problems perceived and associated with planning practice, highlighting how the research findings can address them. Chapter 2 identified a number of

theoretical issues linked to the subject of this enquiry. Empirical evidence, highlighted in Chapters 5, 6, 7 and 8, was sought in reference to these issues, and informed by interviews and questionnaire. The participants represented various sectors concerned with planning and development from different aspects (i.e. municipal, service sectors, and private sector), and focused on spatial perspectives in relation to urbanisation and the cityscape. Implications from these results emerged following their synthesis with the study context, and these are as discussed below. Doubts remain concerning the effectiveness of planning practices, despite the outcomes of Riyadh's rapid growth, as reported in this and earlier research. The next section addresses three issues.

## 9.3.1.   Dissatisfaction with Urban Growth Outcomes

Many researchers (e.g. Alkhudhairi, 2000; Al-Hathloul and Mughal, 2004; Mubarak, 2004a; Alnaaim 2005; Alattas, 2008; Alsaiari, 2010; Baesse, 2012; Aboukorin and Al-shihri, 2015; Aldalbahi and Walker, 2015; Alqurashi et al., 2016) have expressed dissatisfaction with the progress of Riyadh's urban growth, despite its ranking as one of the Saudi's fastest-growing cities. Rapid growth without reflecting on local needs and experience has generated multiple problems for government agencies in Saudi Arabia. Urban growth management is often complicated, and the challenge facing Saudi cities in terms of administration, planning and providing an infrastructure is daunting. A shortage of experienced and qualified professionals creates difficulties in planning, and this is compounded by poor outcomes in the procedures of planning. Certainly, to date, the attempts being made to reorganise planning practices and related management structures have not proven sufficiently successful.

The majority of the research participants expressed dissatisfaction with the outcomes of urban growth, even when it contributes to the city's economy. For example, one

interviewee, from the municipal sector, expressed wholly negative opinions of current planning practices. They argued that the lack of involvement from local people undermines the legitimacy of the planning process.

Nevertheless, some notable positive achievements are apparent, reflecting some improvement in the growth management process. However, no planning system is perfect, and much remains to be done. Moreover, the planning and urban growth management in Riyadh, as with any Saudi city, depends on increasing the level of professionalism displayed by local planners, and changing the attitudes of Saudi society more generally.

## 9.3.2. How to Cope with the Challenges of Urban Planning Practices

This research posed a question about whether urban planning practices can reasonably be expected to encompass all the demands imposed by urban growth. The findings clearly imply they cannot. Furthermore, attempting to satisfy the needs of all stakeholders in the planning path might not prove to be an optimum outcome for all. Decision makers and planners express different preferences, but have no way of expressing them. This study suggests that planning practice is an effective tool, despite the dissatisfaction expressed by some stakeholders. A new approach promoting principles of sustainable development in urban planning will most likely deliver more acceptable outcomes than afforded by the systems currently in place.

The key proposal made in this study is to adopt a long-term vision based on urban growth, with focus on the issues that emerged from this study (see Figure 9.1). The quality of the vision will depend on institutional stakeholders (especially planners and decision makers), as well as the extent of the planning practices in place, and the government support. Some government or private sector might be reluctant to relinquish their planning practices to

others and may seek to exclude their voices from the decision-making process. Such exclusions, however, would represent a threat to the successful realisation of outcomes.
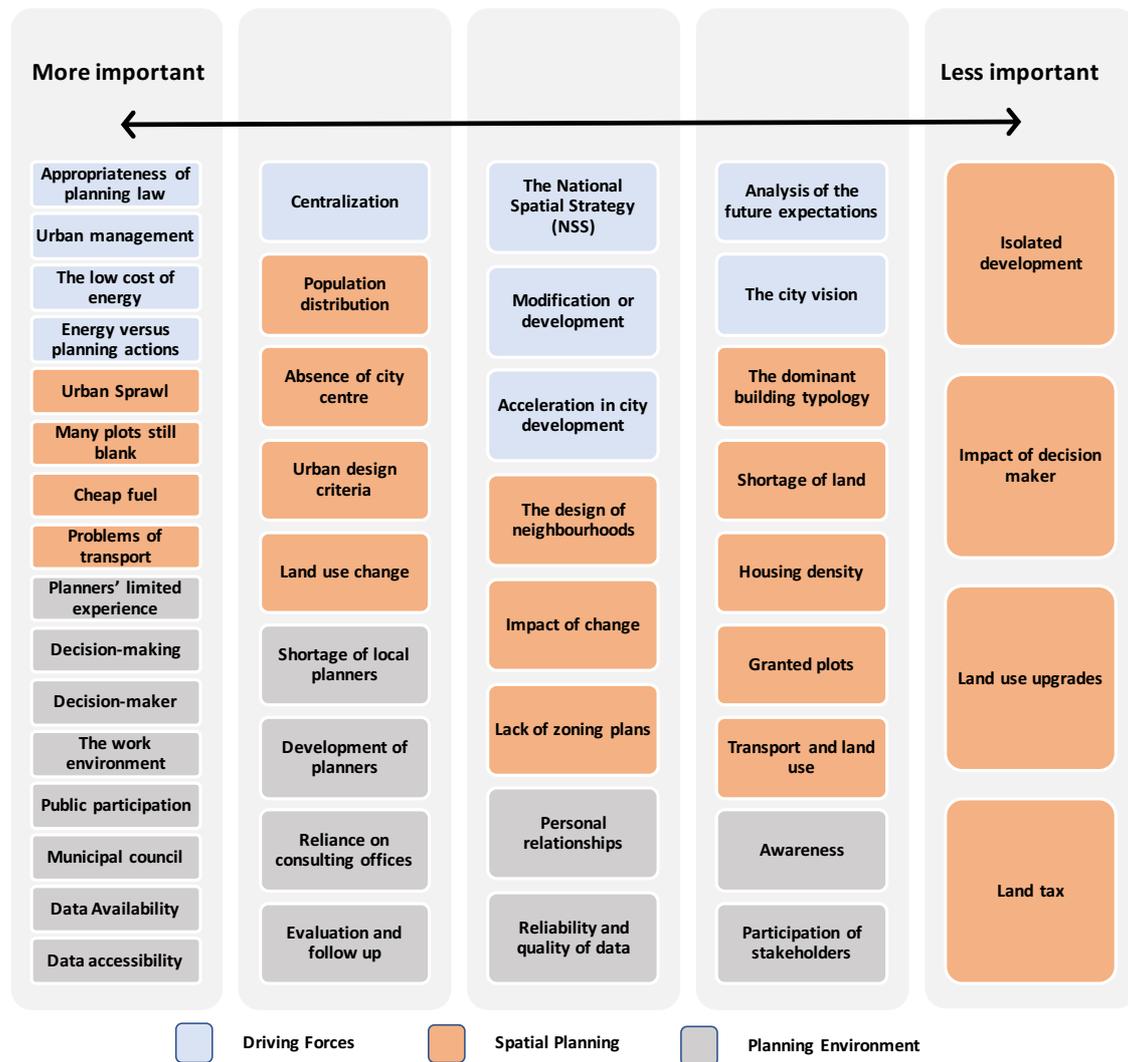


*Figure 9.1 The importance level of planning practices according to the consensus of the participants*

*Source: Synthesized by the author.*

Due to this possible eventuality, the study emphasises the importance of achieving balanced and equitable relationships between stakeholders. The cooperation of all stakeholders is necessary. Local urban planners should be encouraged to participate, the Saudi government must also establish adequate institutional programmes for them. Experts, planners, academics and decision-makers all need to encourage urban planning practices through their professional knowledge and participatory skills. It is also vital to encourage good

communication between all stakeholders. Good practice is central to achieving good urban planning outcomes.

Concern has been expressed that the Saudi government might seek to control, rather than facilitate, planning practices. The experiences of many world cities suggest that governments find it challenging to put into practice the rhetoric of decentralisation and devolution. This study shows planners have an important role to play here, with both direct and indirect participation required to keep the government in check. This will involve continuous development of planning practices, the strengthening of expertise, and the building of private and government skilled networks.

### 9.3.3. The Importance of the Urban Planners

Successful urban planning outcomes are far from guaranteed. All planning systems contain the seeds of potential conflict, even excellent urban planning processes can generate scepticism over urban planning practices. However, the purpose of urban planning practice is not just solving the current urban problems. Rather, the main aim of urban planning practices is to address future urban growth issues to establish a community of stakeholders with a long-term vision.

This thesis showed the importance of planners to evolve a planning system that can guide and implement an urban growth pathway. It has remarked that if the process of urban planning fails to agree on specific points, then planners will become dissatisfied, resulting in a negative view of the planning path. Furthermore, the quality of any urban planning system depends on its stakeholders. Their capacity can be augmented through development, training, monitoring, follow-up and accountability, all of which support continuous improvement. This study showed there is potential for the Saudi planning system to evolve towards sustainable growth, compensating for its initial weakness; however, such an

evolution requires stakeholders, particularly planners, to demonstrate continuity and stability. Moreover, the capacity to cooperate with stakeholders, this could accelerate the process of evolution. High capacity on the part of planners will also have a positive influence on the elements of urban planning.

Trust-building between urban planners and stakeholders is crucial, because both groups of actors need to communicate with one another horizontally to successfully share the planning pathway for Saudi cities. However, when local planners offer practical ideas, stakeholders are expected to communicate with them, while other experts will necessarily play a role in mediating and strengthening the links between them.

## 9.4.    Recommendations

This research revealed that when issues of urban growth arise in Saudi Arabia, the government tends to adopt urban policies that respond to immediate concerns. This approach is costly and inappropriate to meeting long term needs, often also resulting in ineffective outcomes. The challenge of matching growth needs and economic influence might have served as the impetus for the government to insist on playing a major role in supporting urban growth, thereby impairing the process of developing successful or sustainable growth. There is an important role for active discourse to guide spatial planning that supports sustainability and appropriate energy use, but this requires enabling cities to play a role in urban planning.

This study concludes that urban growth in Saudi Arabia demands some revision of the urban planning practices engaged in by key institutions. This includes a need to re-evaluate planning structures to preserve urban coherence in growth and development outcomes, as well as to obtain greater efficiency from urban planning. The implications of working to

improve a planning structure would satisfy the need for equity and balanced growth across the city. In addition, in relation to planning practices and issues, there needs to be an opportunity to improve the relationship between stakeholders, to encourage them to cooperate more fully to achieve their common objectives.

## 9.4.1.     General Recommendations

1. Prioritising urban growth is essential if urban planning pathways are to be effective. This fact has been ignored in Saudi cities, where urban policies are frequently pursued without an appropriate basis in reality; for example, ignoring the National Spatial Strategy or governance structures. The failure of urban growth in Riyadh due to their lack of restoring confidence to government agencies along with guaranteeing their budget, which means devolution, may require careful consideration being given to networking among institutions that need to collaborate in planning quality projects designed at the right time for the right place.

2. More devolved authority needs to be dispersed from central planning to each planning sector. Planning tasks could be distributed among government agencies, to enable each department to conduct its own planning responsibilities for urban growth, including setting standards that permit fairness and facilitate monitoring.

3. There is a need to enhance the standards of urban growth management through the collection and coding of indicators specifying relevant regulations and how they should be applied. Certainly, the organisation of planning practices linked to developmental tasks would be more effective if restructured to adopt planning as an integrated approach for the overall benefit of urban areas. This would lead to a major

transformation in sustainable growth, but is one that would first demand clear support from high-ranking politicians and government decision-makers.

4.  The issue of fragmentation in planning efforts demands adequate and lasting coordination, between the practice structure and overall approach to planning and development in the region. Officials have reiterated that the existing lack of coordination is a point of conflict affecting urban growth in Saudi cities. This should be resolved in line with a more realistic approach to planning practices and urban growth and planning policies, to permit its implementation. It is recommended that planning agencies focus on generating an urban planning vision, with broad participation from urban planners, either directly or possibly through government or private agencies. This would allow better management of urban growth, and support the following up of goals and strategies of urban planning, through plans prepared in localities, to ensure they conform to the values of urban settings. It would also create an opportunity for local planners to contribute effectively to planning, with the aim of accomplishing the overall aims associated with urban growth.

5.  A comprehensive and all-encompassing planning framework, within which the urban planning system can operate, is required to control Riyadh's urban growth. This will require collaboration, integration and the forging of links between government institutions and planning organisations. Chief planning authorities should be linked within the framework.

6.  Urban planning practices must effectively address problems of urban growth in Riyadh, Saudi Arabia, and to achieve this, several ideas could be enacted. Firstly, planning governance should be brought under one umbrella, the planning authority.

Secondly, urban management should be considered within city planning departments in Riyadh.

7. The government should also ensure that planning law functions effectively and that the inevitable constraints are minimised. Current planning documents are obsolete and out-dated, meaning they are not fit for the purpose of addressing contemporary urban challenges, and making planning ineffective. The guidance document developed could help and improve the planners and planning authority to realise plans closely tied to the goal of controlling the rapid growth in Riyadh city. Practices of spatial planning, specifically the roles, functions and responsibilities, must be in accordance with planning law, not according to individual interpretation.

8. There is a need for training and development to support the functionality and responsibility of planners, to ensure good performance. This should be reflected in the development policies and urban planning in relation to Riyadh

9. Conflict between the Planning Authorities, in Riyadh Municipality, the Riyadh Development Authority, and the Ministry of Municipalities could be avoided by bringing the bodies together under one functional division. Any such attempt should promote collaboration and integration between all planners and the planning authorities, to prepare urban growth policies and a Master Plan that accounts for the views and opinions of stakeholders. Additionally, the recruitment process should be made more rigorous, ensuring suitable candidates with appropriate professional qualifications can be employed by the Planning Authority to address urban growth and urban planning pathways.

## 9.4.2. Recommendations for Growth Management

This section identifies specific issues that need to be addressed in growth management and it is considered how this might be achieved. It is suggested that growth management in Riyadh city could be managed through two methods: short-term (easy win) and longer term more transformative (but more difficult) forms of intervention.

**In the Short-Term,**

1. Increase the recruitment of local planners in the sectors that are related to planning, whether in the government or private sector. Here, understanding local planners for community culture and their needs will contribute to controlling urban growth in Riyadh. Moreover, stop relying on foreign advisory offices that could not provide the needs of the community, and move to local consulting offices that have a better understanding of the community reality.

2. Use of public transport could be encouraged by providing more transport options such as buses or metro. On the other hand, the use of the private car could be minimised through imposing road tax or increasing the price of fuel.

3. Alter land use planning frameworks, so that all public and private services in the residential area are available to go to the concept of the compact city, which reduces the demand for mobility within the city.

4. Reduce the size and space of residential land, which will contribute to the provision of more land. In addition to changing the style of housing design, allow the vertical expansion, instead of horizontal expansion of the city.

5. Implement policies concerning undeveloped land within the city of Riyadh, such as fees, or the period allowed to leave the land without development. The purpose

of this is not to leave the land without development, which in turn reduces the demand for land on the outskirts of the city.

6. There is a further need to produce spatial indicators for growth and development progress in urban cities in Saudi Arabia, to facilitate city planning and reflective urban management.

**In the Long-Term,**

1. Establish a local planning sector for Riyadh that includes all services and facilities related to people such as housing, public services, commercial services, roads and others. The purpose of this is to understand people's needs to contribute to controlling the path of city growth and its management.

2. Develop the planning process and procedures that contribute to speeding up the adoption of decisions in a timely manner; and reduce the number of decision-makers in local decisions, to achieve decentralisation.

3. Establish a local data centre, to ensure the real need for spatial expansion of Riyadh city. Moreover, the data collection can be done through government and specialised sectors not with a private sector that did not contribute to the previous period in the collection of good data. In addition, the 'notarial system' should be introduced, to ensure that the processes and procedures of planning operate smoothly within a system where trust among actors permits urban planning practices that can function effectively.

4. Update the planning law and planning guides in a way that helps ensure the sustainable growth of the city and with the participation of all stakeholders from the private and government sectors. Moreover, there is a need to introduce a planning system that can be responsible for monitoring performance

independently of those individuals conducting the implementation. This is a basic means to guarantee accountability, through monitoring the balancing of urban growth. Also, there is the recommendation for a more integrated planning system which takes into account existing developments and financial/tax regimes that influenced growth.

5. At present, none of the involved public agencies have a clear understanding of the objectives and role of energy policy, which should include improving efficiency in terms of city growth, as well as facilitating the integration of the work of the other urban development agencies. Improvement and development are energy-related issues and urban planning practices, and a major consequence of the city's uncontrolled growth is the need to re-examine prices and support offered in a way that does not adversely affect Saudi society. Future changes in energy policies will affect low-income earners; thus, introduction should be gradual and over several years.

6. Establish the community for city/urban planners, and it is essential to strengthen ties between planners and to listen to suggestions and opinions, as well as to develop a programme of continuing professional development. Also, the government should provide a favourable planning environment for planners, and an administrative hierarchy that encourages hard work, as the present structure somewhat encourages laziness and non-compliance with rules.

## 9.5. Benefits of the Study

This thesis has addressed the pressing need for urban planning practices in Riyadh that can address its rapid urban growth, and develop a framework and guidance document. The

results encourage the professionals, planners and authorities to find appropriate and evidence-based planning approaches to the urban growth problems posed by Riyadh and other cities in Saudi Arabia. Adoption of these approaches would allow planning authorities to improve their planning processes and the procedures, to achieve controlled growth. Understanding the characteristics and challenges of spatial planning and its discourses, could contribute to controlling growth and ensure greater success in the management of urban areas. Identifying potential challenges in the planning environment as well as in the role of planners, will inform the planning framework and help to deliver effective urban planning practices. The implications of this research will benefit decision makers, urban planners, and academics.

## 9.5.1. The Contribution to Urban Growth Management

In addition to the realisation of some of the contributions to this study, especially in Saudi Arabia (see section 1.5), the study could also be a contribution to the international debate about urban growth and its management; in other words, it could conceptualise the Saudi Arabia planning system and its approach to growth management as an approach to be applied in an international context. Most of the poorly managed growth issues can be addressed by urban planning practices within the framework of urban growth management. Indeed, urban growth strategies have complementary roles to play in ensuring urban sustainability.

The urban growth in Saudi Arabia has followed the urban management regime that has not been able to meet the urban growth challenges in an effective way. The study concludes that there is a need for decentralisation of decision-making, more participation of local urban planners, public participation and collaborative strategies between private and

government sectors that can contribute to controlling the growth in urban cities and ensure the growth sustainability approach. Furthermore, the awareness of urban growth management, particularly at the local urban planners' level, will go a long way in promoting the practices and ensuring growth sustainability. Also, the local planning through the local government with decentralisation of decision-making has to play more roles in developing urban management strategies.

Finally, the study shows the impact of energy discourse on the growth of the city, as low energy prices have affected the growth of the city and in the wrong way. This suggests the need to link energy issues with planning practices to ensure that the urban growth path is controlled. The study also shows that the availability of data and its updating by a government data centre would help to control the growth path of the urban city, and then read the future needs of the city.

## 9.6. Future Work

This thesis has covered multiple elements of urban planning practices, and many future studies are predicted to emerge subsequently. Urban planning practices are common in developed countries, but less so in developing and semi-developed countries. Therefore, future research should seek to look beyond the constraints and scope of this study, which was restricted to a single city in Saudi Arabia (Riyadh), to conduct rigorous, in-depth studies of other cases. Such studies could cover cities of various sizes: big cities, medium cities and small cities, and usefully compare between them. Other cities in semi-developed countries could be reviewed as case studies, and topics such as reliance and dependence, functionality, applicability and accuracy could then be investigated further.

# Appendix A

## A.1 Theories of Urban Growth

| Theories | |
|---|---|
| **Concentric Zone Theory**<br>**(Burgees , 1925)** |  |
| **Hoyt's Sector Theory**<br><br>**(Hoyt, 1932)** |  |
| **Multi Nuclei Concept**<br>**(Harris and Ulliman, 1945)** |  |

| | |
|---|---|
| **The Theory of Land Market (Haig, 1926)** |  |
| **The Mann's Model (Mann, 1965)** |  |
| **Wallter Christaller's Model (Christaller, 1966)** |  |

| | |
|---|---|
| **Core Frame Concept (Horwood and Boyce, 1959)** |  |
| **The Hopkinson's Model (Hopkinson, 1985)** |  |
| **Reshaping Cities for a More Sustainable Future (CSIRO) (Newton, 1997)** |  |
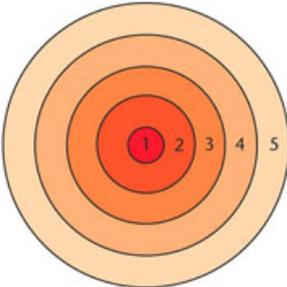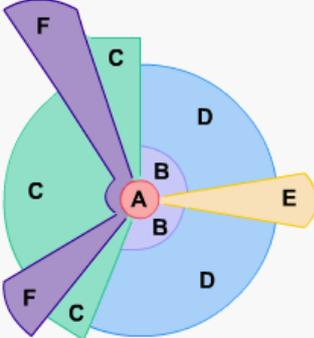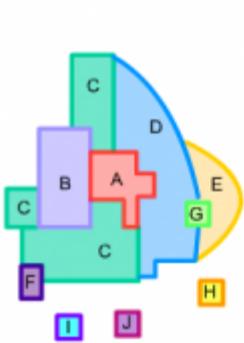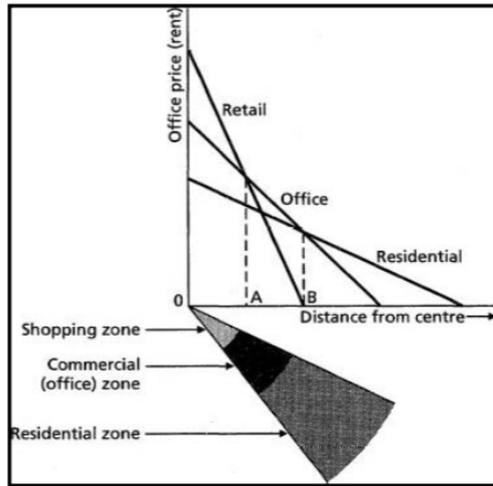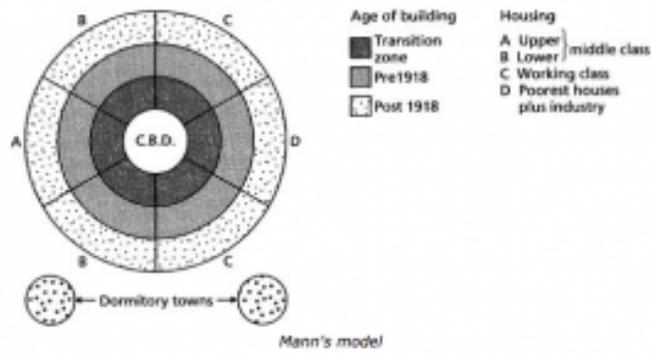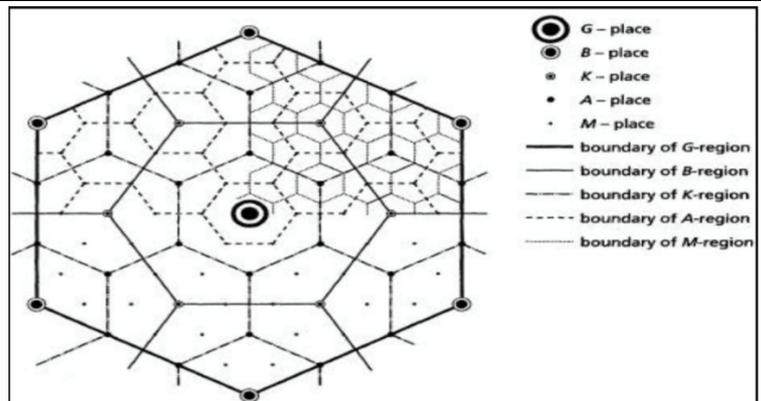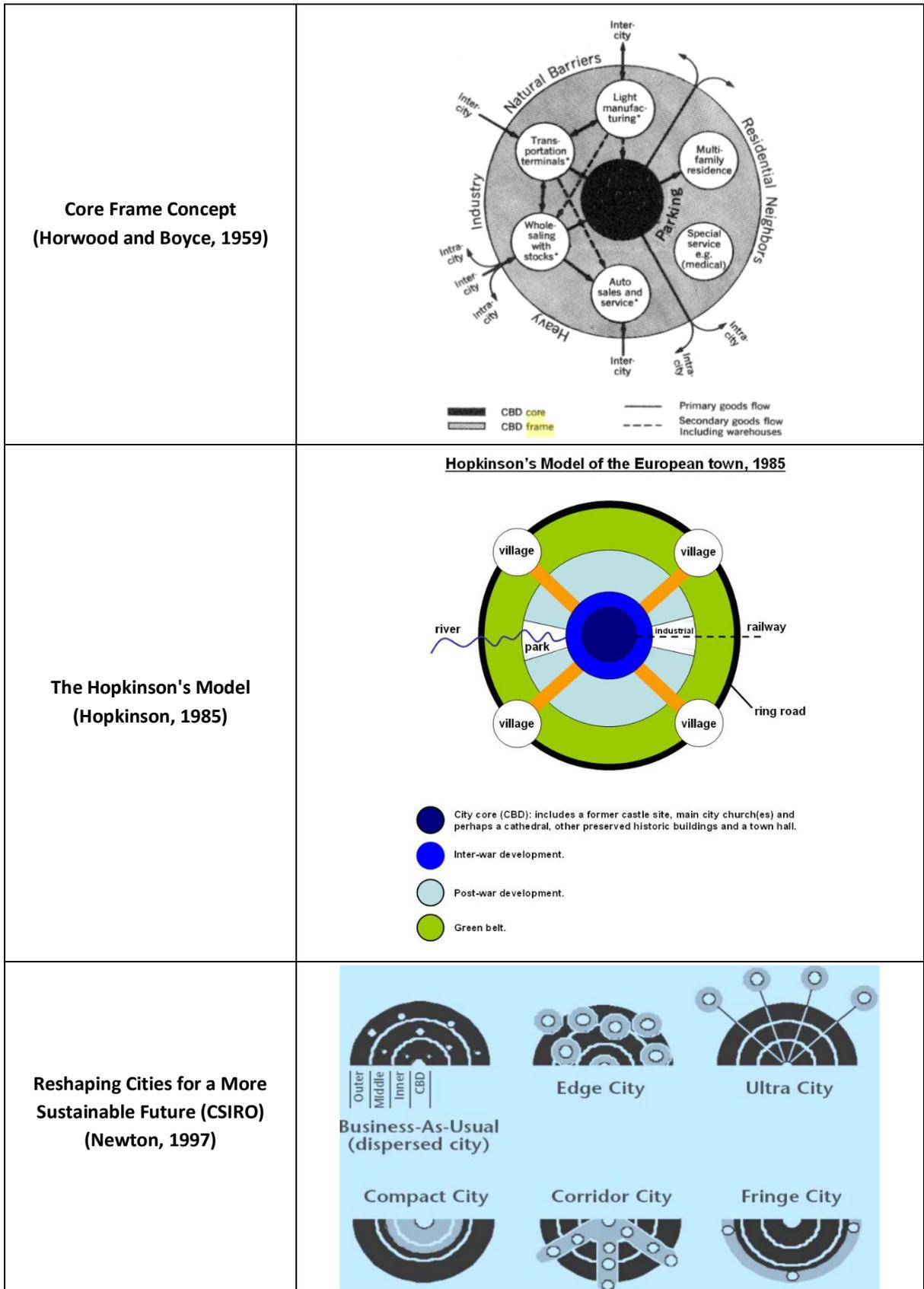
*Figure A.1.1 Theories of Urban Growth*

## A.2. The Pattern of Urban Growth
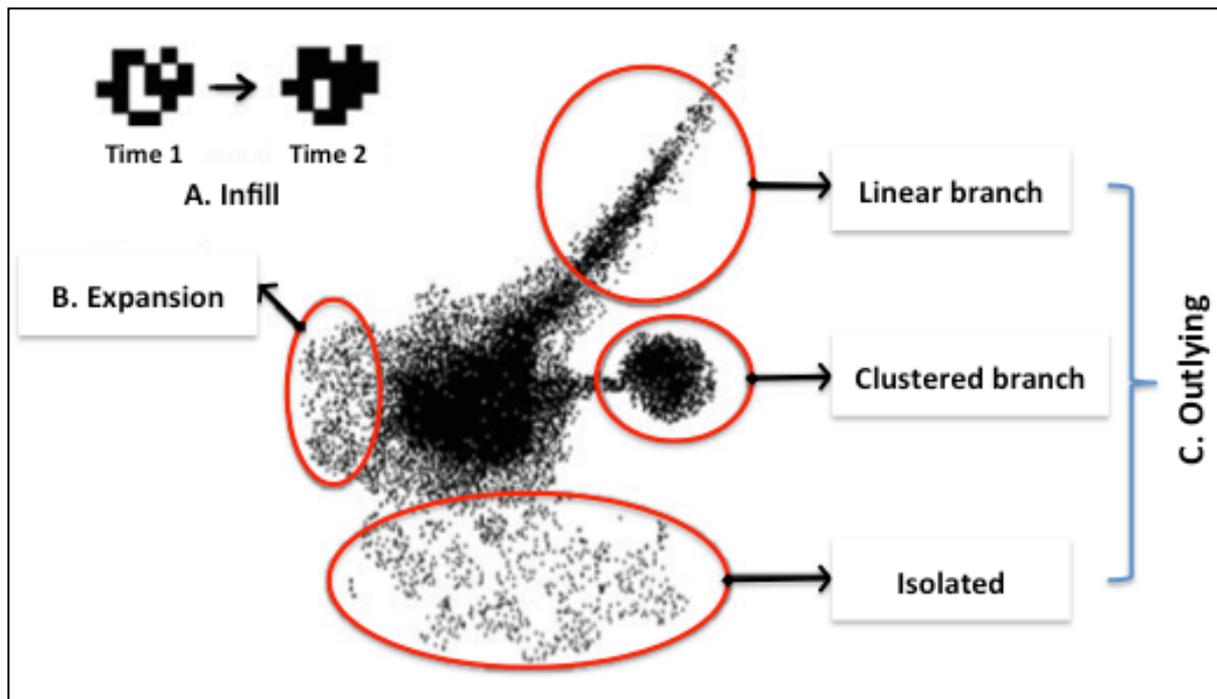


*A.2.1 The pattern of urban growth.*

*Source: (Bhatta, 2010, p.12)*

**A-** *Infill of urban growth*: this is the conversion of non-urban land surrounded by urban land into urban areas. Infill policies seek to develop vacant land in built-up areas Ellman (1997). Wilson et al. (2003) point out that the development of small plots usually occurs near public facilities such as water and roads, and are mostly surrounded by urban land.

**B-** *Expansion urban growth* *(also called urban fringe development)*: this is growth adjacent to existing urban areas, with the conversion of non-urban areas, or those which have a limited number of urban neighbourhoods, to urban land; often known as urban fringe development (Wasserman 2000; Heimlich 2001). This type of growth usually occurs at the boundary of the urbanised area, and spreads in one direction, more or less parallel to the edge (Forman 1995).

**C-** *Outlying urban growth*: this is the conversion of non-urban areas some distance away from existing urban areas (Wilson et al. 2003), often called development beyond the

urban fringe (Heimlich, 2001). Outlying growth is divided into three classes: 1) linear branch -

where a new area, surrounded by non-developed land some distance from the existing city,

is developed; 2) clustered branch - which is neither linear nor isolated, but a group or a cluster;

and 3) isolated growth - which is a new construction in an area with little or no developed

land, or building with a different habitat or land type (Forman, 1995).

## A.3 Studies of Urban Growth in Saudi Arabia

| Author | Study | Purpose of the study | Findings |
|--------|-------|----------------------|----------|
| (AlJarallah and Aldioufi 1988) | Regional Variation in Saudi Arabia: A factorial Analysis. | Study the growth between the different regions in Saudi Arabia. | Big discrepancy between the different regions and cities in Saudi Arabia. |
| (Daghistani 1991) | Urban growth management in Jeddah | Reviews the experience of one of the major cities in Saudi Arabia — Jeddah — as a means of illustrating the approaches which have been developed, and evaluating the structures and procedures for planning and controlling urban growth. | Weaknesses relating to the structure of the planning system are identified, as are major difficulties in relation to the quality and quantity of professional staff. |
| (Al Nowaiser 1994) | Control of urban growth and development in Saudi Arabia | Identify urban growth problems of inconsistency and provide solutions to avoid them. | Identified nine common problems which recur in plan policy implementation, include; insufficient plan performance, inadequate legal framework, ineffective institutions, non-conformity with authorities, goal displacement, misallocation of economic resources, not enough time available, lack of political support and lack of public support. |
| (Alkhedheiri 1998) | The role of secondary cities in the national development process of Saudi Arabia. | Focus on the reasons for urbanisation in Saudi Arabia, identifying actions and policies to strengthen the role of medium and small cities. | The study findings on promoting the efficiency of small and medium cities, aiming to alter the structure of investment policies in general by moving towards decentralisation of decision-making. |
| Alwasil (2000) | Impact of cities growth on rural areas | Study the impact of cities growth on rural areas. | The developments in rural service areas could be adversely affected by their positions relative to urban cities; those in closest proximity to urban areas were weakest. |
| (AlJukhaidib 2002) | The size of the urban centres and expansion in Qassim | Explore the relationship between the size of an urban area and its functionality. | The study concluded that the size of an area has played a critical role in performance in some urban areas, but that geographical distribution also influences an urban areas performance of key functions. |
| (Abdu et al. 2002) | Urban growth and development process: the underlying factors | To examine the underlying factors that shaped the growth and development of Jeddah. | Two strands of factors became easily visible, the primary factors responsible for the substantive and morphological development; and the secondary forces that give rise to the land use mix and image of Jeddah. These two levels of forces have positively interacted to determine the urban profile of Jeddah. |
| (Al-Hathloul and Mughal 2004) | Urban growth management-the Saudi experience | Discuss the methodology adopted and the process of devising urban limits and evaluates their impact on urban structures of Saudi cities. | The study draws some conclusions in the realization of objectives of the exercise with respect to, (a) control urban sprawl by encouraging infill development where utilities were generally available; (b) reduce cost of provision of infrastructure through better coordination tied to commonly agreed phasing; (c) maintain natural environment around the cities. |
| (Garba 2004) | Managing urban growth and development in the Riyadh metropolitan area, Saudi Arabia | To examines the evolution of urban management in Riyadh with the aim of assessing impact on physical development patterns. | The study points to the need for broader administrative reform to improve the ability to cope with long-term challenges of growth in the city. |
| (Mubarak 2004) | Urban growth boundary policy and residential suburbanization: Riyadh, Saudi Arabia | The purpose of this study is to examine the spatial pattern of the enlargement of Riyadh, Saudi Arabia. | Central government ordinances helped create 'dysfunctional' sprawl by mandating big lots and overly wide streets. Fifty percent of the city's urban plan of approximately 1300 km2 represents a pattern of untimely, undeveloped subdivisions. Much of this premature subdivision was a result of speculative land deals. |
| (Aina and Merwe 2008) | Urban Spatial Growth and Land Use Change in Riyadh: Comparing Spectral Angle Mapping and Band Ratioing Techniques | This study explores the use of a band ratio technique for land use change analysis and the linkage of the result with urban growth theory. | The land use analysis results indicate that urban growth management strategies in Riyadh have not been totally successful and the growth pattern corroborates the urban theory of diffusion and coalescence. |

| | | | |
|---|---|---|---|
| (Gamboa 2008) | City Expanding to The Desert Horizon: Riyadh's problem of explosive growth and urban sprawl | Identify key problems associated with urban sprawl in Riyadh | The study mentioned several problems, but the most important the lack of basic services, facilities and social services. Also, disparity in services within the urban parts of Riyadh. |
| Alnaim, 2008 | Riyadh: a city of "institutional" architecture | Identifying factors driving population growth in the city, and discussing the repercussions of this population growth and its impact on the urban environment at the national level. | Study explained that this deficit would continue unless practical solutions could be offered. In addition, he observed a shortage of drinking water, sanitation, and other services resulting from the rapid and irregular growth. |
| (AlJukhaidib 2009) | The balance of urban blocks with the areas available for the growth of Saudi cities | What the extent of the relationship between the urban blocks and the urban growth boundary in Saudi cities in terms of the actual needs of those areas formed by the urban growth boundary. | The urban growth boundary of cities is capable of absorbing urban blocks at a rate of more than 50 years. |
| (Al-Ahmadi et al. 2009) | Calibration of a fuzzy cellular automata model of urban dynamics in Saudi Arabia | The aim of this study is to describe the implementation of a calibration procedure within the fuzzy cellular urban growth model for three periods: 1987–1997, 1997–2005 and 1987–2005. | The results showed that the genetic algorithm produces a better calibrated model than parallel simulated annealing. The model that contains all primary drivers and all interactions produced the best performing calibrated model overall. |
| (Alsaiari 2010) | Urban sprawl in desert cities: the case studies of Phoenix, Arizona and Riyadh, Saudi Arabia. | Study of desert city sprawl by comparing two cities, on opposite sides of the world with enormous cultural differences. | Both cities' governments are influencing sprawl as much as they are trying to solve it, and the governmental policies, which encourage sprawl, cause sprawl-reduction plans to become nearly impossible to successfully implement. |
| (Baesse 2012) | Towards more effective urban planning in Jeddah, Saudi Arabia. | The research tests whether the recent establishment of the municipal council could contribute to solving Jeddah's physical and social problems? | Stressed the importance of the municipal council to resolve physical and social problems. |
| (Aljoufie et al. 2013) | Spatial–temporal analysis of urban growth and transportation in Jeddah City, Saudi Arabia | To quantify and analyse the spatial–temporal relationship between urban growth and transportation for Jeddah using Remote Sensing (RS) and Geographic Information System (GIS) approaches. | The analysis shows that transportation infrastructure expansion has stimulated Jeddah's urban spatial expansion and residential area growth. The enormous spatial expansion has also caused significant changes in the daily share of travel modes. |
| (Aboukorin and Al-shihri 2015) | Rapid urbanization and sustainability in Saudi Arabia: The case of Dammam metropolitan area. | This study tries to investigate the rate and scale of urbanization in Dammam, and tries to analyse its unsustainable impacts on the development process in the region. | The study suggesting that sustainable urbanisation policy must focus on three key issues: protection of agricultural land, improving the urban environment, and preserving urban land for future use. |
| (Aldalbahi and Walker 2015) | Attitudes and Policy Implications of Urban Growth Boundary and Traffic Congestion Reduction in Riyadh, Saudi Arabia | Link the knowledge gap between urban growth and transportation research, and to provide an effective understanding of the relation between transportation and urban growth in developing and promptly growing cities such as Riyadh. | Various driving forces have caused the spatial changes over time, mainly economic progress, population increasing, government attitudes, the city master plans, and the growth of transportation infrastructure. It was found that the growth of transportation infrastructure has been mainly affected by population growth. This growth caused more daily trips and travel requirement, and result in congestion. |
| (Alqurashi et al. 2016) | Spatiotemporal modeling of urban growth predictions based on driving force factors in five Saudi Arabian cities | The effect of four driving forces, including elevation, slope, distance to drainage and distance to major roads, on urban expansion in five Saudi Arabian cities: Riyadh, Jeddah, Makkah, Al-Taif and Eastern Area. | The analysis of driving forces shows variable effects over time. Variables such as elevation, slope and road distance had significant effects on the selected cities. However, distance to major roads was the factor with the most impact to determine the urban form in all five cites in both 1985 and 2014. |
| (Abdelatti et al. 2017) | Nature and Trend of Urban Growth in Saudi Arabia: The Case of Al-Ahsa Province–Eastern Region. | The main objective of this study is to highlight the trend and causes behind the unprecedented growth that has taken place during the last few decades | The paper has come out with that, improving of the economy, easy access to fund and availability of the good infrastructure network are the main drivers behind such growth. Without sound planning, urban growth will continue causing negative implications on the environment and social life. |
| (Al-Hathloul 2017) | Riyadh Development Plans in the Past Fifty Years (1967-2016) | This study traces the city urban development and its expansion and growth. | The study concludes that plans with its supergrid and the superblock of 2 × 2 km provided a rational logical system for the city to expand endlessly. |

*Table A.3.1 Studies of urban growth in Saudi Arabia*

*Source: Compiled by the author*

## A.4. Growth Arab Cities: Traditional Model

Each Arab city has certain characteristics, depending on the nature of city and the economic and social situation. This is reflected in the model of building, the design of the city, and even its spatial growth. On the other hand, the common factors of these cities, be they social, geographical or religious, lead to similar morphological principles of the urban fabric (Ben-Hamouche, 2009; Saqqaf, 1987). Factors stemming from the heart of community life, customs, traditions, living requirements and environmental conditions, all contribute to the process of building and construction of the Arab city and delineate the features of the city's growth.

### A.4.1. Arab Cities: Historical Perspective

The Arab city is characterised by its taking of Islamic legislation as the basis for the lifestyle in the community of the city; considering that "the city is civilisation" (Uthman, 1988). However, the planning of cities requires taking into account that Islam and its rules and ordinances are the main axis around which city life rotates, in all its social, economic and political details, in addition to the shape of its growth.

***Planning and growth characteristics: historical roots and identity of Islam*** - The planning of Arab cities has its roots in ancient (pre-Islamic) times, and originates from the human being and his environment (Ihshimi, 2000). Islamic city growth began in this way and developed, and this applies to both cities that were built by the Muslim community, such as Baghdad, and other cities that were occupied, especially those under the control of the Persians and Greeks (Alkanani, 1999). In both cases there is an obvious influence of Islam on the urban style of the cities. However, there is a correlation of the concepts of growth between pre-Islamic and Islamic cities, which centres on spiritual aspects. For example, public buildings

such as temples, are located in the heart of the old city, and from that area emanate the public roads and houses that reflect the urban fabric of the city. The external part includes fences and trenches to protect the city. The commercial areas are either concentrated on the facades of nearby rivers or at the gates of the city (Almusawi, 1982).

This urban structure is reflected in the Arab-Islamic city's urban planning and architectural configuration, which shows the cohesion of these cities and the unity of the organic fabric of their characteristics and features. For example, the market place is the main element of the urban space of pre-Islamic cities, while other elements, such as theatres or stadiums, do not represent or reflect the functioning mechanisms or the process of formation of the Islamic city. Alternative elements appear such as mosques or schools (Alkanani, 2006). The mosque is the centre of the city, in line with Islamic ideas of the adoption of religion as the central pivot of city life. The mosque is not only a house of worship, but a social, cultural and political centre. It is a religious and cultural institution that accommodates religious, educational and cultural events. Islamic cities in Morocco and Egypt show a square or rectangular pattern, while the eastern provinces have ring shaped cities, as is the case in Baghdad (Alkanani, 1999).

***Land use in the Arab city*** - It is important to note that there was no a master plan for the Arab city. The structural formation of space and the urban fabric of Arab cities was not the result of advanced planning, or a spontaneous result. It came about as a natural result of human interaction with the natural and cultural environment. The pattern of development is the result of experiment and long held practices, as well as time and place being key to crystallising the city, making urban fabric privacy features, the mosque, the arena, the market and the inner courtyard inherent features of Arab cities (Alkaissi, 1983).

Bianca (2000) describes the main land-use pattern as a "multifunctional core structure enveloping or at least partially surrounding the central mosque by different layers of

interconnected souks" (Bianca, 2000: 143). Land use is based on the integration of mundane components within the framework of religious belief, expressed as a mixed-use land pattern, where heart of the city is religious and government buildings, the market and the associated spaces. This pattern depends on spiritual forces being at the centre of life. The mosque represents the city centre and the associated market, which is the main commercial centre, shows the importance of the interaction between the spiritual and physical aspects of the Arab city. Housing mostly occupies the surrounding urban structure, as shown in Figures A.4.1.
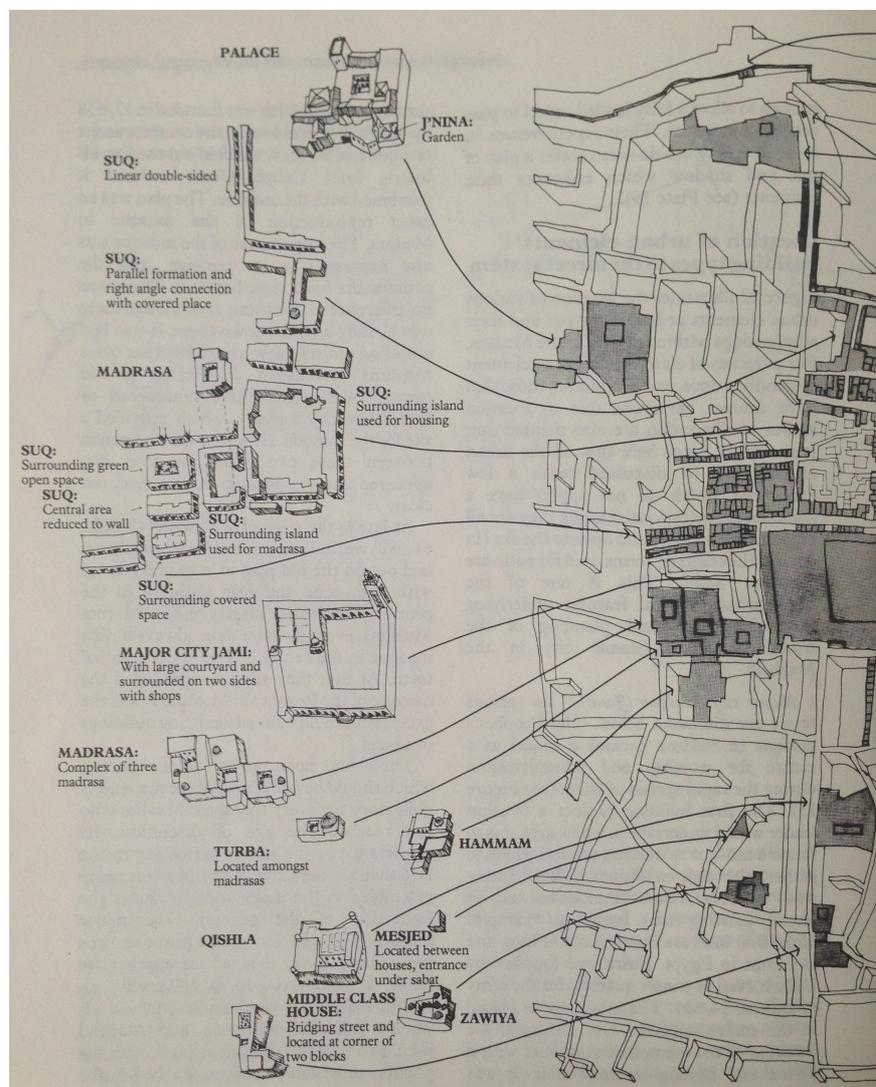


*Figure A.4.1 Morphological analysis, city central: urban elements location.*

*Source: (Hakim, 1986, p.68)*

## A.4.2. Properties of the Traditional Arab City

In the context of urban design, Franck (1994) says that morphology refers to the underlying factors of urban form that draw upon society's attitudes towards, and in relation to, physical elements and spaces. Morphology of the city consists of a system of area events or "activity areas", "spaces", structural blocks or "masses", and a system of movement or "circulation system" (Alkanani, 2006). Suitable organisation of these elements is one of the goals of the "urban plan" that seeks the appropriate spatial and rational distribution of the elements in accordance with the human scale, and in accordance with visual and aesthetic values. The urban form is the result of city planning, which handles the distribution of on-site events and their relations with each other. Various factors stemming from the heart of the community, customs, traditions, beliefs, living requirements and environmental conditions, contribute to the process of building the Arab city and delineate the features of the society, architecture, its vocabulary and its privacy. The most important qualities that characterise the model of Arab cities can be summarised by the following indicators:

*A human scale and aesthetic design -* This applies at all spatial levels of the city, whether general or detailed. At the general level, the size and dimensions of the city are determined according to the possibility for pedestrian traffic. At the detailed level, the land use, including roads, alleys and the dimensions of the buildings, are determined according to humanitarian standards. An alley in the Arab city is characterised by a gradual diversification, which may be combined with aesthetic condominiums and architectural configurations, through protrusions, bows, local building materials (bricks) and carvings (see Figure A.4.2).
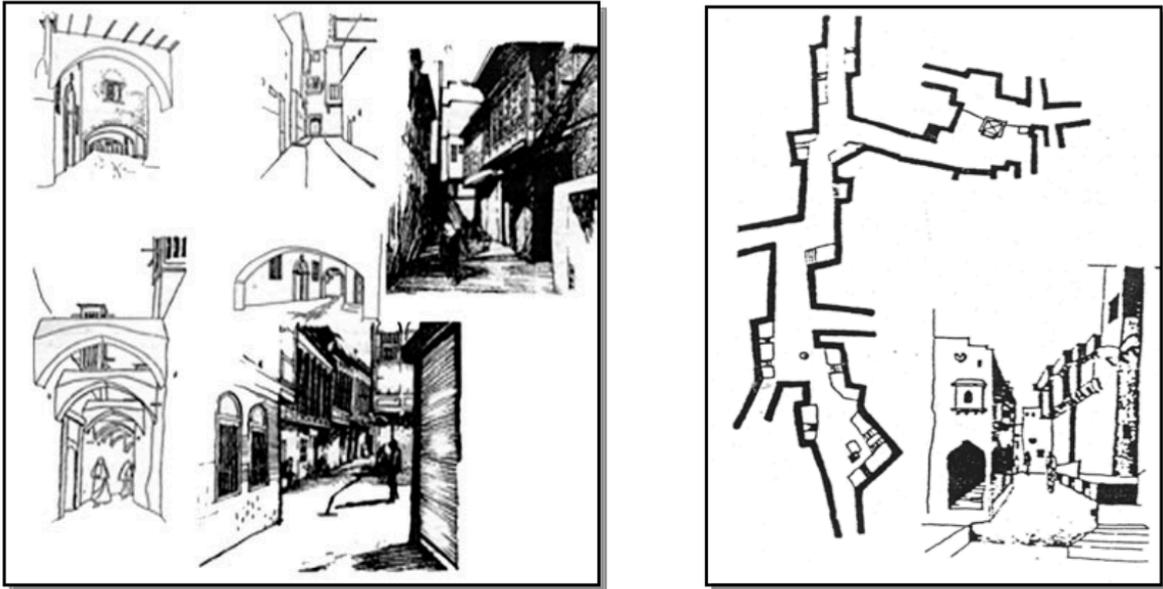
*Figure A.4.2 Rooting civilized values in the construction of contemporary Islamic cities,*

*Source: (Ibrahim 1982, p.47)*

***Organic Growth and Consistency in Functionality -*** Arab cities have a public appearance in terms of the cohesion and integration of components into a unified organic entity. Condominiums are mostly similar in size, and consistent in terms of mass and design, so that the whole sequence looks homogeneous within the framework of the urban environment. The city centre, mosque, markets and public activities, are able to cope with the climatic conditions, both in design and the selection of building materials. In contrast, the adhesion of the buildings, narrow and zigzag roads, and gradation of the spaces and squares indicate the organic origins of the Arab-Islamic pattern (Figure A.4.3).
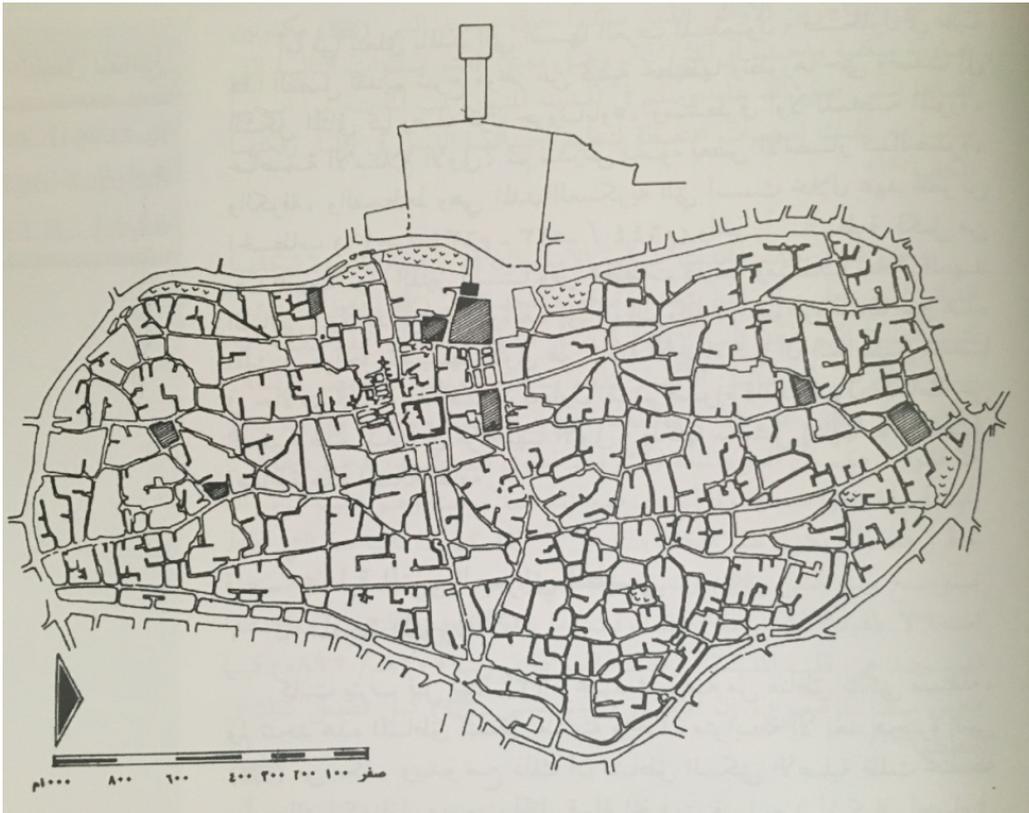
*Figure A.4.3 Tunis City*

*Source: (lezine, deus d Ifriqiya, Paris, 1971, p.144)*

This organic pattern is reflected in the mosque site, and mediates the mosque, being the functional rather than the geographical centre. The placing of the mosque is not subject to engineering or planning rules, but responds to the needs of the Muslim community. It combines and regulates the life of the community. The mosque is the first reference point, in which people learn their religion and worldly things (acts of worship and transaction). The mosque, market and housing are organically created as a tapestry that allows coexistence. Markets relate to residential neighbourhoods and social facilities (religious, cultural, health etc.) spread over the city, with characteristic mergers and consistency between functions. The urban fabric is functional. It is integrated, multi-functional, and mixes the economic with the social and religious, and with entertainment.

*Containment and social harmony* - Housing is an important element of the morphological formation of Arab cities. Alkanani (2006) says that the reality of housing, in terms of characteristics and qualities, is a translation of the social relationship and the links that prevail in the Arab-Muslim community. The most important characteristic of this urban style is "contextuality" characterised by an urban pattern of "proximity", people and things near one another, unlike the "decontextuality" characterized by spacing elements far apart in urban space. In the traditional areas of some Arab cities, where the old buildings still remain, the daily convergence rates are high and dealing face to face prevails. This social cohesion is reflected gradually between the cities' components, from the house to the street, mosque and market, and to the whole city.

On the other hand, the homogeneity of the housing units, in terms of building space and adjoining buildings that form the environment, achieves the desired social requirements. This is crystallised in the urban-social integration, based on the residential neighbourhoods of the city, unlike the contemporary neighbourhoods of the city, on a physical scale. This spatial organisation would achieve links between people and give individuals a sense of self-confidence, integration and harmony with others.

*Accessibility* - The traffic regulations are not inconsistent with the organic unity of the urban fabric of the Arab city. The road network constitutes a visual panorama, wide on the one hand and narrow on the other, so pedestrians do not feel bored with the distance travelled. These systems aim at environmental purposes, maintaining the moisture in the air as long as possible in the summer. The goal is also cultural, helping in the exchange ideas and causing people to walk in the twisted alleys rather than the boring straight streets.

The system generally consists of (see Figure A.4.4):

A - Streets on three levels (Alnakash, 1993):

- Level I: streets that connect the main gates and the city centre, where the mosque is located, and the main markets.

- Level II: roads linking the streets of the first level, which also serve as the main roads linking neighbouring shops.

- Level III: secondary roads, which link areas.

B - Alleyways with closed-ends, that serve the housing, and are linked by any level of public road, as above.



*Figure A.4.4 Fez city containing a variety of streets and alleyways.*

*Source: (Bianca, 2000, p.38)*

The street system reflects the correlation of the city centre with the neighbourhoods and housing, and the sequence of movement and accessibility from the highway to the alleys. The squares are the meeting points of streets, roads or alleys, and this gradient leads to the formation of a sense of place.

These characteristics make the Arab city model distinct compared to other growth models. The Arab city model links physical and social aspects, according to cultural factors and social values. But over time, and with the large expansion of most traditional Arab cities, different urban patterns appear. "Western models", completely different from the traditional style, cause a loss of privacy in the Arab city, as a result of multiple factors, and contribute to different growth models.

# Appendix B

## B.1. Participating interviewee

**Consent Form**

I, the undersigned, confirm that (please tick box as appropriate):

| 1. | I have read and understood the information about the study, as provided in the Information Sheet dated _____. | ☐ |
|----|---|---|
| 2. | I have been given the opportunity to ask questions about the study and my participation. | ☐ |
| 3. | I voluntarily agree to participate in the study. | ☐ |
| 4. | I understand I can withdraw at any time through period of the study up to 12/2017 without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn. | ☐ |
| 5. | The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymization of data, etc.) to me. | ☐ |
| 6. | If applicable, separate terms of consent for interviews, audio, video or other forms of data collection have been explained and provided to me. | ☐ |
| 7. | The use of the data in research, publications, sharing and archiving has been explained to me. | ☐ |
| 8. | Select only one of the following:<br>• I would like my name used and understand what I have said or written as part of this study will be used in reports, publications and other research outputs so that anything I have contributed to this project can be recognised. | ☐ |
| | • I do not want my name used in this project. | ☐ |
| 9. | I, along with the Researcher, agree to sign and date this informed consent form. | ☐ |

**Participant:**

Name of Participant               Signature               Date

**Researcher:**

Name of Participant               Signature               Date
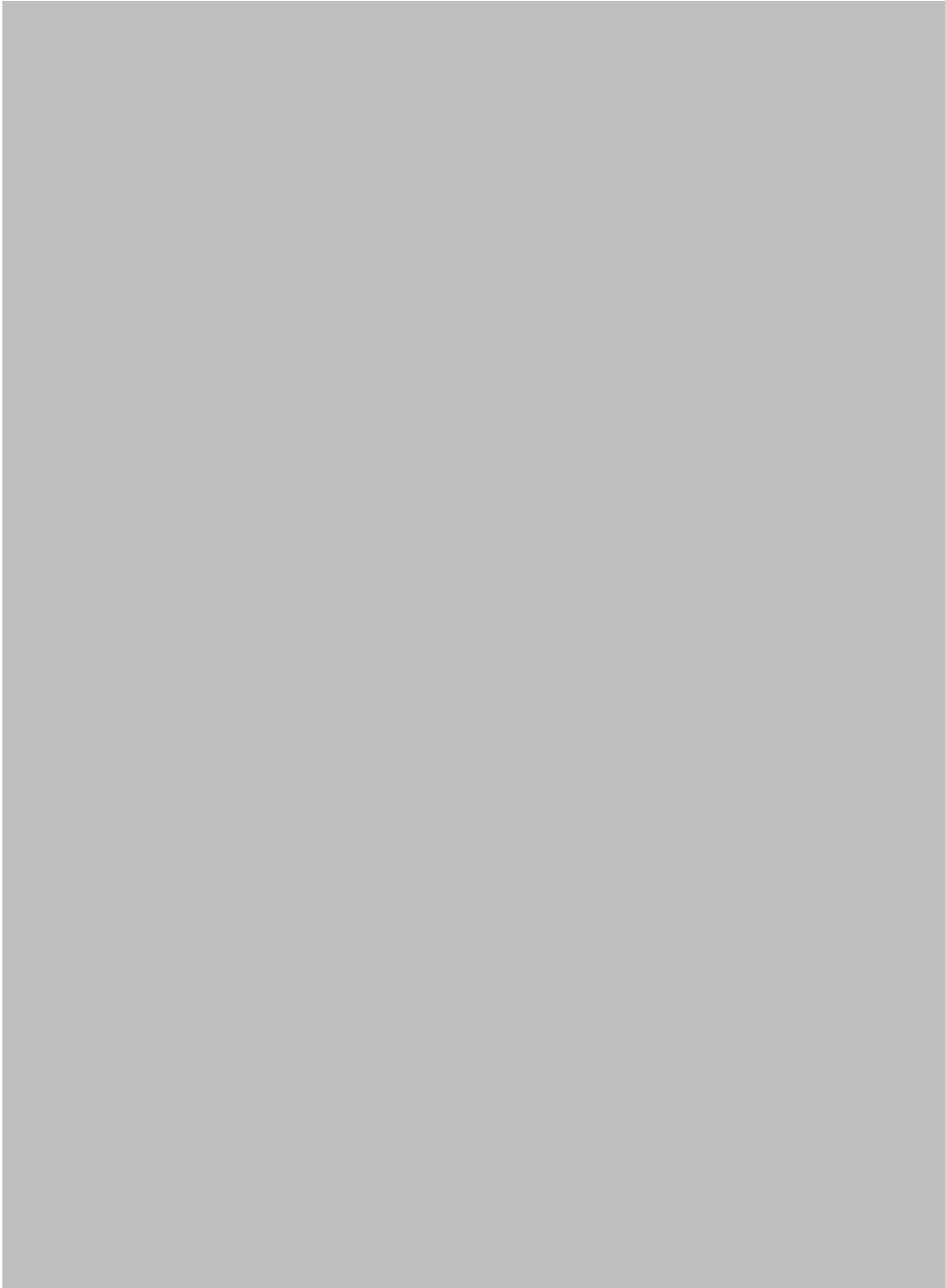
# References

Abadi, Z.K. and Masoudi, S., 2015. The evolution of urban planning in developing countries compared with developed countries. *Jurnal UMP Social Sciences and Technology Management Vol*, 3(2).

Abbas, M., 2000. Development and urban slums. *University Knowledge House, Alexandria*, p.108.

Abdelatti, H., Elhadary, Y. and Babiker, A.A., 2017. Nature and Trend of Urban Growth in Saudi Arabia: The Case of Al-Ahsa Province–Eastern Region. *Resources and Environment*, 7(3), pp.69–80.

Abdu, M., Salagoor, J.Y. and Al-Harigi, F., 2002. Jeddah urban growth and development process: The underlying factors. *Scientific Journal of King Faisal University (Basic and Applied Sciences)*, 3(1), pp.111–136.

Abou-Korin, A.A., 2014. Small-size urban settlements: Proposed approach for managing urban future in developing countries of increasing technological capabilities, the case of Egypt. *Ain Shams Engineering Journal*, 5(2), pp.377–390.

Aboukorin, A. and Al-shihri, F., 2015. Rapid urbanization and sustainability in Saudi Arabia: The case of Dammam metropolitan area. *Journal of Sustainable Development*.

Acton, C. et al., 2009. *SPSS for social scientists*, Palgrave Macmillan.

ADA, 2010a. *Number of cars in Riyadh*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2011. *Old Riyadh*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2016, *Report of the residents of the city of Riyadh*, Arriyadh Development Authority - Riyadh, Saudi Arabia

ADA, 2004. *Strategic planning of arriyadh region: elementary*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2005. *Strategic planning of arriyadh region. Arriyadh: higher commission for the development of arriyadh.*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2009. *Summary of Land Use Study in Riyadh*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2013. *Summary of Land Use Study in Riyadh*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2010b. Tatweer Magazine - 55. *Arriyadh Development Authority*.

ADA, 2003. *The Metropolitan Development Strategy for Arriyadh Region (MEDSTAR)*, Arriyadh Development Authority - Riyadh, Saudi Arabia.

ADA, 2015. *Updated Structural Plans for North and East suburbs in Riyadh City*, Arriyadh Development Authority. Riyadh, Saudi Arabia.

Adams, D. and Watkins, C., 2014. The value of planning. *RR5, Royal Town Planning Institute, London*.

Adger, W.N., 2006. Vulnerability. *Global environmental change*, 16(3), pp.268–281.

Agbola, T., 2004. Readings in Urban and regional planning. *Ibadan Oyo Nigeria.*

Ahern, J., Cilliers, S. and Niemelä, J., 2014. The concept of ecosystem services in adaptive urban planning and design: A framework for supporting innovation. *Landscape and Urban Planning*, 125, pp.254–259.

Aina, Y.A., Al-Naser, A. and Garba, S.B., 2013. Towards an integrative theory approach to sustainable urban design in Saudi Arabia M. Ozyavuz, ed. *The value of geodesign. Intech,*

*Advances in Lanscape Architecture*, pp.531–550.

Aina, Y. and Merwe, J. Van der, 2008. Urban spatial growth and land use change in Riyadh: Comparing spectral angle mapping and band ratioing techniques. *In Conference, incorporating the GISSA 2008*. Cape Town, South Africa., pp. 51–57.

Al-Ahmadi, K. et al., 2009. Calibration of a fuzzy cellular automata model of urban dynamics in Saudi Arabia. *Ecological Complexity*, 6(2), pp.80–101.

Ajala, E., 2012. The influence of workplace environment on workers' welfare, performance and productivity. *The African Symposium*.

Al-Ankary, K.M. and El-Bushra, E.-S., 1989. Urban growth and urbanization in Saudi Arabia. In *Urban and rural profiles in Saudi Arabia*. Gebruder Borntraeger, Berlin, Stuttgart, pp. 3–13.

Al-Gabbani, M., 1991. Population density pattern and change in the city of Riyadh, Saudi Arabia. *GeoJournal*, 24(4), pp.375–385.

Al-hammad, M., 1995. *Urban development in Saudi Arabia: general view* n. (eds) urban development of saudi arabia: challenges and opportunities. in al- hathloul, s. And edadan, ed., Arriyadh: dar al sahan.

Al-hathloul, 1981. *Tradition, continuity and change in the physical environment: the Arab-Muslim city.PhD Thesis, Massachusetts Institute of Technology, USA*.

Al-Hathloul, M., 1991. *Economic development and regional growth inequalities: The case of saudi arabia.*

Al-Hathloul, S., 2010. *Arab-Muslim city - the impact of legislation in the formation of the urban environment*, Riyadh, Saudi Arabia.

Al-Hathloul, S. and Anis-ur-Rahmaan, S., 1985. The evolution of urban and regional planning in Saudi Arabia. *Ekistics*.

Al-hathloul, S. and Edadan, N., 1995. *Reflections on the future of national urban development* n. (eds) urban development of saudi arabia: challenges and opportunities. in al-hathloul, s. And edadan, ed., Arriyadh: dar al sahan.

Al-Hathloul, S., 2017. Riyadh Development Plans in the Past Fifty Years (1967-2016). *Current Urban Studies*, 5(1), p.97.

Al-Hathloul, S. and Mughal, M.A., 2004. Urban growth management-the Saudi experience. *Habitat International*, 28(4), pp.609–623.

Al-Hemaidi, W.K., 2001. The metamorphosis of the urban fabric in Arab-Muslim city: Riyadh, Saudi Arabia. *Journal of Housing and the Built Environment*, 16(2), pp.179–201.

Al-Ibrahim, A., 1982. *REGIONAL AND URBAN DEVELOPMENT IN SAUDI ARABIA*.

Al-khalifah, A., 1995. *Urban social structure* n. (eds) urban development of saudi arabia: challenges and opportunities. in al-hathloul, s. And edadan, ed., Arriyadh: dar al sahan.

Al-Mobarak, N.A., 1993. *From order taker to policy maker: The expanding role of planning in the socioeconomic development of Saudi Arabia from 1932 to present*. Phd thesis, university of pennsylvania, philadelphia.

Al-Mubarak, F.A., 1999. Oil, urban development and planning in the eastern province of Saudi Arabia: the case of the Arab American oil company in the 1930's-1970's. *Journal of King Saud University*, p.31–50.

Al-Naim, M., 2008. Riyadh: a city of "institutional"architecture. *The evolving Arab city. Tradition, modernity and urban development. New York: Routledge,(2008b)*, pp.118–151.

Al-Nowaiser, I.A.S., 1994. *Control of urban growth and development in Saudi Arabia*. Doctoral dissertation, University of Strathclyde.

Al-Qahtani, M., 2003. Regional development planning policy in Saudi Arabia. In Honolulu, hawaii, USA: 2nd annual hawaii international conference on social sciences.

Al-Rasheed, M., 2002. *A History of Saudi Arabia*, Cambridge University Press.

Al-Rwashda, S., 2000. Urban sprawl inside Amman city. *Geographical Centre of King Jordan.*

Al-Said, F.A.M., 1992. Territorial behaviour and the built environment: the case of Arab-Muslim towns, Saudi Arabia.

Al-shalabi, M. et al., 2013. Modelling urban growth evolution and land-use changes using GIS based cellular automata and SLEUTH models: the case of Sana'a metropolitan city, Yemen. *Environmental earth sciences*, 70(1), pp.425–437.

Al-Thahery, N., 2000. Urban sprawl on agriculture. In *Conference of Third World Spatial Development, Baghdad, Iraq.*

Al-wahaibi, S., 2009. *Effect of land division criteria in Riyadh*. King Salman Library.

Al-yemeni, M., 1986. *Urban land development policies: the case of Saudi Arabia*. Thesis, university of strathclyde, glasgow.

Alberti, M., 2008. *Advances in urban ecology: integrating humans and ecological processes in urban ecosystems*, Springer New York.

Alberti, M. et al., 2003. Integrating humans into ecology: opportunities and challenges for studying urban ecosystems. *BioScience*, 53(12), pp.1169–1179.

Albrechts, L. and Swyngedouw, E., 1989. The challenges for regional policy under a flexible regime of accumulation. *Regional policy at the crossroads: European perspectives*, pp.67–89.

Aldalbahi, M. and Walker, G., 2015. Attitudes and Policy Implications of Urban Growth Boundary and Traffic Congestion Reduction in Riyadh, Saudi Arabia. *Proceedings of the International Conference Data*.

AlJarallah, A and Aldioufi, A., 1988. Regional Variation in Saudi Arabia: A factorial Analysis. *Journal of Human Sciences, Qatar University*.

AlJarallah, A. and AlQahtani, H., 2014. Digital Documentation of Urban Growth in Saudi Arabia 1902 - 2010. *College of Architecture and Planning, University of Dammam*.

Aljoufie, M. et al., 2013. Spatial–temporal analysis of urban growth and transportation in Jeddah City, Saudi Arabia. *Cities*, 31, pp.57–68.

Aljoufie, M., 2012. Urban growth and transport in Jeddah: Dynamic modeling and assessment. *Enschede, University of Twente Faculty of Geo-Information and Earth Observation ({ITC})*.

AlJukhaidib, M., 2009. The balance of urban blocks with the areas available for the growth of Saudi cities. *Department of Geography, Kuwait University*.

AlJukhaidib, M., 2002. The size of the urban centers and expansion in Qassim. *Imam Muhammad bin Saud Islamic University, Riyadh.*

Alkhedheiri, A.A., 1998. *The role of secondary cities in the national development process of Saudi Arabia.* University College London (University of London).

Allen, J. and Browne, M., 2010. Sustainability strategies for city logistics. *Green logistics: Improving the environmental*.

Alonso, W., 1986. The unplanned paths of planning schools. *The Public Interest*.

Alqurashi, A., Kumar, L. and Al-Ghamdi, K., 2016. Spatiotemporal modeling of urban growth predictions based on driving force factors in five Saudi Arabian cities. *ISPRS International Journal of Geo-Information*, 5(8), p.139.

Alsaiari, H., 2010. Urban sprawl in desert cities: the case studies of Phoenix, Arizona and Riyadh, Saudi Arabia.

Alshammari, T., 2011. *URBAN SPRAWL OF CITIES IN THE DESERT*. Doctoral dissertation, BALL

STATE UNIVERSITY.

Alshuwaikhat, H.M., 1993. Appropriateness of traditional neighborhood concept for planning contemporary neighborhood units. *GeoJournal*, 31(4), pp.393–400.

Alskait, K., 1993. *Ring road development and vacant lands Riyadh, Saudi Arabia*. (Doctoral dissertation, University of British Columbia).

Aluko, O., 2010. The Impact of Urbanization on Housing Development: The Lagos Experience, Nigeria. *Ethiopian Journal of Environmental Studies and Management, 3(3).*

Alwasil, A., 2005. The emergence of cities in the Hail region: a vision in rural development. *Journal of the studies of the Gulf and the Arabian Peninsula*, 31(116), pp.221–289.

Amado, M., Santos, C. and Moura, E., 2010. Public participation in sustainable urban planning. *International journal of human and social sciences*, 5(2), pp.102–108.

Amam, M., 2010. *Urban monitoring and decision-making for sustainable development*. Cairo University.

Annez, P.C. and Buckley, R.M., 2009. Urbanization and growth: setting the context. *Urbanization and growth*, 1, pp.1–45.

Ansell, C. and Gash, A., 2008. Collaborative governance in theory and practice. *Journal of public administration research and theory*, 18(4), pp.543–571.

Arbury, J., 2005. From Urban Sprawl to Compact City–An analysis of urban growth management in Auckland. *Unpublished Thesis, Auckland University, Auckland*.

Arishi, A.M., 1991. Towards a development strategy: the role of small towns in urbanization and rural development planning in Jizan province, Saudi Arabia.

Aworemi, J.R., Abdul-Azeez, I.A. and Oppola, N.A., 2011. An appraisal of the factors influencing rural-urban migration in some selected local government areas of Lagos state Nigeria. *Journal of Sustainable Development*, 4(3), pp.136–141.

Azizi, M.M., 2007. Sustainable urban development. *Safhe magazine*, (33).

Baesse, S., 2012. Towards more effective urban planning in Jeddah, Saudi Arabia.

Balbo, M., 1993. Urban planning and the fragmented city of developing countries. *Third World Planning Review*.

Banister, D., 2012. Assessing the reality—Transport and land use planning to achieve sustainability.

Banovetz, J.M., 1984. *Small cities and counties*, International City Management Association in cooperation with the ICMA Training Institute.

Banzhaf, H.S. and Lavery, N., 2010. Can the land tax help curb urban sprawl? Evidence from growth patterns in Pennsylvania. *Journal of Urban Economics*, 67(2), pp.169–179.

Bardici, V., 2014. A Discourse Analysis of Eco–City in the Swedish Urban Context–Construction, Cultural Bias, Selectivity, Framing, and Political Action.

Barletta, V., 2011. *The role of three public participation processes in promoting neighbourhood planning in South Point Douglas, Winnipeg*. University of Manitoba.

Barnes, K., III, J.M. and Roberge, M., 2001. Sprawl development: its patterns, consequences, and measurement. *Towson University,*.

Batty, M., 2013. Big data, smart cities and city planning. *Dialogues in Human Geography*.

Batty, M. et al., 2000. Visualizing the city: communicating urban design to planners and decision-makers.

Baum, H., 1997. Social science, social work, and surgery: Teaching what students need to practice planning. *Journal of the American Planning Association*.

Beck, R., Kolankiewicz, L. and Camarota, S., 2003. Outsmarting smart growth: Population growth, immigration, and the problem of sprawl.

Beeson, P., DeJong, D. and Troesken, W., 2001. Population growth in US counties, 1840–1990. *Regional Science and Urban Economics*, 31(6), pp.669–699.

Bengston, D.N., Fletcher, J.O. and Nelson, K.C., 2004. Public policies for managing urban growth and protecting open space: policy instruments and lessons learned in the United States. *Landscape and urban planning*, 69(2), pp.271–286.

Berch, B., Al-kahtani, M. and Al-rebdi, M., 1995. *Regional disparity in the provision of education and health services* n. (eds) urban development of saudi arabia: challenges and opportunities. in al-hathloul, s. And edadan, ed., Arriyadh: dar al sahan.

Bernick, M. and Cervero, R., 1997. *Transit villages in the 21st century*.

Berrisford, S., 2011. Why it is difficult to change urban planning laws in African countries. In *Urban Forum*. Springer, pp. 209–228.

Bertaud, A., 2001. Metropolis: *A measure of the spatial organization of 7 large cities*. Unpublished working paper, pp.1-22.

Bhagat, R.B. and Mohanty, S., 2009. Emerging pattern of urbanization and the contribution of migration in urban growth in India. *Asian Population Studies*, 5(1), pp.5–20.

Bhatta, B., 2010. *Analysis of Urban Growth and Sprawl from Remote Sensing Data*, Berlin, Heidelberg: Springer Berlin Heidelberg.

Bianca, S., 2000. *Urban form in the Arab world: Past and present* (Vol. 46)., vdf Hochschulverlag AG.

Bidwell, S., 2001. *Successful models of rural health service delivery and community involvement in rural health: International literature review*, Centre for Rural Health.

Bohl, C.C., 2000. New urbanism and the city: Potential applications and implications for distressed inner-city neighborhoods. *Housing Policy Debate*, 11(4), pp.761–801.

Bolan, R., Luce, T. and Lam, H.K., 1997. Can urban growth be contained? Paper presented to the Contrasts and Transitions Conference of the America Planning Association, San Diego, CA, April.

Bosker, M. and Buringh, E., 2015. City seeds: geography and the origins of the European city system. *Journal of Urban Economics*.

Breuste, J.H., 2004. Decision making, planning and design for the conservation of indigenous vegetation within urban development. *Landscape and Urban Planning*, 68(4), pp.439–452.

Brody, S.D. and Highfield, W.E., 2005. Does Planning Work?: Testing the Implementation of Local Environmental Planning in Florida. *Journal of the American Planning Association*, 71(2), pp.159–175.

Brueckner, J.K., 2000. Urban sprawl: diagnosis and remedies. *International regional science review*, 23(2), pp.160–171.

Brueckner, J.K., 2001. Urban sprawl: Lessons from urban economics. *Brookings-Wharton papers on urban affairs*, 2001(1), pp.65–97.

Bryman, A., 2008. Why do researchers integrate/combine/mesh/blend/mix/merge/fuse quantitative and qualitative research. *Advances in mixed methods research*, pp.87–100.

Burayidi, M., 2000. Urban planning as a multicultural canon. *Urban planning in a multicultural society*.

Burchell, R. et al., 2002. Costs of sprawl 2000 (transit cooperative research program report 74). *Transportation Research*.

Burchell, R.W. and Mukherji, S., 2003. Conventional development versus managed growth: the costs of sprawl. *American Journal of Public Health*, 93(9), pp.1534–1540.

Burchell, R. et al., 2005. *Sprawl costs: Economic impacts of unchecked development*,

Burg, A. Van Der and Dieleman, F., 2004. Dutch urbanisation policies: from "compact city"to "urban network." *Tijdschrift voor economische*.

Burton, E., 2000. *The compact city: just or just compact?* A preliminary analysis. Urban studies, 37(11), pp.1969-2006.

Carnoy, M. and Castells, M., 2001. Globalization, the knowledge society, and the Network State: Poulantzas at the millennium. *Global networks*, 1(1), pp.1–18.

Carruthers, J.I., 2002. The impacts of state growth management programmes: a comparative analysis. *Urban Studies*, 39(11), pp.1959–1982.

Catalán, B., Saurí, D. and Serra, P., 2008. Urban sprawl in the Mediterranean?: Patterns of growth and change in the Barcelona Metropolitan Region 1993–2000. *Landscape and urban planning*, 85(3), pp.174–184.

CDOAI, 2013. Statistical Yearbook 47. Available at: http://www.cdsi.gov.sa/yb47/Pages/MixFPage.htm.

Chan, K.W. and Xu, X., 1985. Urban population growth and urbanization in China since 1949: reconstructing a baseline. *The China Quarterly*, 104, pp.583–613.

Cheng, J., 2003. *Modelling spatial and temporal urban growth*. Doctoral dissertation, Utrecht University Repository.

Cheng, J. and Masser, I., 2003. Urban growth pattern modeling: a case study of Wuhan city, PR China. *Landscape and Urban Planning*, 62(4), pp.199–217.

Cheng, J., Masser, I. and Ottens, H., 2003. Understanding urban growth system: Theories and methods. In *8th international conference on computers in urban planning and urban management, Sendai City, Japan*.

Clark, D., 1982. *Urban geography: an introductory guide*, Croom Helm.

Clarke, A., 2005. *Situational analysis: Grounded theory after the postmodern turn*, Sage.

Clifton, K. et al., 2008. Quantitative analysis of urban form: a multidisciplinary review. *Journal of Urbanism*, 1(1), pp.17–45.

Club, S., 2001. Stop sprawl: New research on population, suburban sprawl, and smart growth. *Sierra Club, San Francisco*.

Cohen, B., 2004. Urban Growth in Developing Countries: A Review of Current Trends and a Caution Regarding Existing Forecasts. *World Development*, 32(1), pp.23–51.

Cohen, B., 2015. Urbanization, City growth, and the New United Nations development agenda. *Cornerstone*, 3, pp.4–7.

Collier, M.J. et al., 2013. Transitioning to resilience and sustainability in urban communities. *Cities*, 32, pp.S21–S28.

Creswell, J., 2013. *Research design: Qualitative, quantitative, and mixed methods approaches*, Sage publications.

Creswell, J.W. and Clark, V.L.P., 2007. Designing and conducting mixed methods research.

Cullingworth, J.B. and Nadin, V., 2002. *Town and country planning in Britain*, London: Routledge.

Daghistani, A.-M., 1991. Urban growth management in Jeddah. *Journal of Environmental Planning and Management*, 34(1), pp.2–9.

Dahlan, A.S. and Mohamed, A.H., 2009. Urban Legislation and its Impact on an Environment of Contemporary Architecture. *Journal of Engineering Sciences, Assiut University*, 38(1), pp.285–304.

Dariah, A.R., Mulyaningsih, H.D. and Tresna, Y.R., 2014. Development Planning in Islamic Perspective: New Structure Based on Indonesia Experiences. *International Proceedings of Economics Development and Research*, 73, p.67.

---

Davey, K., 1993. *Elements of urban management*, The World Bank.

David, M. and Sutton, C.D., 2004. *Social research: The basics*, Sage.

Dawson, C., 2009. *Introduction to research methods: A practical guide for anyone undertaking a research project*, Hachette UK.

Denscombe, M., 2014. *The good research guide: for small-scale social research projects*, McGraw-Hill Education (UK).

Dhakal, S., 2004. Urban energy use and greenhouse gas emissions in Asian mega-cities. *Institute for Global Environmental Strategies, Kitakyushu, Japan*.

Dillinger, W., 1994. *Decentralization and its implications for urban service delivery*,

Dizdaroglu, D., Yigitcanlar, T. and Dawes, L., 2012. A micro-level indexing model for assessing urban ecosystem sustainability. *Smart and Sustainable Built Environment*, 1(3), pp.291–315.

Dodson, J. and Sipe, N., 2008. Shocking the Suburbs: Urban Location, Homeownership and Oil Vulnerability in the Australian City. *Housing Studies*, 23(3), pp.377–401.

Driessen, P.J. and Glasbergen, P., 2002. *Greening society: the paradigm shift in Dutch environmental politics*, Springer Science and Business Media.

Dryzek, J., 2013. *The politics of the earth: Environmental discourses*, Oxford university press.

Dutt, A.K. and Noble, A.G., 2004. Challenges to Asian Urbanization in the 21st Century: An Introduction. In pp. 1–18.

Elaraby, K.M.G., 1996. Neo-Islamic architecture and urban design in the Middle East: From threshold to adaptive design. *Built Environment (1978-)*, pp.138–150.

Ellman, T., 1997. Infill: the cure for sprawl. *Arizona issue analysis*, 146, pp.7–9.

Elwakil, S., 2006. Urban planning principles, volume 1, Egypt.

Enemark, S., 1999. The EU compendium of spatial planning systems and policies.

Ernstson, H. et al., 2010. Urban transitions: on urban resilience and human-dominated ecosystems. *AMBIO: A Journal of the Human Environment*, 39(8), pp.531–545.

Esam, A.-D.M.A., 2004. A Proposed Methodology to Re-Planning the Existing Cities in Egypt. *Journal of Engineering Sciences, Assiut University, Vol. 32, No. 3*.

Evans, J.P.M., 2003. Biodiversity conservation and brownfield sites: a scalar political ecology?

Fainstein, S., 1994. Justice, politics, and the creation of urban space. *na*.

Fainstein, S.S., 2000. New Directions in Planning Theory. *Urban Affairs Review*, 35(4), pp.451–478.

Fekade, W., 2000. Deficits of formal urban land management and informal responses under rapid urban growth, an international perspective. *Habitat International*.

Fertner, C., 2012. *Urbanisation, urban growth and planning in the Copenhagen Metropolitan Region with reference studies from Europe and the USA*, Forest and Landscape, University of Copenhagen.

Filion, P. and McSpurren, K., 2007. Smart growth and development reality: The difficult co-ordination of land use and transport objectives. *Urban Studies*.

Flyvbjerg, B., 2004. Phronetic planning research: theoretical and methodological reflections. *Planning Theory and Practice*, 5(3), pp.283–306.

Forester, J., 1989. Planning in the Face of Power University of Califomia Press: Berkeley.

Forman, R.T.T., 1995. Land mosaics: the ecology of landscapes and regions.

Frankfort-Nachmias, C. and Nachmias, D., 2008. *Research Methods in the Social Sciences*, Worth Publishers.

Friedmann, J., 1987. *Planning in the public domain: From knowledge to action*, Princeton University Press.

Gallego, F., 2004. Mapping rural/urban areas from population density grids. *Institute for Environment and Sustainability, JRC-EC,ISPRA*.

Gallup, J., Sachs, J. and Mellinger, A., 1999. Geography and economic development. *International regional science review*, 22(2), pp.179–232.

Galster, G., Hanson, R. and Ratcliffe, M., 2001. Wrestling sprawl to the ground: defining and measuring an elusive concept. *Housing policy ….*

Gamboa, J., 2008. City Expanding to The Desert Horizon: Riyadh's problem of explosive growth and urban sprawl. *Geography*, 554.

Gandy, M., 2006. Planning, Anti-planning and the Infrastructure Crisis Facing Metropolitan Lagos. *Urban Studies*, 43(2), pp.371–396.

Garba, S.B., 2004. Managing urban growth and development in the Riyadh metropolitan area, Saudi Arabia. *Habitat international*, 28(4), pp.593–608.

General Authority for Statistics, 2014a. Income in Saudi Arabia. Available at: https://www.stats.gov.sa.

General Authority for Statistics, 2014b. Population in Saudi Arabia. Available at: https://www.stats.gov.sa.

Geyer, H. and Kontuly, T., 1993. A theoretical foundation for the concept of differential urbanization. *International Regional Science Review*.

Glaeser, E.L. and Kahn, M.E., 2004. Sprawl and urban growth. *Handbook of regional and urban economics*, 4, pp.2481–2527.

Glazer, N., 1974. The schools of the minor professions. *Minerva*, 12(3), pp.346–364.

Godschalk, D.R. and Stiftel, B., 1981. Malking Waves: Public Participation in State Water Planningi. *The journal of applied behavioral science*, 17(4), pp.597–614.

Gordon, P. and Richardson, H., 2000. *Critiquing sprawl's critics*, Washington, DC: Cato Institute.

Grant, J., 2009. Theory and practice in planning the suburbs: Challenges to implementing new urbanism, smart growth, and sustainability principles 1. *Planning Theory and Practice*, 10(1), pp.11–33.

Grimn, N.B. et al., 2000. Integrated Approaches to Long-TermStudies of Urban Ecological Systems. *BioScience*, 50(7), p.571.

Gupta, K.R., 2004. *Urban development debates in the new millennium: studies in revisited theories and redefined praxes*, Atlantic Publishers and Dist.

Guzzetta, J. and Bollens, S., 2003. Urban Planners" Skills and Competencies Are We Different from Other Professions? Does Context Matter? Do We Evolve? *Journal of Planning Education and Research*, 23(1), pp.96–106.

Haagensen, M., 2015. Discourses in Urban Planning A case study approach to understand what influences urban development in Harstad municipality.

Hakim, B.S., 1986. *Arabic-islamic cities*, New York: Kegan Paul.

Hakim, B.S., 2007. Generative processes for revitalizing historic towns or heritage districts. *Urban Design International*, 12(2–3), pp.87–99.

Hall, P., 1989. The turbulent eighth decade: Challenges to American city planning. *Journal of the American Planning Association*.

Hall, P., 2002. *Urban and Regional Planning (4th ed.),* London: Routledge.

Hall, P. and Pfeiffer, U., 2013. *Urban future 21: a global agenda for twenty-first century cities*, Routledge.

Hamouche, M. Ben, 2009. Can Chaos Theory Explain Complexity In Urban Fabric? Applications in Traditional Muslim Settlements. In *Nexus Network Journal*. Basel: Birkhäuser Basel,

pp. 217–242.

Handy, S., 2005. Smart Growth and the Transportation-Land Use Connection: What Does the Research Tell Us? *International Regional Science Review*, 28(2), pp.146–167.

Harris, J.M., 2000. Basic principles of sustainable development.

Harris, P. and Ventura, S., 1995. The integration of geographic data with remotely sensed imagery to improve classification in an urban area. *Photogrammetric engineering and remote sensing*, 61(8), pp.993–998.

Harrison, C.M., Munton, R.J.C. and Collins, K., 2004. Experimental discursive spaces: policy processes, public participation and the Greater London Authority. *Urban Studies*, 41(4), pp.903–917.

Hart, T., 2001. Transportation and the city, in: Paddison, R. (Eds.), Handbook of urban studies. Sage, London, Pp.102-121.

Harvey, J., 2000. Urban Land Economics. *Palgrave Macmillan, Fifth Edition pp 256-257*.

Hasibuan, H.S., Soemardi, T.P., Koestoer, R. and Moersidik, S., 2014. *The role of transit oriented development in constructing urban environment sustainability, the case of Jabodetabek*, Indonesia. Procedia Environmental Sciences, 20, pp.622-631.

Headicar, P. and Curtis, C., 1994. Residential development and car-based travel: does location make a difference? *ENVIRONMENTAL ISSUES. PROCEEDINGS OF SEMINAR C HELD AT THE 22ND PTRC EUROPEAN TRANSPORT FORUM, UNIVERSITY OF WARWICK, ENGLAND*.

Healey, P., 1997. *Collaborative planning: Shaping places in fragmented societies*, UBc Press.

Healey, P., 1998. Collaborative planning in a stakeholder society. *Town Planning Review*, 69(1), p.1.

Healey, P., 2009. In Search of the "Strategic" in Spatial Strategy Making 1. *Planning Theory and Practice*.

Healey, P., 1999. Institutionalist analysis, communicative planning, and shaping places. *Journal of planning education and research*.

Healey, P., 2006a. Relational complexity and the imaginative power of strategic spatial planning1. *European Planning Studies*, 14(4), pp.525–546.

Healey, P., 2006b. *Urban complexity and spatial strategies: towards a relational planning for our times*, Routledge.

Heimlich, L.B.R.E., 2001. Development at the urban fringe and beyond: impacts on agriculture and rural. *Economic Research Service*.

Held, C.C. and Cotter, J. V, 1989. *Middle East Patterns*, Westview press.

Heller, M. and Safran, N., 1985. " The New Middle Class and Regime Stability in Saudi Arabia.'. *The Wilson Quarterly*, p.42.

Herold et al., 2005. Remote sensing derived mapping to support urban growth theory. In *3rd International Symposium Remote Sensing and Data Fusion Over Urban Areas (URBAN 2005) and 5th International Symposium Remote Sensing of Urban Areas (URS 2005)*.

Herold, M., Couclelis, H. and Clarke, K.C., 2005. The role of spatial metrics in the analysis and modeling of urban land use change. *Computers, Environment and Urban Systems*, 29(4), pp.369–399.

Hewitt, S., 2009. Discourse analysis and public policy research. *Centre for rural economy discussion paper series*, 24, pp.1–16.

Hoch, C., 1996. A pragmatic inquiry about planning and power. In Explorations in planning theory, edited by S. J. Mandelbaum, L. Mazza, and R. W. Burchell, 30-44. New Brunswick, NJ: Center for Urban Policy Research, Rutgers University.

Hoemig, H. et al., 2005. Vancouver Working Group Discussion Paper.

---

Hosseini, A., Pourahmad, A. and Pajoohan, M., 2015. Assessment of institutions in sustainable urban-management effects on sustainable development of Tehran: learning from a developing country. *Journal of Urban Planning and Development*, 142(2), p.5015009.

Hurlimann, A.C., 2009. Responding to environmental challenges: an initial assessment of higher education curricula needs by Australian planning professionals. *Environmental Education Research*, 15(6), pp.643–659.

Hydén, G. and Mease, K., 2004. *Making sense of governance: empirical evidence from sixteen developing countries*, Lynne Rienner Publishers.

Ibrahim, M., 2009. Urban development in the era of low energy consumption. In *International Conference on Development the New Urban Communities*. Alexandrina – Egypt.

IKEJIDE, C.N., 2011. THE IMPACT OF PLANNING ADMINISTRATIVE STRUCTURE OF TOWN PLANNING AUTHORITIES ON DEVELOPMENT CONTROL IN ENUGU METROPOLIS.

Innes, J.E., 1998. Information in Communicative Planning. *Journal of the American Planning Association*, 64(1), pp.52–63.

Innes, J.E., 1995. Planning theory's emerging paradigm: communicative action and interactive practice. *Journal of planning education and research*, 14(3), pp.183–189.

Innes, J.E. and Booher, D.E., 2004. Reframing public participation: strategies for the 21st century. *Planning theory and practice*, 5(4), pp.419–436.

Irvin, R.A. and Stansbury, J., 2004. Citizen participation in decision making: Is it worth the effort? *Public administration review*, 64(1), pp.55–65.

Jedwab, R., Kerby, E. and Moradi, A., 2015. History, Path Dependence and Development: Evidence from Colonial Railroads, Settlers and Cities in Kenya. *The Economic Journal*.

Jepson, E., 2001. Sustainability and planning: Diverse concepts and close associations. *Journal of planning literature*.

Jessop, B., 1998. The rise of governance and the risks of failure: the case of economic development. *International social science journal*, 50(155), pp.29–45.

Jones, G.R., 2004. *Organizational theory, design, and change : text and cases*, Pearson Prentice Hall.

Jones, P. and Evans, J., 2008. *Urban regeneration in the UK: Theory and practice*, Sage.

Jørgensen, G. and ærø, T., 2008. Urban Policy in the Nordic Countries—National Foci and Strategies for Implementation1. *European Planning Studies*, 16(1), pp.23–41.

Jørgensen, M. and Phillips, L., 2002. *Discourse analysis as theory and method*,

Kaiser, E., Godschalk, D. and Chapin, F., 1995. *Urban land use planning*, University of Illinois Press.

Kates, R.W., Parris, T.M. and Leiserowitz, A.A., 2005. What is sustainable development? *Environment*, 47(3), p.8.

Katz, P., Scully, V. and Bressi, T., 1994. *The new urbanism: Toward an architecture of community*, New York: McGraw-Hill.

Kiet, A., 2011. Arab culture and urban form. *Focus: The Journal of Planning Practice and Education*, 8(1), pp.36–45.

Kim, T.-B., 2010. Collaborative governance for sustainable development in urban planning in South Korea.

Kitchin, R. and Tate, N.J., 2000. *Conducting Research in Human Geography: Theory, Methodology and Practice*, Prentice Hall.

Knaap, G. and Talen, E., 2005. New Urbanism and Smart Growth: A Few Words from the Academy. *International Regional Science Review*, 28(2), pp.107–118.

Krasilnikova, E., 2014. Landscape and urban planning transformation of space-planning

structure. *The Hybrid Link 03, Hybridization between Form and Energy*.

Krizek, K., Forysth, A. and Slotterback, C., 2009. Is there a role for evidence-based practice in urban planning and policy? *Planning Theory and Practice*.

Krueger, R. and Agyeman, J., 2005. Sustainability schizophrenia or "actually existing sustainabilities?" toward a broader understanding of the politics and promise of local sustainability in the US. *Geoforum*, 36(4), pp.410–417.

Kumar, S. and Pallathucheril, V.G., 2004. Analyzing Planning and Design Discourses. *Environment and Planning B: Planning and Design*, 31(6), pp.829–846.

Kunstler, J., 1998. *Home from nowhere: Remaking our everyday world for the 21st century*, Simon and Schuster.

Laurini, R., 2002. *Information systems for urban planning: a hypermedia cooperative approach*, CRC Press.

Ledraa, T., 2013. Modern Trends in urban planning theory. *In Journal of College of Architecture and Planning, King Saud University*.

Lee, J. and Hancock, M., 2012. Toward a framework for smart cities: A comparison of Seoul, San Francisco and Amsterdam. *Research Paper, Yonsei University and Stanford University*.

Li, X., Zhou, W. and Ouyang, Z., 2013. Forty years of urban expansion in Beijing: What is the relative importance of physical, socioeconomic, and neighborhood factors? *Applied Geography*, 38, pp.1–10.

Liggett, H. and Perry, D.C., 1995. Spatial Practices Critical Explorations in Social/Spatial Theory.

Lindstrom, M. and Bartling, H., 2003. *Suburban sprawl: Culture, theory, and politics*

Li, C.N. and Lai, T.Y., 2006. *Sustainable Development and Transit-Oriented Development Cities in Taiwan.* In The 12th Annual International Sustainable Development Research Conference.

Liu, Y. et al., 2010. The process and driving forces of rural hollowing in China under rapid urbanization. *Journal of Geographical Sciences*.

Looney, R., 2004. Can Saudi Arabia reform its economy in time to head off disaster? *Strategic Insights*, 3(1), pp.1–8.

Ma, Y. and Xu, R., 2010. Remote sensing monitoring and driving force analysis of urban expansion in Guangzhou City, China. *Habitat International*.

Madbouly, M., 2009. Revisiting urban planning in the Middle East North Africa region. *Regional study prepared for UN-Habitat Global Report on Human Settlements.*

Macionis, J.J. and Parrillo, V.N., 2004. *Cities and urban life*, Pearson Education Upper Saddle River, NJ.

Maloney, W. and Caicedo, F., 2012. The persistence of (subnational) fortune: geography, agglomeration, and institutions in the new world.

Mandeli, K.N., 2008. The realities of integrating physical planning and local management into urban development: A case study of Jeddah, Saudi Arabia. *Habitat International*, 32(4), pp.512–533.

Marcotullio, P., 2004. Why the Asian urbanization experience should make us think differently about planning approaches. *Towards Sustainable Cities. East Asian, North American and European Perspectives on Managing Urban Regions. Ashgate. Aldershot*, pp.38–58.

Marshall, J.D., 2008. Energy-efficient urban form. *Environmental Science and Technology*, 42(9), pp.3133–3137.

Mashabi, O., 1988. *Regional planning: the experience of Saudi Arabia*. university of dundee,

dundee.

Mawson, J., 2009. Local economic development and the sub-national review: old wine in new bottles? *Local government studies*, 35(1), pp.39–59.

McDonald, G., 1996. Planning as sustainable development. *Journal of Planning Education and Research*.

McMurray, A., Scott, D. and Pace, R., 2004. The relationship between organizational commitment and organizational climate in manufacturing. *Human Resource*.

MEP, 2005. *The Eighth Five-year Development Plan, 1427-1431H*, Ministry of Economy and Planning, Riyadh, KSA.

MEP, 2010. *The Ninth Five-year Development Plan: 1431-1435H*, Ministry of Economy and Planning, (MEP), Riyadh, KSA. Ch.32 (PP627-630).

Meyer, M.D. and Miller, E.J., 2001. *Urban transportation planning : a decision-oriented approach McGraw-Hill*, New York.

Meyer, W.B. and Turner, B.L., 1992. Human Population Growth and Global Land-Use/Cover Change. *Annual Review of Ecology and Systematics*, 23(1), pp.39–61.

Michel, L., 2007. Understanding decision making in organizations to focus its practices where it matters. *Measuring Business Excellence*, 11(1), pp.33–45.

Middleton, D.A., 2009. Growth and expansion in post-war urban design strategies: CA Doxiadis and the first strategic Plan for Riyadh Saudi Arabia (1968-1972).

Ministry of Environment, Water and Agriculture, 2016, Report on water consumption in Saudi Arabia, Saudi Arabia

Ministry of Planning and Economy, 1980. *The third development plan 1980-1984*, Saudi Arabia.

Mintzberg, H., 1981. Research notes and communications what is planning anyway? *Strategic Management Journal*, 2(3), pp.319–324.

Mirkin, B., 2010. *Population levels, trends and policies in the Arab region: challenges and opportunities*, USA: United Nations Development Programme, Regional Bureau for Arab States.

Mitchell, J. and Leen, S., 2001. Urban sprawl. *National Geographic*, pp.48–73.

MOMRA, 1996. *The National Spatial strategy: executive summary.*, Rriyadh, Saudi Arabia.

Monnikhof, R. and Edelenbos, J., 2001. Into the fog? Stakeholder input in participatory impact assessment. *Impact Assessment and Project Appraisal*, 19(1), pp.29–39.

Motamed, M., Florax, R. and Masters, W., 2014. Agriculture, Transportation and the Timing of Urbanization: Global Analysis at the Grid Cell Level. *Journal of Economic Growth*, 19(3), pp.339–368.

Moulaert, F. and Nussbaumer, J., 2005. The social region: beyond the territorial dynamics of the learning economy. *European urban and regional studies*, 12(1), pp.45–64.

Mubarak, 2003. *Planning and Urban Development in Saudi Arabia*, Riyadh, Saudi Arabia: king saud university.

Mubarak, f. A., 2004a. Modern country establishment: national development and its reflections on the comprehensive urban development in saudi arabia. *Kuwait: centre of the gulf and arabian peninsula studies.*

Mubarak, f. A., 2004b. Urban growth boundary policy and residential suburbanization: arriyadh, saudi arabia. *Habitat International*, 28(4), pp.567–591.

Mubarak, F., 1995. *The role of state in shaping urban forms* e. (eds) urban development of saudi arabia: challenges and opportunities. in hathloul, s. A. And narayanan, ed., Arriyadh: dar al sahan.

Myers, D. and Banerjee, T., 2005. Toward greater heights for planning: Reconciling the differences between profession, practice, and academic field. *Journal of the American Planning*.

Næss, P., 2012. Urban form and travel behavior: Experience from a Nordic context. *Journal of Transport and Land Use*, 5(2), pp.21–45.

Nasar, J., 1998. *The evaluative image of the city*, Thousand Oaks, CA: Sage Publications.

Nechyba, T.J. and Walsh, R.P., 2004. Urban sprawl. *The Journal of Economic Perspectives*, 18(4), pp.177–200.

Nelson, A., 1990. Economic critique of US prime farmland preservation policies: Towards state policies that influence productive, consumptive, and speculative value. *Journal of Rural Studies*.

Nelson, A. and Duncan, J., 1995. Growth management principles and practices. *American Planning Association.*

Newman, P.W. and Kenworthy, J.R., 1991. *Transport and urban form in thirty-two of the world's principal cities*. Transport Reviews, 11(3), pp.249-272.

Nieto, C.C. and Durbin, P.T., 1995. Sustainable development and philosophies of technology. *Techné: Research in Philosophy and Technology*, 1(1/2), pp.44–57.

Oguz, H., 2012. Simulating future urban growth in the city of Kahramanmaras, Turkey from 2009 to 2040.

Okata, J. and Murayama, A., 2011. Tokyo's urban growth, urban form and sustainability. *Megacities, Springer Japan*, pp.15–41.

Olotuah, A. and Adesiji, O., 2005. Housing. Poverty, Slum Formation and Deviant Behaviour. *Papers and Presentations, Housing Studies Association Conference, University of Lincoln, Lincoln, UK.*, pp.8–9.

Omotola, J.A., 1991. Planning Law in Nigeria. *Third World Planning Review*, 13(4), p.381.

Ooi, G.L., 2005. Sustainability and Cities: Concept and Assessment. *Singapore: Institute of Policy Studies.*

Ooi, K. and Arumugam, V., 2006. The influence of corporate culture on organizational commitment: case study of semiconductor organizations in Malaysia. *Sunway Academic Journal*.

Oppenheim, A.N., 2000. *Questionnaire design, interviewing and attitude measurement*, Bloomsbury Publishing.

Ortuño-Padilla, A. and Fernández-Aracil, P., 2013. Impact of fuel price on the development of the urban sprawl in Spain. *Journal of Transport Geography*, 33, pp.180–187.

Osborne, J.W., 2008. *Best practices in quantitative methods*, Sage.

Othengrafen, F., 2010. Spatial planning as expression of culturised planning practices: The examples of Helsinki, Finland and Athens, Greece. *Town Planning Review*.

Ottensmann, J., 1977. Urban sprawl, land values and the density of development. *Land economics*.

Owens, S., Petts, J. and Bulkeley, H., 2006. Boundary work: knowledge, policy, and the urban environment. *Environment and Planning C: Government and Policy*, 24(5), pp.633–643.

Oxford-University, 2004. *Concise Oxford English Dictionary*, Oxford: Oxford University Press.

Oyewale, I., 2013. Challenges of Urbanization and Urban Growth in Nigeria. *American Journal of Sustainable Cities and Society*, 1(2), pp.79–95.

Ozawa, C. and Seltzer, E., 1999. Taking our bearings: Mapping a relationship among planning practice, theory, and education. *Journal of Planning Education and Research*, 18(3), pp.257–266.

Pacione, M., 2009. *Urban geography: A global perspective*, Routledge.

Paek, S., 2006. *Urban growth pattern and sustainable development: a comparative study of municipalities in the Seoul Metropolitan Region*. Texas AandM University.

Pallagst, K., 2012. *Growth management in the US : between theory and practice*, Ashgate Publishing.

Pandya, R.J. and Katti, B.K., 2012. Dynamism of Transportation and Land Use Interaction in Urban Context. *International Journal of Advancements in Research and Technology*, 1(5), pp.302–306.

Parker, R.A., 1995. Patterns of Federal Urban Spending: Central Cities and their Suburbs, 1983-1992. *Urban Affairs Review*, 31(2), pp.184–205.

Patrick, A.D., 2010. *Climate Change Mitigation, Adaptation and Sustainable Urban Development: A Case Study of Copenhagen and Portland*. Aalborg University.

Payne, J., Bettman, J. and Luce, M., 1996. When time is money: Decision behavior under opportunity-cost time pressure. *Organizational behavior and human decision processes*, 66(2), pp.131–152.

Pelletier, D. et al., 1999. The shaping of collective values through deliberative democracy: An empirical study from New York's North Country. *Policy Sciences*.

Phdungsilp, A., 2006. *Energy analysis for sustainable mega-cities*. Doctoral dissertation, KTH.

Porta, S. and Renne, J., 2005. Linking urban design to sustainability: formal indicators of social urban sustainability field research in Perth, Western Australia. *Urban Design International*.

Portney, K.E., 2003. *Taking sustainable cities seriously: Economic development, the environment, and quality of life in American cities*, MIT Press.

Portugali, J. and Alfasi, N., 2008. An approach to planning discourse analysis. *Urban Studies*, 45(2), pp.251–272.

Potter, R.B., 1985. *Urbanisation and planning in the 3rd world : spatial perceptions and public participation*, Croom Helm, London.

Priemus, H., Nijkamp, P. and Banister, D., 2001. Mobility and spatial dynamics: an uneasy relationship. *Journal of transport geography*, 9(3), pp.167–171.

Ramser, P., 1993. *Review of Decision Making in Action: Models and Methods.*, American Psychological Association.

Rapoport, E. and Vernay, A., 2011. Defining the eco-city: A discursive approach. *for a Sustainable Built Environment ….*

Richardson, H.W., 1993. Efficiency and welfare in LDC mega-cities.

Ritov, I., 2006. The effect of time on pleasure with chosen outcomes. *Journal of Behavioral Decision Making*.

Riyadh Municipality, 2015. Location of Riyadh City.

Riyadh Municipality, 2014. The population of Riyadh. Available at: https://www.alriyadh.gov.sa/en.

Riyadh Principality, 2011. Riyadh Region. Available at: http://www.riyadh.gov.sa/en/pages/riyadhregion.aspx.

Robinson, J., 2006. *Ordinary cities: between modernity and development*, Psychology Press.

Rondinelli, D.A., 1986. Extending urban services in developing countries: policy options and organizational choices. *Public administration and development : a journal of the Royal Institute of Public Administration*, 6(1), pp.1–21.

Rowley, A., 1998. Private-property decision makers and the quality of urban design. *Journal of Urban Design*, 3(2), pp.151–173.

---

Rydin, Y., 2003. *Conflict, consensus, and rationality in environmental planning: an institutional discourse approach*, OUP Oxford.

Rydin, Y., 2007. Re-examining the role of knowledge within planning theory. *Planning theory*, 6(1), pp.52–68.

Safari, K. and Ziyari, K., 2014. Investigation of the social factors influencing on the participation of citizens in managing urban affairs in Salmas city. *European Online Journal of Natural and Social Sciences: Proceedings*.

Salah, A., 2001. *Policies in the directing of Cairo urban expansion*. PhD, ain shams university, Cairo, Egypt.

Saldaña, J., 2015. *The coding manual for qualitative researchers*, Sage.

Saleh, M., 2002. A vision for directing future planning efforts: The case of villages of southwestern Saudi Arabia. *Habitat International*.

Salet, W. and Thornley, A., 2007. Institutional Influences on the Integration of Multilevel Governance and Spatial Policy in European City-Regions. *Journal of Planning Education and Research*, 27(2), pp.188–198.

Sandercock, L., 2000. When Strangers Become Neighbours: Managing Cities of Difference. *Planning Theory and Practice*, 1(1), pp.13–30.

Sandercock, L. and Lysiottis, P., 1998. Towards cosmopolis: Planning for multicultural cities.

Sanidad-Leones, C., 2006. The current situation of crime associated with urbanization: problems experienced and countermeasures initiated in the Philippines. *Resource Material Series*.

Sapsford, R. and Jupp, V., 2006. *Data collection and analysis*, Sage.

Satterthwaite, D. and Tacoli, C., 2002. Seeking an understanding of poverty that recognizes rural-urban differences and rural-urban linkages. *Urban Livelihoods: A People Centered Approach to Reducing Poverty*, pp.52–70.

Schein, E.H., 2010. *Organizational Culture and Leadership*, John Wiley and Sons.

Schoenfeld, A.H., 2011. Toward professional development for teachers grounded in a theory of decision making. *ZDM*, 43(4), pp.457–469.

Scott, A. and Storper, M., 2003. Regions, globalization, development. *Regional studies*, 37(6–7), pp.579–593.

Selman, P.H., 1996. *Local sustainability: Managing and planning ecologically sound places*, Sage.

Shenghe, L., Prieler, S. and Xiubin, L., 2002. Spatial patterns of urban land use growth in Beijing. *Journal of Geographical Sciences*, 12(3), pp.266–274.

Shikdar, A., 2004. Identification of ergonomic issues that affect workers in oilrigs in desert environments. *International Journal of Occupational Safety and Ergonomics*, 10(2), pp.169–177.

Smith, B.C., 1985. Decentralization: The Theoretical Dimensions of the State.

Smith, J.K., 1990. *Alternative research paradigms and the problem of criteria.*,

Smith, N.S. and Rhind, D.W., 1999. Characteristics and sources of framework data. *Geographic Information Systems. New York: Wiley*, pp.655–666.

Soewardi, H., Dila, A. and Rizkiningtias, P., 2016. Development of working environment comfort to improve productivity. In *2016 IEEE International Conference on Knowledge Engineering and Applications (ICKEA)*. IEEE, pp. 177–180.

Sogoni, Z., Ngidi, M. and Green, C., 2016. The morphological/settlement pattern classification of South African settlements based on a settlement catchment approach, to inform facility allocation or service delivery.

---

Staffans, A., 2015. From Situation Awareness to Smart City Planning and Decision Making. In *CUPUM2015 conference*.

Stam, E., Jong, J. De and Marlet, G., 2008. Creative industries in the Netherlands: Structure, development, innovativeness and effects on urban growth. *Geografiska Annaler: Series B, Human Geography*, 90(2), pp.119–132.

Sternberg, E., 2000. An integrative theory of urban design. *Journal of the American Planning Association*, 66(3), pp.265–278.

Stone, B., 2008. Urban sprawl and air quality in large US cities. *Journal of Environmental Management*, 86(4), pp.688–698.

Struyk, R.J., 2005. Housing Policy Issues in a Rich Country with High Population Growth: The Case of Riyadh. *Review of Urban and Regional Development Studies*, pp.140–163.

Sudhira, H.S., 2008. *Studies on urban sprawl and spatial planning support system for Bangalore, India*. Indian Institute of Science.

Sullivan, H. and Skelcher, C., 2002. *Working across boundaries: collaboration in public services*, Palgrave Macmillan.

Sundaresan, J., 2013. *Urban planning in vernacular governance land use planning and violations in Bangalore*. The London School of Economics and Political Science (LSE).

Tacoli, C., McGranahan, G. and Satterthwaite, D., 2015. *Urbanisation, rural-urban migration and urban poverty*, Human Settlements Group, International Institute for Environment and Development.

Tennøy, A., 2012. How and Why Planners Make Plans, Which If Implemented, Cause Growth in Traffic Volumes. *Explanations related to the expert knowledge, the planners and the plan-making processes.*

Tennøy, A. et al., 2016. How planners' use and non-use of expert knowledge affect the goal achievement potential of plans: Experiences from strategic land-use and transport. *Progress in Planning*.

Teriman, S., Yigitcanlar, T. and Mayere, S., 2009. Urban growth management for sustainable urbanization: examples from Asia-Pacific city regions. In *Proceedings of the International Postgraduate Conference*.

Thompson, A.A. and Strickland, A.J. (Alonzo J.., 2001. *Strategic management : concepts and cases*, McGraw-Hill/Irvin.

UN-DESA, (United Nations Department of Economic and Social Affairs), 2011. Population Distribution, Urbanization, Internal Migration and Development: An International Perspective.

UN, N.U., 2014. World Urbanization Prospects: The 2014 Revision, Highlights. Department of Economic and Social Affairs. *Population Division, United Nations*.

UN Habitat, 2009. *Global Report on Human Settlements: Planning Sustainable Cities*, United National Human Settlement Programme. Abridged Edition.

United Nations, 2008. *Spatial planning: key instrument for development and effective governance. Economic commission for europe.*, Geneva, switzerland.

Van't Verlaat, J. and Wigmans, G., 2011. Introduction. In: Franzen, A.; Hobma, F.; de Jonge, H. and Wigmans, G. (eds.). *Management of Urban Development Processes in the Netherlands – Governance, Design, Feasibility. Techne Press. Amsterdam*, pp.17–32.

Vesikko, A., 2013. Decision Theatre in Decision Making and Urban Planning.

Viederman, S., 1995. Knowledge for sustainable development: What do we need to know. *A sustainable world: defining and measuring sustainable development. Sacramento: IUCN*.

Vroom, V. and Yetton, P., 1973. *Leadership and decision-making* Vol.110., University of

Pittsburgh Pre.

Wackernagel, M. et al., 2006. The ecological footprint of cities and regions: comparing resource availability with resource demand. *Environment and Urbanization*, 18(1), pp.103–112.

Wasserman, M., 2000. Urban sprawl. *Regional Review*, (Q1), pp.9–17.

Wassmer, R.W. and Baass, M.C., 2006. Does a more centralized urban form raise housing prices? *Journal of Policy Analysis and Management*, 25(2), pp.439–462.

Webster, D., 2002. *On the edge: Shaping the future of peri-urban East Asia*, Asia/Pacific Research Center Stanford.

Westerman, J. and Yamamura, J., 2007. Generational preferences for work environment fit: effects on employee outcomes. *Career Development International*, 12(2), pp.150–161.

Wheelen, T.L. and Hunger, J.D., 2012. *Strategic management and business policy : toward global sustainability*, Pearson Prentice Hall.

Wheeler, S.M., 2013. *Planning for sustainability: creating livable, equitable and ecological communities*, Routledge.

Whitehand, J.W.R. et al., 2011. Urban morphology and conservation in China. *Cities*, 28(2), pp.171–185.

Wiedmann, F., Salama, A.M. and Thierstein, A., 2012. Urban evolution of the city of Doha: An investigation into the impact of economic transformations on urban structures. *METU Journal of the Faculty of Architecture*, 29(2), pp.35–61.

Wiles, R. et al., 2008. The management of confidentiality and anonymity in social research. *International Journal of Social Research Methodology*, 11(5), pp.417–428.

Williams, J. and Banister, D., 1998. How big is sustainable? The interaction between settlement size and travel behaviour. In *In Policy, planning and sustainability. Proceedings of seminar B held at AET European Transport Conference*. Loughborough University, England.

Willson, R., 2001. Assessing communicative rationality as a transportation planning paradigm. *Transportation*, 28(1), pp.1–31.

Wilson, E. et al., 2003. Development of a geospatial model to quantify, describe and map urban growth. *Remote Sensing of Environment*, 86(3), pp.275–285.

Wu, J. and Wu, T., 2012. Sustainability indicators and indices: an overview. In *Handbook of sustainability management*. pp. 65–86.

YAZAR, K.H. and Dede, O.M., 2012. Sustainable urban planning in developed countries: Lessons for Turkey. *International journal of sustainable development and planning*, 7(1), pp.26–47.

Ye, L., Mandpe, S. and Meyer, P., 2005. What is "smart growth?"—Really? *Journal of Planning Literature*, 19(3), pp.301–315.

Yigitcanlar, T., 2010. *Rethinking sustainable development: Urban management, engineering, and design*, IGI Global.

Yin, R., 2013. *Case study research: Design and methods*, Sage publications.

Zhang, X. et al., 2007. Assessing the impact of urban sprawl on soil resources of Nanjing city using satellite images and digital soil databases. *Catena*, 69(1), pp.16–30.

Zhao, P., 2010. Sustainable urban expansion and transportation in a growing megacity: Consequences of urban sprawl for mobility on the urban fringe of Beijing. *Habitat International*, 34(2), pp.236–243.

Zitti, M. et al., 2015. Long-Term Urban Growth and Land Use Efficiency in Southern Europe: Implications for Sustainable Land Management. *Sustainability*, 7(3), pp.3359–3385.