Kingdom of Saudi Arabia
The Ministry of Municipal and Rural Affairs

National Report

Third United Nations Conference on Housing and Sustainable Urban Development

(HABITAT III)

(January 2016 G (Rabi' II 1437 H

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Ganuary 2016 G (Rabi'II 1436 H)

the Custodian of the Two Holy Mosques

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INTRODUCTION

In 1976, the First United Nations Conference on Human Settlements, or HABITAT I, was held in Vancouver, Canada, where Governments discussed about the consequences of rapid urbanization and the need for effective human settlement policies and spatial planning strategies.

The Second United Nations Conference on Human Settlements, or HABITAT II, was held in Istanbul, Turkey in 1996. Entitled "The City Summit," HABITAT II brought together high-level representatives of national and local governments as well as private sector, NGOs, research and training institutions and the media to discuss a global urban agenda and address urban challenges in countries across the world.

The objectives of HABITAT II were to arrest the deterioration of global human settlements conditions and ultimately create the conditions for achieving improvements in the living environment of all people on a sustainable basis. A special focus was on the needs and contributions of women and vulnerable social groups whose quality of life and participation in development have been hampered by exclusion and inequality, affecting the poor in general.

The objective was to adopt principles and commitments; and to formulate a related global plan of action capable of guiding national and international efforts through the first two decades of the next century. Universal goals of ensuring adequate shelter for all and creating safer, healthier and more livable cities, inspired by the Charter of the United Nations, were discussed and endorsed at HABITAT II. The Conference adopted the Istanbul Declaration and the Habitat Agenda which constitute a new social contract towards improving human settlements conditions in the world's cities, towns and villages (United Nations Human Settlements Program 1988; The Istanbul Declaration and the Habitat Agenda: Nairobi, UN-Habitat).

In particular, the Declaration stated that twenty years from HABITAT II, the Third United Nations Conference on Housing and Sustainable Urban Development, or HABITAT III, is going to take place in 2016, providing the opportunity to review achievements against the Declaration of 1996.

The Government of Saudi Arabia established a National HABITAT III Consultation Group for the Kingdom of Saudi Arabia, comprised of representatives from the Ministry of Municipal and Rural Affairs (MoMRA), the Ministry of Economy and Planning (MoEP), the Ministry of Housing (MoH), the General Presidency for Meteorology and Environmental Protection (GPMEP), King Saud University (KSU), and selected NGO's.

This Report, titled The National Report for the Third UN Conference on Housing and Sustainable Urban Development (HABITAT III) for the Kingdom of Saudi Arabia, was developed by the Ministry of Municipal and Rural Affairs and the National HABITAT III Consultation Group in the Kingdom of Saudi Arabia in collaboration with the United Nations Human Settlements Program (UN-HABITAT).

Aiming to share experiences in the Kingdom of Saudi Arabia in responding to today's urban challenges, the Report compiles achievements of the HABITAT II Agenda in specific areas of (1) urban demography, (2) land and urban planning, (3) environment, (4) urban governance and legislation, (5) urban economy, and (6) housing and basic services, both at the national and local levels.

The Report also overviews challenges faced, lessons learned and the way forward for sustainable human settlements and urban development in the Kingdom, with expectations to serve as a basis for formulation of the "New Urban Agenda" as stated in paragraph 6 of the General Assembly resolution 67/216.

I. Urban Demography

1: Managing Rapid Urbanization

Geography

The Kingdom of Saudi Arabia is the largest State in Al-Mashriq Al-Arabi (The Arabian East), spreading approximately over nearly 2,000,000 square kilometres, almost 80 percent of the Arabian Peninsula, of which approximately 95% is desert and plateaus. Located in the southwest corner of Asia, the Kingdom is at the crossroads of Europe, Asia and Africa. It is surrounded by the Red Sea on the west, by Yemen and Oman on the south, the Arabian Gulf and the United Arab Emirates, Qatar and Kuwait on the east, and Jordan, Iraq and Kuwait on the north. Saudi Arabia's Red Sea coastline stretches about 2000 km while its Arabian Gulf coastline roughly stretches 1200 km.

The Kingdom of Saudi Arabia has 13 administrative regions: Al-Riyadh, Makkah AlMokarramah, AlMadinah AlMonawarah, AlQasim, Eastern Region, Asir, Tabuk, Ha'il, Northern Borders, Jazan, Najran, AlBaha and Aljawf; each region with its own capital city respectively: Riyadh, Makkah AlMokarramah, AlMadinah AlMonawarah, Buraidah, Dammam, Abha, Tabuk, Hail, Skakah, Jazan, Najran, AlBaha, and Arar.

The population size of the Kingdom was 27,136,977 inhabitants at the Census of 2010. As of mid 2015 estimates by the General Department of Statistics and Information, the Kingdom population reached 31,521,418 inhabitants.

Table 1.1.1 shows population of each of the regions, over the period from 1992 to 2013, and the average annual population growth rate for each region over that period. All regions experienced population growth, most at around the national average growth rate.

Figure 1.1-1: Administrative Regional Boundaries and Capital Cities,

Source: Ministry of Municipal and Rural Affairs.

(this map should not be considered authoritative on the delimitation of international boundaries)

Table 1.1.1: Population Change by Administrative Region, 1992 - 2015.

Region	(Population (Region					Annual population growth 1992-(%)2013
	1992	2004	2010	2013	2015	
Al Riyadh	3,834,986	5,458,273	6,777,146	7,517,000	7,910,864	4.6
Makkah	4,467,670	5,797,184	6,915,006	7,688,600	8,099,473	3.4
Al Madinah	1,084,947	1,512,724	1,777,933	1,962,600	2,061,383	3.9
Al Qasim	750,979	1,015,972	1,215,858	1,337,600	1,402,974	3.7
Eastern Region	2,575,820	3,360,031	4,105,780	4,533,800	4,762,871	3.6
Asir	1,340,168	1,687,939	1,913,392	2,095,900	2,194,463	2.7
Ha'il	411,284	526,882	597,144	654,700	907,494	2.8
Tabuk	486,134	691,716	791,505	866,800	685,820	3,7
Northern Borders	229,060	279,971	320,524	351,000	367,433	2,5
Jazan	865,961	1,187,587	1,365,110	1,497,400	1,568,727	3.5
Najran	300,994	420,345	505,652	555,100	581,789	4.0
Al Bahah	332,157	377,900	411,888	450,700	471,755	1.7
AlJawf	268,228	361,738	440,009	483,100	506,372	3.8
Saudi Arabia	16,948,388	22,678,262	27,136,977	29,994,300	31,521,418	3.7

Source: Central Department of Statistics and Information, Kingdom of Saudi Arabia 1992 - 2015.

The concentration of the national population into the larger regions has remained quite stable over time, but some of the medium sized and small regions have lost part of their share of the national total. This reflects slower rates of growth rather than absolute losses of population. In effect, however, two-thirds of the Kingdom's population is found in the three largest regions dominated by the Kingdom's largest cities (Table 1.1.2).

Table 1.1.2: Distribution of Population and Regional Shares of the National Total, 1992 - 2010.

Region	1992	Concentration Ratio	2004	Rate of Growth	Concentration Ratio	2010	Rate of Growth	Concentration Ratio
Riyadh	3,834,986	22.6	5458273	3.5	24.2	6,777,146	4	25
Makkah	4,467,670	26.4	5797184	2.5	25.6	6,915,006	3.2	25.5
Madinah	1,084,947	6.4	1512724	3.3	6.7	1,777,933	2.9	6.5
Qassim	750,979	4.4	1015972	2.9	4.5	1,215,858	3.3	4.5
Eastern	2,575,820	15.2	3360031	2.5	14.8	4,105,780	3.7	15.1
Asir	1,340,168	7.9	1687939	2.2	7.4	1,913,392	2.2	7.1
Tabouk	486,134	2.9	691716	3.5	3	791,535	2.4	2.9
Hail	411,284	2.4	526882	2.3	2.3	597,144	2.2	2.2
Northern Borders	229,060	1.3	279971	1.8	1.2	320,524	2.4	1.2
Jazan	865,961	5.1	1187587	3.1	5.2	1365,110	2.5	5
Najran	300,994	1.8	420345	3.3	1.8	505,652	3.4	1.9
Al Baha	332,157	2	377900	1.1	1.7	411,888	1.5	1.5
Al Jawf	268,228	1.5	361738	2.9	1.6	440,009	3.6	1.6
Total Population	16,948,388		22,678,262			27,136,977		

Source: Central Department of Statistics and Information 1992 - 2010.

Major cities in Saudi Arabia

In the period since the 1992 Census and the Kingdom's most recent Census in 2010, the share of the Kingdom's population in urban areas has grown from 77.3 , percent of the total population in to 82.6 percent in 2010. This urban transformation was sparked in part by the oil boom of 1973, but continued strongly after then.

This represents a significant transformation in the economy and the society of the Kingdom. It also illustrates the scale of the task of managing the progressive upgrading of urban infrastructure and services to both address the significant backlogs revealed in the Kingdom's 1996 report to Habitat II, and to meet the needs of a rapidly increasing urban population. This report will describe how this challenge has been met to date and what the vision is for further progress in the future.

Table 1.1.3 shows the population of the Kingdom's principal cities and towns, for the period 2010- 1999, including their growth rates over that time. While most cities experienced rapid growth, the largest population increases were in the larger cities, most notably in Riyadh.

Table 1.1.3: Population Change in Major Cities, 1992 - 2015.

City	Population (City)				Annual population growth 1992-2015 (%)
	1992	2004	2010	2015	
Riyadh	2,776,096	4,087,152	5،188،286	6,152,180	4.8
Makkah	965,697	1,294,168	1,534,731	1,969,861	3.3
Jeddah	2,046,251	2,801,481	3,430,697	4,082,184	3.8
Taif	416,121	521,273	579,970	1,135,356	2.2
Medina	608,295	918,889	1,100,093	1,374,567	4.5
Buraidah	248,636	378,422	467,410	708,869	4.9
Dammam	482,321	744,321	903,312	1,057,256	4.8
Al-Hufuf	444,970	572,908	660,788	1,220,655	2.7
Khamis Mushayt	217,870	372,695	430,828	950,251	5.4
Tabuk	292,555	441,351	512,629	653,466	4.2

Source: Central Department of Statistics and Information, 1992 - 2015.

The city of Riyadh is the national capital and the official Seat of Government, and is also the largest city in the Kingdom of Saudi Arabia. Four years before the 1996 Habitat II Conference the population of Riyadh was 2,776,096 inhabitants. Almost 20 years later, the city is a metropolitan area of 5.7 million people according to Central Department of Statistics and Information 2013 mid-year estimations.

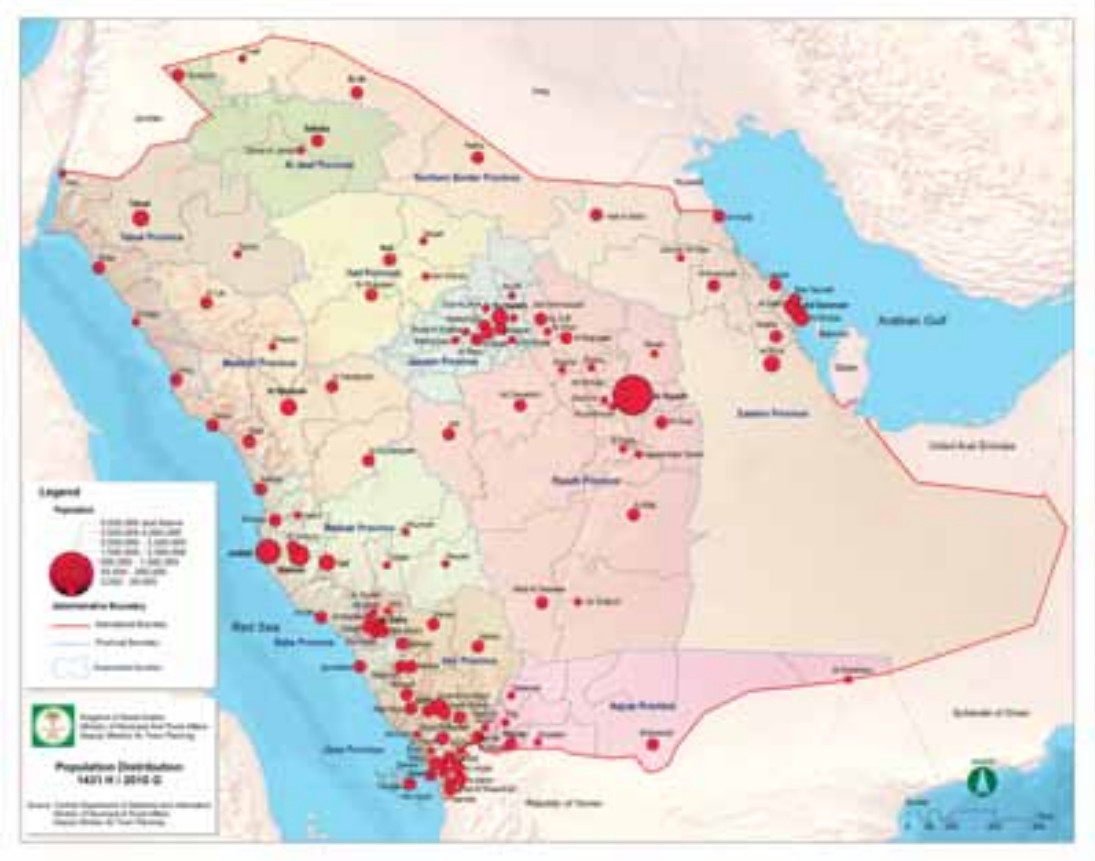
Riyadh's government role has formed the basis for a rapidly diversifying urban economy as it gains major education, health, defense, and financial industry investments.

The Kingdom's main cities will all have experienced high rates of growth between Habitat II and the planned Habitat III. This dramatic pattern of growth has been common across all of the larger cities of the Kingdom, as shown in Figure 1.1.3.

The cities of Makkah and Medina are the two most important cities of the Islamic world.
Makkah is the holiest city in Islam and is the destination of the annual Hajj pilgrimage when millions come to visit the Holy Grand Mosque and the Ka'aba, and, over a very few days, perform the Hajj rituals. Makkah has approximately 15 million Muslim visitors every year, with more than 2 million concentrated during the peak of the Hajj. The resident population of the city was just over 1.5 million at the 2010 Census.

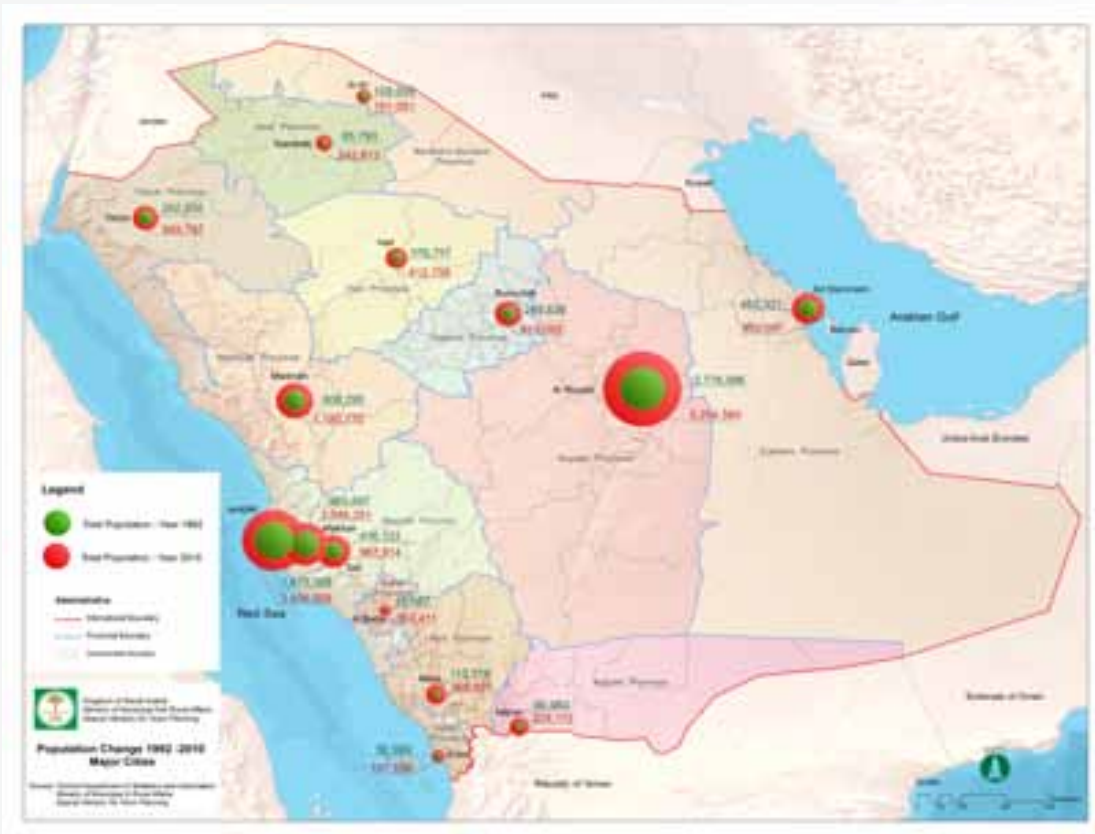
With its critical significance for Islamic history, Medina is the second most holy city for Muslims, where Prophet Muhammad (Peace be upon Him) lived the remaining part of his life after the Hijrah until 632 AD. Similarly to Makkah, Medina hosts large numbers of pilgrims, umrah performers and visitors during the Hajj and Ramadhan, dramatically adding to its resident population of 1.1 million (2010 Census).

Figure 1.1.3: Distribution of National Population by City Size, 2010 Census



Source: Central Department of Statistics and Information, 2010 Census.

Figure 1.1.3: Population Change in Major Saudi Cities, 1992 - 2010,



Source: Central Department of Statistics and Information, 2010 Census.

Jeddah is the principal western gateway to the holy cities of Makkah and Medina, and also is the largest city in Makkah Region with an estimated population of 3.43 million at the Census of 2010. Jeddah is the second largest city in the Kingdom of Saudi Arabia and is the nation's largest seaport, playing a strategic role as the commercial hub of the Kingdom.

The fifth largest city, Dammam, is the heart of the oil industry and is thus the largest seaport on the Gulf Sea. Dammam has experienced the fastest economic growth in the country, and had a population in 2010 of 903,000 people. The role of Dammam as the Eastern gateway of the Kingdom is important in the balanced development of Saudi Arabia.

National five - year development plans

Since the early 1970's, the Kingdom of Saudi Arabia has been experiencing constant population growth throughout the country. The Government of Saudi Arabia developed its first 5-year Development Plan in 1970, followed by a series of national development plans, to better respond to the rapid population growth and the wider needs of the economy. The ninth Development Plan was the latest (2010-2014), and the tenth Development Plan (2015-2019) is under preparation by the Ministry of Economy and Planning.The ninth Development Plan aims to achieve balanced development in the country by reducing the concentration of rapid urbanization in major cities and by enhancing the economic, social and environmental roles played by medium and small cities across the country.

Table 1.1.4: below provides a comparison between the distributions of cities by size as it was at the 1992 Census, (reported in the Kingdom's report to Habitat II) and as it was at the Kingdom's most recent Census. As the table shows the number of smaller cities has grown, but the larger cities have also increased in number as the urbanization process impacts across the Kingdom.The total number of urban centers has increased from 58 cities in 1963 to 258 cities currently, meaning that the number of urban centers has more than quadrupled within a period of 30 years. There has also been a significant increase in the number of cities in all large administrative regions, with previous villages growing and transforming themselves into towns and towns into cities. The largest urban growth is still taking place in the primate cities of Riyadh and Jeddah, together accounting for 30% of the country's total population.

General Objectives of the tenth National Development Plan, 2019-2015

1st Objective: Safeguarding the Islamic teachings and values, boosting national unity and reinforcing the Kingdom's Islamic and Arab identity

Economic Development

2nd ***Objective:*** Deepening the process of the economic base with its different dimensions.
3rd ***Objective:*** Transitioning toward knowledge and information community -based economy.
4th ***Objective:*** Expanding the absorptive capacity of the national economy, enhancing its growth, stability, and competiveness.
5th ***Objective:*** Increasing productivity of the national economy.
6th ***Objective:*** Increasing value added of the natural resources of the national economy, diversifying their sources, ensuring their sustainability along with protecting environment and conserving wild life.
7th ***Objective:*** Developing small and medium enterprises, increasing their contribution to GDP and nationalization of the labor force.
8th ***Objective:*** Enhancing financial and monetary stability.
9th ***Objective:*** Increasing contributions of the private sector and raising its productivity to realize development objectives.

Social Development

10th ***Objective:*** *Optimal utilization of populaltion resources, raising living standards and improving life quality for all citizens.*
11th ***Objective:*** *Enhancing human development, raising productivity and expanding choices open to citizens to acquire knowledge, skills and experience.*
12th ***Objective:*** *Promoting entrepreneurship, cognitive and physical abilities in the youth and improving their effective participation in the development process.*
13th ***Objective:*** *Empowering women and increasing their participation in the various aspects of development.*
14th ***Objective:*** *Enhancing social safety networks and family and child care,.*
15th Objective: Providing adequate job opportunities for the national labor and curbing unemployment rates.
16th ***Objective:*** *Facilitating access to suitable housing according to various programs and options that meet housing demand.*
17th ***Objective:*** *Providing comprehensive, integrated and high-quality health to all citizens and facilitating access to it.*
18th ***Objective:*** *Developing cultural movement and upgrading the capacity of media.*

Organization & Management Development

19th ***Objective:*** *Enhancing the process of institutional reform, supporting civil society institutions and promoting efficiency and productivity of the government bodies and employees.*
20th ***Objective:*** *Improving the efficiency of implementing the development programs and projects and developing the mechanisms of follow up of their implementation and maintenance,.*
21st ***Objective:*** *Improving the efficiency of public services and facilities provided to people and increasing their availability in all regions.*
22nd ***Objective:*** *Achieving balanced development among the provinces of the Kingdom.*
23rd ***Objective:*** *Deepening the principles of accountability and transparency, protecting integrity and combating corruption.*
24th ***Objective:*** *Deepening economic integration with GCC and Arab countries, enhancing the Kingdom's relations with Islamic and friendly countries, and promoting the role of the Kingdom at the international level.*

Source: Ministry of Economy and Planning, 2015.

Table 1.1-3 : Number of Saudi Cities by Size, 1992 – 2010

	10,000 to less than 100,000	100,000 to less than 500,000	500,000 to less than 1 million	1 million to less than 3 million	More than 3 million
1992	88	13	2	3	0
2010	112	19	4	2	2

Source: Central Department of Statistics and Information, 1992 - 2010.

The 9th Development Plan underscores the importance of distributing the benefits of economic and social development in a balanced manner among all the regions in the country and thereby reducing regional disparities in infrastructure, social services, living standards and job opportunities. Reducing disparities between different regions of the country is expected to decelerate internal migration from rural areas to major cities.

Policies relating to spatial development and hence addressing social, cultural and ecological principles and policies were progressively articulated in the National Settlement Strategies and Development Plans between 1980 and 2000, and then in the first National Spatial Strategy adopted in 2001.

Demographic change

The population of the Kingdom of Saudi Arabia has reached 29.9 million in 2013. According to the results of the population and housing censuses, the average population growth rate was estimated as 4.9% per year during the period 1974-1992, but declined to 2.4% during the period 1992-2004. The average rate of growth over the 21-year period was still 3.7 percent per annum.

The breakdown of the population from the 2010 Census shows that, in 2010, 70 percent of the total population in the country were Saudi nationals, and the remaining 30 percent were non-Saudi. Among men, 62 percent of the male population were Saudi and 38 percent were non-Saudi. For women, 79 percent were Saudi and 21 percent were non-Saudi. There are significant variations among the provinces in these ratios, as the figures in Table 1.1.5 illustrate.

Table 1.1.5: Population by Sex and Nationality, 2010 Census.

Region	Saudi			non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Riyadh	2220727	2076018	4296745	1762631	717770	2480401	3983358	2793788	6777146
Makkah	2085813	2030252	4116065	1828412	970529	2798941	3914225	300781	6915006
Madina	635046	627466	1262512	350488	164933	515421	985534	792399	1777933
Qassim	470490	458001	928491	223403	63964	287367	693893	521965	1215858
Eastern	1498898	1392217	2891115	924771	289894	1214665	2423669	1682111	4105780
Asir	790229	800618	1590847	248055	74490	322545	1038284	875108	1913392
Tabuk	339450	321703	661153	99091	31291	130382	438541	352994	791535
Hail	242350	244899	487204	84161	25779	109940	326466	270678	597144
Northern Borders	134622	133555	268177	39550	12797	52347	174172	146352	320524
Jazan	559898	545197	1105095	176990	83025	260015	736888	628222	1365110
Najran	202977	199447	402424	75339	27889	103228	278316	227336	505652
Baha	169339	179297	348636	48852	14400	63252	218191	193697	411888
Jawf	177379	171733	349112	71231	19666	90897	248610	191399	440009
Total	9527173	9180403	18707576	5932974	2496427	8429401	15460147	11676830	27136977

Source: Central Department of Statistics and Information, 2010 Census.

The growth of the non-Saudi population is expected to slow down in the future, given the national policies of Saudiisation of the workforce. This will be reflected in the reducing dependency rate of Saudis.

King Fahd Road Riyadh
Source: The High Commission for the Development of Riyadh

Given the increased concern about the direct impact of population dynamics on sustainable development and the economy, the Council of Ministers established a National Population Committee in 2007 to advise the Government on issues related to population and how they should be reflected to various policies and strategies in different sectors. The work of this committee has led in part to the policies about reducing the Kingdom's dependence on a foreign workforce as one means of managing population growth. In 2011, Ministry of Housing was established.

2: Managing Rural-Urban Linkages

As was stated in the Kingdom's report to Habitat II in 1996, spatial planning in the Kingdom is conducted at 3 levels:

- National Spatial Strategy sets the broad guidelines for long-term balanced development;
- Regional Spatial Strategies provide more detailed principles and policies for each region within the national framework; and
- Local Development Plans to guide long-term development in more detail.

National spatial strategy

Before Habitat II in 1996, and for tackling inequalities in spatial distribution of population and activities, levels of development, and regional share of services and employment, and ensuring sustainable urbanization in the Kingdom, it was agreed by the Government that a comprehensive long-term spatial development strategy should be formulated. The Deputy Ministry for Town Planning under the Ministry of Municipal and Rural Affairs developed the first National Spatial Strategy. It was approved by the Council of Ministers in 2001, and has been progressively updated over time. As of September 2014, the Strategy is going through a further periodic review process.

The National Spatial Strategy consists of spatial guidelines and policies designed to achieve balanced development in the Kingdom of Saudi Arabia and to build substantial linkages between rural and urban areas. More specifically, the strategy aims to achieve the following objectives:

- Promote a spatially balanced pattern of population distribution within the country;
- Minimize the negative consequences of rapid population growth in major cities.
- Ensure efficient utilization of existing infrastructure and public services;
- Support the overall growth of small and medium cities;
- Diversify economic centers in different regions to fully utilize their existing and potential resources;
- Support new development projects that contribute to linking rural and urban areas;
- Support selected cities to function as 'growth centers' to prevent the concentration of population in major cities;
- Improve the administrative structures of selected growth centers; and
- Support the development of cities in border areas to strengthen national security.

The National Spatial Strategy defines 'national development corridors' as an essential measure to manage long-term spatial development and to ensure effective and efficient integration of different regions of the country. National development corridors link the hierarchy of cities, towns and villages, based on the concept of national, regional and local growth centres (Figure 1.1.4) in a reflection of both the regional geography of the Kingdom and the patterns of interaction that take place between the cities and towns.

The National Spatial Strategy designated 26 National Growth Centres , notably Riyadh, Makkah, Medina, Jeddah and Dammam.These are also the nation's significant 'international' cities and serve as 'gateways' to the Kingdom.

38 cities serve as regional 'growth centers,' within the national development corridors. Their selection is based on the assumption that they are capable of accommodating additional population growth in the future. By accommodating and absorbing population growth, these regional growth centers are expected to reduce the population influx to the major cities. In addition there are 108 Local Growth Centres in the growth corridors to perform the same function but at a more localized scale. Investment strategies to support the development of these growth centers are an important feature of policies derived from the National Spatial Strategy.

Figure 1.2.1: Existing Growth Centres and Development Corridors, 2001.

Source: Ministry of Municipal and Rural Affairs, National Spatial Strategy, 2001.

To achieve the objectives of the National Spatial Strategy, it is critical to strengthen linkages between urban centers and surrounding rural areas as well as to enhance the absorptive capacities of medium and small cities. Improving the functions of medium and small cities can also significantly contribute to creating a more balanced hierarchy of cities, towns and villages, particularly within the development corridors identified in the National Spatial Strategy.

In an effort to strengthen urban and rural linkages, the Government of Saudi Arabia has committed to improve infrastructure and public service delivery in all regions of the country. For instance, a number of national development policies involve expansion of national energy networks and improvement of road infrastructure that aims to link small and larger urban areas within the development corridors and improve links to rural communities.

Internal migration from rural to urban areas is a major challenge in achieving sustainable, balanced development in Saudi Arabia. This migration has placed economic and social pressure on the major cities where large-scale investment in infrastructure and public services is needed as a result. Stimulating economic development in the smaller cities and towns identified as regional growth centres in the National Spatial Strategy is expected to redirect some of that migration to the smaller centres. This is a major priority for the government.

The National Spatial Strategy acknowledges that upgrading the urban infrastructure of small and medium cities enhances the capacity of these cities to absorb more population and also promotes economic activities. The diversification of the economic base(s) of medium and small cities is also intended to enhance urban-rural linkages and result in a higher rate of national economic growth in the long run. Moreover, the costs required for upgrading infrastructure in medium and small cities are relatively affordable compared to those required for the major cities.

3: Addressing the Needs of Urban Youth

The Kingdom of Saudi Arabia has been going through changes in social, economic and cultural aspects of life. Youth represent an important factor in this development. Today's young people are the future of the Kingdom, more so than in many countries simply because people under the age of 24 constitute almost half of the nation's population, and people under the age of 15 make up one third.

In 2012, the population under the age of 15 constituted 30.4% of the total population of 29.2 million (Table 1.3-1). The percentage of youth under 15 within the Saudi population is much higher than that of the non-Saudi population within the country. Such a high percentage of youth poses challenges for the Government of Saudi Arabia as well as for civil society in the country in meeting the education, training, employment, health, and recreation needs of young people. It also creates large opportunities, if the energy and innovation of youth is managed constructively to build on initiatives that can integrate youth as a resource for sustainable urban development. Societal concerns related to young women and men are wider and more pervasive than those related to mere population size. These concerns are multi-sectoral, involving both economic and social dimensions.

Table 1.3.1 : Saudi Youth (15 - 24 years) by Administrative Region, 2010

Region	No	as a percentage of total Population
Al Riyadh	938399	21.4
Makkah	790089	19.7
Al Madinah	261555	19.8
Al Qasim	198955	21.3
Eastern Region	640159	21.9
Asir	323267	20.1
Tabuk	144982	20.3
Ha'il	102407	19.9
Northern Borders	61081	22,0
Jazan	237985	20.3
Najran	83224	19.6
Al Bahah	67495	19.0
AlJawf	78615	21.8
Total	3928111	20.7

Source: Centrral Department of Statistics and Information, 2010.

Lack of sufficient recreational opportunities and facilities for youth and the need to improve quality of existing facilities are ranked top priorities among needs of urban youth. In response to such needs, the Government added a new chapter on youth in the ninth Development Plan to address issues related to youth involving economic, social and cultural dimensions of development, taking into account various roles played by youth and their specific needs. The plan provides for a 5-year budget of 7.2 billion Saudi Riyals (will likely double in the tenth Development Plan (2014-2019) for implementing programmes to support young men and women.

As stated in the ninth Development Plan, the General Presidency for Youth Welfare is the government agency responsible for coordinating youth sports and social activities in over 107 towns and villages

through 123 government facilities. These facilities include sports cities, youth hostels, sport centers, stadiums, gymnasiums and public squares. The General Presidency for Youth Welfare liaises with other government bodies and departments, particularly the Ministry of Social Affairs and the Ministry of Culture and Information, to conduct its activities.

The Ministry of Municipal and Rural Affairs provides urban services to youth at the municipal level by developing infrastructure and hosting cultural events targeting youth, such as municipal arenas and walking/running tracks as well as theatre productions and art exhibitions. For example, the Riyadh Municipality implemented an initiative that established 100 municipal arenas in various districts of the city during the 2007–2009 period, with the aim of creating facilities for youth where they can enjoy sporting activities within their residential neighborhoods.

In 2013, the Ministry of Economy and Planning developed the National Youth Strategy for the Kingdom of Saudi Arabia to enhance participation of youth in the national development processes. The National Youth Strategy is a notable measure taken by the Government to strengthen the role of youth in achieving national development. As of 2015, the strategy is being reviewed by the Council of Ministers to be officially endorsed.

Figure 1.3.1: King Fahd International Stadium
Source: Arriyadh Development Authority

The National Youth Strategy identifies the priorities, directions and practical activities in support to the development of youth. As an official government strategy, it raises the profile of youth and serves as a national vision, framework, and common understanding on how youth should be involved in national and regional development of the country.

Key topics of the draft Strategy are:

- Education and training
- Employment
- Health
- Culture and Information
- Communications and Information Technology
- Recreation and leisure investment
- Good citizenship and community engagement
- Family

All these efforts in the spheres of physical development and youth engagement are set in a context where young people today are fully engaged in a global environment through the internet and through social media. In every aspect of the lives of young people, from education through to leisure and lifestyle, modern social media are a pervasive influence – anecdotally at least being of far greater importance even than television.

Access to digital media is possibly the greatest observable transformation in the lives of young women and men in Saudi Arabia since Habitat II in 1996. Acceptance of the role of the Internet and of social media in the lives of the young has been gradual, but there are 4 million active twitter users in Saudi Arabia, and according to a recent survey 51 per cent of Internet users in the country are active Twitter users, leaving Saudi Arabia in first place worldwide. At the same time the Kingdom is second only to Egypt when it comes to Facebook users in the Middle East. The majority of both Facebook and Twitter users are between 25-34 years old followed by those under 25 years old.

It is estimated that digital media ownership or access among Saudi youth (smart phones, tablets, laptops) and internet usage is high. In Riyadh, for example, the percentage of individuals who have cell phone connections is 185%, meaning that numerous people have more than one connection.

At the same time the impact of digital media on the quality of education across the Kingdom for young people is also increasing as there is greater access to online educational resources, multi-media classroom activities and access to international learning through websites. The use of English as the language standard for the Internet is also a contributor to the education of Saudi youth.

From an urban development point of view, in 1996 the Kingdom faced a massive backlog in the availability of telephone services and landlines. Today, with the installation of telecommunications towers throughout the Kingdom and with a number of competing telecommunications service providers Saudi Arabia has almost completely 'leap-frogged' the copper wire era to experience high density high availability wireless service. The principal beneficiaries are the young people of the Kingdom whose life experience has been largely or completely in the digital era.

The most critical challenge facing young women and men today, however, is unemployment. In 2013, unemployment among Saudi women aged 15-29 was 60.3 percent (41.9% percent for the total female workforce) while among young men in this age group unemployment was 17.5 percent (29.3% percent for the total male workforce) . Action by the Government to address this include the development of the Saudi Employment Strategy, adopted in 2009, setting out a comprehensive blueprint of policies and actions designed to progressively increase Saudi participation in the labour market, as well as increasing opportunities by diversifying the Saudi Arabian economy.

Specifically, the Strategy aims at reducing disparity between public and private sectors regarding employment conditions and wages and encouraging young Saudis to choose private sector jobs over public sector employment. It also aims at increasing Saudi workforce participation by requiring companies to employ a share of Saudis in their total labor force (the Saudiisation principle).

For young women, the picture is even more challenging. Overall, only 15.2 percent of Saudi women participate in the workforce, with the highest participation being in the 30-34-years age group where 30.4 percent of the women are in the workforce, either employed or unemployed.

Women are expected to benefit from the gradual opening up of new employment sectors such as tourism, and the gradual improvement of wages and conditions in the private sector. The Government has also mandated that women be employed rather than men in certain occupations (e.g. sales staff in women's clothing stores). The education system is producing as many female graduates as there are males, so the potential is there for a strong supply of educated female workers if only the demand side can be stimulated to expand.

Work force Participaton Rates

Throughout the 9th Development Plan, participation rates for the working-age population increased from 49.9% in 2009 to 54% in 2013. The rate increased for both males and females over that period from 74.2% to 78.3%, and from 17.4% to 20.1% respectively. Saudi male and female work force participation rose over the same period from 36.4% to 64.6% with varying levels of increase between Saudi male and female participation rates; from 60.8% to 64.6% for males and from12% to16.4% for females. The share of increase made up by Saudi females is higher than the share of Saudi males in the work force participation. This is directly related to expanding job opportunities for Saudi females in various careers such as education, health and retail trade and the government mandate of boosting Saudi female employment. This occurred in tandem with advancements in new information and communication technologies which encouraged participation of women in the labor market. Table 1-3-2 shows increase in the workforce participation rates as a percentage of the total working-age population.

Table 1.2.3: Labor Force Participation Rates as a Percentage of Total Working-age Population, 2009 - 2013.

Description	Year	Saudi	Non-Saudi	Total
Males (%)	2009	60.8	93.9	74.2
	2013	64.6	94.2	78.3
Females (%)	2009	12.0	39.1	17.4
	2013	16.4	31.2	20.1
Total (%)	2009	36.4	79.1	49.9
	2013	40.4	76.9	54.0
Change in Participation Ratio (%)	Males	3.8	0.3	4.1
	Females	4.4	- 7.9	2.7
	TOTAL	4.0	- 2.2	4.1

Source: Central Department of Statistics and Information, Labor Force Survey Annual Bulletin for the Years 2009 and 2013.

For non-Saudi labor force, there has been a decline in their participation rates from 79.1% to 76.9%, basically due to reduction of non-Saudi female labor participation from 39.1% to 31.2% compared to slight rise in non-Saudi male labor participation from 93.9% to 94.2%. This is related to the pattern of economic growth which prevailed over a period of the 9th Development Plan across economic sectors. New projects to develop physical infrastructure, as well as industrial, argricultural and service projects dramatically increased the demand for expatriate labor, thereby rising the proportion of the expatriate labor in the Kingdom workforce.

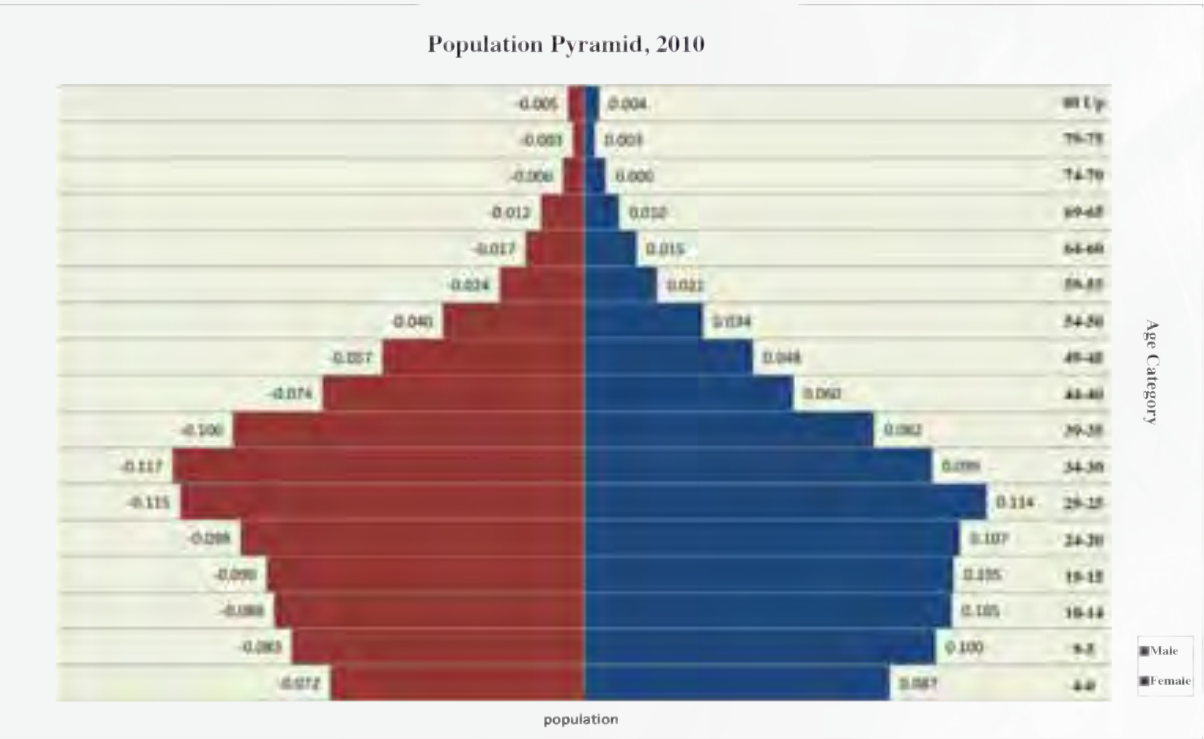
To overcome these challenges, the Government spares no effort in supporting and strengthening the Saudiisation process and pushing it forward. A number of initiatives have been already launched including the Five-year National Policy for Saudiising the Workforce, and the already launched Saudiisation initiative by the Ministry of Labor known as "Nitaqat" This initiative depends on the classification of economic entities by their levels of Saudiisation, which contributed substantially in finding more jobs for Saudi jobseekers, and the Nationalization Wage Reward Program by the Saudi Human Resource Development Fund offering grants to private entities involved in the preparation, training, employment and wage raising of the Saudi national workforce.

4: Responding to the Needs of the Elderly

The population aged 65 years and over has long been a relatively small share of the total population, which is dominated by young people. However it is forecast that the share will rise rapidly over the coming decades as family sizes reduce and the current population ages (Figure 1. 4.1).

Despite forming a very small share of the total population, the elderly (those aged 60+) make up 30 percent of people who are "household head recipients" of social security support across the Kingdom. Such support is provided to low income families for the most part, indicating the potential significance of the 'poor elderly' as a needy group in Saudi society; therefore, the Saudi Cabinet has set up a National Commission for the Elderly Care to initiate programs that specifically target the needs of the elderly. The needy elderly receive support from various non-profit charity societies and organizations such as King Salman Social Center, the Saudi Society for Diabetes, the Saudi Alzheimer Disease Association, and the Saudi Hypertension Management Society.

Figure 1. 4.1: Age-Sex Structure of the Population, Saudi Arabia, 2010.



Source: Central Department of Statistics and Information, 2010.

The Ministry of Housing in partnership with charitable organizations across the Kingdom is engaged in priority housing programs for the poor elderly as well as other social security recipients.

Support to elderly people is an important factor for family and society in general. The support system to elderly in the Kingdom of Saudi Arabia has three interlinked dimensions: The first is healthcare provided by health institutions; the second is social support provided by competent state institutions; and the third is sustainable support provided by family members. In the King-

dom of Saudi Arabia, communities are generally respectful to older people, willing to provide care and support. In urban areas, universal design is widely adopted in basic infrastructure, particularly in those that are constructed in recent years. Still, there are many facilities that are not friendly for older people.

Planning and implementing social support and services to meet needs of older people requires further development of mechanisms to systematically measure and evaluate performance of such services, which should be conducted by research institutions with appropriate expertise and competencies under the supervision of the Ministry of Social Affairs.

Improvement in the quality of social support to older people should also be based on a participatory approach that links the work of the government authorities with that of civil society organizations. While active civil society organizations are essential in providing social support to older people, as traditionally seen in the Kingdom of Saudi Arabia, introduction of systematic performance evaluation mechanisms is a key in achieving effective social services.

The creation of more open, accessible, family-friendly urban spaces such as Salem Park and the King Abdulaziz Historical Centre in Riyadh and the redeveloped Corniche in Jeddah, Dammam and AlKhubar as well as the development of air-conditioned shopping malls and centres have created new opportunities for the elderly to participate in social life beyond the immediate family. However much remains to be done to enable access for elderly people without total reliance on family members, cars and drivers.

5: Integrating Gender Perspectives Into Urban Development

The gender balance in the Kingdom's population is very much biased towards men, in large part because the expatriate workforce is predominantly male.

Table 1.5.1: Population Size of Saudi Arabia by Sex, 1980 - 2025

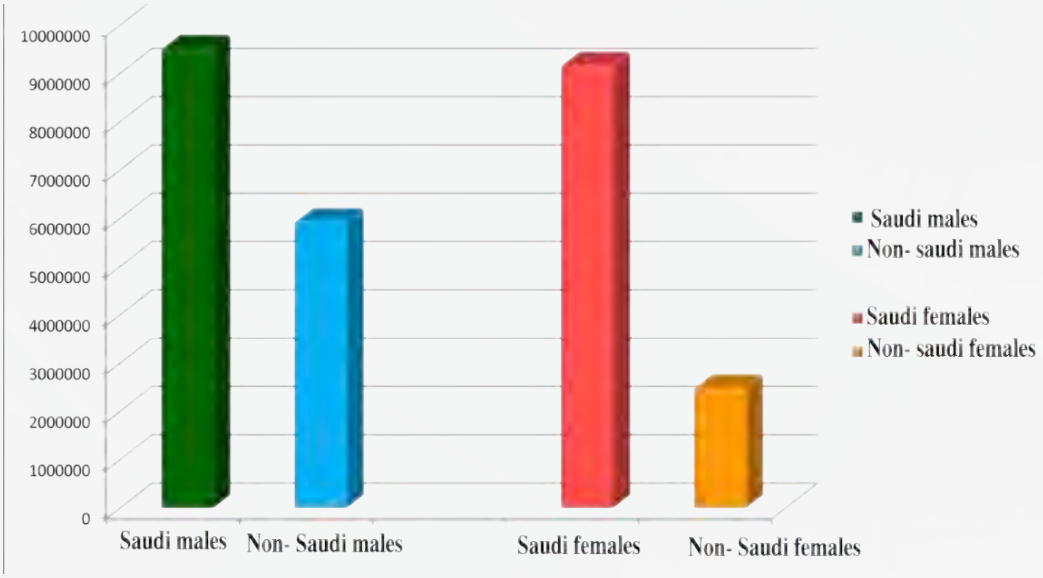
Year	Male	Female	Total
1980	4997	4351	9312
1985	6473	5427	11901
1990	9073	6783	15208
1995	10121	8016	18136
2000	11378	9098	20476
2005	12960	10370	23330
2010	15578	11985	27563
2015	17692	13830	31521
2020	19554	15345	34899
2025	22529	15028	37611

Source: Central Department of Statistics and Information

When the nationality of the population is taken into account the gender balance becomes more typical of western societies, with a slight bias in favor of men. Socially, however, there is a clear separation of the roles of men and women in the Kingdom, with the focus of social structure being the family household where the man is the household head and breadwinner, and the woman the mother and nurturer.

As Figure 1.5.1 shows, the share of male population made-up by non-Saudis is much greater than the share of non-Saudi females in the female population. This is directly related to workforce structure, with most of the physical labor services required throughout the Kingdom are staffed by expatriate workers.

Figure 1.5.1 Population by Gender and Nationality (Saudi / non-Saudi), 2010



Source: Central Department of Statistics and Information, 2010

This distinction is evident even in the physical form of the cities of the kingdom, with public spaces frequently divided between women and families and single males, and many limitations on access by women to otherwise public places such as sporting venues. Separate access days for men and women to facilities such as swimming pools, for example, are the norm. In shopping centres some spaces are for exclusive access by women and must have only female staff, while banks frequently have special branches for women only. Education is segregated for the most part although King Abdullah University is a major mixed-sex university campus in Jeddah.

On the other hand men, women and families mix in shopping malls, at the many picnicking places in public parks, and in other public venues such as the city's many shopping streets, markets and souks. Annual festivals such as the Janadriyah cultural festival in Riyadh are also largely integrated.

The dominance of the family villa as the built form in residential areas reflects the family focus of Saudi society, but as social preferences change and families have become smaller a more diverse housing stock is emerging. It can be expected that changes in urban form in the future will continue to reflect progressive changes in social preferences and behavior, Historically, active participation of women in public social and economic activities has not been common in the Kingdom of Saudi Arabia. However, community and government attitudes towards the participation of women in society have changed drastically in the past decade.

Recently, the Government added a new chapter on women to the 9th National Development Plan and the 10th National Development Plan, which is considered as a turning point that catalyzed active participation of women in the society of Saudi Arabia. This new chapter of those National Development Plans also calls for coordination mechanisms between different government entities that enable effective integration of different frameworks outlined in the plan, aiming to ensure social cohesion.

For example, in 1996 the female workforce participation rate was scarcely measurable in the Census data. By 2013, however, workforce participation by women had risen to 17.6% of the total labor force

To date, female participation in the labor market has been concentrated on the education sector, where 77.6% of the female labor force, belongs. It is clear that employment opportunities for educated females are mostly available in teaching. Therefore, in recent years, Saudi women have made rational choices to specialize in education, where job opportunities for women are concentrated. Almost 84.8% of these women have a Bachelor's degree. However, with the gradual saturation of the education sector, it is foreseen that graduates with degrees in education may face increasing difficulties in finding jobs that meet their aspirations and seek job opportunities across other activities in the public and private sectors.

In this context, the 9th National Development Plan sets key objectives to promote women's participation in society, including those related to urban development:

1. Enable Saudi women to participate in achieving development goals;
2. Improve the status of women and their influence within family and society;
3. Enhance women's participation in providing community development and social care;
4. Promote women's participation in economic activities and provide facilities required to increasing their participation;
5. Enhance quantity and quality of education for girls at all stages;
6. Improve quality of services provided to beneficiaries of social security services;
7. Develop effectiveness and efficiency of government bodies and performance of civil society organizations in development and social care; and
8. Support social research and development agencies in the country.

The Government has made some notable progress in the field of women's political and public life empowerment. In September 2011, the Custodian of the Two Holy Mosques the late King Abdulla Bin Abdul Aziz issued a royal decree mandating women to be given the right to both vote and stand for election in municipal elections from 2012. To enhance women's participation in municipal elections, support programs were launched by the Government to assist women in their participation.

For instance, the 'Sharika' (Partner) program aims to strengthen and promote full and effective political participation of Saudi women in Municipal Councils. The program encourages representatives of media to join as a strategic partner, based on an understanding that participation of media is vital in raising awareness of the importance of empowering Saudi women.

Saudi women's participation in municipal elections is planned to take place starting from the 2015 election. Another example of women's participation in governance is that women had been invited to hold positions on boards of Chambers of Commerce. In 2008, two women were elected as Board Members of the Jeddah Chamber of Commerce.

In September 2011, just a few days before the 2011 municipal elections, the Custodian of the Two Holy Mosques the late King Abdullah Bin Abdul Aziz announced that women may become members of the Shura Council, the Kingdom's principal advisory body. By September 2012, the Council had 12 women advisors, mainly dealing with the issues in regard to women, families and children.

In January 2013, the Custodian of the Two Holy Mosques the late King Abdullah Bin Abdul Aziz issued two royal decrees, granting women thirty seats on the Council, and stating that women must always hold at least a fifth of the seats on the Council. This is a significant advance, and now women lead a number of the Council's key committees.

For the first time, in December 2015, women across Saudi Arabia took part in the Country's third municipal elections, both voting and running as candidates.

In urban Saudi Arabia, greater opportunities have emerged for women to utilize public facilities and spaces (shopping centers offer comfortable locations for independent enjoyment by women) and new facilities such as clubs and gymnasia catering exclusively for women have become common. Women now work publicly in major supermarkets while the Government has decreed that shops selling personal items such as clothing for women should be staffed by women attendants.

Mobility options for women will be dramatically increased over the coming decade as each of the major cities, commencing with Riyadh, introduce comprehensive, modern public transport facilities. These metro and bus networks will be modern, attractive and secure, and are designed to provide privacy for women in women only and family sections. On demand local feeder buses are planned in Riyadh that will allow women to access public transport close to home and be taken to the nearest major bus or metro station. To enhance positive societal participation of women in the development process, the opening in 2013 of the Princess Nora Bint Abdulrahman University in Riyadh was a major milestone in women's education. Providing facilities for up to 40,000 students, the University is a major investment in the future of women in Saudi society

6: Challenges Faced and Lessons Learned

In the 1996 Habitat II country report, the Government stated that one of the key challenges faced by the Kingdom of Saudi Arabia was to achieve "…a balanced regional socio-economic development and formulating and adoption of sound housing and settlement policies…" while going through rapid population growth. Major cities, particularly Riyadh, Makkah, Madinah, Jeddah and Dammam, were receiving influxes of people from rural areas seeking job opportunities and a better quality of life.

Demands for urban infrastructure, public facilities and housing in the major cities increased as the population grew, but the Government was not able to respond to such rapid change. The Government acknowledged that it was critical to control the population influx into major cities to solve regional disparities. The Government, through the National Spatial Strategy (and its updates) started enhancing the capacity of medium and small cities, including support to local economy, expansion of job markets and improvement of living standards.

Population growth patterns since 1996 show that, overall, these efforts have yet to markedly slow the migration of population to the larger cities. However, in recent years, with the completion of Regional Spatial Strategies across the Kingdom, additional and more targeted local initiatives are planned or under way, including significant infrastructure investments, new regional cities being developed, and relocation of government facilities and industries into regional locations. The challenges for the future are to continue to monitor and modify these efforts according to their effectiveness. At the same time the Government has realized the need to directly meet the challenges of managing large-scale urban growth, as will be addressed in the following chapter, instead of relying solely on the 'balanced development' mechanism as a long-term solution to settlement management.

In particular there is the challenge of affordable housing, discussed later in more depth. At the city level, however, affordable housing requires better management of land markets and land supply, possibly including policies to actively encourage landowners to develop strategic parcels of land served by infrastructure to assist with land supply.

In order to drive a sustainable balanced spatial development, there must have been a development strategy that offers broad, long term, comprehensive spatial guidelines and policies that are in line with the national development goals. To this end, Ministry of Municipal and Rural Affairs prepared the National Settlement Strategy offering a comprehensive twenty-year strategic view (1980-2000), which was later updated by the adoption, in 2001, of the first National Spatial Development Strategy which defined major development corridors, designated growth centres at the national, regional and local levels, and strengthened linkages between them so as to reduce regional and local disparities and achieve sustainable and integrated development throughout the country. Growth centers concept was adopted and they were aligned in regional development plans, thereby establishing a platform upon which capital investment programs can be put in place to ensure that more inter-regional and intra-regional inequalities are reduced and rural-urban outflows curbed.

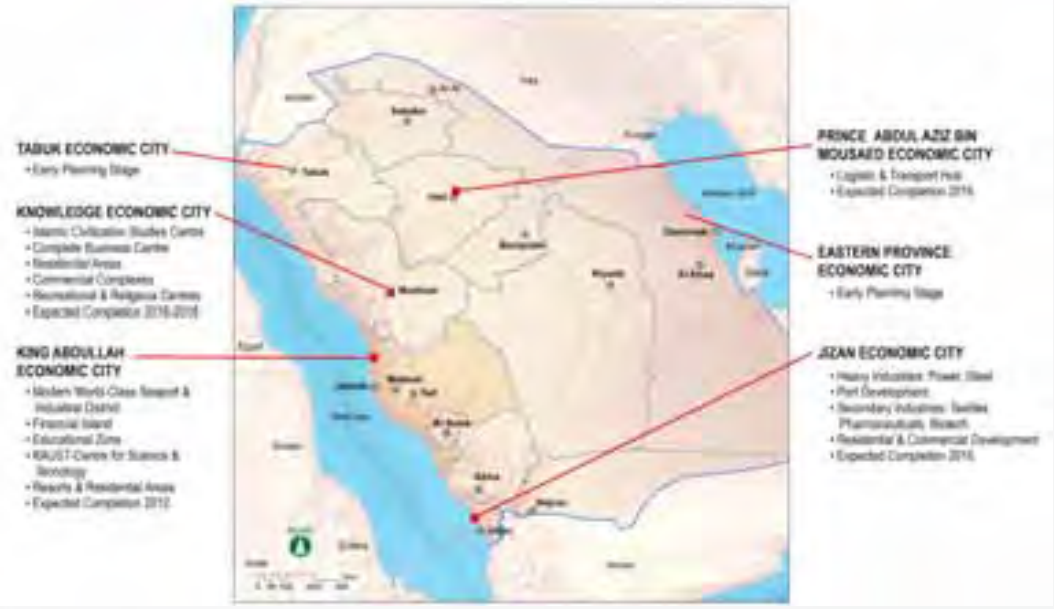
The recent periodical review of Development Plan achievements identified additional challenges faced by the country, notably youth, elderly and gender issues. Recognizing the importance of addressing these population groups, the 9th National Development Plan includes chapters on youth, the elderly, and gender empowerment initiatives. The chapter on youth stipulated that the Government should note the high proportion of youth in the overall population, and resulted in the development of the National Youth Strategy. The chapter on women highlights the increased importance being given to promoting women's participation in social and economic activities as well as policy-making and governance processes. The need to support the elderly was also addressed in both the 9th and 10th National Development Plans, advocating for improvement of building standards and enhancement of social services.

The major challenge faced by the Kingdom is, however, the continuing population growth anticipated in the coming decades, with an additional 10-12 million people likely to be added to the national population. The bulk of this additional population is likely to be located in the Kingdom's largest cities, unless the decentralization policies under the National Spatial Strategy are more effective than they have been to date. Faced with rapid growth in their populations, the Kingdom's cities will need to work harder than ever to manage urban growth and change and to improve urban life.

As part of the challenge of balanced economic development and managing urban growth the Kingdom has commenced the planning and development of six new economic cities aimed at creating either new industrial bases or deep engagement with the knowledge economy. The King Abdullah Economic City north of Jeddah,

for example, will be quite diversified – it will have a major seaport, a significant industrial area, an education zone, residential areas, resorts and a new centre for Science and Technology. These significant investments in new development nodes are expected to provide strong attraction for new residents, drawing population growth away from the established urban areas.

Figure I.6.1 New Economic Cities across the Kingdom of Saudi Arabia



Source: Source: The Saudi Arabian General Investment Authority, 2010

7: Vision for the Future

" Promoting excellence in formulating and articulating balanced and sustainable spatial distribution policies of population, activities and resources across the national space."

To achieve this vision, efforts and resources will be focused in the following main directions:

1. Achieve balanced development and strengthen linkages between cities, towns and villages

- While population growth in major cities is still relatively high, it is considerably slower than in the 1990's. The Government continues to enhance capacity of medium and small cities by investing in public infrastructure and facilities that attract private investments and vitalize local economies, which will lead to the creation of job opportunities.
- Public investments will be planned and implemented in ways that will strengthen linkages between cities, towns and villages. This will be achieved by providing and improving road infrastructure, public transportation and basic services to prevent outflows of rural population to major cities.

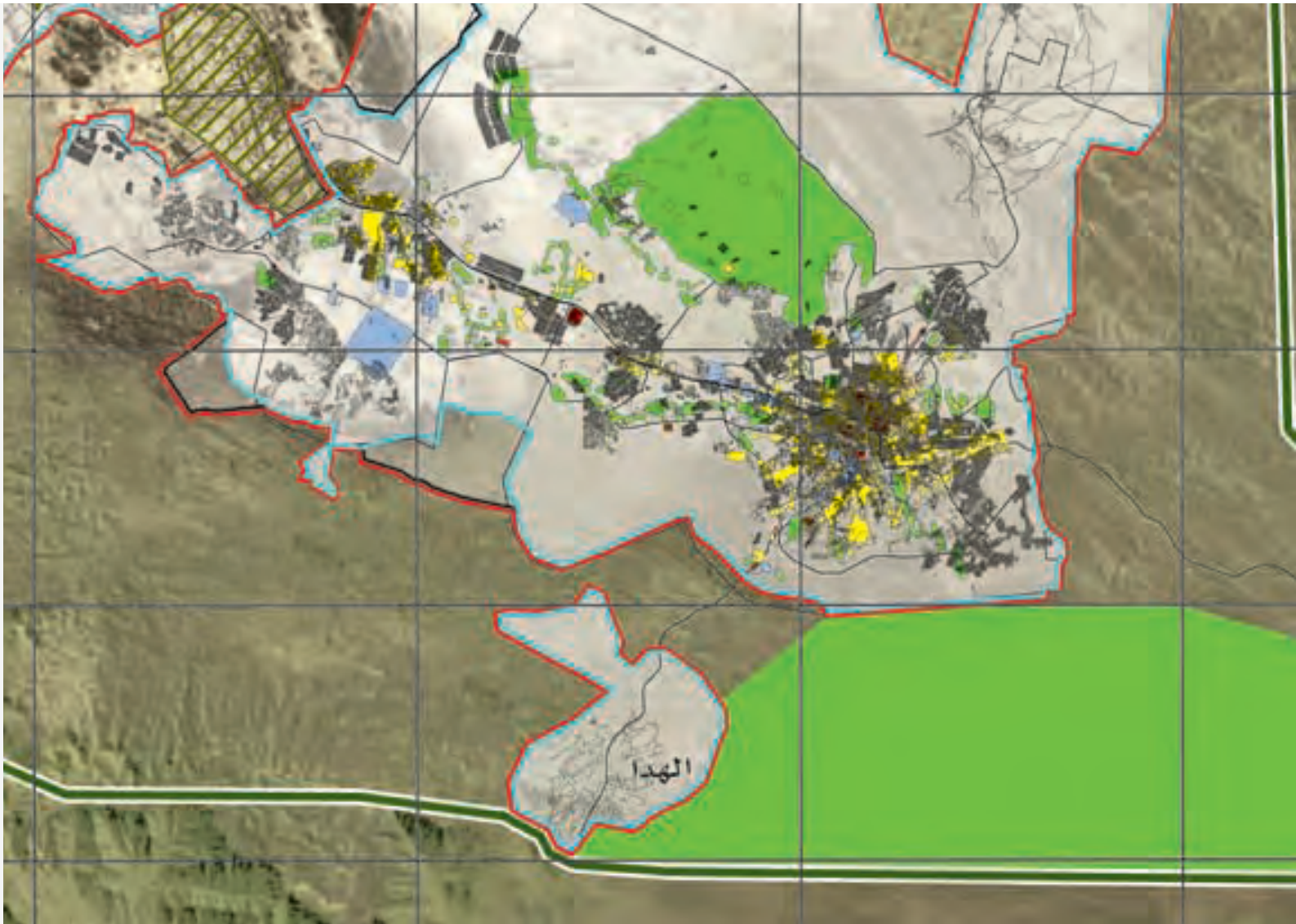
2. Respond to emerging needs accompanying the change in population structure

- In 20 years, a significant proportion of the young population will move up to another age group, creating needs for different types of housing and public services. The Government will carefully forecast the shifts in population structure and address the emerging needs of different age groups and geographical locations in order to achieve balanced development in the country.
- Reducing the numbers of expatriate workers and increasing job opportunities for Saudis will significantly influence the Kingdom's future population structure and associated needs. Current programs for Saudiizsation of the workforce will be continued to address the current employment needs of young people and women, in particular.
- The Government will lead public investments taking into consideration changes in population structure and adapting investment strategies to meet demographic needs.

3. Implement mechanisms for new national social strategies

- The Kingdom of Saudi Arabia has been going through dynamic social changes, partially resulting from rapid population growth. The Government encourages youth to take an increasingly active role in communities and policy-making processes, as endorsed in the ninth Development Plan as well as the National Youth Strategy.
- The Government also supports women playing more active roles in communities and policy-making processes, as also endorsed in the ninth Development Plan.
- The Government is in a process of developing new social strategies to support youth and women. A mechanism that monitors and evaluates the progress and achievements of such strategies needs to be built to ensure transparency and accountability of the activities.
- The Government is elaborating on developing an agreement with the Ministry of Social Affairs to reconsider updating community centres bylaws and activating their roles as to provide a safe, constructive and caring environment that allow children and youth to have an outlet for their energies.

II. Land and Urban Planning



1. Ensuring Sustainable Urban Planning and Design

Given the environment of Saudi Arabia, the dependence of the Kingdom on fossil fuels and petrochemicals, the need for desalination for water supply and the numerous related challenges of a rapidly evolving society in the face of continuing population growth, sustainability is a central issue for the Kingdom.

It is a strategic issue that pervades national debate and policy from the level of the Kingdom's position in the international debate on climate change right down to the design of local neighborhoods and even individual dwellings.

In the context of urban planning and design the consumption of water and energy are key concerns as are the generation of wastes and pollution and the degradation of natural environmental assets. Reliable and fit-for-purpose urban infrastructure that can manage the impact of crises such as sudden flooding is a fundamental underpinning of sustainable development.

Sustainable metropolitan development

Shortly after the 1996 Habitat II Conference, the Kingdom decided to address sustainable urban development through the mechanism of a Metropolitan Development Strategy for Riyadh (MEDSTAR) the Kingdom's largest and fastest growing city. This was the first major metropolitan development strategy for the Kingdom and it encompassed not only the physical development of the city to accommodate forecast population growth, but also addressed the environmental, economic, social, cultural, transport, housing, and infrastructural development as part of the strategy, taking a broad interpretation of the concept of sustainability.

The strategy consists of five basic elements that encompasses futuristic view, which forms the ultimate objectives of all the development works in the city, and paint a well-defined image of the future of the city within a 50-year time frame, policies of all development sectors, structural plan that interprets these policies, urban development plan in the city, and coordination between the concerned institutions, as well as follow up on their works, The MEDSTAR execution plan consists of strategic execution plans in specific development fields (100 execution programs in total).

The Vision Statement for the Strategy, addressing the ambition of sustainability, was as follows:
"The attainment of sustainability in planning and building a beautiful and functional city of the future, to be an oasis in the middle of the desert that provides a good quality of life for current and future generations, all according to Islamic principles".

The Strategy explored many alternatives for the future of Riyadh and set out a Structure Plan that addressed sustainability through:
Consolidated urban development focused around a planned public transport network;

- High density development along the main transport routes;
- Metropolitan mixed-use sub-centers linked by the public transport network;
- Programmes of staged infrastructure investment to address backlogs and upgrade services;
- Major environmental initiatives addressing air pollution, wastes management and environmental restoration (e.g. Wadi Hanifah); and
- Some 400 policies and actions to be implemented across government as a consequence of the Strategy.

In terms of achievement of the sustainability agenda of MEDSTAR, a review in 2009 of the implementation of its 400 - plus policies and actions produced the results shown in Table 2.1.1. Substantial progress but with more to be done. Given that the Strategy was for a period of 30 years to have almost a quarter of the policies and actions achieved in the first 7 years was quite significant achievement replicated in the cities of Jeddah, Makkah AlMukarramah and AlMadina AlMunawwarah.

Table 2.1.1: Summary of Results of the Assessment of Progress with Policy Implementation for MEDSTAR, 2009

	% Done	% Partial	% Not	Total
Planning	24	58	18	100
Economic	10	29	67	100
Environment	25	39	36	100
Infrastructure	20	50	30	100
Transportation	34	34	32	100
Urban Management	8	64	28	100
Total	22	43	35	100

Source: Arriyadh Development Authority, MEDSTAR UPDATE, 2009.

Addressing sustainability at the metropolitan scale necessarily raises the issue of the efficient use of resources and in particular the land-use/transport integrative relationship.

Given that transport accounts for some 24 percent of energy use in the Kingdom, energy efficient urban transportation is a must in modern Saudi Arabia.

Each of the metropolitan strategies for the Kingdom's cities provides for new investment in metropolitan public transport, and plans or programs are under way to deliver this investment Kingdom-wide. These plans are discussed later in this Report.

Sustainable local development

From the metropolitan scale to the scale of local development, the pursuit of more sustainable development has deepened and become more informed. In 2013, the Ministry of Municipal and Rural Affairs and other line ministries developed "Sustainable Urban Planning Guidelines for Urban Growth" in the Kingdom of Saudi Arabia, which addresses these key issues to achieve sustainable urban planning and community design and thereby aims to reduce the consumption of critical resources – notably energy and water (Table 2-1-2).

The guidelines, once adopted by the government, are intended to ensure future urban development in Saudi Arabia matches, if not leads, world's best practice for sustainable urbanization, especially in desert environments.

The guidelines specifically aim for:

- Reduction of transportation-related fuel consumption through smart growth, applicable density, mixed-use and transit-oriented development; and
- Reduction of energy consumption at the municipal level through district cooling, water conservation and building energy efficiency.

These guidelines are to be applied through two processes: First, neighborhood units should be designed and planned in line with the guidelines. Second, multiple units of the neighborhood building blocks should be designed in line with the guidelines for larger-scale communities.

Table 2.1.2 Sustainable Urban Planning Guidelines for Future Saudi Arabian Cities

Place Type	*Land Use Criteria*	*Transportation **Investment** Criteria*	
Neighborhood Type	Density, Diversity, Location	Service, Stations, & Vehicle Sharing	Auto Infrastructure, Parking, & NMT
1. Low Density Development Guidelines Low-density neighborhoods mostly consist of individual housing units that accommodate single family per unit, disconnected with each other, in an automobile-oriented transport design.			
Individual housing units detached with each othera 	8-4 HH/Hectare 3,999-1,000 people/ km2 Local mosque, local retail, local park within 500 m Juma mosque, schools, commercial, municipal offices within 1500 m Infill or adjacent	Para-transit or shuttle service Bus stations within 2 km for employer and other long distance trips Shaded station pavilions in employer pick-up areas	Pedestrian cut-through to allow more direct access to destinations Sidewalks are even and not disconnected in any areas Parking requirements reduced %50 or eliminated for all development and priced residential parking passes required Priced residential parking passes considered Separated bike lanes on major roads
2. Mid-Density Development Guidelines Mid-density suburban or urban edge development with 4-3 story housing units, accommodating either multiple families or zero lot line single families. Public transit- and pedestrian-friendly design with some mixed land use.			
Suburban or urban edge development 	14-9 HH/hectare 6,999-4,000 people/ km2 600-500 m2 lot sizes Local mosque, local retail, local park within 400m Juma mosque, schools, commercial, municipal offices within 1300 m %20-15 mixed-use by land area Infill or adjacent and within 2km of Downtown place type	Transit service with <15 minute headways during peak periods Bus, BRT, Trolley or streetcar Dedicated transit ROW on major corridors Transit stops within 500m of all households Real-time bus updates and signage	Crosswalks and pedestrian paths are available through neighborhoods and to access commercial areas Raised pedestrian crosswalks, built with a separate material than streets Multi-family residential parking unbundled and shared with commercial parking Higher costs for 2nd residential parking pass *Separated bike lands on %50 of roadways *Bike parking facilities near transit stations (* Recommended for campuses and within neighborhoods or smaller communities)
3. High Density Development Guidelines High Density Downtown center or inner city neighborhood with taller housing units and commercial buildings; > 5 story buildings generally developed as nodes around fixed guide-way transit stations. Has pedestrian-fvriendly street design with many parcels of mixed use, with commercial facilities on the ground level.			
Mixed-use urban neighborhoods near center city 	20-15 HH/hectare 9,999-7,000 people/ km2 FAR 1.5 minimum Local mosque, local retail, local park within 300 m Juma mosque, schools, commercial, municipal offices within 1000 m %40-35 mixed-use by land area Infill or adjacent to larger urban area	Transit service with <10 minute headways during peak periods Bus, BRT, LRT, Commuter rail, PRT Dedicated transit ROW on major corridors Transit stops within 500m of all households Real-time bus updates and signage	Shaded pedestrian walkways per street design Pedestrian crossings %25 Auto friendly streets %50 Shaded Transit/Pedestrian Friendly streets %25 Shaded Transit/Pedestrian Only streets Multi-family residential parking unbundled and shared with commercial parking No surface off –street parking Pricing by hour of day for non-residents in commercial areas *Bicycle paths per street design *Bike parking facilities every 500m (* Recommended for campuses and within neighborhoods or smaller communities)
4. Urban City Center Development Guidelines Urban city center with many high-rise buildings that are closely spaced around extensive fixed guide-way transit or subway. Most buildings are mixed use with commercial facilities on the ground level.			
High density mixed-use, transit-oriented urban city center 	+21 HH/hectare +10,000 people/ km2 FAR 2 minimum Local mosque, local retail, local park within 250 m Juma mosque, schools, commercial, municipal offices within 800 m >%40 mixed-use by land area Infill, core of city	Transit service with <5 minute headways during peak periods Bus, PRT, BRT, LRT, Heavy Rail (Metro) Dedicated transit ROW on major corridors Climate controlled transit stops within 500m of all households Real-time bus updates and signage	Indoor and shaded cut-through pedestrian walkways Pedestrian crossings %50 Shaded Transit/Pedestrian Friendly streets %50 Shaded Transit/Pedestrian Only streets Unbundled and shared residential parking No surface off –street parking Pricing by hour of day for non-residents in commercial areas *Bicycle paths per street design *Bike parking facilities every 500m (* Recommended for campuses and within neighborhoods or smaller communities)

Source: Ministry of Municipal and Rural Affairs, Planning Guidelines for Sustainable Urban Growth, 2013.

The guidelines provide generic performance standards for each neighborhood type, not the design specifications. For example, the guidelines recommend target density and minimum floor area ratio for each neighborhood type. Therefore the guidelines are the most suitable to be used at the initial phase of planning to build a new community.

Newly built communities should take the form of Transit Oriented Development, with groups of higher density neighborhoods clustered around higher capacity transit services and lower density neighborhoods more dispersed. Within each neighborhood, the walkability and diversity guidelines must be met. The urban form and transportation investment guidelines are also required to lead new urban development in the country. Such guidelines should be applied at the community level in cities or new development areas with population ranging from 5,000 to 300,000 or more.

The Sustainable Urban Planning Guidelines for Urban Growth will be integrated into the standards on planning permission and development control, which is under the review by the Ministry of Municipal and Rural Affairs. A number of relevant planning manuals are now in preparation to help planners and decision-makers to apply the recommended Guidelines

2. Improving Urban Land Management and Addressing Urban Sprawl

Land subdivisions

Residential subdivisions are the most common developments that create management problems in relation to the compact growth and sustainable development of urban areas in the Kingdom. An underlying factor is the land tenure system of the Kingdom, particularly regarding privately owned lands and related development rights.

The land resources of the Kingdom of Saudi Arabia like in most countries, belongs to the Government as crown land, except where it has been passed on into private ownership. There are long-established land claims and traditional rights, and no fully established cadastre or consistent title registration, so tracing the ownership of privately held lands can be very difficult. Steps are under way in government to modernize the cadastre and the title system, especially with the introduction of mortgage laws where property can be used as security for borrowings.

There are three types of residential subdivisions:

1. Land Grant subdivisions (government-owned land)
2. Limited income residential subdivisions (government-owned land) and
3. Private sector residential subdivisions (privately-owned land)

Those subdivision plans can only be approved by MOMRA where the municipality confirms that the land is free and that there are no private claims on the land. This is why much development of these types of subdivisions is often scattered and sporadic and makes managing urban development very complex.

Land grants at many different scales can be made by the government on behalf of the Crown, including grants to government agencies and municipalities for their specific needs. Individual Saudi citizens are also entitled to a grant of residential land from the government as one of the benefits of citizenship.

Land is also a favoured form of investment in the Kingdom, with both Saudi men and women being active participants in land investment, land trading and in speculative market opportunism as prices rise and fall. Mortgage laws that will increase the availability of capital for investment in land are likely to raise the scale and tempo of the land investment scene.

As the Albawaba Business report illustrated in its March 2014 Report, government actions also stimulate the housing market “The Kingdom really is on the rise and the real estate sector is expected to benefit from the huge funds injected by the government into the housing market, such as the decision to further support housing by allocating SR250 billion to construct 500,000 units.

Also, after years of planning and continuous hard work, the Ministry of Housing's efforts have started to pay off and tangible results have begun to surface including the launch of the eligibility rules and "Iskan" gateway, which will reveal the real size of the housing problem and who really needs support from the Ministry. Dwelling units and lands have been distributed to eligible families across the regions of the Kingdom. Residential units and lands have been given away to citizens across the regions of the Kingdom Distribution of housing products under the housing scheme still ongoing.

Another factor that will boost the real estate market is the availability of home mortgages enabling citizens to become home owners. Furthermore, massive investment in mega infrastructure projects such as the economic cities and general transportation plan are giving an even bigger boost to the sector.

To manage real estate demand and the growth in urban population, the Government of Saudi Arabia has developed its spatial plans at four different levels - national, regional, local and district levels as shown in Table 2.2.1

Table 2.2.1: Strategies and Plans for Urban Land Management in the Kingdom of Saudi Arabia

Spatial Plans/Land Management Plans			*Tool*	*Responsible bodies*
Spatial Plans	National Spatial Strategy 2001 (National)		National land use strategy	Ministry of Municipal and Rural Affairs (MoMRA)
	Regional Spatial Strategy (Regional)		Regional land use plan	Regional Offices
	Local-Spatial Strategy (Local)	Comprehensive Strategic Plan for major cities	Land use plan and zoning linked to building codes and Urban Growth and Development Boundaries	Urban Development Authorities
	Local Plan for medium and small cities	local plan for medium and smaill cities	Land use plan and zoning linked to building codes and Urban Growth and Development Boundaries	Municipalities
	Action Plan		Detail of development including arrangements of roads, buildings and infrastructure	Urban Development Authority/ Municipalities
Urban Growth and Development Boundaries (Municipal level)	Phase I (up to 1435 AH)		Development standards	MoMRA/Municipalities/ Urban Development Authorities
	Phase II (1450-1435AH)	1435 -1440		
		1440-1445		
		1445-1450		
	Urban Development Limit			

Source: Ministry of Municipal and Rural Affairs

Zoning in Local Plans specifies land use, the percentage of plot coverage, building setbacks and building heights.

At the district level, Action Plans are prepared with the aim of clarifying detailed land use, including road construction, land subdivision, infrastructure, and size and layout of buildings.

In addition to Comprehensive Strategic Plans and/or Local Plans developed by Urban Development Agencies and Municipalities, the Ministry of Municipal and Rural Affairs sets Urban Growth and Development Boundaries called the "Nitaq Omrani" to rationalize the physical growth of the Saudi cities through delineation the future appropriate boundaries for localization of urban activities and accommodation of urban development during a specific period and provision of public services and facilities that realize the maximum amount of economic efficiency of available resources to reach the optimal sizes of cities and villages in accordance with the directions of the national spatial development strategy.

Until recently the approved 'Nitaque Omrani' included two urban development boundaries, titled "Phase I up to 1435 AH" (2014) and "Phase II through 1435-1450 AH (2014-2030) respectively. A third Development Boundary titled the "Urban Protection Zone," defines the extent of the land needed for future urban growth and protects this land from institutional or individual claims for development sites.

Phase II 1435-1450 AH (2014-2030) The 'Nitaque Omrani' has been further divided into three five-year development phases: 1435-1440 AH (2014-2020), 1440-1445 AH (2020-2025) and 1445-1450 AH (2025-2030). These three phases have been approved by the Minister for Municipal and Rural affairs and include new and updated versions of the development controls.

According to Comprehensive Strategic Plans and /or Local Plans, development projects should only be located within the Phase I and II "Urban Limits". However, national or regional development projects including industrial towns, universities, airports, recreational and tourist centers that are approved by Government Ministries can be located, under specified criteria and development controls, outside of the Phase I and II Urban Limits if no appropriate location can be allocated for the projects within the set boundaries.

The Ministry of Municipal and Rural Affairs has developed an operational manual on the Urban Growth and Development Boundaries, which stipulates a number of general development principles, to ensure different levels of spatial strategies are appropriately coordinated, the operational manual states that:

- Strategic development projects that are part of the spatial strategies, including major road and railway networks passing through private lands, should have the highest priority;
- Development projects outside of the Urban Growth and Development Boundaries are only permitted with the approval of the Ministry of Municipal and Rural Affairs.
- Large-scale development projects should follow specified detailed standards.

The manual also defines development standards that owners of land and/or development enterprises are obliged to comply with. These development standards are defined based on different strategic categories of national, regional and local centers identified in the National Strategic Plan as follows:

National Growth Centers

- Residential sub-division roads must be paved, asphalted and lit;
- Water supply and sewage system, telephone lines and electricity network must be installed and connected; and
- Rainwater disposal system must be installed and connected.

Regional Growth Centers

- Residential sub-division roads must be paved, asphalted and lit;
- Electricity network must be installed and connected;
- Water supply system must be installed and connected (if water source or a primary network is available); and
- Sewage system must be installed and connected in particular cities.

Local Growth Centers

- Residential sub-division roads must be asphalted; and
- Electricity network must be installed and connected.

Other towns and villages (within the development boundaries)

- Sub-division roads must be asphalted.

In principle, the Government encourages development within the Phase I development boundary, in order to build compact cities that can offer effective and efficient public services including transport, power supply, water supply and sewage systems and waste management. Additional development standards are imposed on landowners and/or development enterprises who plan to develop their land within the Phase II development boundary, when they develop their land before its development periods (2015-2020; 2020-2025; 2025-2030 (1435-1440AH;1440-1445AH;1445-1450AH).

New development projects proposed before the development period in the Phase II are obliged to build on specified percentages of their sub-divided plots. For example, a development project in a national growth center in the Phase II Urban Limits area is obliged to build on 75% of its entire sub-divided plots, whereas a development project in in other growth centers is obliged to build on only 50% of its entire sub-divided plots and approval of subdivisions with no less than 25% developed plots.

The Urban Limits policies have been embedded in development control procedures for some years now and are under constant review. Experience to date indicates that they have had mixed results in terms of managing urban sprawl.

In the faster-growing and larger cities the Urban Limits are revised as often as is necessary to accommodate emerging demand and price pressures in the subdivision market; however, they have assisted as a key part of policies requiring land developers to install basic infrastructure in their subdivisions. The key weakness of the policy in this regard, however, is that there is no requirement for that reticulated infrastructure to be connected to trunk supply systems – so, for example, pipes for reticulating water in a subdivision do not have to have an immediate connection to a trunk water supply. This inefficiency is one of many under consideration at present.

3.Increasing food production in urban and peri-urban areas

In 2012, the area of cultivated agricultural land in the Kingdom of Saudi Arabia was estimated to be approximately 972,000 hectares. These lands are located, logically, in those regions where cultivable soil and irrigation water are available. These are also the locations for settlements; so much agriculture is, as a result of geography, peri-urban or almost so.

In 2014 Al Riyadh, Al Qasim and Al Jawf Regions accounted for 26.4%, 15.3%, and 14.9% of the cultivated lands respectively, which adds up to 56.6% of the entire agricultural land in the country. Agricultural areas in other regions remain small in average area and lot size. In particular, the regions of Northern Borders and Al Bahah have only 1% of the entire agricultural lands.

In terms of food production, Al Riyadh, Al Qasim and Ha'il regions altogether account for 84.1% of wheat, 72.1% of vegetables, 58.3% of dates and 51.4% of fruit produced in the country. As for dairy products, Al Riyadh, Ha'il, Al Qasim and the Eastern regions produce 72.5% of milk consumed by the entire population of Al Riyadh region. Al Riyadh, Makkah, and Qasim regions produce 74.4% of poultry in the country. Statistics revealed that major cities rely on their agrarian hinterlands for the supply of basic foodstuffs and dairy products.

Historically, the Kingdom's Development Plans prepared by the Ministry of Economy and Planning have all aimed at strengthening the agricultural sector to diversify the economic base of the country, and also to promote the efficient and rational use of natural resources, especially ground water resources, to ensure sustainable agricultural development.

Furthermore, the 9th National Development Plan aims to enhance the production of highly water-efficient crops, develop and improve the efficiency of agricultural markets, and scale up support for small farmers, in particular towards sustainable management and development of agricultural land.

Table 2.3.1 Key Agricultural Products by Region, 2013

Region	Wheat (ton)	Vegetable (ton)	Dates (ton)	Fruits (ton)	Milk (Liter)	Poultry (Chick)
Riyadh	105095	135144	337084	416226	1258745	103115399
Makkah AlMokarrama	265	213306	34252	79237	0	90512976
Qasim	69860	315813	225038	265113	29975	217111394
Eastern Region	82974	129270	176162	224577	488056	36319609
Hail	109133	290924	93642	143694	22270	37863485
Northern Borders	0	862	507	625	0	70
Al-Baha	276	9072	2473	27810	0	1272316
Al-Jawf	202464	102241	37703	154939	0	1930603
Total	570067	2418632	906861	1303321	1773046	488125825

Source: The Agricultural Statistical Yearbook, 2014

The agricultural sector achieved an average annual growth rate of 1.4% at 1999 constant prices, increasing from approximately 37.9 billion Saudi Riyals in 2004 to approximately 49.9 billion Saudi Riyals in 2013, given the rise in domestic agricultural, forestry and fishery production. However, this growth rate in the agricultural sector was less than the rate of overall economic growth.

Consequently, the contribution of the agricultural sector to GDP decreased during this period from 5.2% to 4.7%. Its contribution to the non-oil economy also fell from 7.6% to 6.2%. This decline was primarily due to rationalization of water use implemented under the 8th National Development Plan, which resulted in the decrease of planted areas at the average annual rate of 4.9%.

The Ministry of Agriculture took initiatives to improve the productivity and efficiency of agricultural activities, especially of agricultural-related services. The Ministry also focused on plant protection and disease control by using advanced technologies such as aerial spraying, and by developing a comprehensive geographic database (GIS).

Table 2.3.2: Distribution of Agricultural Land and Crops by Administrative Regions, 2010-2014

Region	Total Crop Area	Wheat (%)		Fodder (%)		Vegetables (%)		Fruits (%)	
		Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.
Al Riyadh	26.4	24.2	20.5	46.1	46.2	46.5	43.7	21.5	19.2
Makkah	3.9	-	-	3.8	2.6	11.1	8.1	6.7	6.9
Al Madinah	2.9	0.2	0.1	2.3	2.3	1.4	1.1	10.8	10.6
Al Qasim	15.3	18.8	16.2	13.3	13.3	11.7	12.6	18.0	14
Eastern Region	6.3	9.4	7.4	2.6	2.5	4.4	7.5	7.1	12.4
Asir	2	1.0	0.5	1.3	1.3	2.4	3.2	3.7	4.1
Tabuk	5.2	7.0	7.8	6.1	6.5	3.4	4	4.8	7.2
Ha'il	11	12.9	14.6	6.8	7.3	10.8	12.6	9.9	10.6
Northern Borders	0.01	-	-	0.1	0.1	0.1	0.1	-	-
Jazan	10.6	-	-	8.1	7.6	3.2	2	2.5	2
Najran	1.1	0.2	0.1	1.5	1.3	1.7	1.7	2.8	3.6
Al Bahah	0.4	-	-	0.1	0.1	0.2	0.2	1.5	1.8
Al Jawf	14.9	26.3	32.8	7.9	8.9	3.1	3.2	10.7	7.6
Saudi Arabia	100	100	100	100	100	100	100	100	100

Source: Ministry of Agriculture; Ministry of Economy and Planning (The ninth Development Plan 2010 - 2014).

Support for peri-urban agriculture

Kingdom of Saudi Arabia has been keen to assist in the development of the agricultural sector and the enhancement of its production efficiency through provision of loans and credit facilities needed to help in the development, promotion and activation of the agricultural sector, including supporting organic farming and encouraging the use of treated water in recreational agriculture.

Loans and constant support of the agricultural sector enabled boosting agricultural self sufficiency and export of many agricultural products, and realizing economic return of significant impact on the growth of the Gross Domestic Product.

Table 2.3.3: Treated Drainage Water Supplied to Farmers, Riyadh, 2013.

Region		Quantity of water (mm3)	Pumping Average (m3/day)	No. of Connections	Connected Farms	
					Number	Area (hectare)
Riyadh	Dirab	2469798	67665	154	82	6173
	Deraya/Erqa	22703519	62201	185	166	3000
	Amaryiah			135	99	4042
	Ayyena			259	127	4200
	Hair	2607164	7142	11	10	523
Total		50008663	137008	744	494	18038

Source: Agricultural Statistical Year Book, National Irrigation Department, 2014

In Riyadh, for example, the preparation of a major metropolitan strategy for the treatment and re-cycling of water collected from the sewage system led to an increase in the availability of water supplies for agriculture at some 50,627 million cubic meters per annum.

Purchasing this water at reasonable prices enables Riyadh's farmers to increase their production and to sustain irrigated production throughout the entire year, a major improvement on past circumstances. The treatment of the water is to a quality certified as suitable for agricultural use.

The flow of treated water through the wadi to the south of Riyadh has the secondary benefit of recharging the district's aquifers, again increasing the potential availability and the quality of groundwater supplies.

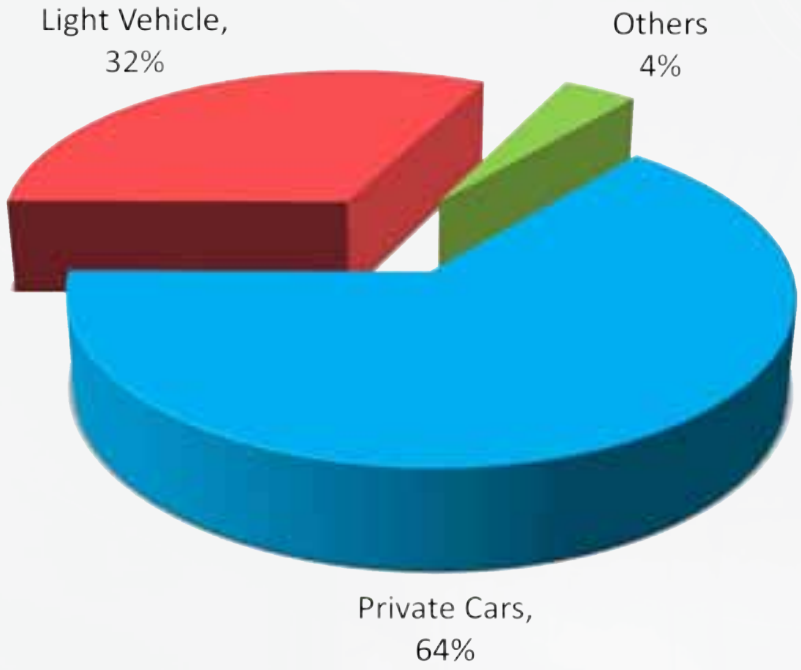
In Jeddah, Sustainable Food Strategy has been developed as a part of its Strategic Plan, including the identification of peri-urban areas to be dedicated to food production. Commercial-scale production would involve greenhouses, aquaculture and hydroponics, animal farms, nurseries and agro-forestry. The Sustainable Food Strategy also integrates urban agriculture and traditional rural production with the peri-urban plans.

4. Addressing Urban Mobility Challenges.

Over the past decades the transport sector has been a major challenge in the Kingdom of Saudi Arabia. The Government has been keen to develop an advanced inter-city and intra-city transport systems. As a result the geographical density of roads, and the number of development projects being implemented across the country have risen, resulting in a 29% increase in national mobility during the period 1999-2008. As of 2009, private cars made up 64% of total road transport, while light vehicles made up 32%.

By the end of the Eighth Development Plan, the estimated total number of registered vehicles actually operating on the roads was 5.36 million, with private cars and light trucks constituting 96% of the total (Figure 2.4.1). Road transport using private vehicles is the foremost means of transport, accounting for 85% of all trips. This is dictated in the first place by consumer preferences, and spatial distribution of production and consumption centres locally and nationally.

Figure 2. 4.1: Transpoort Network, Saudi Arabia, 2013



Source: Ministry of Economy and Planning, the 9th Development Plan, 2010-2014

The Saudi Public Transport Company provides transport services with 3,707 buses serving in 382 cities and villages as well as to and from 30 international destinations. In 2014, approximately 5,935 million passengers travelled between cities and approximately 15,576 million passengers travelled within cities, including Hajj and Umrah passengers. About 425,202 international passengers used the services of the Saudi Public Transport Company in 2014.

The railway network is used to transport passengers and freight on a route connecting Dammam and Riyadh. 1,107,000 passengers used railway network in 2008, and the number of passengers showed 8% increase annually during the period of 2009-2013.

Table 2.4.1: Rail network statistics, 2009 - 2013

	2009	2010	2011	2012	2013	Average Annual Growth Rate (%)
Passengers (thousand)	1104	1124	1231	1186	1173	1.25%
Cargo (million tonnes)	2610	4005	4039	4023	4322	4%
Containers (thousand)	393	439	490	468	534	7.2%

Source: Saudi Railways Organization, 2013.

National transportation strategy

In order to address the national transport challenges, including urban mobility, the Ministry of Transport developed a National Transportation Strategy in 2011. The Strategy aims to develop and maintain a multi-modal transportation system that serves the needs of society by ensuring a safe, efficient and technologically advanced transportation system that promotes social and economic development and international competitiveness of the country and ensures a healthy and secure environment for its citizens.

Table 2.4.2. The Structure of the Kingdom's Road Network, 2013.

Region	MAIN ROADS	SECONDARY ROADS	FEEDER ROADS	TOTAL	UNPAVED ROADS
Riyadh	2490	2353	9646	14489	%23,6
Makkah	2215	1080	2981	6276	%10,2
Madinah	1315	1184	2391	4890	%8
Qasim	756	1116	4212	6084	%9,9
Eastern Region	2261	1521	2555	6337	%10,3
Asir	884	925	3349	5158	%8,4
Tabuk	1585	250	1505	3340	%5,4
Hail	810	479	2976	4265	%7
Northern Borders	934	64	1200	2198	%3,6
Jizan	269	256	1125	1650	%2,7
Najran	454	566	1106	2128	%3,5
Baha	122	427	1345	1894	%3,1
Jawf	984	0	1667	2651	%4,3
TOTAL	15,079	10,221	36,058	61,358	%100

Source: Ministry of Transportation, 2013.

The strategy identifies six goals that present a comprehensive and balanced approach to address the development needs of the country. These are:

- **Efficiency:** Ensure the transportation sector's technical, economic and financial sustainability by improving overall performance of public and private transportation service providers, reducing government's involvement in tasks that can be more efficiently executed by the private sector, and rationalizing existing pricing and cost recovery schemes.
- Socio-economic development: Support the country's economic growth and competitiveness, both domestically and internationally, and ensure access to transportation services and mobility by all people in the country.
- Safety: Develop and implement a coordinated and comprehensive set of safety improvement measures addressing all aspects of the transportation system to reduce the number of transportation-related deaths, the number and severity of transportation-related injuries, and economic and productivity losses caused by accidents.
- Environment: Minimize the transportation sector's negative impact on the environment and raise environmental awareness in the country.
- National defense and security: Provide a transportation system that is capable of meeting the mobility needs of national defense and security, and also respond to natural and man-made disasters.
- Hajj transportation: Provide a well-coordinated multi-modal transportation system that meets the unique and special travel needs of Hajj in a safe and efficient manner.

The National Transportation Strategy identified six action plans that take key transport issues into consideration. In principle, the action plans on transportation infrastructure, freight transportation and passenger transportation were developed separately, and the remaining three action plans address inter-sectoral issues of traffic safety, environmental protection and Hajj and Umrah transportation, which is very particular in the Kingdom of Saudi Arabia. The six action plans have 28 different action points that are allocated to responsible government agencies to be implemented.

The strategy also focuses on:

- shared responsibilities for transportation sector development among stakeholders;
- public and private sector partnership;
- regional integration and participation in global markets; and
- integrated development and operation of transportation infrastructure

Figure 2.4.1: Existing and Planned Rail Network, 2014.

Source: Saudi Railways Organisation, 2014.

To address urban transportation, the National Transportation Strategy recommended the establishment of Integrated Urban Transportation Master Plans at the municipal level, expected to serve growing populations, enhance quality of people's lives, and maintain the economic viability of cities. The Transportation Agency, which is expected to be established under the National Transportation Strategy, will undertake transportation master planning to provide for multi-modal, smart and modern transportation systems for those cities that do not already have such plans. The 10th National development Plan 2014-2019 incorporates policies for the development of inter-urban integrated transport systems.

Table 2.4.3 : Key Components of Integrated Urban Transportation Master Plan, the Kingdom of Saudi Arabia

Integrated Urban Transportation Master Plan	Planning Period (years)	Review Period (years)
1. Policies and objectives including target public/private modal transportation	15-10	5-3
2. Strategies to achieve objectives	5	3
3. Transportation infrastructure plan integrated into land use plan	20-15	5-3
4. Public transportation service plans by area and by transportation mode	5	2
5. Regulatory framework for procuring private operators to implement service plans	2	1

Source: The final report on National Transportation Strategy, Ministry of Transport

City transportation plans

Over the past decade all of the major cities have developed plans for city transport systems initially in the form of road networks intended to meet the growing traffic needs of each city, and in the last five years for public transport. This has taken place as congestion levels continue to rise and the Government

accepts that relying on cars only as the main means for urban mobility is unsatisfactory in a modern urban environment focused on energy conservation and sustainability, as well as on economic efficiency in the functioning of the Kingdom's cities.

The Saudi Cabinet has set up the Public Transport Authority to regulate and supervise public transport services for passengers within cities and between cities, provide quality services at reasonable cost with consideration to environment, encourage investment in the sector in accord with the socio-economic development goals.

Figure 2.4.3: Metro and Bus Network under Construction in Riyadh, 2015

Source: Arriyadh Development Authority, 2015

While Riyadh has had the longest experience in planning for urban public transport (through MEDSTAR, the Metropolitan Strategic Plan) and now has its new King Abdulaziz Public Transport Program under construction, today Makkah, Medina, Jeddah, and Dammam are all actively engaged in the design and delivery of city-wide metro and bus networks, and either have created or are establishing special-purpose institutions to manage them.

The Government is funding these investments after years of seeking without success to engage the private sector in investing in public transport facilities in Riyadh. The lack of a solid history of public transport use in the Kingdom deters private investors. In total, the Government has committed SAR 250 billion to urban public transport investment in the 6 major cities for the next decade. These public transport systems are all integrated to a greater or lesser extent into the land use planning of each city, with the Government placing great significance on Transit-Oriented Development as part of the development of new transport infrastructure.

The King Abdulaziz Public Transport Program in Riyadh is the largest investment to date, and is significant on any international scale. It is described in more detail in a later chapter.

The introduction of safe, secure, reliable and frequent modern train and bus networks across the Kingdom's cities represents an investment in potential social change of profound importance to Saudi society; Opening up better access for citizens to new employment opportunities in the labor market.

Infrastructure plans will be integrated into land use plans. The spatial distribution, density and type of land use determine the volume and direction of transportation. Conversely, accessibility of the site developed will have a major impact on land values and the type of the planned land use. Public transportation service plans should be both spatial (covering all modes within a district) and modal (focusing on railway, bus or taxi).

5. Improving Technical Capacity to Plan and Manage Cities

Acquiring accurate and updated information is crucial for urban planners and decision makers who plan, develop, manage and monitor cities. Considerable amounts of statistic and geographic information, including Geographic Information Systems (GIS), are available in the ministries and government institutions, and is largely utilized within the respective organizations for their own purposes.

The Central Department of Statistics and Information is the key Saudi Arabian government organization to manage national statistical information. It holds basic statistical data on the country, including population, housing, labour, agriculture and fisheries, energy, trade, transportation and communications, economy and public services. However, there is no GIS data available in the Central Department of Statistics and Information and therefore statistical information cannot be interpreted onto spatial maps.

Municipalities and/or urban development agencies in the major cities in the Kingdom of Saudi Arabia, who are responsible to plan, develop, manage and monitor cities, have developed or are developing modern and sophisticated spatial information systems. Such spatial information can be of significant help in discussing and determining future vision and direction of Saudi cities. Ministry of Municipal and Rural Affairs has set up GIS training programs.

Following the 1996 Habitat II Conference and subsequent follow-up by UN-Habitat, Kindom of Saudi Arabia progressively adopted the concept of the Urban Observatory, which was established by UN-HABITAT to assist institutions to establish useful and consistent urban information systems.

For example, Riyadh, the capital and the largest city in the Kingdom witnessing now rapid pace of urban growth and spatial expansion, was in urgent need for an establishment of a modern spatial information system to facilitate effective management of the city. The Riyadh Urban Observatory was established in 2012 in response to this need, by the Arriyadh Development Authority which plans, develops, manages and monitors and implements urban development policies and programs in Riyadh and holds responsibility for metropolitan planning.

In practice, the Riyadh Urban Observatory aims to observe the progress of urban development by developing and monitoring comprehensive urban indicators that are in line with the overall strategic plan of the city. Equipped with such indicators, the Riyadh Urban Observatory enables government agencies, the municipality and the private sector to monitor and evaluate their activities.

The urban indicators are measurement tools identified by UN-HABITAT, which summarize key information on different urban topics. Selected urban indicators provide a clear picture of the situation faced by cities, and allow for evaluation of performance.

The first major report from the Riyadh Urban Observatory has now been published (High Commission for the Development of Riyadh, Riyadh Urban Indicators 2014). It covers:

- General background
- Social and Economic Development
- Transport
- Infrastructure
- Housing
- Environment Management
- Local Administration

Other urban Observatories are being created Kingdom-wide to extend this capacity-building process across urban Saudi Arabia. (Table 2.5.1).

Table 2.5.1: Establishment and Operation of Urban Observatories, 2015.

Region	City	Status	Responsible Authority
Riyadh	Riyadh	At an advanced stage of producing indicators and periodic reports and establishing local observatories	ArRiyadh Development Authority
Al Madinah	Madinah Khaiber Alees Yanbu AlUla AlMahd AlHinakiyah Wadi AlFar'e Badr	At an advanced stage of producing indicators and periodic reports and establishing local observatories	Municipality
Makkah	Makkah Jeddah	At an advanced stage of producing indicators and periodic reports and establishing local observatories	Municipality Municipality
	Taif	Stage 3, established	Municipality
Qasim	Burayda	Stage 3, established	Municipality
Asir	Abha	Stage 2, established	Municipality
Albaha	Albaha	Stage 3, established	Municipality
Eastern Region	Dammam	Stage 5, established	Municipality
	AlAhsa	Stage 1, established	Municipality
	Hafr AlBaten	Stage 3, established	Municipality
Najran	Najran	Stage 1, established	Municipality
Hayel	Hayel	Stage 2, established	Hayal Development Authority
Northern Borders	Arar	Stage 1, established and operated in collaboration with consultants, as GIS project was transferred to Urban Observatory	Municipality
	Quraiyat	Stage 1, established	Municipality
AlJouf	Skaka	Stage 3, established	Municipality
Tabuk	Tabuk	Stage 1, established	Municipality
Jazan	Jazan	Municipality is being urged to launch Urban Observatory project	Municipality

Source: Ministry of Municipal and Rural Affairs, 2015

This Kingdom-wide effort to improve the knowledge base about urban development and support better planning and management of cities is unique in the Middle East

More local capacity-building efforts exist as well, For example, the Arriyadh Development Authority has established the Tuwaiq Academy, an in-house professional development organization for its staff and management, where international and local specialists and experienced urban management professionals lead workshops and training projects to facilitate knowledge transfer and keep abreast of best practice in urban management.

6. Challenges Faced and Lessons Learned

Land and urban planning in the Kingdom of Saudi Arabia has drastically changed since Habitat II in 1996. The Ministry of Municipal and Rural Affairs led the setup of spatial planning system comprised of strategies at four different levels: i) National Spatial Strategy at the national level; ii) Regional Spatial Strategy at the regional level; iii) Comprehensive Spatial Strategy for major cities and Local Plans for medium and small cities at the local level; and iv) Action Plan at the district level. Urban Growth and Development Boundaries, which set additional standards for land subdivision in suburban areas, were also determined for each city to control urban expansion. With these strategies and standards in place, particularly Comprehensive Spatial Strategies for major cities, peri-urban agricultural lands will not be penetrated by ad hoc urban development, and transportation planning will be fully integrated into spatial plans.

The recent completion of Regional Strategies offers the potential to guide and coordinate local investment in infrastructure and public facilities, and decision-making in relation to the location of economic activity and the role of cities, towns and villages in each Region.

The development and application of the Urban Limits policies, while assisting in getting more private investment in infrastructure in subdivisions, and while reasonably effective in guiding development in smaller, slower-growing settlements, has proven a less than complete measure for managing urban sprawl in the larger cities.

Instead, new comprehensive approaches to metropolitan-scale planning of development have been adopted, beginning with Riyadh's MEDSTAR, and are being progressively improved as they are applied in other cities. They aim to plan for growth, and include critical infrastructure, transport, economic, environmental and social factors as well as land use and development controls.

Land subdivision

Even these plans and other existing standards controlling suburban developments are not yet effective enough to control and manage land subdivision in suburban areas and in non-urban localities around the larger cities in the Kingdom.

On the one hand, in urban areas and particularly in major cities, land acquisition for purposes such as Government land grants and public housing have become increasingly difficult as landowners are reluctant to release their land to be used for public investment. These challenges in urban and suburban areas combined are resulting in numbers of land grant and affordable housing projects implemented by municipalities being located in remote areas where free government land is available. This usually means that such areas, especially the Land Grant areas, are subdivided and allotments are allocated without any infrastructure. This represents a massive urban management and investment problem for the future.

On the other hand, the strong social preference for property as a desirable form of savings and investment means that the demand for subdivided land, the simplest for of property investment, is very strong. Prices are high and people expect them to continue to rise. There is a strong, speculative land market in each of the major urban areas, and the supply of subdivided land outstrips actual development demand by as much as fifty times, in the case of Riyadh (Arriyadh Development Authority, 2015).

Fortunately, the privatization of infrastructure provision means that the actual built development of cities does not take place much beyond the areas able to be serviced commercially by the infrastructure companies. This creates a development paradox. The Urban Limits policies require infrastructure to be reticulated in new subdivisions, but there is no requirement for that infrastructure to be connected to the trunk services provided by the infrastructure companies. So many new subdivisions have the reticulated pipes and other infrastructure for water supply, sewerage, street lighting and other services but no actual connections to trunk services that supply the city.

The government has also acknowledged the importance of building technical capacity within municipalities for improved subdivision design and infrastructure planning, enabling more effective management of land subdivision and of developer proposals.

The lack of a fully effective land title system and a reliable nation-wide cadastre both also hamper progress with land management, as does the social tradition of relying on land as a form of investment, leading to levels of demand for residential allotments in particular which far outstrips the requirement for actual housing allotments. For example, based on population growth and housing demand, the supply of subdivided residential land in Riyadh is presently sufficient for up to 50 years of population growth

The social dimension

The purpose of much of this government engagement with urban planning and management is, of course, to improve living conditions and life experiences for Saudi society. This means understanding and adapting to the changing world around us - economically, socially, and technologically - but most importantly responding to the changing expectations of Saudi citizens – especially youth, women and the elderly.

The digital revolution and the world-wide-web, along with much more freely available travel for citizens of all ages, means that most Saudis are well informed and educated about what life is like elsewhere in the world. Many have experienced living internationally as part of their lives as students or families who travel or business people.

This creates a major challenge to be addressed through the urban planning and management processes – how to create modern, high quality, sustainable urban living conditions in the Kingdom, all within the social framework of the principles of Islam.

While the Kingdom's Urban Observatories can provide key urban indexes to show the dynamics of social, economic and environmental changes in the cities based on statistical and geographical data, they are slow to reflect emerging societal aspirations and expectations.

This means that there is a great need for capacity building within government and the community to enable such participation to occur effectively and to enhance rather than undermine the work of the relevant government agencies and municipalities.

Key changes in urban planning and land management since Habitat II

Below is a summary of key changes in urban planning and land management since Habitat II in 1996:

- Developed policies to manage the influx of people into larger cities and increase absorption in smaller towns,
- Promoted local economies, expansion of job markets to capture women and youth labour force;
- Initiated housing legislation to better regulate rental and home ownership sectors
- Greater attention paid to land management and land markets to regulate land supply for affordable housing
- Development corridors, growth centres as framework elements for policies to mitigate regional disparities

- Well-being and inclusion of youth, elderly and women into development policies
- National Spatial Development Strategy approved and adopted in 2001 to achieve spatial integration of the national space.
- These are all ongoing issues that will persist beyond Habitat III and offer continuing challenges for the Government to address.
- Ministry of Municipal and Rural Affairs has developed integrated programs to address slums and informal settlements kingdom wide through municipalities and real estate investment and development companies.

7. Vision of the Future

" To excel in developing and articulating sustainable planning standards and design criteria"

To achieve this vision, efforts and resources will be focused in the following main directions:

Ensure transparency and accountability of the urban planning and development process and promote better understanding of spatial plans.

- The Government will increase the transparency and accountability of planning and development processes that citizens can better understand the development of their cities and participate in planning for the future of their communities.
- Continuous improvement in the four levels of spatial planning and the application of Urban Limits policies to better plan for and manage urban growth and infrastructure provision.
- Provide improved public information on the preparation of development boundaries and urban plans and include programs of public information to educate the public about the scope, content and intentions of those plans and the manner in which they will be implemented.

Revise Urban Growth Boundaries and related development standards to improve the management and sustainability of suburban development.

- As of September 2014, the Government is revising Urban Growth boundaries to develop improved systems for urban growth management, including integrating the Sustainable Planning Guidelines for Urban Growth in the Kingdom of Saudi Arabia.
- The Government will also improve development control standards for suburban development to regulate unplanned development in urban peripheries. Development boundaries will also be reviewed to assess if area designated for future urban growth can absorb that growth in a sustainable manner.
- the government will revise existing planning laws so as to formulate an adequate and comprehensive Spatial Planning Act.

Enhance the capacity of institutions and staff in urban planning and information management.

- Improve capacity and knowledge about Sustainable Planning Guidelines for Urban Growth.
- Continue to support the expansion of the activities and output of Urban Observatories in the Kingdom, on the understanding that urban planners and decision-makers will be better informed about their cities and consequently will improve their plans and make be.
- Strengthen urban data collection, analysis and retrieval to backup urban planning and decision making.
- Improve institutional and human resource capacity in database and information systems to support decision making.

Implement comprehensive plans for urban renewal in the larger cities in the interests of economic, social and environmental improvements.

- The Government plans to progressively implement the several major urban renewal plans it has prepared for the older inner-city areas of the larger cities (Riyadh, Jeddah, Makkah and Medina) to achieve physical, economic and social revitalization of these areas and create new employment and lifestyle choices for Saudi citizens.

III. Environment and Urbanization

1. Addressing Climate Change

The majority of the Kingdom of Saudi Arabia has a desert climate, with the exception of the Red Sea coastal areas on the west, from the border with Jordan in the north to the Yemen border in the south, including Tabuk, Al-Madinah, Mecca, Asir and Jazan – a distance of some 1800 km.

One of the key characteristics of the desert climate is a high temperature during day that drops sharply during the night. The average temperature in the Kingdom of Saudi Arabia during summer is approximately 45°C, although the temperature often rises higher than 50°C.

Table 3.1.1: Climate Data for Saudi Arabia, 1988 – 2010

Mo	Temperature (Deg. C)									Relative Humidity (%)			Surface Wind (Kts)				Pressure (hPa)			Precipitation (mm)					
	Extremes						Mean						Max Speed			Prev Dir	Sea Level	Station Level	v .	24 Hours Total			Monthly		
	DD	yy	MN	DD	yy	MX	M	MN	MX	M	MN	MX	DDD	MX	M		M	M	M	DD	yy	Ext.	DD	yy	Ext.
1	17	2008	5.4-	31	1994	31	13.4	6.8	20.1	49	5	100	33	36	5	sse	1019.8	948.7	7.3	11	1996	27.9	1993	73.6	15.5
2	7	1989	3.3-	20	1999	34.5	16.3	9.2	23.3	38	4	100	36	36	6	sse	1017.1	946.9	6.8	23	1988	28.3	1988	56.1	9.6
3	4	1992	2.1	32	2000	38	20.5	13.2	27.7	33	1	100	36	***	77	sse	1013.7	944.7	7.5	23	1996	32.4	1996	94.4	21.6
4	7	1995	9.4	29	2002	42	26	18.3	33.3	30	2	100	22	55	6	sse	1010.5	942.8	9.1	11	1991	25.4	1986	97.1	26.6
5	5	1995	14	31	1994	46	32	23.4	39.4	18	1	96	32	55	7	N	1006.3	940.3	7.8	5	2010	30.9	2010	70.6	6.2
6	24	2002	20	19	2010	47.5	34.7	25.2	42.6	11	1	61	18	35	7	N	1001.7	935.4	5.6	8	1986	0.2	1986	0.2	0
7	29	2000	21	16	2000	48	35.8	26.4	43.7	11	2	51	30	40	6	N	999	934.2	5.9			0		0	0
8	18	2001	17.5	7	1998	48.2	35.8	26.3	43.7	13	1	63	4	***	5	N	1000.3	935.4	7.1	3	2010	1.2	2010	1.2	0
9	17	2002	11.4	1	1999	45.6	32.4	22.8	40.6	15	1	87	36	36	4	N	1005.8	939.9	6.7			0		0	0
10	24	1998	15.5	23	1994	42	27.2	18.2	35.5	21	2	97	35	35	5	N	1012.3	943.8	7.2	23	1997	11.4	1997	28.9	1.2
11	21	2005	2	16	1991	45	20.8	13.4	28.2	37	3	100	21	40	5	N	1016.6	947.5	8.6	6	1997	30	1997	192.8	12.8
12	29	1990	2-	10	1991	31.2	15.2	8.5	22.2	48	4	557	32	30		sse	101.6	948.9	8.2	20	1995	47.8	1995	98.6	17.7
MX						48.2			43.7			557		***								47.8		192.8	
MN			5.4-					6.8			1														
M							25.8			27					6		1010.2	942.4	7.3						9.3

Source : Presidency of Meteorology and Environment (PME),1988 - 2010.

In winter, temperature sometimes drops below 0°C. The average temperature in spring and autumn is approximately 29°C.

The Kingdom of Saudi Arabia ratified the UN Framework Convention on Climate Change (UNFCCC) in December 1994. The UNFCCC aims to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. As a party of the UNFCCC, the Kingdom of Saudi Arabia participates in the Conference of Parties to assess progress in responses to climate change. In 2005, the Government of Saudi Arabia ratified the Kyoto Protocol, which is a legally binding obligation for developed countries to reduce their greenhouse gas emissions.

Based on these developments, the Presidency of Meteorology and Environmental Protection (PME) was established in 2001. The PME is responsible for environmental protection, climate change adaptation and conservation of natural resources in the Kingdom of Saudi Arabia, and actively participated in global initiatives on climate change including following-up conferences on UNFCCC and United Nation Conferences on Sustainable Development called Rio+20.

The Kingdom was a participant in the Climate Change conference in Peru in 2014, and is a contributor to the international Green Climate fund that is intended to support smaller nations adapt to climate change through Saudi Arabia investments in renewable energy support.

In 2005, the PME developed the first national report for UNFCCC, which assessed the impact of climate change in the Kingdom of Saudi Arabia and identified key challenges in climate change adaptation. The report stated that most of the territory in the Kingdom of Saudi Arabia has ecosystems sensitive to climate change, especially desertification.

Assessment of potential climate change impacts clearly indicates that most regions of the Kingdom of Saudi Arabia are highly vulnerable to desertification. The rise in temperature as a result of climate change is forecasted to elevate the level of reference evapotranspiration by 1% to 4.5% with each 1°C rise in temperature, and by 6% to 19.5% at a 5°C rise in temperature in most regions of the country. The expected yield losses of different types of field crops including cereals, vegetables and forage crops, and fruit trees, including date palms, are expected to range between 5% and more than 25%.

Climate change may negatively impact national economies not only directly through extreme weather events and dam- age to the agricultural sector, but also through the cost of adaptive measures. Given the sensitive ecosystems of the country, the Government of Saudi Arabia recognizes climate change mitigation and adaptation as one of its top priorities. Various types of measures have been taken by different government agencies, especially in the past decade, to decelerate desertification process and to mitigate its negative impacts on soils, agricultural crops and native vegetation. These measures include:

- Assessment of natural resources, including surveys of soil classifications, distribution of flora, a climate atlas, range lands and forests, impacts of protection measures on wild life and plants, and production of agricultural crops in the country.
- Studies on measures to fight sand encroachment on agricultural and urban facilities and to prevent desertification.
- Implementation of a comprehensive agricultural development programme, especially since 1974. With the support of the Government, the cultivated areas in the Kingdom of Saudi Arabia increased from less than 200,000 hectares in 1970 to more than 1.2 million hectares in 2004. Vast areas of desert lands have been converted into green areas. These new cultivated areas are expected to help improve the climatic conditions in terms of temperature, humidity and rainfall in these areas.
- Management and development of rangelands in different regions to help protection of these lands from overgrazing and to decelerate desertification.
- Development of national parks and plantation of millions of trees every year in different regions including Aseer, Al-Hassa, Al Baha, and Khorais.
- Development and implementation of regulations for the protection of soil, natural plantation, rangelands, forests and wild life.

Under the 9th Development Plan, the Ministry of Agriculture is responsible for fighting desertification and sand creeping while preserving the desert environment and the biodiversity therein. The Ministry of Agriculture is also working towards raising public awareness of the importance of community engagement in implementing national action programs to fight desertification.

Table 3.1.2: Greenhouse Gas Emissions Inventory, 2011.

Source Sector	Quantity Emitted (Gg)		
	CO2	CH4	N2O
Energy*	237,547 (92.1)**	345.61 (26.34)	1.44 (3.79)
Industrial Processes	19,173 (7.4)	11.18 (0.5)	
Agriculture	1,250 (0.5)	89.70 (6.84)	33.70 (88.63)
Land-use change and forestry	-14,169*** (5.6)		
Waste		865.50 (65.97)	2.88 (7.58)
Total Emissions	257,970	1,312	38
Net Emissions****	243,800	1,312	38

Source: The Second National Communication of Kingdom of Saudi Arabia Report Submitted to UNFCCC in 2011.

*** As per the IPCC Guidelines, emissions from International Aviation & Navigation Bunkers were not included in Total Emission.**

**** Numerals in brackets are percentages of Total Emissions.**

***** Minus sign indicates sink.**

****** Total emissions minus sinks.**

As described in Chapter 2-1 on this report, the Kingdom of Saudi Arabia is one of the highest energy consumers in the world with large amounts of greenhouse gas emissions. According to the Saudi Energy Efficiency Centre buildings consume more than half of the electricity sold in the Kingdom, Residential buildings take well over half of that consumption in most regions (except the east, where industrial consumption takes the majority) followed by commercial users and government. Air conditioning is the primary application for this high level of energy use in the buildings sector.

Addressing building urban energy consumption as a subset of climate change concerns, the Ministry of Municipal and Rural Affairs, together with other line ministries and government institutions, developed Sustainable Planning Guidelines for Urban Growth in the Kingdom of Saudi Arabia in 2013 to reduce energy consumption and adverse impacts on climate.

In addition to urban planning and public transportation standards outlined in the previous chapter, these guidelines proposed to introduce new standards for thermal insulation, district cooling and energy efficient buildings to reduce energy consumption and greenhouse gas emissions.

District cooling involves the provision of cooling to multiple buildings or facilities from one or more central cooling plants that are interconnected to the cooling users via networks of supply and return piping. This system helps to protect the environment as it increases energy efficiency and reduces greenhouse gas emissions and air pollution.

The Sustainable Planning Guidelines for Urban Growth in the Kingdom of Saudi Arabia also introduced building energy codes, which set a minimum level of energy efficiency for residential buildings. These can reduce the need for energy generation capacity and new infrastructure while reducing energy bills. The Government will update existing building codes and adopt new codes, expecting to achieve substantial energy and financial impact. Given that energy consumption is expected to rise in the residential sector by 2020, enacting of new building codes is a key strategy for reducing energy consumption and tackle climate change across the buildings sector.

The Kingdom's recently formed Green Buildings Council and the Green Buildings Forum will each act as non-government organizations bringing expertise and advice to government and the private sector on modern, environmentally sound building practices.

Urban environmental management

In In the Kingdom of Saudi Arabia's Report to the Habitat II Conference in 1996 'the environment' was not discussed as an issue at all, apart from a reference to the impact of urbanization on the environment. It was deemed unnecessary at the time to give weight to environmental concerns.

It is a mark of how much global consciousness has changed, and how much the Kingdom has changed, that Saudi Arabia is now a full participant in international debates on the environment and has developed environmental programs addressing key challenges across the Kingdom. Today environmental concerns are better understood and appreciated in terms of their significance to Saudi society and the world beyond. Much, of course, remains to be done to improve environmental awareness and environmental outcomes, especially in the Kingdom's cities.

The most significant and longest-lasting effort to address urban environmental issues in the cities began following Habitat II when, in 1998-99, the Arriyadh Development Authority undertook the preparation of the Metropolitan Development Strategy for Riyadh (MEDSTAR). MEDSTAR devoted extensive resources to understanding the environmental challenges facing Riyadh as it grew to a metropolitan area of potentially 8.3 million people by 2030, and identifying what needed to be done to address those challenges. The MEDSTAR approach at the time (1999) was to seek to follow international best practice".

Environmental Approach Adopted in MEDSTAR for Riyadh in 1999

The MEDSTAR approach to sustainability and environmental management for Ar-Riyadh is based on the assumption that governments now and in the future will adopt environmental best practice as the basis of environmental management policies for the city. Best-practice environmental management involves a commitment to achieving the following:

- Best-practice environmental management involves a commitment to achieving the following:
- Greater protection and enhancement of natural and historic resources
- Control of pollution to appropriate international standards and minimization of risk
- Reduced impact and longer-term constraints posed by new developments
- Increased public awareness, more efficient use of resources and reduced degradation of the environment (e.g.. litter, dumping of wastes)
- Structured provision of open space areas and facilities (i.e. regional, district and local parks systems)
- Reservation of natural drainage paths for storm runoff and their incorporation into other open space systems
- More efficient use of water (reduced consumption) and reduced losses
- Collection and reuse of wastewater – i.e., polluted water generated by industry and through the sewerage system
- Greater incorporation of social issues in urban design (e.g., less impact of roads at the local level)
- Greater use of natural elements in urban design (e.g., trees, vegetation)
- Regular monitoring of conditions (air quality, noise, water and groundwater quality, natural wildlife resources, scenic areas, etc.) to ensure that appropriate International standards are maintained.

Best practice therefore requires, and is based on, good management and implementation. This is a first step toward creating the sustainable city of the Vision for Ar-Riyadh. In addition, there must be the progressive development and introduction of innovative environmental management programs and procedures for the city that set the directions for future management practices. Most importantly, the development of the city must be made to respect and respond to the environment, rather than to dominate and destroy it." See Table 3-1-3 below.

Source: Riyadh Development Authority, A Strategic Framework for the Development of Arriyadh, June 1999 Page 132

The In pursuing this vision of best practice MEDSTAR set out around 110 Actions to be implemented to give effect to the environment policies spelled out in the Strategic Framework. By 2009 when the achievements of MEDSTAR were reviewed, almost two-thirds of those actions had been completed or were under way.

The particular elements of the program are summarized below, to give an indication of its wide scope and its depth.

Table 3.1.3: Implementation of Environmental Program within MEDSTAR, 2003

The First Topic	Population
1	Air Quality Management
2	Study of the impacts of air pollution
3	Air Quality Management technologies
4	Comprehensive study of the environmental assessment of power stations
5	Application of standard planning to reduce the electromagnetic fields impacts
6	Noise: It's affects and sources control
7	Visual pollution treatment and improvement of the city character
The Second Topic	Waste
8	Comprehensive waste management of ArRiyadh
9	Sorting and recycling of solid waste
10	Disposal of oils and petroleum derivative wastes
11	Medical waste management
12	Sludge from wastewater treatment
13	Rehabilitation of closed landfill sites
14	Observing Eye for cleaning violations
15	Construction of new waste landfill
16	Desert Areas cleaning program
17	Location of waste containers
18	Removal of asbestos
The Third Topic	Water Resources
19	Water conservation
20	Protection of water sources from pollution
21	Master plan to reuse the treated wastewater
22	Control groundwater high level program
23	Water quality control
24	Collection, transportation and sewage treatment in ArRiyadh
25	Reuse of gray water within compound
26	Closure and rehabilitation of sewage dumping site east ArRiyadh
The Fourth Topic	Natural resources and open areas
27	Protection, cleaning and the utilization of valleys and their branches
28	Protection and development of wildlife areas
29	Develop and monitor the markets for living animals
30	Protect and regulate the utilization of agricultural lands
31	Control of mining activities
32	Wadi Hanifah Development Plan.
33	City Greening Program.
34	Municipal arenas
35	Botanical garden in ArRiyadh
36	Preservation, rehabilitation and development of native plant cover in Arriyadh Province
The Fifth Topic	Environmental Management
37	High Committee technical support
38	Develop and improve the mechanism of environmental management in ArRiyadh
39	Environmental Training Program
40	Environmental awareness and education program
41	Updating the environmental information in the city.
42	Development of environmental quality indicators of the city
43	Activation of educational environmental programs
44	Friends of the Environment association in ArRiyadh
45	Monitor the use of pesticides for public health within the urban area
46	Controlling the use of pesticides and fertilizers and control influence
47	Rehabilitation of Environment and Urban Plan for Southern Area of ArRiyadh
48	Natural Museum of the Kingdom of Saudi Arabia
49	Environment Protection in industrial cities
50	Environmental inspections program
51	Environmental Impact Assessment

Source: Riyadh Development Authority, 2003.

Part of the success of the environmental program was that the Arriyadh Development Authority created in 2005 a special High Committee comprising 17 public and private bodies to manage the environmental initiatives from MEDSTAR and coordinate their implementation across Government . This Committee drove the Program forward. Major tasks of the Committee include:

- Setting out implementation priorities for the environmental programs and projects and promoting coordination across the various stakeholders.
- Conducting studies and action plans on environment at different levels within specific time periods.
- Establishing Riyadh environmental studies data base and making it accessible across concerned bodies.
- Providing environmental quality indicators for Riyadh city.
- Monitoring the environmental status and evaluating programs and studies on Riyadh environment.
- Tackling environmental complaints.
- Extending environmental awareness programs for the society.

The High Committee has made major progress on much of this work and is about to review the findings, identify major new directions for the future, and develop and approve the next five-year work program. Other cities across the Kingdom have progressively taken up these comprehensive environmental agendas, and while not as advanced as Riyadh in implementation, are all making progress.

2. Disaster Risk Reduction

Even Even though the Kingdom of Saudi Arabia has experienced a number of natural disasters in its history, disaster risk reduction has not attracted much attention from the Government and the people in the past. However, increasing frequency and severity of natural disasters over the past decade is gradually raising awareness of importance of disaster risk reduction in the country. During the period of 1980-2010, the Kingdom of Saudi Arabia had gone through 14 natural disasters, which resulted in 484 causalities and affected more than 30,000 people. Despite the dry climate, flooding is the most common natural disaster in the Kingdom of Saudi Arabia. In terms of number of people affected, floods in 2003 and 2009 were most notable. Jeddah experienced a severe flood event in 2009, when flood waters and sediments engulfed large parts of the urban area and resulted in massive property damage and the death of many people.

Given the significant damage to both the people and the national economy, the Government started to commit to disaster risk reduction, through assessing and managing potential risks and developing early warning systems to minimize the negative impacts of natural disasters.

The Kingdom of Saudi Arabia has participated in a number of international and regional initiatives on disaster risk reduction, including Rio+20, Islamic Conferences of Environment Ministers, and the United Nations International Strategy for Disaster Reduction (UNISDR) Regional Conference on Disaster Risk Reduction. In 2010, the Government had ratified the Strategy on Management of Disaster Risks and Climate Change Implications in the Islamic World and the Arab strategy for disaster risk reduction 2020. To cope with the effects of natural disasters in the cities and villages of the Kingdom and provide storm-water drainage systems, Ministry of Municipal and Rural Affairs, in cooperation with the Ministry of Economy and Planning, has prepared the National Disaster Risk Reduction Strategy at an estimated cost of SR94 billion over 30 years implementation period to be achieved in four stages in line with the five-year National Development Plans.

The Government's vision for risk reduction is to focus both on prevention and on resilience – the capacity of cities to cope with natural disasters. The prevention focus is expressed through the planning system – ensuring development does not occur in areas of significant risk of disasters such as floods.Significant work is under way within government to establish an integrated system of Ministerial decrees and accompanying regulations for municipalities to implement (such as no development on flood-prone lands) to greatly strengthen the risk prevention and mitigation measures of the Kingdom.

Integration of a comprehensive flood hazard management plan, including a variety of infrastructure engineering, into urban planning is the most effective measure to address, manage and mitigate the risk of flood. The Government recognizes the significance of integrating disaster risk management into urban planning, as it can substantially contribute to prevention and reduction of the impact of natural disasters.

Furthermore, Ministry of Municipal and Rural Affairs underscores the importance of site selection for each urban development in its Planning Guidelines for Sustainable Urban Growth in the Kingdom of Saudi Arabia. According to these Guidelines, new development projects should not be located in areas that are prone to severe flooding, seismic activity or pollution of air, water or soil. Sites that are contaminated can be remediated, however, and be made suitable for development projects in the future.

Major cities are also implementing studies and projects on disaster risk reduction. For example Jeddah, located in area vulnerable to flood, has conducted flood risk assessment and a project that bypasses storm water from the mountain areas to the Red Sea without affecting the city. Other measures to improve resilience include engineering measures, education and training for emergency services workers and management, and observation and adoption of international best practices, assisted by technical cooperation programs with UN-HABITAT and the Future Saudi Cities Program.

Table 3.2.1: Disaster Statistics in the Kingdom of Saudi Arabia (1980-2010)

Rank	Affected People (No.)			Killed People (No.)			Economic Damages (USD*1,000)		
	Disaster	Year	Affected	Disaster	Year	Killed	Disaster	Year	Cost
1	Flood	2003	13,000	Flood	2009	161	Flood	2009	900,000
2	Flood	2009	10,000	Epidemic	2000	76	Flood	1985	450,000
3	Flood	1985	5,000	Epidemic	2000	57	Storm	1982	-
4	Flood	2004	430	Epidemic	2001	35	Epidemic	2000	-
5	Epidemic	2000	329	Flood	2005	34	Epidemic	2000	-
6	Epidemic	2000	168	Flood	1985	32	Epidemic	2001	-
7	Flood	2010	85	Flood	2005	29	Flood	2002	-
8	Epidemic	2001	74	Flood	2002	19	Flood	2003	-
9	Flood	2005	67	Flood	2010	14	Flood	2003	-
10	Flood	2003	50	Flood	2003	12	Flood	2004	-

Source: Natural Disasters Statistics, the United Nations International Strategy for Disaster Reduction, 1981 - 2010.

3.Reducing Traffic Congestion

In the past decades, the national road networks have been continuously expanded. The total length of completed roads as of 2012 was 59,143km, of which 14,956km is highways linking the main regions of the counry as well as the international borders.

In 2010, an estimated number of registered vehicles actually operating on the roads reached 14,144,663 million vehicles, with private cars and light trucks constituting 96% of the total figure. For instance, daily traffic in Riyadh city reached 7,4 million trips. Road transportation using private vehicles is the most popular means of transportation in the Kingdom of Saudi Arabia, accounting for 85% of all transportation. Urban indicators estimated an average ownership of 521.2 cars per 1000 population according to car registration in 2010.

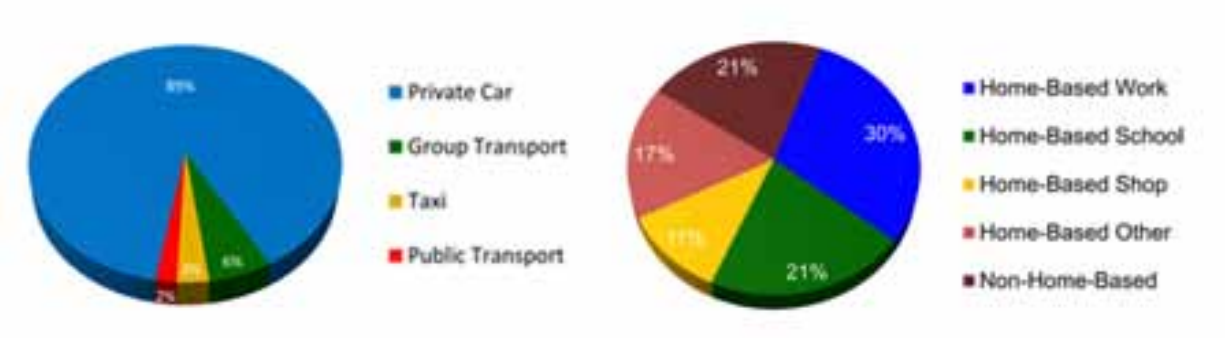
Table 3.3.1 : Vehicles Imported by Type, 2004 - 2013

Years	Passenger Cars & Jeeps	Buses	Trucks	Private Vehicles	Other Cars	Total
2004	340467	13342	60964	2322	368	417463
2005	459763	13857	98350	2764	389	575123
2006	444322	10540	95668	4824	607	555961
2007	480393	15811	114860	4896	629	616589
2008	570466	19202	139811	5926	552	735957
2009	496974	12990	113186	5494	2049	630693
2010	553879	15401	126460	4266	2277	702283
2011	589850	17871	124537	3600	1339	737197
2012	759148	21202	195565	3930	2045	981890
2013	761408	25165	214694	4313	704	1006284

Source: Central Department of Statistics and Information

The Kingdom of Saudi Arabia has an advanced road network, both in terms of coverage and quality. Major Saudi cities have modern, fast dual-carriage highways as well as ring roads to bypass urban centers and thereby reduce inner-city traffic loads. However, growth in the amount of freight and passenger traffic along with the exclusive reliance on private cars in cities have been causing severe traffic congestion, particularly during peak commuting hours

Figure 3.3.2: Travel Mode and Daily Trip Purpose, Riyadh, 2012



Source: Riyadh Development Authority, 2012.

In Riyadh, where severe traffic congestion is a major problem, the ArRiyadh Development Authority implemented a survey of road networks and transportation system performance from 2012 to 2014. The main objective of the survey was to identify traffic bottlenecks and other problems causing congestion, and to define measures to increase efficiency and safety through better traffic management and application of innovative technology.

Prior to this survey, the ArRiyadh Development Authority had installed the first intelligent transportation system in the Kingdom of Saudi Arabia called the Smart Mobility Road Suite on King Abdullah Road in Riyadh. Riyadh benefits from the smart transportation management system that provides real-time information on traffic conditions on the expressway and enables timely response in the case of road incidents. With this system, drivers can get real-time information on traffic and select the fastest route by avoiding heavily trafficked roads.

There are number of factors that induce traffic congestion in major cities in the Kingdom of Saudi Arabia, and one of the critical factors is the lack of public transportation systems. As of September 2014, projects to construct advanced public transportation system are ongoing in the five major cities, namely Riyadh, Makkah, Madinah, Jeddah and Dammam. Details of these projects are described in Chapter VI of this Report.

Figure 3.3.1 Traffic congestion, 2014.

Source: Arriyadh Development Authority, 2014.

4. Air Pollution

Due to rapid population growth, industrialization and the concentration of population in major cities, air pollution has increasingly become one of the major problems in the Kingdom of Saudi Arabia over the past decades. Air pollution negatively affects the environmental quality indicators of the country and cities, being reflected as a component of the Quality of Living Index.

The 9th Development Plan underscores the importance of policies and guidelines to address air pollution and mitigate negative impacts on the environment, and prioritizes environment-friendly projects in various development sectors. It also stresses the need for operationalizing the Environmental Law to reduce damage to the environment that will be caused by population growth and expansion of related development activities such as increased power consumption and generation, and increased traffic. The Presidency of Meteorology and Environmental Protection (PME) is the government body responsible for enacting and implementing the General Environmental Law approved in 2001. The PME is also responsible for coordinating with the relevant ministries and agencies to protect the environment. In this effort, the PME promulgated the rules for implementation of the General Environmental Law in 2006, and started developing environmental standards and guidelines to improve air and water quality.

To tackle the problem of reducing air pollution in industrial zones and urban areas, the PME, in collaboration with scientific research centers in the Kingdom of Saudi Arabia, implemented a set of measures including identification of the types of pollutants and the levels of their concentration in the ambient air of polluted and populated areas; studies to establish an inventory of emissions and identify their sources; assessment of the health and economic cost of air pollution; and identification of the best policies for pollution reduction.

Riyadh, for example, suffers significant pollution from suspended particles (dust). Riyadh also has higher sulphur dioxide concentrations. Through air quality management strategy to restore air quality, air monitoring stations have been installed to continuously provide real time air quality information in the city for testing and compliance with Saudi Arabia quality environmental protection standards.

The High Commission for the Development of Riyadh, the PME and the Saudi Commission for the Industrial Estates and Technological Zones have operated 27 fixed air monitoring stations around the city covering built-up areas, peripheries and major arterials in the city, supported by flexible mobile monitoring laboratories in areas which are not covered by fixed monitoring station network. Data from these mobile laboratories are used in health impact assessment studies or in resolving air quality complaints reported by citizens and governmental agencies.The PME also launched the Saudi Arabia Award for Environmental Management to improve environmental management in the Arab States. The award, which is offered every two years by the Arab Organization for Administrative Development of the League of Arab States, aims to establish practice of environmental management in the Arab States, stimulate interest in sustainable development, publicize distinguished Arab environmental management efforts and successful practices, and encourage environmental practices and activities in the Arab States.

Under the 9th Development Plan, periodic inspection of gas, washing and lubrication stations has been implemented by the PME. The PME also encourages the private sector to expand their use of the inspection tool, as part of the efforts to introduce advanced technologies and training Saudis for this work with the aim of reducing pollution resulting from the operation of such stations.

To raise environmental awareness among the public, the PME, in collaboration with various stakeholders, implemented a package of measures including the establishment of the first environment satellite TV channel, launch of awareness-raising campaigns on environmental issues, workshops on environment and development, and establishment of the National Centre for Environmental Awareness.

Aiming to develop a framework for preventing pollution and environmental degradation, providing a healthy and clean environment, and developing national capacity to protect environment, the National Strategy for Health and Environment was adopted by the Council of Ministers in 2008. It covers a variety of issues related to health and environment including air quality, potable water, management of solid wastes and hazardous wastes, safe use of chemicals, and radioactive contamination.

5. Challenges Faced and Lessons Learned

Continuous rapid urbanization over decades under the severe desert climate has made the Kingdom of Saudi Arabia one of the highest energy consumption countries in the world. The high rate of building energy consumption relates primarily to the reliance on air conditioning in the harsh climate, and car-dependency means that about one third of all energy consumed in the Kingdom is for transportation.

The Wadis Hanifah and Sulay Comprehensive Enviromental Rehabilition Projects

Located in the middle of the Najd Plateau of the Kingdom of Saudi Arabia, the Wadi Hanifa (or Hanifa valley) is the longest and most important valley near Riyadh, a natural water drainage course for an area of over 4,000 square kilometres and a unique geographical feature in this dry region.

Over 180 kilometres of rubbish-filled, severely damaged wadi environment has been restored to create a major public parkland through which unpolluted water now flows, supporting a fish population and numerous opportunities for public recreation. Bioremediation systems ensure the water flows can be used downstream to expand irrigation for agriculture. A winner of the Aga Khan Prize for architecture in 2010, Wadi Hanifah represents a jewel in the crown for environmental improvement in the Kingdom.

The success of the Wadi Hanifa restoration has been important in building confidence that the Kingdom can successfully tackle real environmental challenges in positive ways. A second initiative to beautify, create flood protection measures and prevent encroachments along Wadi Sulay is under way, while a third ambicious project to restore native vegetation to the public reserves around the city of Riyadh has also been started. These projects mark real and practical responses to environmental challenges and will pave the way for a promising future.

Recognizing the challenge of managing emissions in an oil-producing economy, the Government has been actively engaged with international initiatives to address climate change and to reduce energy consumption and the subsequent greenhouse gas emissions, including through the UNFCCC. The Government also aims to improve energy plants in the country as well as to utilize renewable energy such as solar energy.

A number of pilot initiatives have been integrated into new urban development projects, such as district cooling systems or energy efficient building technologies. Revisiting the historical urban structure in the country, such as building narrow roads that create shadow and keeping the temperature low, and introducing micro-climate zoning and landscaping planting that allows physical urban structure to bring natural breezes that keep the temperature of the district low, are notable attempts undertaken to reduce energy consumption. These ideas are conceptualized in the Sustainable Planning Guidelines for Urban Growth in the Kingdom of Saudi Arabia and will be used as a reference for urban development in the future.

The Government has been introducing integrated public transportation systems, particularly in major cities, and is aiming to reduce number of private vehicles in the cities. Increased use of public transportation is not only intended to reduce energy consumption but also to mitigate air pollution.

The Kingdom of Saudi Arabia has been vulnerable to flood, and the frequency and severity had increased in recent years. This is strongly correlated to the lack of appropriate urban infrastructure in cities to manage storm water, as shown by the disastrous floods in Jeddah in 2009. In many cities including Jeddah and Makkah, the municipal authorities have conducted disaster risk assessment and introduced mitigation measures, including major storm water engineering projects to deal with the root causes of flooding.

In summary, the Government has been aiming to reduce negative impacts on environment by promoting effective use of energy, and is starting to better prepare itself for climate change and increasing natural disasters.

Other key responses to environmental challenges since Habitat II in 1996 include:

- Surveys and assessment of natural resources, soil, fauna, flora, and ground water resources.
- Concrete measures to face sand encroachment on agricultural and urban facilities.
- Expansion of cultivated areas and conversion of desert areas into green productive land .
- Improved management of rangelands to decelerate desertification.
- Regulations to protect soil, natural plantations, forests, wild life and rangelands.
- Community engagement in implementing national plan of actions to fight desertification
- Sustainable Planning Guidelines for Urban Growth (previously outlined): new standards on transport, cooling, new building codes for energy efficiency, reduction of air pollution and emissions.

The urban environment is on the policy agenda of the Kingdom in a manner that was not conceivable in 1996, and is the subject of attention at all levels of government as well as the community and professional groups such as the Green Building Forum, a recently-created non-government organization that monitors environmental performance

6. Vision of the Future

"To have healthy and safe communities that maintain balance in terms of population wellbeing and sustainable use of resources"

To achieve this vision, efforts and resources will be focused in the following main directions:

1- Promote effective use of energy sources and application of advanced technologies and methodologies to reduce energy consumption.

- While various advanced technologies and methodologies that enable effective use of energy sources were introduced through pilot initiatives such as district cooling, micro climate zoning, renewable energy and energy efficiency building, these technologies and methodologies are yet to be mainstreamed. The high cost of mainstreaming new technologies and methodologies is not broadly accepted in communities that have received subsidized energy supplies for decades.
- The Government will promote effective use of energy and seek ways to introduce these technologies and methodologies on a commercial basis. Reforms to energy pricing and the increased use of alternative energy sources will be fundamental to sustainable urbanization in the Kingdom's future.
- Public space design, traffic management , micro-climate zoning to be multiplied

2- Promote disaster-resilient cities through integration of disaster risk management measures into spatial planning.

- The risks of natural disaster will be taken into consideration when development sites are selected in the future. High hazard areas will be avoided not only for public development projects but also for private construction. Policies and regulations will support these measures.
- The Government will implement disaster risk assessment and examine the capacity of existing urban infrastructures and organizations to respond to natural disasters. Hazard maps of natural disasters, with special attention on flood and earthquake, will be developed as an outcome of such disaster risk assessment.
- The Government will promote the concept of disaster-resilient cities, which will be achieved integrating hazard maps into spatial planning processes, and by restricting new development projects in high hazard areas.
- Enhancing cities emergency preparedness for natural disasters.

3- Changing people's behaviors through environmental education.

- Most of the energy consumption is a result of daily use of energy by the individuals and families. Appropriate understandings of climate change and impact of high energy consumption helps reducing energy consumption at the national level.
- Raising awareness of negative environmental impacts of energy consumption can also contribute to mitigate burdens on public services such as waste collection and solid waste management.
- The Government will promote environmental education in schools and in public to positively change people's behaviors on issues related to the environment, and increase understanding and awareness about climate change implications amongst households and the population in general.
- Promote best practices in energy efficiency and solid waste management practices and behavior

4- Changing planning practice to include the environment.

- Future urban Strategic Plans and Action Plans will specifically address the protection of environmental assets within areas planned for urban growth; will include guidelines for designing for sustainable development; and will set environmental standards to be achieved in the operations and management of each city.

IV-Urban Governance and Legislation

1. Improving Urban Legislation

The Kingdom of Saudi Arabia is an Arab Islamic country, adopting the Islamic Sharia law as the source for its basic laws and constitution.The structure of Government has the Executive and Legislature reporting to the King and the Council of Ministers. The Shura (Consultative) Council was established to provide advice to the King and the Council of Ministers on matters related to the Government and its policies. Members of the Shoura Council, men and women, are appointed by the King.

Three early main statutes form the basis for institutionalizing the spatial planning process currently in place in the Kingdom, namely Roads and Building Statute in 1941, Municipalities and villages Law in 1976 and the Law of Provinces enacted in 1992. The present spatial planning legislation is associated with a multi-level spatial planning, foremost is the National Spatial Development Strategy approved by Council of Minister's Resolution No.151 in 2001, followed by preparation of regional, structural, directive and local development plans embedded with legal frameworks governing urban planning and constituting an integral part of the spatial planning legislation.

Among other important Council of Ministers resolutions of direct impact on the development of spatial planning activities in the Kingdom is Resolution No. 157 in May 28, 2007 approving rules for the Urban Growth Boundary called "Nitaq Orani" to rationalize the physical growth of the Saudi cities through delineation the future appropriate boundaries for localization of urban activities and accommodation of urban development during a specific period and provision of infrastructure in accordance with the directions of the national spatial development strategy. Also, Resolution No. 320 issued in August 13, 2012 calling for the establishment of standing committees in all Kingdom's regional municipalities called "Amanat" intended to consider all matters pertaining to coordination and monitoring of existing projects, and managing and resolving emerging conflict across various public facility projects.

As part of the process of decentralization of power and responsibility to mayors and heads of municipalities, MOMRA has, in 2005, issued an extensive library of planning guidelines and design standards for municipalities, especially in relation to their urban planning and urban development control responsibilities, such as Urban Design Standards, Community Centers and Neighborhood Manual, Street Fixture Manual, Regional Plans Preparation and Updating Manual, Architectural Heritage Manual, Public Facility Planning Standards, besides other such manuals. Updating is underway for some of those manuals to keep pace with the urban transitions kingdom wide.

The existing legal framework for managing urban planning and development in the Kingdom is set by Royal decrees; matters determined by the Council of Ministers, ministerial ordinances, instructions and manuals, rather than urban planning legislation. In other words, the Kingdom of Saudi Arabia does not have a comprehensive law on spatial strategies, plans and policies. Furthermore, no legal instrument has been developed to ensure active public participation in the process of spatial planning. The spatial planning system currently in place was validated only after unofficial public consultation, which did help to secure a certain degree of transparency, but could be improved.

Appropriate urban legislation must be introduced to ensure quality, transparency and accountability of the spatial planning system. For instance, there are two types of spatial plans at the local level, i.e. Comprehensive Strategic Plan and Local Plan, but there is no clear legal instruction that distinguishes these two types of plans. As a consequence, some major cities had developed Local Plans not Comprehensive Strategic Plans, and some middle cities are planning to develop Comprehensive Strategic Plans not Local Plans.

Recently, the Government has led the process of drafting a Planning Act, which includes new laws on spatial planning and local governance. The Planning Act will provide legal background and clarification for the spatial planning system and will contribute to improving and assuring the quality and effectiveness of strategies, plans and policies.

In parallel to providing legal background for spatial planning, the Ministry of Municipal and Rural Affairs with the support of UN-HABITAT has launched the "Future Saudi Arabia Cities Program" in 2014 to shape an advanced and comprehensive spatial planning system and to develop relevant and pragmatic spatial strategies and plans that respond to needs of cities in a sustainable manner.

Table 4.1.1: Key Cities for "Future Saudi Arabia Cities Program", 2013.

	Region	City		Region	City
1	Riyadh	Riyadh	10	Asir	Khamis Mushayt - Abha
2	Makkah	Makkah	11	Najran	Najran
3	Makkah	Jeddah	12	Jazan	Jazan
4	Makkah	Taif	13	Haiel	Haiel
5	Medina	Medina	14	Shamaliya	Araar
6	Tabuk	Tabuk	15	Al-Baha	Al-Baha
7	Shargiya	Damam	16	Qasim	Brayda-Unayza
8	Shargiya	Ihsa	17	Al Gouf	Skaka
9	Shargiya	Katief			

Source: Ministry of Municipal and Rural Affairs, Future Saudi Cities Program, 2013

2. Institutional Building and Strengthening of Local Authorities

Enhancing the capacity and expanding the coverage of municipal services is a key to implementing the National Spatial Strategy, which aims to reduce regional disparities by achieving balanced and sustainable development throughout different regions of the Kingdom of Saudi Arabia.

In response to the increase in number of cities, towns and villages (258 in 2014, more than four times in 1968) the Government established new municipal agencies and also strengthened institutional and staff capacities of the existing agencies.

The 8th and the 9th Development Plans aim to enhance the efficiency of local administrations. As a result, the municipal sector achieved significant institutional and organizational development during the past decade. The shift towards administrative decentralization was strengthened through expanding the participation of citizens in the management of local affairs and electing half of the members of municipal councils, as well as through establishing regional principalities (Amanat), to which local municipalities report.

Municipal services and their geographical coverage also improved. In 2009, the Government expanded the classification of municipalities to five categories of A, B, C, D and E. reflecting their population and their complexity in administration. Village clusters was abolished as an organizational form, with 44 villages being upgraded to category D municipalities and the remaining village clusters converted to category E municipalities. In parallel, two municipalities of Al-Taif and Al-Hasa Governorate were upgraded to Amanat (16 Amanat in total). As a result, in 2010, there were 269 municipalities, increasing from 178 in 2005.

From a technical point of view, the institutional capacity of Amanat and municipalities in all regions were enhanced through the provision of additional municipal buildings and IT equipment to ensure effective and efficient municipal service. The Ministry of Municipal and Rural Affairs also provided researchers and useful information to the municipal agencies.

The Government has also been continuing to develop staff capacity, based on an understanding that modernization and improvement of municipal services is possible only with skilled, qualified manpower. There are various training programs and scholarships that support large numbers of employees in all municipal agencies.

The framework for the privatization strategy of municipal services and activities was also a key to enhance their capacity. The Government identified that there are numbers of public services that could be privatized, including public transport services, collection of municipal revenues, cleaning services, waste management, and management of investment in municipal properties.

In a number of the Kingdom's more significant cities special purpose government agencies have been established to provide strong coordination among government agencies and with key private sector organizations, in the planning and management of urban growth. Normally designated as High Commissions, these agencies are usually led by the regional Governor and have membership from among the leading Ministries, local municipalities and the private sector (for example through the Chamber of Commerce).

The High Commission for the Development of Riyadh, for example, is responsible for metropolitan planning and policy; for construction of major road projects in Riyadh; for the development and renewal of key areas of the city; the restoration of historic districts such as Qasr AlHukm Area and Darriyah; and, most recently, for the construction of the city's new public transport system.The High Commission's work is directed by decisions of the Council of Ministers and by Royal Decree.

Similar High Commissions assist in the governance of the industrial Jubail and Yanbu; and the new mineral industrial city at Ras Al-Khair.

Table 4.2-1 Distribution of Regional Municipalities (Amanat) and Municipalities by Administrative Regions, 2009

Region	Regional Municipality (Amana)	Municipality Category					Total Municipalities
		A	B	C	D	E	
Riyadh	1	1	8	16	11	11	48
Makkah	3	0	1	6	4	17	31
Madinah	1	1	1	3	3	10	19
Qasim	1	1	3	4	7	12	28
Eastern	2	2	3	2	4	12	25
Asir	1	1	4	4	7	17	34
Tabuk	1	0	1	4	1	6	13
Hail	1	0	0	2	8	7	18
Northern Borders	1	0	0	2	1	6	10
Jazan	1	0	2	3	7	13	26
Najran	1	0	0	1	3	6	11
AlBaha	1	0	1	2	3	5	12
AlJawf	1	0	1	2	1	5	10
Total KSA	16	6	25	51	60	127	285

Source: Ministry of Municipal and Rural Affairs,The ninth Development Plan

3. Improving Participation and Human Rights in Urban Development

Saudi Arabia has witnessed significant cultural developments as a result of the ongoing initiatives and push for reform and promoting modernization of its economy and governance system and administrative capability within a vision-based framework. There have been leaps in development at all levels, with the Kingdom's progress towards building a participation-based society in all respects through municipal council elections, the initiation of intellectual and cultural dialogue platforms and placement of women in various executive positions, culminating with the approval of the right of women to the membership of the Shura Council in its 2013 session and to both voting and standing for 2015 municipal elections which represented a significant milestone for the Saudi woman, thereby ensuring her participation in building and developing the future of her country.

One of the top priorities of the Kingdom of Saudi Arabia is to achieve sustainable and balanced development throughout the country. Involving citizens and stakeholders in planning and decision-making in their communities is a key to achieving this goal. It strongly relies on decision-making processes that are inclusive, accountable and transparent.

The new Planning Act under preparation by MOMRA will include provisions for public consultation and participation in planning, raising awareness of the importance of public participation and building sense of ownership in spatial planning and development in the country.

4. Enhancing Urban Safety and Security

The Kingdom of Saudi Arabia is known for its low crime rate compared to most countries in the world. Still, crime has been increasing, particularly in the major cities, which could be attributed to a number of socioeconomic and cultural factors including the presence of poor immigrants and illegal settler groups in the cities.

Public spaces are relatively visible from surrounding areas, indicating that the structure of cities in the country also contributes to low crime rates. However some residential areas that are not designed to be well-connected with the surrounding areas, or along relatively wide streets without appropriate street design with pedestrian walkways and street trees, tend to induce crime. In many cases, these poorly designed residential areas are the residential areas of low-income expatriate workers.

To ensure safety and security, the Ministry of Interior has been developing their capability to manage cities, and the Ministry of Municipal and Rural Affairs as well as municipal agencies conduct urban design assessments when new urban development projects are proposed.

In regards to traffic safety, the number of traffic accidents on the road network rose to approximately 484,805 in 2008, from approximately 293,000 in 2004. Accidents in urban areas dominate, amounting to 86% of the total number of accidents. The rise in the number of traffic accidents on the roads and increasing fatalities as a result are considered to be crucial issues to be tackled in the country. In response to the increase in traffic accidents, new traffic regulations were issued and an advanced ICT network system was introduced to monitor road traffic and record traffic violations.

5. Improving Social Inclusion and Equity

It is a common understanding that the quality of life for the people in the Kingdom of Saudi Arabia and the global competitiveness of the country have both increased in the past decades through the continuous efforts of both the people and the Government.

Currently, the citizen's demands for more transparent, accountable and participatory governance are highlighted as concerns for more inclusive development is accompanied by empowerment of the various society groups.

The National Strategy for Social Development pays particular attention to understanding the geographic patterns of poverty across the Kingdom and addressing regional differences and local needs, supporting the objective of balanced development set out in the National Spatial Strategy.

Themes of the National Strategy for Social Development in addressing poverty

The Strategy encompasses policies for alleviating poverty, along the following five themes:

First: Balanced Economic Growth, which includes policies for accelerating economic growth and distribution of its benefits in a balanced manner among all regions and social strata.

Second: Economic Empowerment and Employment of the Poor, which includes policies for providing poor individuals and families with means of production necessary for increasing their income, in addition to enhancing the production capacities of households and small and medium enterprises (SMEs), and policies aimed at improving employment opportunities and wages.

Third: Developing Capacities and Human Capital, which includes policies for improving health, education, training, housing and municipal services for the poor.

Fourth: Social Safety Net, which includes policies for improving the social security system, and consolidating the role played by the Saudi Credit and Savings Bank, charitable associations and voluntary societies in alleviating poverty.

Fifth: Institutional Infrastructure and Good Administration, which includes policies and programmes to enhance the performance of the agencies entrusted with implementation of the strategy.

The Government is committed to structuring partnerships that can clarify the roles and responsibilities of different actors for more effective development policies, decision-making and service delivery. Within the new

structures, the Government has been seeking more practical measures to create social cohesion by more inclusive governance.

Civil Society Organizations in the Kingdom of Saudi Arabia

Saudi Arabia has embraced dramatic changes during the last decade that includes social, political, and economic reforms, the creation of the Shura Council or the Consultative Council, municipal elections (2004), and independent organization for Human Rights, and founding of King Abdul Aziz Centre for National Dialogue; all these are positive indicators of reform and modernization for society (Al-Kurdi, 2004). These indicators are also seen as promoting top down political liberalization and an inclusive urban governance in Saudi Arabia (Dioun, 2005). Also the post Gulf War period commenced a period of rapid growth for Civil Society in the Arab world, CSOs doubled in Saudi Arabia by 2002 (Yom, 2005).

Table IV. 5. 1 shows type, number and place for registration of civil society organizations in Saudi Arabia, including men and women philanthropic societies, foundations, cooperative societies, sports clubs (males), scientific societies, cultural clubs, chambers of commerce and industry, professional, and International Organizations. Registered civil society organizations get financial assistance from the government.

Table 5.4.1 Number of registered Civil Society Organizations, 2010.

Civil Society Organization	Number	Registration
1. Men's Philanthropic Societies	366	Ministry of Social Affairs
2. Women's Philanthropic Societies	30	Ministry of Social Affairs
3. Foundations	36	Ministry of Social Affairs
4. Cooperative Societies	161	Ministry of Social Affairs
5. Sports Club (Males)	153	General Presidency of Youth Welfare
6. **Scientific Societies**	132	Saudi Universities
7. Cultural Clubs	16	Ministry of Cultures
8. Chamber of Commerce and Industry	25	Ministry of Commerce and Industry
Total	919	

Source: Saud Afif, " Voluntary Work in Civil Society - Saudi Women Volunteers as a Social Capital" Kadir Has University, Istanbul, Turkey, July 2010, pp2-3

In promoting social inclusion and equity, civil society is an indispensable partner for achieving national development goals, with NGOs to convey the voice of the public and vulnerable groups. The effective use of social media, by youth in particular, is a great opportunity to promote public participation and discussions about the future of development in a sustainable manner. The Government is also planning for measures to improve the situation of low income groups within the country.

6.Challenges Faced and Lessons Learned

The Kingdom of Saudi Arabia operates under a unique system of urban governance. For example, most of ministry's operations are based on resolutions of the Council of Ministers or ministerial ordinances, not laws and legislation. There is no comprehensive legislation governing planning and urban development. The Kingdom of Saudi Arabia instead has established a framework for spatial planning and land management based on government resolutions and technical manuals. As a result, there is no comprehensive and systematic structure for spatial planning and land management underpinned by laws and legislation. Even though there are spatial plans in place, their quality is mixed and the relevant procedures for drafting plans are not yet consolidated.

The Government has been working on decentralization processes that accelerate sustainable and balanced development of the country. Simultaneously, the number of cities, towns and villages has been increasing. Given the current situation and challenges faced, ideally regional and local authorities should operate under comprehensive spatial planning mechanisms that allow them to integrate different levels of plans and to ensure both high quality and transparent procedures for spatial planning. More public participation and governance of spatial planning will be ensured once the already underway Urban Planning Act is formulated and approved.

The importance of ensuring public participation in policy-making processes, and encouraging active involvement of women and youth as well as vulnerable people in such processes, is clearly underscored in the 9th Development Plan. The Government is also supporting a greater role, for people, including women in urban governance, notably through election to municipal councils. Progress has been made in this area, offering citizens opportunities to take part in policymaking processes at the local level. However, few opportunities for wider public participation in specific planning and development proposals have been available. One of the key lessons learned is that the role of public participation in urban governance should be secured officially.

Citizens should also be proactive in assuming roles and responsibilities in urban governance. For instance, neighborhood communities can play an important role in enhancing security and safety in the districts where they live.

7. Vision of the Future

"To have a well-integrated legislative framework dedicated to the administration and coordination of spatial planning activities for the Saudi cities"

To achieve this vision, efforts and resources will be focused in the following main directions:

1- Ensure legislative backup on spatial planning and land management system.

- The Government will revisit and assess resolutions of the Council of Ministers and ministerial ordinances that serve as basis of spatial planning and land management system that are currently in effect.
- The Government will analyze existing strategies, plans and policies on spatial planning, and propose a comprehensive legislative structure for a spatial planning and land management system.The new legislation is to comprise all planning levels and identify the approach most relevant to the Saudi context, clarifying the roles and responsibilities throughout drafting, approval and implementation phases.
- The Government will launch pilot projects to examine comprehensive planning systems, particularly at the local level.
- With support of UN-HABITAT, the Government will ensure legislation on spatial planning and land management system reflects global best practices as well as experience in the Arab States.

2- Ensure public participation in the process of policy making at national, regional and local levels, involving youth, women and vulnerable people.

- The Government has been promoting public participation in policy-making processes, particularly at the national level, involving youth, women and vulnerable groups.
- More opportunities for public participation will be offered at the local level where the citizens have the best understandings about the area.
- Measures and processes of public involvement will be examined to identify the most suitable approach in the context of the Kingdom of Saudi Arabia.
- Through spatial planning exercises supported by UN-HABITAT, the Government will ensure public participation is integrated into urban governance and spatial planning.

3- Empower civil society organizations and NGOs as active players in urban governance.

- The Government will define a framework for civil society participation in urban planning and management; and disseminate information and promote public debate about it.
- Civil society organizations and NGOs will play active roles in urban governance, as recognized globally as well as in the Arab States.
- The emergence of civil society organizations and NGOs in the country will be encouraged, and their activities will be supported to enhance urban governance.
- The linkages between the government and civil society organizations/NGOs will be strengthened to improve the quality and efficiency of urban governance.

4- Improved clarity on the roles of municipalities, 'special purpose' urban agencies and infrastructure providers.

- The Government will review the roles played in planning and urban management of municipalities, special purpose agencies such as the High Commissions and infrastructure providers in the planning and approval of urban development projects.

V. Urban Economy

1. Improving Municipal Finance

In the past decades, municipal services have improved substantially. The progress achieved is attributable to the financial support provided to the municipal sector by the Government, based on recognition of the importance of expanding public services and facilities in Saudi cities, towns and villages, and the development of the technical and administrative capacities of the municipal agencies.

Recently, the government service sector has grown at an annual rate of 3.7% (the 9th National Development Plan 2010-2014) although the target growth rate in the 8th Development Plan was 3.8% for the period of 2005-2009. The Government has paid special attention to enhancing the capacities of municipal agencies and has allocated a considerable proportion of government expenditures to strengthen municipal and local finance. As a consequence, investment in the government services sector has risen by 12.8% per annum. The municipal service projects, proposed by the government, have achieved their targets as spelled out in the 8th and 9th National Development Plans.

It is worth noting that municipalities in Saudi Arabia do not raise income from taxation – their funding comes from the national Budget. Some municipalities are seeking to utilize their land assets to earn income. These developments resulted in improvements in the coverage of municipal services in all administrative regions as well as in increases in the proportion of population covered by municipal services. All regions, especially those that were experiencing a shortage of services in the past, developed and updated their municipal services, which contributes to regionally balanced development of the Kingdom of Saudi Arabia.

Table 5.1.1: Approved Municipal Services Projects by Regions, (2009-2012),

Region	Planning Studies	Rain water drainage	Roads and Streets	Parks	Markets	Municipal buildings	Environ- mental Health	Public Utilities	Enhance Municipal Services	Expropria- tion
Al Riyadh	134	294	20	998	97	50	129	88	52	36
Makkah	61	161	11	482	333	7	46	55	56	17
Al Madinah	13	91	5	349	29	2	26	43	26	8
Al Qasim	3	91	1	429	37	25	63	55	23	14
Eastern Region	20	104	14	449	49	11	44	75	35	7
Asir	27	158	16	577	37	18	72	44	96	17
Tabuk	9	59	1	219	16	2	13	20	15	3
Ha'il	12	71	2	304	14	15	25	34	25	3
Northern Borders	2	60	4	139	16	2	17	23	10	1
Jazan	18	121	7	374	40	14	32	63	38	21
Najran	9	58	3	132	19	5	16	21	20	1
Al Bahah	16	59	7	202	16	9	19	27	30	8
Al Jawf	8	53	4	176	12	1	16	17	12	9
Inter-regions (Cabinet Office)	193	23	25	10	0	0	10	3	8	0
Saudi Arabia	525	1403	120	4840	415	161	528	568	446	145

Source: Ministry of Municipal and Rural Affairs, Budget and Follow up Report, 2013.

Expansion of the municipal services sector provided local economic opportunities, particularly for the private sector. Implementing municipal projects, including physical construction work of roads, infrastructure and public facilities, contributes to local economic activity and supports the private sector. There are other significant opportunities for the private sector, as municipal agencies seek effective and efficient measures to improve their services by privatizing certain public services including public transport services, collection of municipal revenues, cleaning services, waste management, and management of investment in munic-

ipal properties. The efforts of the Government are mostly focusing on less developed regions in order to reduce disparities among regions in terms of availability of municipal and public services and infrastructure, which are prerequisites for balanced economic and social development

2. Strengthening and Improving Access to Housing Finance

The housing sector is one of the most important economic sectors in the Kingdom of Saudi Arabia. The Government has been strongly supporting housing provision throughout the past decades, particularly by financing private housing construction. The General Census of Population and Housing in 2010 indicated that approximately 60% of the 3 million Saudi households owned their homes. This ratio has increased slightly in recent years. Households living in villas constituted 36.4%, and in traditional houses 28.1%, and households living in flats or apartments constituted 34.3%. The vast majority of housing stock consists of small units. Residential units consisting of one or two bedrooms represent 64.3% of the total housing stock; those of three bedrooms 19.1%; and larger units (more than three bedrooms) 16.6%.

The Kingdom of Saudi Arabia has been facing continuous population growth, which also increases the housing demand in the country. For instance, during the period of 2005-2009, the housing market had to fulfill new housing demands of 1.25 million housing units, for which the area of land required 350 million m2, assuming that the average total area required for each housing unit is 280m2. The 9th Development Plan expects to satisfy 80% of the demand by building one million housing units through the Public Housing Authority, the Real Estate Development Fund and the private sector.

In 2007, the General Housing Authority was established with the aim of increasing home ownership, increasing the supply of housing and residential land, building adequate housing for the needy, developing a comprehensive housing strategy, and proposing regulations, systems, policies and organizations pertaining to housing. In order to enhance the Government's role in housing policy and provision, the Ministry of Housing was established in 2011.

Table 5.2.1: Distribution of Target Housing Units and New Demands, 2010 - 2014

Region	Target Housing Unit (2014-2010)* thousand units					Housing Demand (2014-2010)	
	Real Development Fund	Public Housing Authority	Private Sector Housing	Total Housing Units	Residential Land (Million m2)	Number of Housing Units	Residential Land (Million m2)
Al Riyadh	23	4	198	225	63	325.0	91.0
Makkah	20	4	229	253	71	370.0	103.0
Al Madinah	9	6.5	50	65.5	18.3	81.2	22.6
Al Qasim	9	4	32	45	12.6	51.0	14.3
Eastern Region	13.5	4	103	120.5	33.7	166.3	46.5
Asir	7	4	52	63	17.6	83.1	23.3
Tabuk	4.5	4	24	32.5	9.1	38.9	10.9
Ha'il	5	6	14	25	7	20.5	5.7
Northern Borders	3	6	7.5	16.5	4.6	11.5	3.2
Jazan	5	6.5	31	42.5	11.9	50.1	14.0
Najran	4	6.5	14	24.5	7	21.6	6.9
Al Bahah	3	4	11.5	18.5	5.1	17.3	4.8
Al Jawf	3	6.5	9	18.5	5.1	13.5	3.8
Total	109	66	775	950	266	1250	350

* In addition to 50.000 units built by government agencies for their employees on 14 million m2 of residential land.
Source: Ministry of Economy and Planning, The 9th Development Plan 2010-2014.

The history of housing finance support in the Kingdom of Saudi Arabia is as old as the history of the Real Estate Development Fund, since its establishment in 1974. The Real Estate Development Fund was established to meet the needs of the citizens by providing no-interest loans for private housing construction. Since its establishment, the Real Estate Development Fund has played an important role in ensuring people's access to finance. In order to meet the housing demand, the Government has been expanding the Real Estate Development Fund, providing 49.9 billion Saudi Riyal (equal to approximately 13.5 billion US Dollars) in 2008, 52.5 billion Saudi Riyal (equal to approximately 14.2 billion US Dollars) in 2009, 68.0 billion Saudi Riyal (equal to approximately 18.4 billion US Dollars) in 2010, and 87.4 billion Saudi Riyal (equal to approximately 23.6 billion US Dollars) in 2011. The Real Estate Development Fund had significantly expanded in 2012 with provision of 230 billion Saudi Riyal (equal to approximately 62.1 billion US Dollars) in 2013

As of 1975, the Real Estate Development Fund provides no-interest loan services through 33 branches. Despite the vast amount of Government investment through the Real Estate Development Fund, the Saudi's housing demand has not yet been fully met.

Recently, the Real Estate Development Fund has been seeking for advanced lending programs in order to maximize the number of borrowers. The Real Estate Development Fund has also signed new agreements with private banks to help facilitation of loan disbursement and collection. The Government has also been working on mortgage laws that will encourage new capital into the housing finance market. The Government is facilitating the establishment of the Saudi Mortgage Refinance Company, which is expected to create a positive impact on the housing finance market in the future.

Table 5.2.2: Housing Units by Types, 1992 - 2004.

Housing demands	Number of Units
New dwelling units for Saudis (thousand)	800
New dwelling units for Non-Saudis (thousand)	200
Dwelling units to fullfil un-met demand during 8th Development Plan 2005-2009	70
Replacement	70
Reserved dwelling units (10%)	110
Total housing demand, 2014-2010	1250
Annual average number of dwelling units	250

Source: 9th Development Plan, Ministry of Economy and Planning, 2010 - 2014.

Table 5.2.3: Dwelling Units by Types. 1992 - 2004. 2004-2010,

Average annual growth rate %	1992		2004		Change 1992-2004		2004		2010		Change 2004-2010	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Villa	454,365	16.4	729,780	18.3	275,415	22.6	729,780	18.3	824.505	17.7	94,725	14.3
Traditional House	909,005	32.7	1,114,456	27.9	205,451	16.9	1,114,456	27.9	1,218,830	26.2	104,374	15.8
Apartment	847,233	30.5	1,505,429	37.7	658,196	54.2	1,505,429	37.7	1,911,248	41.1	405,819	61.5
Part of Villa or building	241,317	8.7	386,911	9.7	145,594	12.0	386,911	9.7	425,968	9.2	39,057	5.9
Other dwelling units	325,002	11.7	255,207	6.4	-69,795	-5.7	255,207	6.4	271,611	5.8	16,404	2.5
Total dwelling units	2,776,922	100	3,991,783	100	1,214,861	100	3,991,783	100	4,652,162	100	66,379	100

Source: Central Department of Statistics and Information, 2010.

Recent developments in housing finance availability in the Kingdom include the introduction of the new Mortgage Law, new laws covering rented dwellings and tenancies, and new funding available through the Ministry of Housing. The Eskan housing support program provides for those households eligible for aid a housing unit, a loan up to SAR500,000, residential land plot or loan and land plot.

3. Supporting Local Economic Development

The expansion and development of infrastructure throughout different regions of the country including roads, railways, telecommunications, water and sanitation, and electricity, has significantly facilitated local economic development. The Government continues its efforts to achieve balanced development and develop institutional capacities of the agencies working at the local level to improve the investment environment, to increase productivity, and to create more employment opportunities.

The degree of local economic development is linked to the geographic and economic characteristics of the area. National statistics indicate that the economic activities in the private sector are highly concentrated in the Kingdom's key urban and economic centers. In 2010, 26.2% of 801,421 operating businesses were in Riyadh region, 25% in Makkah, and 16% in the Eastern region. These three administrative regions account for 67.2% of total business operations. Industries of the country are also concentrated in these three regions, accounting for 86% of all operating factories in 2010. Similarly, the number of industrial jobs per 10,000 people was 314 in the Eastern Region, 289 in Riyadh Region, and 207 in Makkah Region.

The provision of infrastructure and services in all regions is essential for building a productive base utilizing their comparative advantages. Statistical data show significant discrepancies in economic activities and trade between regions, which may be attributable to limited demand for various economic activities in some regions. This means that mechanisms for directing economic activities towards the less developed regions must be introduced, in addition to providing grants to investors in the less developed regions in the form of incentives, in order to strengthen the production base and reduce the developmental gaps between regions.

Table 5.3.1: Distribution of Developmental Credit by Region, 2012 (million Saudi Riyals).

Region	Industrial	Real Estate	Agricultural	Credit and Saving
Al Riyadh	1547	6830	290	498,2
Makkah	674	3775	31	399.6
Al Madinah	2558	1986	26	213.3
Al Qasim	36	2286	88	105.3
Eastern Region	3843	4366	149	317.5
Asir	42	1964	84	287.0
Tabuk	40	773	37	64.0
Ha'il	1034	913	54	88.3
Northern Borders	26	612	1	88.3
Al Bahah	-	329	12	78.0
Jazan	-	404	82	114.2
Najran	140	735	12	97.7
Al Jawf	-	697	53	129.9
Total	9,940	25,670	924	2,481.3

Source: Annual Report of Government Credit Institutions

4.Creating Decent Jobs and Livelihoods

The The Council of Ministers adopted the Saudi Employment Strategy in 2009. The strategy complements continued efforts to diversify the national economy through its focus on improving the productivity of Saudi nationals in preparation for employment in emerging sectors of the economy.

This is a challenge, given the high levels of unemployment experienced across the Saudi workforce, especially among women in the workforce.

Table 5.4.1: Unemployment Rates (15 years old and above), 1999 - 2014.

Years	Total			Saudi		
	Total	Famale	Male	Total	Famale	Male
1999	4.3	8.1	3.7	8.1	15.8	6.8
2000	4.6	9.3	3.8	8.1	17.6	6.5
2001	4.6	9.1	3.9	8.3	17.3	6.8
2002	5.3	11.5	4.2	9.7	21.7	7.6
2003	5.6	12.5	4.4	10.4	23.2	8.0
2004	5.8	13.4	4.5	11.0	24.4	8.4
2005	6.1	14.1	4.6	11.5	25.4	8.7
2006	6.3	14.7	4.7	12.0	26.3	9.1
2007 Half (1)	5.6	13.2	4.2	11.0	24.7	8.3
2007 Half (2)	5.8	15.3	4.2	11.2	26.6	8.0
2008 Half (1)	5.0	13.0	3.5	9.8	24.9	6.9
2008 Half (2)	5.2	14.5	3.6	10.0	26.9	6.8
2009	5.4	15.9	3.5	10.5	28.4	6.9
2010	5.5	17.4	3.4	11.2	30.6	7.1
2011	5.8	19.2	3.3	12.4	33.4	7.4
2012 Half (1)	5.7	19.8	3.2	12.2	34.0	6.9
2012 Half (2)	5.5	21.3	2.7	12.1	35.7	6.1
2013 Half (1)	5.8	22.1	2.9	12.0	34.8	6.3
2013 Half (2)	5.6	20.7	2.8	11.7	33.2	6.1
2014 Half (1)	6.0	22.3	3.0	11.8	33.3	6.0
2014 Half (2)	5.7	21.6	2.8	11.7	32.8	5.9

Source; Central Department of Statistics, Workforce Survey, 1999-2014

The labor market in the country has been suffering from a variety of structural imbalances, including high dependency on expatriate workers, severe gender gaps in the supply of labor and large wage disparities. In 2013, the unemployment rate of 11.7% across Saudi male was practically double the total unemployment rate of 5.7% in 2009, and the unemployment rate for youth of age between 20 and 24 had reached 41.2.2%.

In regard to the distribution of total employment by major occupational group, approximately 30.6% were assigned to clerical occupations. 34.6% of Saudi employment is concentrated in service sector, particularly government works, followed by scientific and technical professions at 18.4%, and only 1.1%, the lowest proportion, is associated with industrial, chemical and food industry professions. In contrast, expatriate employment is concentrated in basic engineering auxiliary professions with 36.2% of total expatriate labor.

In this context, the Saudi Employment Strategy aims to achieve a sustainable increase in participation of the national workforce to reach full employment of Saudi citizens, by providing opportunities at appropriate terms of pay and conditions. The Government strongly acknowledges the importance of human resources development as a base for comprehensive development, and aims to raise total labor force participation rates, continuously upgrade its skills and develop its capacities, and provide it with opportunities for gainful employment, particularly in the various activities of the private sector.

The Strategy incorporated several programs and policies aimed at achieving qualitative and quantitative expansion of education and vocational training, prioritizing employment with the national workforce, and addressing macroeconomic and structural imbalances in the labor market, especially youth unemployment and reliance on foreign labor.

In regards to the improvement of livelihood, the 'Quality of Life Index' is often used. The Quality of Life Index is composed of indicators that include level and distribution of income, employment, education and health services, housing situation, family condition and environmental situation. The trend shows the improvement in the quality of life of citizens in the Kingdom of Saudi Arabia. The Quality of Life Index increased from 100 points in 1999 (base year) to 105.3 points in 2004 and to 111.3 points in 2009.

In contrast, housing and recreation indicators have gone down. The housing indicator went down from 108.5 points in 2004 to 102.5 points in 2009, while the entertainment indicator went down from 119.2 points to 112.4 points over the same period. This trend indicates that further efforts are needed to increase the number of housing units, particularly the number of affordable housing units, to enhance the provision of water and sanitary services, and to implement the property mortgage law and related rules.

Table 5.4.2: Contributions of Major Sectors of National Economy in Provision of Employment Opportunities, 2010 - 2014.

Sector	2004		2009*		Average Annual Growth (%)
	Employees (000)	Contribution (%)	Employees (000)	Contribution (%)	
1. Non Oil Sector					
a. Production	278.24	8.4	413.71	10.6	8.3
b. Private Services	2074.48	63.0	2392.49	61.1	2.9
c. Government	878.85	26.6	1048.64	26.8	3.6
2. Oil and Gas Sector					
a. Oil and Gas	66.61	2.0	59.74	1.5	2.2-
Total	3298.18	100.0	3914.58	100.0	3.5

*Data for 2009 is preliminary.
Source: The ninth Development Plan, Ministry of Economy and Planning

5. Integration of the Urban Economy Into National Ddevelopment Policy

Over the decade, the annual growth rate of national GDP has been increasing from its low at 0.2-3.4% during the 1990s to 5.6-8.6% during the 2000s. In 2011, the annual GDP growth rate reached 8.6% as in 2004, which was the highest growth rate since 1990. The national economy continued to grow and the national GDP at constant 2005 prices was 227.8 billion US Dollars in 1995, which had increased to 519.9 billion US Dollars in 2013. The GDP per capita at constant 2005 prices was 12,269 US Dollars in 1995, which had grown to 18,034 US Dollars in 2013.

Given the external factors that had an impact on the volume of oil production, the real domestic product of the oil-and- gas sector dropped at a rate of 0.2% per annum, which is lower than the rate of 2.7% targeted by the 8th National Development Plan. The oil-and-gas sector acquired 4.3% of the total investments during the period of 2005-2009, with an average annual value of approximately 2.7 billion US Dollars, which amounts to an increase of 129.3% compared to the value of investments in 2004.

During the same period, non-oil sectors achieved an average annual growth rate of 4.7%, with the value added by these sectors rising, at constant 1999 prices, from approximately 141.4 billion US Dollars in 2004 to approximately 178.1 billion US Dollars in 2009, thereby increasing their contribution to the GDP from 72.5% in 2004 to 77.1% in 2009. This improvement in performance of non-oil sector reflects the efforts made to diversify the production base of the economy.

On the other hand, the national revenue is strongly related to the performance of the oil sector. 89.1 billion US Dollars out of total national revenue of 105.9 billion US Dollars, which is 84.1%, relied on oil sector revenues. The proportion of oil revenues increased in 2008, where 265.5 billion US Dollars out of total national revenue of 297.2 billion US Dollars relied on the oil sector, which accounts for 89.3%.

The National Development Plans drafted every 5 years continuously aim to achieve various macro and sectoral objectives, including to adopt a wide range of economic and social policies designed to ensure tangible benefits to improve the standard of living and quality of life of citizens; to develop the structure of the national economy, diversify its productive base, and enhance its competitiveness; to accelerate transformation to a knowledge-based economy; and to achieve balanced development among different regions of the country.

The economic policies in the Development Plan are broken down to the National Spatial Strategy in geographic terms, as key growth centers are categorized into national, regional and local growth centers. Regional Spatial Strategies developed by regional principalities also integrate economic growth centers as categorized by economic sectors, which shows that the concept of urban economy is substantively integrated in different layers of spatial planning. The Government's investments into urban infrastructure in different cities, towns and villages throughout regions have been allocated based on the economic policies that are broken down into spatial policies at different levels.

Table 5.5.1: Main Items of the National Budget, 2010-2012 (Billion USD)

Items	2010	2011	2012
Total Revenues	741616	1117792	1247398
Oil Revenues	670265	1034360	1144818
Total Expenditures	653885	826700	873305
Investment Expenditures	198842	276200	261679
Current Expenditures	455043	550500	611626

Source: Saudi Arabian Monetary Agency; Ministry of Economy and Planning, 2013.

Table 5.5.2: GDP by Sectors at constant 2014 prices (USD1=SR3.75)

Items	Value (million USD)		Average Growth Rate (%)		in GDP %	
	2009	2014	2005-09	2010-14	2009	2014
A) Non-Oil Sectors	263,940	366,724	5.90	5.07	52,49	56,48
1 Private Sector Service	181,165	256,163	5.84	5.70	36.3	39.45
2. Government Services	82,775	110,562	6,03	3,66	16,46	17,03
B) Oil and Gas Sector	235,453	277,315	9.54-	1,72	46,82	42,71
C) GDP (import fees exempted)	499,393	644,039	1,99-	3,60	99,31	99,19
D) Import Fees	3,472	5,252	11-	2,68	0,69	0,81
E) GDP	502,865	649,291	2,06-	3,59	100	100

Source: Central Department of Statistics and Information, 2014.

Figure 5.5.1: Growth Centre's, Transport Network and Distribution of Economic and Industrial Cities, 2014

Source: Ministry of Municipal and Rural affairs, The National Spatial Strategy, 2014.

6. Challenges Faced and Lessons Learned

The The number of medium and small cities has been increasing over the decades throughout the Kingdom of Saudi Arabia, and the Government was urged to manage economic growth of emerging cities in a sustainable manner. The Government acknowledged the importance of enhancing the capacity of local authorities through decentralization processes that delegate responsibilities to municipalities under the supervision of the Ministry of Municipal and Rural Affairs.

The Government has been allocating significant and growing budgets to each municipality in order to improve urban infrastructure, urban services, municipal facilities and the capacity of government officials at the local level. This is improving the potential of medium and small cities to attract private enterprises and investments, and to stimulate local economies.

Municipalities have started to explore ways to provide efficient public services with the support of private enterprises. For instance, municipalities selected several public services as targets for privatization, including public transportation, waste management and maintenance of public facilities and Utilities.

Expansion of the Government investments at the local level and encouragement of privatization is expected to be a catalyst for local economic growth, and subsequent job creation at the local level. It should also be underscored that the Government has been encouraging the establishment of universities, research centers, medical centers and hospitals, and other educational facilities throughout the country as they are expected to create good job opportunities at the local level.

Decentralization opens opportunities for local creativity and self-initiatives based on delegation of responsibilities from MoMRA. Administrative and political decentralization will have a spatial component. Sustainability and efficiency in the provision of public services and self-financing its provision remain a challenge, including privatization and other revenue generation strategies.

The Government also supports improving the quality of life for all citizens. Particularly in housing finance, every household, regardless of age and gender, is eligible to apply for no-interest housing loan through the Real Estate Development Fund. Despite the vast Government investment in the Real Estate Development Fund over the past decades, there is a long waiting list of applicants. As of September 2014, the Government is reviewing the Real Estate Development Fund to improve its operations, particularly in identifying people in urgent need more efficiently.

However a major municipal finance challenge lies in the fact that most cities and towns have un-serviced land subdivisions far in excess of their need for population growth. These low density developments (usually about 50 persons per hectare when developed) are costly to provide with infrastructure and to stage servicing efficiently. New financial arrangements including development density upgrades in accordance with the Sustainable Planning Guidelines may be needed along with new financing mechanisms.

7. Visions for the Future

"To have sustainable urban economy optimally responsive to urban future demands and community needs based on social inclusion, community engagement and equity"

To achieve this vision, efforts and resources will be focused on the following main directions:

1- Promote decentralization process and enhance municipal capacities.

- In line with the current policy directions on governance, the Government will promote decentralization as well as the development of financial and management capacities at the local level to achieve sustainable and balanced development throughout the country.
- The Government will strengthen local plans to identify local economic opportunities and to diversity local economic activities. The local plans will identify specific local economic activities that should be encouraged, taking into consideration their geographic locations and economic potential.
- Within regional strategies and local plans, the Government will continue public investments that contribute to attract private investment and stimulate local economies.
- The Government will ensure effective coordination and cohesion of local economic activities throughout different regions of the country.

2- Encourage privatization and create incentives for local economic development through public and private partnership (PPP).

- Municipalities will lead privatization and PPP to make medium and small cities attractive for private investment.
- The Government will identify advantages and incentives for private enterprises and opportunities for investments that continue to improve the liveability and viability of cities.
- The Government will encourage privatization of public services and improve the quality of services that will stimulate local economic activities.
- The Government will explore PPP opportunities in urban development in medium and small cities.

3- Local plans to capitalize on comparative advantage of cities and open opportunities for private and public investments

- Seek closer linkages between the spatial plan, the urban development strategies and the local economy.
- Take advantage of markets, small and mid-sized enterprises to boost employment, creativity and innovation.

4- Enhance housing finance support, particularly for people who need urgent support

- Housing finance support should reach people who urgently need support. The Government will examine new housing finance support systems and identify eligible people in need of urgent support.
- The Government will identify target populations for Government housing finance support and will propose new housing finance schemes in collaboration with private banks, so that assistance can reach all those who seek the housing loans.
- Imposing phased fee system on undeveloped large plots in major urban areas..

VI. Housing and Basic Services

1.Slum Upgrading and Prevention

The informal settlements are generally characterized by dense substandard development typically formed as concentrations of temporarily built housing, reflecting a lack of affordable housing for migrant workers from rural area or other countries who come to cities to seek job opportunities. Due to rapid urbanization, housing provision has not kept up with rising housing needs, which also results in increasing of housing prices and rentals. As a consequence, migrant workers, particularly those who are deprived, build temporary accommodation with poor materials, shaping informal settlements and slums in combination. Given that these settlements are informally built without official approval, urban infrastructure and services are usually not adequately installed. Illegal access to electricity and water is often arranged, but other services such as sewerage and storm-water drainage are rarely available.

The Kingdom of Saudi Arabia embraces two of the holiest cities in the religion of Islam, Makkah and Medina, which attract Muslim pilgrims from all over the world. 15 million people visited those places annually, of which approximately 2 million concentrated during the few-day period of the Hajj. This means that more than 10 times the city's population visit these holy cities every year, and pilgrims of more than city's population visit during the Hajj period. As a consequence, the two holy cities of Makkah AlMukarrama and AlMedina AlMunawarra as well as the adjacent cities of Jeddah and Taif have the largest concentrations of informal settlements in the Kingdom of Saudi Arabia. This poses challenges for urban settlements. In Makkah the number of in formal settlements is 66 accommodating a total population of some 590,000 people. In Medina there are 15 such settlements, with a population of around 814,000. Jeddah has 64 settlements with the population estimated at well over 1 million people.

Policy on informal settlements has been of particular concern to the Government; therefore, Royal orders have issued instructing the Government to improve the conditions of the informal settlements according to their state of development and their assessed attractiveness as locations for potential investment. There are four categories:

- Category 1: Attractive for investment by the private sector.
- Category 2: Partly attractive for investment by the private sector.
- Category 3: Areas with potential for self-improvement.
- Category 4: Areas which require immediate intervention.

Authorities are expected to assess the correct category of their informal settlements as part of their planning processes. The informal settlement plans for Jeddah are particularly well advanced under the strategic planning work being undertaken for the city as a whole. Informal settlements in Jeddah are extensive, taking up almost 20% of the city's area and housing around 1 million people.

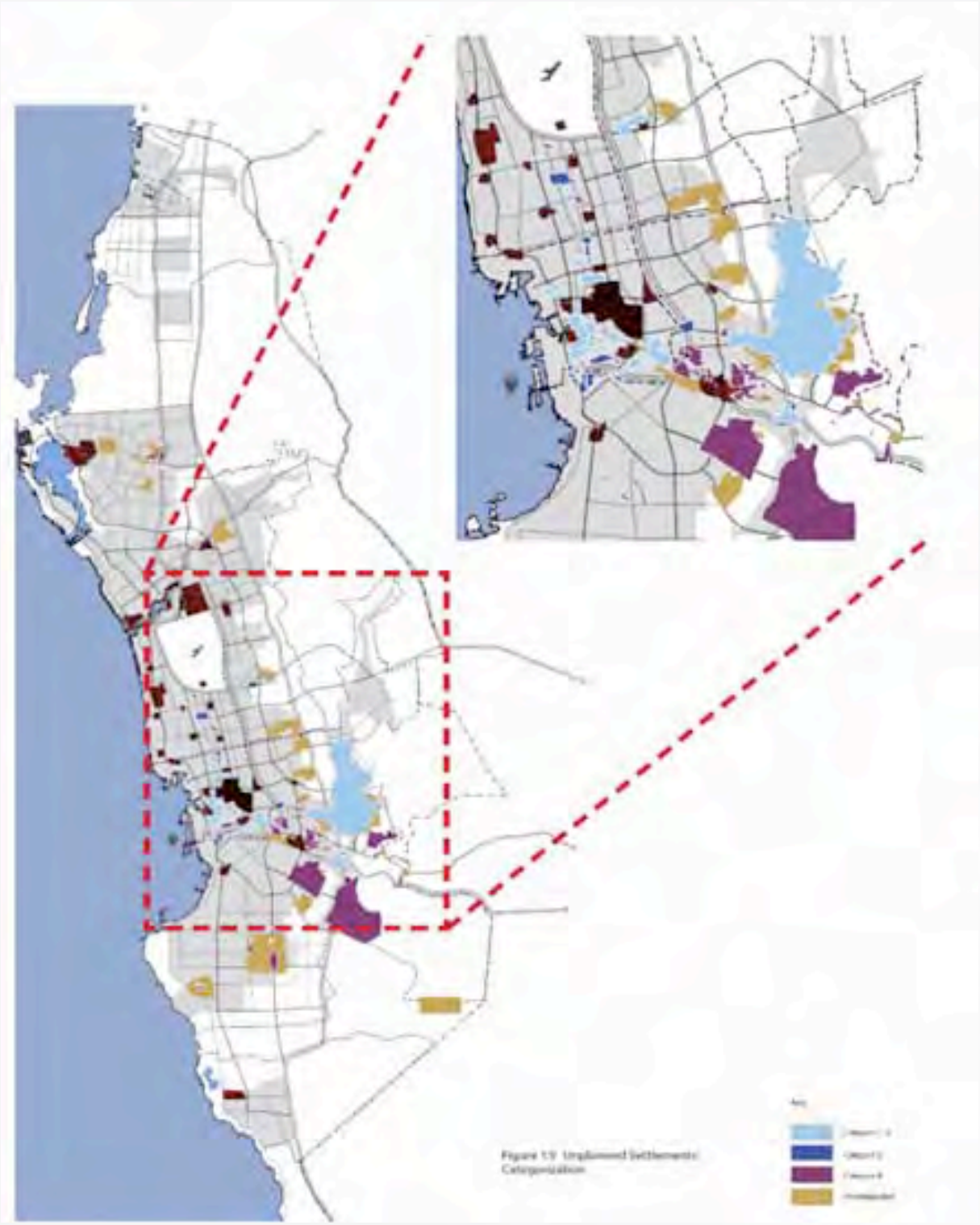
As Figure 6.1.1 shows, informal settlements in Jeddah have been classified according to these four categories and a program of planned intervention forms part of the Jeddah Strategic Plan. This includes:

- Preparing Master Plans and Action Plans for each informal settlement.
- Resolving land tenure and formalizing ownership where possible.
- Creating mechanisms for engaging the private sector.
- Establishing measures to prevent the future formation of new informal settlements.

Implementing these actions will require significant resources from the Jeddah Municipality, faced with tasks such as validating, surveying and issuing new land titles for properties in informal settlements.

With the assistance of international advisers, the Municipality of Jeddah and the Jeddah Development and Urban Regeneration Company (JDURC) are managing a program titled 'Jeddah without Slums', aimed at legalization of land titles, improvement of local environments and increased provision of services for residents. Plans prepared for each settlement include options for (i) regeneration of the entire area , and (ii) upgrading streets and minimal redevelopment alongside improved streets. During all stages of the development, consultations were held with local residents, representatives of traditional community groups, municipalities, and private developers to ensure that stakeholders were appropriately engaged throughout the process.`

Figure 6.1.1 Categorisation of Informal Settlements in Jeddah

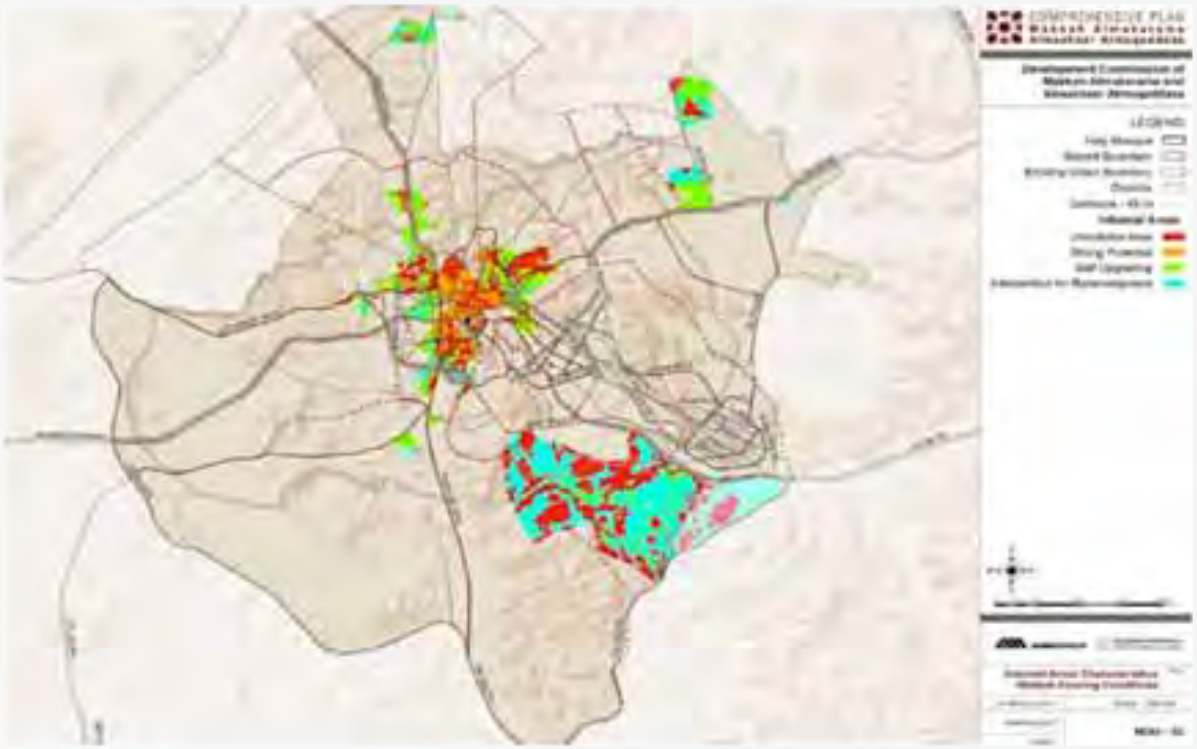


Source Jeddah Strategic Plan, Unplanned Settlements Sectoral Report, 2014.

Even with these choices the scale of the informal settlements in Jeddah means that the renewal program may take several years to implement. Nonetheless, the implementation of "Jeddah without Slums" Program remains a major government objective for the future of Jeddah and will provide important lessons for other Saudi cities.

In the Jeddah examples, alternative development scenarios are explored for each informal settlement, depending on its needs and priorities, and a composite Action Plan of minimal upgrading, restoration, or regeneration is derived from evaluation of the scenarios through public consultation.

Figure 6.1.2: Informal Settlements in Makkah AlMukarrama, 2012.



Source: Kayvan Karimi and Ed Parnham, An approach to developing an adaptable regeneration program for declining informal settlements, 2012.

Figure 6.1.3: Informal Settlements in Jeddah and Makkah, 2012.

Source: Kayvan Karimi and Ed Parnham, An approach to developing an adaptable regeneration program for declining informal settlements, 2012.

Urban Renewal

There are three approaches to urban renewal in the Kingdom:

1- Upgrading or redevelopment of informal settlements.
2- Urban renewal of traditional downtown
3- Improvement programs for specific areas.

These approaches include preservation of architectural heritage or restoration of the cultural areas of special significance in the Kingdom.

Downtown urban renewal

Active programs of consolidation and urban renewal in the older 'downtown' areas of the Kingdom's larger cities are also under way as part of the growth and sprawl management process as well as for heritage management and urban revitalization. The Central Areas of Riyadh, Makkah and Medina all have active urban renewal programs intended to make better use of the older and run-down areas of these cities and to address the issue of inner city informal settlements.

Figure 6.1.4 : Urban Renewal Scenarios and Design Framework, Central Areas

Source: Arriyadh Development Authority, 2013.

Usually seeking to consolidate new and intensive development around new public transport systems, the urban renewal programs are particularly intended to attract young Saudis back to the traditional city centres, offering alternative lifestyles to the largely low-density suburban opportunities presently on offer.

A recent example is in the Central Area of Riyadh, where a total of 1500 hectares encompassing the remnants of the original mud brick city of Riyadh and areas developed largely in the 1940's and '50's have been incorporated into a new Central Area Urban Renewal Framework. The Framework incorporates land use and transport networks for the future, including the new Metro rail system, and provides for upgraded infrastructure, environmental improvements and heritage protection.

The diversity and scope of measures for managing land use and urban sprawl and providing comprehensive planning measures at all scales of development from national to local, is designed to achieve progressive and sustainable improvements in the diverse built environments of the Kingdom.

Heritage protection

At the time of the Habitat II Conference in 1996, protection of the Kingdom's multitude of heritage assets was not an important national agenda and no mention was made of this aspect of settlement management in the 1996 Report. Much has changed since then.

The Kingdom has established a new Saudi Commission for Tourism and Antiquities (SCTA) with specific nation-wide responsibilities for '...preservation and development and maintenance of the antiquities and promoting the contribution of antiquity in the cultural and economic development of the citizens.

World Heritage Listed Sites in Saudi Arabia

Madain Saleh (listed World heritage in 2008)

is the first archaeological site in Saudi Arabia to be world heritage listed in 2008, in recognition by UNESCO of the the Kingdom's historical and cultural position and its rich heritage, as well as the sound Saudi rehabilitation efforts of the site; located about 22 kilometers northern of Al Ula municipality. It occupies a strategic location over the ancient trade route, which was linking the southern Arabian Peninsula to the Mesopotamia, Levant and Egypt. This site was the home of one of most ancient civilizations in the entire human history.

***Dir›aiyah (listed World heritage in** 2009)*

The historic district of Al Dir›iya is in the northwest part of the city of Riyadh, located on the west bank of Wadi Hanifa, deep vally. It is an ancient historic town that dates back to the mid9-th century Hijri when Gusaibah Manie Bin Rabiah Al-Meridi quarter was established, the oldest quarter of Dir›aiyah (named after Bin Rabiah Al Mardi, a relative of Ben Dirie, the owner of Yammama Stone).

Ever since, the town has been expanding due to the importance of its geographical location and its centrality in the Arabian Peninsula. In the middle of the twelfth century Hijri (18th century CE), Imam Muhammad bin Abdul Wahhab - who was born in the family of Al-Saud, arrived in Dir›aiyah when he found in the person of Imam Mohammed Ibn Saud, a good synergist and pro to reform call and revival if the Sunnah – (way of life of Prophet Muhammad (pbu)). And hence, God wanted to make Dir›aiyah a Center of guidance and a starting point for the building of a guided State on the strong pillars of Islam.

The interesting part of old Dir›aiyah is the Turaif Quarter, which is remarkably preserved. This was the headquarters of the Saudi ruling family. The wall of Dir›aiyah, interspersed with some defensive forts was built during the reign of Imam Abdul Aziz Ibn Muhammad Ibn Saud to avert the threat of aspirants of Dir›aiyah. The total length of the wall is about 7 kilometers, where the wall at its maximum height is built with small stones as a base balancing the larger stones, further bound with layers of mud plaster.

***The Historic Jeddah (listed World heritage in** 2014)*

The historical area of Jeddah is located in the center of Jeddah city; considered to be one of the most important areas in the city of Jeddah due to its authenticity and its unique architecture; as the history of Jeddah dates back to the era before Islam. However, the major turning point in the history of Jeddah occurred in the era of the Rashidi Khalifat Utham Ibn Affan (may Allah be pleased with him) in the year 647 AD, when he ordered it›s transference to a harbor receiving pilgrims heading to Makkah for Haj; and until today, Jeddah remains the main route for sea and air access for pilgrims, as well as many of those arriving by land.

Source: Saudi Commission for Tourism and Antiquities, Heritage Sites in the Kingdom of Saudi Arabia, 2014.

The lessons learned so far in heritage protection and restoration are particularly important in guiding urban renewal plans and priorities in the cities and towns of the Kingdom. World class heritage sites offer new scope for economic development in the future as tourism expands.

2. Improving Access to Adequate Housing

The Kingdom's housing stock is expected to increase by 2.4 million units over the next 10 years (National Commercial Bank-NBC, 2012) and will reach 7.08 million units by 2020. However annual demand is rising from 195,000 units (2011) to a forecast 264,000 units (2020) due to demographic growth and changing living patterns. Driving this will be a population increase from 29.2 million (2012) to 37 Million (2020). Average household size will decline from 6.08 persons per household (pph) in 2000 to 5.84 pph by 2010 and towards 5.28 pph by 2020.

The pressure of price and housing costs is concentrated on middle income families in the population, who increasingly are turning to rental, and to smaller dwellings, to find affordable and acceptable housing solutions.

Demand is concentrated in Makkah, Riyadh and Eastern Province areas (66% of total population & 67% of total occupied housing stock in KSA).

It is one of the top priorities of the Government that all the people have access to affordable housing. There are numbers of approaches that the Government supports to provide affordable housing: i) providing no-interest loans through the Real Estate Development Fund, ii) providing government land to individuals and private housing developers, and iii) constructing affordable housing.

The Fund has been playing the major role in providing affordable housing throughout the Kingdom. From the beginning of its operations in 1974 till present, the Fund had advanced 750,000 housing loans. During the last four years, the number of loans provided exceeded 195,000 which is 25% higher than been provided since the Fund started its services. However, concerns were raised that the amount provided by the Government (usually around $US 50 million) is never sufficient, even though the Government has been expanding the annual budget of the Real Estate Development Fund - up to USD$62.1 billion in 2012.

Other financing alternatives currently being offered by the Fund include the guarantor loan and the new additional loan in compliance with the property mortgage law; in addition to facilitating loan disbursement procedures in six instead of four payments, acceptance of reduced apartment size and full loan disbursement in major cities.

In 2012 a new Mortgage Law was enacted facilitating bank lending of funds for housing via property mortgages.

According to the Saudi Arabian Monetary Agency (SAMA), the country's central bank, real estate and construction loans accounted for just 7.1% of total bank credit in 2010, while home loans specifically accounted for just 2.8% of total bank loans. The Government aims to grow the value of mortgage lending to the housing sector.

In order to strengthen national capacity in the housing sector, the Government established the Ministry of Housing in 2011. The Ministry of Housing is currently focusing on four key initiatives, outlined below:

- Develop a legal framework and enforcement mechanisms to facilitate the operation of the housing market.
- Create a housing market more responsive to demand.
- Develop support systems to further fulfil the housing needs of citizens, including new ways of financing housing, land development and infrastructure.
- Increase the supply of affordable housing.

In the National Housing Strategy, the lack of housing legislation, a shortage of readily available land for housing development, and the non-targeted housing loan scheme were identified as key challenges. The role of the private sector and the potential of the PPP approach is also underscored.

Table 6.2.1 Housing Project Statistics, 2016.

	Under Design	Bidding process	Under Construction
Projects	95	25	67
Dwellings	141567	21360	70724
Total	187 Projects, 233651 Dwelling		

Sources: Ministry of Housing, 2016.

Construction of four 'economic cities' will ease demand pressures and high prices in other established cities. The Ministry of Housing will also develop public housing estates in selected locations to meet the need for affordable homes for lower income families. Currently, the Ministry of Housing is executing 67

housing projects to provide 12,351 dwelling units and 45,829 apartments to be constructed by real estate developers, as well as 27,295 developed plots, all offering a total of 86,475 housing products.

Affordability is a serious problem. The Kingdom-wide average house price is around USD$ 144,000 and average annual income USD$ 18,851. House price-to-income ratio: 7.6:1. According to the 9th National Development Plan 2010-2014, almost 60% of Saudis own their home.

Develop prioritization mechanisms for affordable housing provision and mortgages:

The Ministry of Housing launched ' ESKAN' online Scheme to develop a mechanism to prioritize the provision of affordable housing led by the public sector. The mechanism identifies eligibility criteria based on people's financial, social and health backgrounds. The mechanism to prioritize provision of affordable housing will be developed based on principles of transparency, equity, social balance, universal coverage and sustainability. The Scheme targeted the Saudi households most needy for housing aid, taking into account, through a point system, factors such as age, monthly income, household size, social status, and special cases (the divorced and widowed women, and the disabled). The Scheme also allowed the Saudi woman as a household head to submit a housing aid request through ESKAN online (www.eskan.gov.sa), besides granting her, especially the divorced and widowed, additional points to scale up her priority for housing support. So far, 960,397 applicants kingdom-wide have been registered out of which 754,570 met eligibility requirements. Dwelling units were distributed to eligible households in Jazan, Qasim and Madina. Housing support option "vacant plot & loan" has been offered in Riyadh.

Encourage construction and provision of affordable housing

The Ministry of Housing undertakes four types of substantive support for affordable housing provision as described above, i.e. interest-free loans, serviced plot provision, housing construction or vacant plot and loan combined.

In 2014, the Ministry announced the first-stage list of the Saudi households eligible for housing aid through ESKAN online scheme. Allocations comprised more than 106,000 housing products including 12,496 dwelling units, 252,216 land and loan, 45,829 apartment purchasing loans, and 200,000 housing construction loans.

Strengthen PPP approach for affordable housing provision

It is important to seek active cooperation with the private sector to ensure adequate provision of housing by expanding the resources available for investment. The Ministry of Housing has applied the PPP approach in the construction and provision of affordable housing. To enhance the PPP approach, the Ministry is working to strengthen regulatory frameworks, incentives for the private sector, and criteria for private enterprises who are capable of working with the Government.

In the Kingdom of Saudi Arabia, land prices are high. This is partly because of high levels of speculative investment in subdivided land and partly because some landowners with well-located strategic land parcels do not want to release their lands for development. To improve this situation, the Government has in 2015 adopted a series of decisions aiming to facilitate and accelerate citizen access to land rights and housing construction, impose fees on vacant plots within cities', provinces' and growth centers' urban boundary. The Government also adopted general real estate financing policies and formation of committee comprising Ministries of Finance, Housing, Justice, Commerce and Industry, Economy and Planning, as well as Saudi Arabia Monetary Agency , the Capital Market Authority to set action plans for the achievement of strategic objectives of the real estate financing policies, monitor plans implementation, bounding them by specific time limits, performance indicators, , as well as bounding implementation by establishing mortgage credit and targeted beneficiaries.

3. Ensuring Sustainable Access to Safe Drinking Water

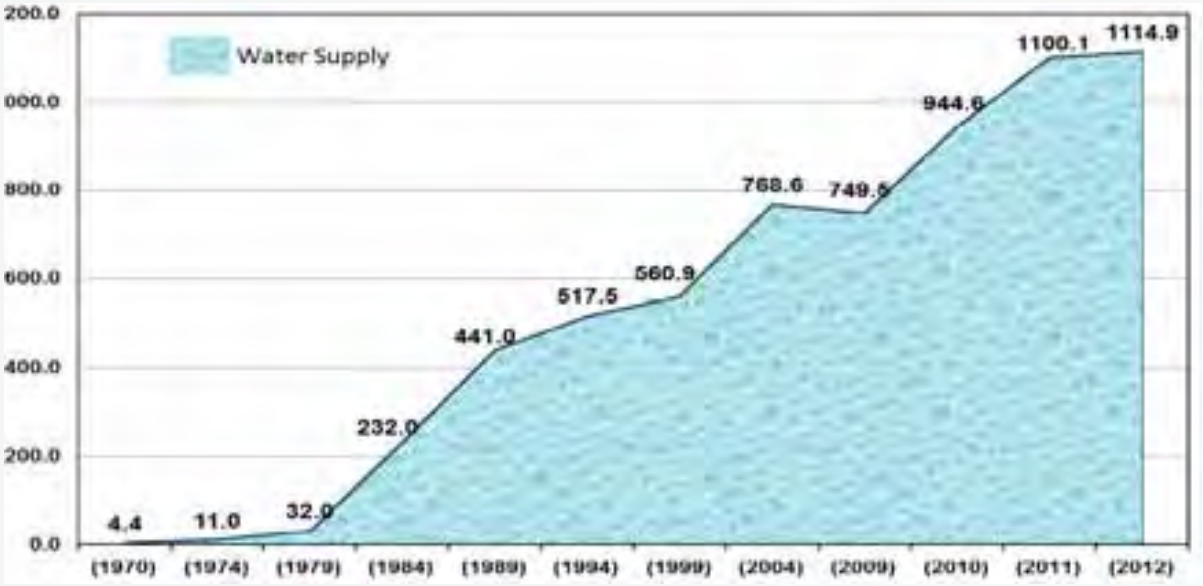
Given that the territory of the Kingdom of Saudi Arabia is dominated by desert, water is a scarce. There are neither rivers nor lakes within the territory, and the amount of rainfall is very little throughout the year. On the other hand, the need for water has been continuously increasing every year, due to rapid urbanization triggered by population growth across the country.

In the Kingdom of Saudi Arabia, aquifers, which are vast underground reservoirs of water, are the major source of water supplies. There are tens of thousands of deep tube wells sunk to obtain water both in urban and rural areas. In the 1970's, the Government launched a major initiative to locate and map the national aquifers and estimate their capacity, and concluded that the most of regions throughout the country can access aquifers, but that their use needs to be managed with care.

There is another measure to secure water supply, which is desalination. Desalination is a process to produce potable water from brackish seawater, and the Kingdom of Saudi Arabia is the world's largest producer of desalinated water.

The Saline Water Conversion Corporation operates 27 desalination plants, which produce more than three million cubic meters of potable water per day. These desalination plants provide more than 70% of the water used in cities, as well as a sizeable portion of the water used in the industrial sector. The desalination plants are also a major source of electric power generation for the country.

Figure 6. 3. 1 Water Supply from Desalination Plants, 1970 - 2012.



Source: Ministry of Planning, "Achievement of the Development Plans", Chapter 3, 1970 -2012.

Dams are also used in the Kingdom of Saudi Arabia to capture surface water in areas with frequent flash floods. More than 200 dams collect an estimated 16 billion cubic feet of runoff annually. Some of the largest of these dams are located in the Wadi Jizan, Wadi Fatima, Wadi Bisha and Najran. Water captured in dams is used primarily for agriculture and is distributed through thousands of miles of irrigation canals and ditches to vast tracts of fertile land that used to be fallow.

A new water source in the Kingdom of Saudi Arabia that is recently highlighted is recycled water. The Government aims to recycle approximately 40% of the water used for domestic purposes (grey water) in urban areas, and has constructed recycling plants in Riyadh, Jeddah and other major urban industrial centers. Recycled water is used for the irrigation of farm fields and urban parks. Through these efforts, the Government has been supplying safe and clean water in 1,660 cities, villages and hamlets. Approximately 4,060 other villages and hamlets are supplied with water by tankers.

In 2013, the Ministry of Water and Electricity launched 32 projects with total budget of 824 million Saudi Riyal (equal to approximately 222.5 million US Dollars) throughout the country. The projects consist of

development of water supply net- work and domestic wells, installation of sewage collection and treatment facilities, and renovation of old water supply networks. With accession of King Salman to the throne, total budget of 5.33 billion US Dollars has been allocated to water and electricity infrastructures.

4. Ensuring Access to Basic Sanitation and Drainage Services

Since 2003, the Ministry of Water and Electricity has been responsible for policy and regulation on water and sanitation services, whereas the National Water Company has been responsible for water supply and sanitation infrastructure. The length of sanitation networks reaches more than 17,600km, across the country, and more than 831,000 households are connected to the network. However, the sanitation networks serve less than half of the developed area in some of the major cities, and sewage treatment stations receive wastewater at volumes that exceed their maximum capacity. The coverage of the sewerage network is estimated to be 48.07% as of 2010, and is expected to reach 53% of urban areas in 2014.

5. Improving Access to Clean and Domestically Produced Energy

Electricity generation in the Kingdom is under the policy oversight of the Ministry of Water and Electricity. The Electricity and Cogeneration Regulatory Authority regulates the industry. The two main producers of electricity, licensed by the Authority, are the Saudi Electricity Company (SEC), and the Saline Water Conversion Corporation (SWCC), which operates a number of co-generation plants. Other generating plants are owned by large consumer companies including Saudi Aramco and SABIC.

In 2014, the total generating capacity available during peak load was approximately 68,179 MW, compared to approximately 30,300MW in 2004, indicating an average annual growth rate of 8.9%. In 2014, total sold electrical energy from all sources was approximately 295,532 million KWH.

The consumption of electric power has also increased rapidly in recent years. Growth in consumption rates in less developed regions exceeded the average growth rate of the country as a whole, indicating progress towards regionally balanced development.

In 2014, the residential sector accounted for approximately 51.1% of total energy consumption amounting to 136,083 billion kilowatt/hour, compared to industrial consumption at 20%, and commercial consumption at 15%. In 2014, the total number of subscribers throughout the country was approximately 7.6 million.

Recent studies of power consumption trends (for example in Riyadh, where annual growth in power consumption is currently about 8% p.a.) highlight the need for demand management in the energy sector, probably through progressive pricing reforms, in order to protect the export of oil industry as increasing volumes of oil are needed to dual fuel power stations /desalination plants.(26) Alternative energy sources, notably solar and nuclear, are under active consideration.

6. Improving Access to Sustainable Means of Transportation

In response to rapid urbanization with rapid population growth, particularly in major cities, development of advanced and sustainable networks of transportation has been one of the top priorities of the Government. At the national level, the Ministry of Transport is responsible for developing plans, policies and strategies on transportation. In 2011, the Ministry of Transport developed the National Transportation Strategy, which aims to provide sustainable transportation systems at the national, regional and local levels.

As the National Transportation Strategy highlighted, public transportation services play a crucial role particularly in major cities where road infrastructure is overloaded by private vehicles. Public transportation will provide citizens with effective and efficient means of transportation that reduces the use of private vehicles and, as a consequence, relieves traffic congestion. It will also reduce local pollution and CO2 emissions, which improves the environment and thereby benefits all people. Therefore the development of an integrated and sustainable public transportation is critical.

In response to the National Transportation Strategy, the Government approved five projects that simultaneously develop integrated public transportation systems in five major cities in the country, namely Riyadh, Makkah, Medina, Jeddah and Dammam.

In 2012, the Council of Ministers adopted the King Abdulaziz Integrated Public Transport Project in Riyadh, according to the comprehensive studies for public transport prepared by the High Commission for the Development of Arriyadh within the framework of the Metropolitan Strategic Plan for Riyadh (MEDSTAR). The project comprises an integrated metro network and a parallel bus network. The metro network constitutes the backbone of the public transport system in Riyadh. With six lines at a total length of 176 km and 85 metro stations, the metro network will cover most of the densely populated areas, public facilities, and the educational, commercial and medical institutions. The network will be connected to King Khalid International Airport and King Abdullah Financial District, main universities, downtown and the public transport.

The underground tunnels are 42 percent of the total length of the project; 11 percent of the metro would run on the level of the city's roads. About 47 percent of the metro, or 83.8 km, would run on elevated overpasses.The project includes the construction of five advanced centers to operate, control and monitor the metro lines, trains, stations and other project facilities. 25 Park & Ride locations are well-distributed throughout the city to make it easy for the people to switch between their private cars and metro. The Riyadh Metro project includes the establishment of seven parking & maintenance depots,

The latest technologies were incorporated into the design of the Metro network. The trains will run automatically (without a driver). Stations were designed according to unified architectural pattern to give the project a unique identity. Intended to provide the passengers with safety and comfort, all stations will be air-conditioned, equipped with passenger information system and provide internet access.

The system is to have an initial serving capacity of more than one million passengers per day, rising to maximum 3.6 million.

The METRO will be supported by a comprehensive BUS system including 24 dedicated Bus-Rapid-Transit lines with a total length of 1200 km to cover whole Riyadh city through 1000 buses of various capacities, ranging from small to high capacity, to complement the railway network with a total daily 900,000 passenger serving capacity. The Bus network comprises 6700 bus stops of various sizes in addition to control rooms and ticketing outlets, and integrates with the metro main network.

The Riyadh public transport project will serve as an effective tool in the implementation of the strategic execution programs approved for the future urban development in the Metropolitan Strategic Plan for Riyadh. It will work on meeting the existing and future demands of Riyadh city and keeping up with its continuous urban growth; importantly, development intensification and its positive results on reducing infrastructural provision costs and rationalizing resources.

According to the studies conducted by the High Commission for the Development of Riyadh, the economic benefit of the integrated Public Transport Project in the Riyadh City is estimated to be three times higher than the cost of its construction and operation. Once implemented and automatically operated, the project is expected to generate an estimated added value of SR43 billion, The project will also bring during its continued operation a total annual added value of SR4.5 billion resulting basically from nationalization of industries and jobs in the transportation sector.

7. Challenges Faced and Lessons Learned

Provision of decent housing and accompanying adequate basic service infrastructure for all citizens is the top priority of the Government. Providing no-interest loans from the Real Estate Development Fund has been the main approach taken by the Government to achieve its housing objectives. The Government's growing investing in the housing sector is well recognized, although there are still people who need

support for their housing. A major construction program of affordable public housing is now under way. However, there remains a critical challenge in providing affordable housing in major cities.

In responding to these challenges, the Ministry of Housing developed the National Housing Policy in 2014, which ensures the strategic housing provision and new approaches of providing affordable housing.

As a side effect of rapid population growth in major cities during the 1970s and 1980s, large numbers of informal settlements were developed by deprived population within deteriorated old centers as well as in urban peripheries. In these informal settlement areas, municipalities and government urban development agencies proposed and implemented various types of urban renewal approaches that included comprehensive clearance and redevelopment or rehabilitation and renovation approaches. These informal settlement-upgrading projects created opportunities for providing affordable housing in urban centers. However, informal settlements remain a significant problem in Jeddah in particular, but also in Makkah and Medina.

It is clear from the assessments above that the challenges facing the housing sector in Saudi Arabia are complex and numerous. In as effort to create a clear, effective and implementable strategy, we have summarized the problems into four main challenges to be addressed:

- The housing sector is in need of stronger governmental regulation.
- Inefficient housing market, caused in part by fragmented data collection, has contributed to the housing shortage in the Kingdom.
- Citizens do not have adequate financial and material support to acquire housing.
- There is a lack of suitable land o be developed due to poor land management and urban planning.

These challenges form the foundation that the rest of the strategy is based upon; the objectives, solutions, strategies, and programming are all designed to address these challenges, and bring the housing sector in the Kingdom to its envisaged state.

The challenge of providing adequate water supply and sewerage services across the Kingdom is being faced as the responsible organizations address backlogs in services in the major cities. Of significant concern is the high per capita water consumption in the Kingdom, which will have to be addressed through stringent ‘user pays’ policies.

A similar challenge is faced with respect to storm water drainage and flood protection, with major backlog works under way in both Jeddah and Riyadh in particular.

Development of integrated public transportation system is also among the highest priorities for the Government, aiming to improve the lives of urban residents and increase economic potential of the major cities that have regional and global economic competitiveness. There are five mega-projects that establish integrated public transport systems in the major cities of Riyadh, Makkah, Medina, Jeddah and Dammam. Various transportation modes have been effectively integrated to promote the use of public transportation, which will improve urban mobility and attract private enterprise and investment to the Kingdom of Saudi Arabia.

8. Vision of the Future

"to have sustainable, affordable, quality housing provision that meets the needs of all citizens based on spatial analysis and planning"

To achieve this vision, efforts and resources have to be focused on the following main directions:

(i) Strengthen the correlation between spatial planning and housing policy

- Successful formulation of the National Housing Policy indicates the direction for affordable housing provision. This housing policy will be disaggregated into spatial plans at the local level, so that affordable housing provision can meet the needs of the citizens.
- Different measures of affordable housing provision should be combined geographically through spatial analysis. For instance, private-led affordable housing project can easily add value to neighbouring areas, and can easily raise land values.
- With the support of UN-HABITAT, the Government will seek more strategic provision of affordable housing based on spatial analysis and planning, to assist in achieving more sustainable development.

(ii) Promote utilization of valuable under-utilized lands in urban areas.

- Some larger land owners in the key cities are reluctant to develop their land, preferring to take advantage of property price increases in a speculative land market. This contributes to high land prices and constrains the provision of affordable housing. Underutilized lands in urban areas should be effectively utilized to solve the shortage of affordable housing, especially where the land is served by developed infrastructure systems.
- The Government will seek to develop and apply an appropriate taxation system to land owners who own lands that are not utilized.
- With the support of UN-HABITAT, the Government will survey underutilized lands in urban areas, particularly in major cities, to promote the utilization of valuable lands for provision of affordable housing.

(iii) Encourage the use of integrated public transport in major cities.

- By 2020, integrated public transport system in four major cities is expected to be fully operational. The challenge remains to change people's behaviour to using public transportation, given the low running cost of private vehicles in the Kingdom and the ease of use of private cars despite rising traffic congestion.
- The Government will establish measures to provide incentives so that citizens are encouraged to use public transportation, and to establish disincentives for the use of private cars.
- The Government will also seek to combine measures to control traffic, including road pricing in urban areas and limiting the numbers of private vehicles entering urban areas at peak periods.
- Adopt transit oriented development approach and maximize the benefits of the underway public transport projects in major cities.