

# **A Demogeographic Analysis of Population Growth in the Makkah Al-Mokarramah Region, Saudi Arabia**

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## **Abstract**

*This study provides a demogeographic analysis of population growth in the Makkah Al-Mokarramah region from 1974 to 2010. It is generally accepted that people as human resource constitute the most important element of any country. Recent demographic censuses and surveys have revealed that population growth and fertility levels in developing countries are still fairly high. Saudi Arabia, like all Arab Gulf countries, is a destination for international migrants. A large number of immigrants are entering Makkah Al-Mokarramah. This study illustrates the influence of international migration on population growth in this region.*

**Key Words:** Demographic analysis. Population growth. Makkah Al-Mokarramah. Saudi Arabia.

## **Introduction**

The study of population can be advanced if population geography adopts some of the analytical methods of demography (Woods, 1979). Geographers are more often concerned with local changes in population than with national change, and are interested in interpreting the complex patterns of population growth and decline and the relative significance of the two components: migration and natural change (Clarke, 1972). Growth and decline are essential topics in many national and sub-national population studies; they often serve as a starting point in identifying demographic trends and their implications for planning and policy making (Rowland, 2003).

The Kingdom of Saudi Arabia has passed through three major stages over the course of the country's modern history. The first stage may be referred to as the unification of the kingdom, from 1902 to 1938. The second stage involves the discovery of oil and extends from 1939 to 1969. The third

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stage involves a period of economic boom and planning that has spanned from 1970 to the present (Al-Seryane, 1991). Up to the 1950s, Saudi Arabia underwent a period of population outmigration during which some inhabitants migrated to neighboring Arab countries in search of employment opportunities and population growth was limited by poor health and living conditions and accompanying high mortality rates (Al-Gabbani, 1998). However, this situation has changed rapidly with growing Kingdom income from oil exports, especially since 1975, and increased state spending during the oil boomphase (Al-Gabbani, 1998).

During the 1980s and 1990s the Kingdom also witnessed demographic changes due to changes in population distribution as a result of high rates of internal migration to the cities (Al-Gabbani, 1999). Changes in the population distribution of the kingdom are directly related to the overall development process that has occurred since 1970. This process has involved a concentration of the population in the three administrative regions, Makkah Al-Mokarramah, Riyadh and the Eastern Region, and specifically in the major cities of Riyadh, Jiddah, Makkah, Dammam and Taif (Al-Gabbani, 1999).

The development goals of the Kingdom were aimed at bringing in large numbers of non-Saudi workers to compensate for the shortfall of Saudi labor and skills and thus meet the development needs of the national economy (Al-Hajri, 2002). During the 1970s and 1980s, employment opportunities grew due to infrastructure development project implementation in response to the economic boom that the country was experiencing (Al-Hajri, 2002). This process of increased employment opportunity primarily emerged after a rise in the country's income from oil revenues, which consequently increased spending on infrastructure projects and social development (Al-Thomalely, 1988).

It should be noted that the number of Saudi workers in the private sector has increased from 844,476 in 2011 to 1,134,633 in 2012 (81% males and 19% females in 2012), while the number of non-Saudi workers in the same sector and period has increased from 6,937,020 to 7,352,900; the number of non-Saudi workers was approximately seven times the number of Saudi workers in 2012 (Ministry of Labor, 2012).

Economic and social development in the Kingdom is not limited to the provision of direct income for the population but extends to the development

of production and service activities in urban and rural areas, which has helped stimulate trade and become one of the most important economic resources for the population (Al-Thomaley, 1995).

Population concentration in the governorates located west of the study area (Jiddah - Makkah – At-Taif) occurred due to their geographical location along the coast of the Red Sea, which led to a concentration of job opportunities, tourism services and trade; Jiddah is the most important Saudi port on the Red Sea, and the Jiddah governorate is the first commercial region of Saudi Arabia (Abu-Dawood, 2002). In addition to its many excellent commercial qualities, Makkah is the location of the Holy Mosque (Al-Masjid Al-Haram) and some holy sites (Mina, Muz-dalifa and Arafat), making it a destination for many migrants from inside and outside the Kingdom; additionally, At-Taif is noted for its importance in agriculture and tourism since ancient times (Al-Jabri, 2008).

The Holy Mosque is the central point of Makkah city, and the cultural, religious, spiritual and trade center and life of the city depend on its presence (Al-Saleh, 1991). The pilgrimage (Hajj) plays a major role in the revitalization of trade in the holy city, and pilgrimage is an important source of income in Makkah (Al-Seryane, 1986). The religious importance embodied in the presence of the Holy Mosque and holy sites (Mina, Muz-dalifa and Arafat) is the major cause of the growth and prosperity for this city (Al-Gabbani, 1999).

Jiddah witnessed significant population increase due to various factors, the first of which involves the economic prosperity gleaned from development plans and programs in Saudi Arabia and the internal and international migrants that this brought to Jiddah (Abu-Dawood, 2002). Rabigh increased in importance at that time due to the large number of internal migrants that it received with the concentration of services and functions (Al-Jabri, 2008). Al-Jumum city flourished due to its strategic location on the road Makkah / Al-Madinah Al-Monawarah, where these services and functions concentrated, and this attracted populations from the desert and rural surroundings (Al-Jabri, 2008).

## **1. Research Problem**

Demographically, the Makkah Al-Mokarramah region is facing high rates of population growth while still receiving large numbers of immigrants. This study examines past trends of population size and growth

between 1974 and 2010 and factors that affect population growth. Projections are also made for the next 20 years to highlight the challenges facing this region.

## **2. Study Relevance**

It should be noted that the topic under discussion is crucial. Although several studies in physical and human geography have been carried out in Makkah Al-Mokarramah, none have focused on its population growth, and therefore, the present study is not only important but also necessary, as it attempts to address this research gap.

## **3. Study objectives**

The main objectives of the study can be summarized as follows:

- To analyze the current levels and trends of population growth in the region of Makkah Al-Mokarramah.
- To determine the factors responsible for the observed levels and trends of population growth.
- To predict the future population trends for the region.

## **4. Literature Review**

Although Al-Seryane (1986) studied population change in Makkah city from 1974 to 1983, this time period is not long enough to accurately study population changes. He revealed that the city witnessed significant changes in demographic, economic field and population distribution.

## **5. Study Hypothesis**

The main hypotheses are below:

1. Immigration has played an important role in population growth.
2. The religious function of Makkah Al-Mokarramah city has a significant impact on attracting international migrants.
3. Population growth in the Makkah Al-Mokarramah region is related to the level of development of its governorates.

## **6. Geographic Location of The Study Area**

The administrative region of Makkah Al-Mokarramah is located in the west of the Kingdom of Saudi Arabia (KSA) and extends between latitudes 23° 43' and 18° 35' north and longitudes 43° 52' and 38° 45' east. The region covers an area of 140,814 km<sup>2</sup>, approximately 7% of the total area of the Kingdom. The region extends from north to south approximately 592 km,

from the northern borders of the governorate of Rabigh to the southern borders of the governorate of Al-Qunfidhah and extends approximately 500 km from the eastern borders of the governorates of Ranyah and Al-Khurmah to the western borders of the governorate of Jiddah on the Red Sea. The Makkah Al-Mokarramah region consists of 12 administrative governorates (Figure 1) (Al-Jabri, 2008).

## 7. Methodology

This study draws on statistics and data tabulation on the population growth rate. A projection technique was implemented to estimate the future population size under different scenarios of population growth rate over a period of 20 years (for details on these assumptions, see section four).

The exponential equation (Siegel and Swanson 2004) was used to compute the population growth rate and projections:

$$r = 1/n \ln P_n/P_0$$

$$P_n = P_0 e^{r n}$$

where:

( $r$ ) is the exponential rate of growth, ( $n$ ) is the length of the interval in years, ( $\ln$ ) is the natural logarithm, ( $P_n$ ) is the population at the end of the interval, ( $P_0$ ) is the initial population, and ( $e$ ) is the base of natural logarithms.

## 8. Data sources

In 1974, the central department of statistics and information conducted the first census in Saudi Arabia (Al-Ribdi 2005). By 2010, the Kingdom of Saudi Arabia had completed four successive censuses. The data used in this study were obtained primarily from these censuses.

## 9. Study organization

This study is organized into four sections. Following the above introductory statements, section one addresses the changes in population size. The second section analyzes the levels and trends of population growth. The third section explores the future population trends for the region. The fourth section is devoted to conclusions and recommendations.

## 10. Study limitations

The major limitation of this study is a lack of sufficient data to answer many of the anticipated questions. It was neither easy nor possible to obtain sufficient data, especially vital statistics data.

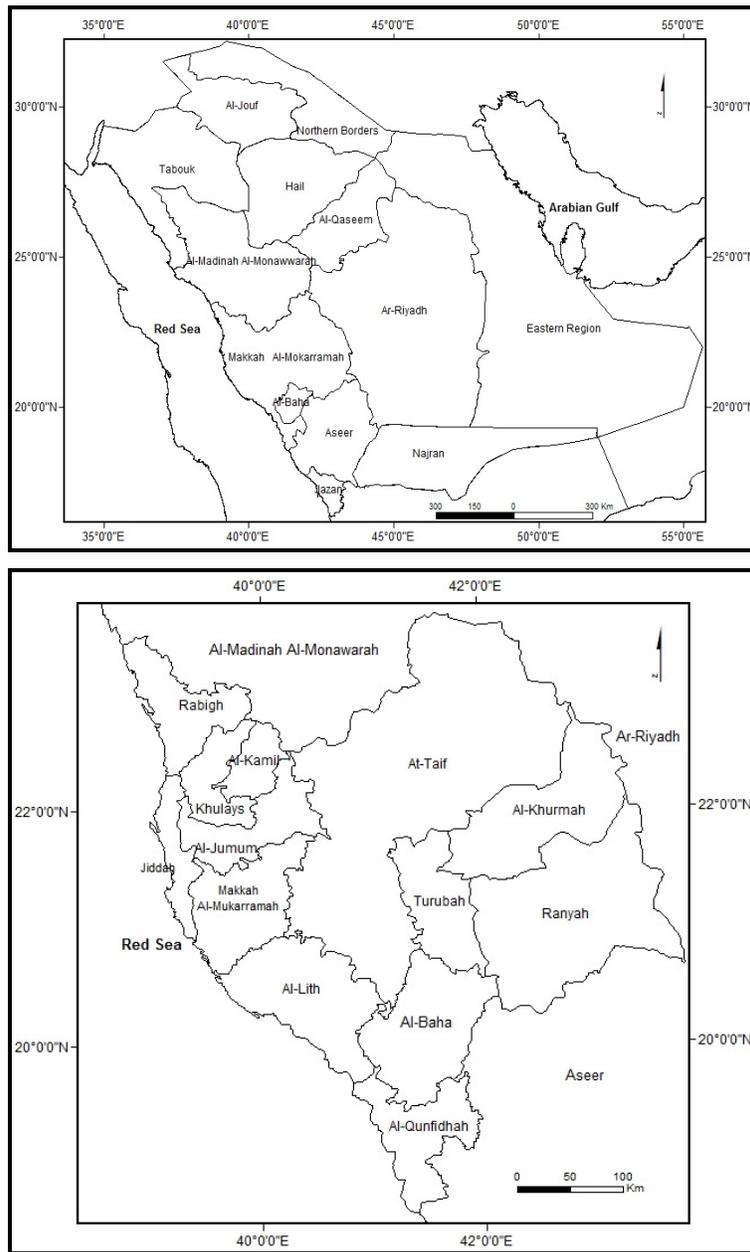


Figure 1. Geographic location of the study area.

## Section One: Changes in Population Size

Without doubt population size in any place is the result of three major components: births, deaths, and net-migration. Total population numbers are often the overriding consideration in planning (Rowland, 2003). In demographic terms, the size of the population of a given place grows or diminishes because of the interworkings of the components of population change-fertility, mortality and net-migration (Schnell, 1983).

Absolute change is simply the difference between the size of the population at the start and end of a period of time (Rowland, 2003). The population size of the Makkah Al-Mokarramah region increased from 1,760,216 in 1974 to 6,915,006 in 2010, a total increase of 5,154,790 over the entire 36 years. This means that the population size increased by approximately 3.9-fold once during this period. This rise is due to internal migration from the rural and Bedouin areas to the region and by international migrants who came to work in the region. In 2010, 40.5% of the region's population was non-Saudi (Appendix Table 11). Migration being relatively more important in small areal units than in large ones (Clarke, 1972)

Some important reasons for this increase include (1) the oil boom that occurred in the Kingdom that resulted in an economic, social and urban renaissance and (2) the concentration of overall development in the Makkah Al-Mokarramah region. Apart from the absolute increase or decrease per annum, one of the most common measures of growth is the annual rate of increase (Clarke, 1972). The greater proportion of total increase (153.8%) occurred during the first census period, and population size increased by approximately 2.5-fold once during this period. These changes are made clear in Table (1).

**Table 1.** The absolute evolution of the Makkah Al-Mokarramah region population: 1974-2010.

Census year	No. of population	Size of population increase		Ratio of population increase	
		Total	Annual	Total	Annual
1974	1,760,216	-	-	-	-
1992	4,467,670	2,707,454	145,605	153.8	8.3
2004	5,797,184	1,329,514	107,798	29.8	2.4
2010	6,915,006	1,117,822	193,283	19.3	3.3

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.

The population distribution in the Kingdom by region from 1974 to 2010 is presented in Table (2) and Figure (2), shows that the population size of the Kingdom was 6,726,466 in 1974 and continued to rise until it reached 27,136,977 in 2010.

The geographic distribution of the population and the changes in this value over time in the regions of the Kingdom deserve some attention. There is an unequal distribution of population across the regions, and only two regions (Makkah Al-Mokarramah, Ar-Riyadh) have constituted half of the Kingdom's population in 2010; this dominance is due to the concentration of overall development in these regions.

Seven regions maintained the top seven highest populations during the period from 1974 to 2010 and include, in order, Makkah Al-Mokarramah, Ar-Riyadh, Eastern Region, Aseer, Al-Madinah Al-Monawarah, Jazan, Al-Qaseem. These areas have received the highest levels of international migration (Appendix 1).

The 1992 census captured the start of population changes in the Kingdom. While Tabouk rose to eighth, Hail fell to ninth, and each of these regions maintained these ranks until 2010. Al-Jouf also rose to twelfth, Northern Borders fell to last, and both regions maintained these rankings until 2010.

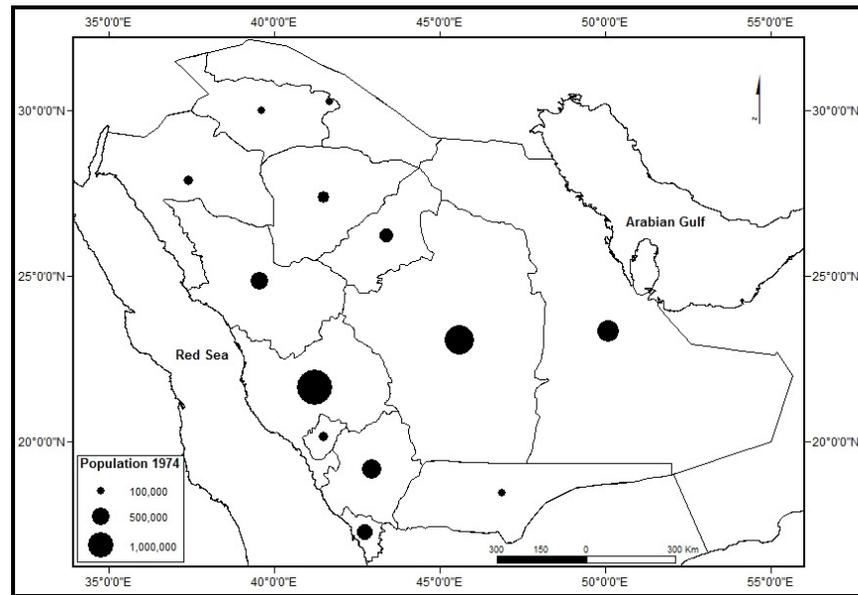
The 2004 Census also revealed some population changes. Najran rose to tenth and maintained this rank until 2010, Al-Baha fell to eleventh and Al-Jouf continued to rise until reaching the eleventh place and remained at this level until 2010. However, in the 2010 census, the population changes were limited to the continued decline of Al-Baha to the twelfth place, a decline caused by migration to the Makkah Al-Mokarramah region.

The geographic distribution of the population of the Makkah Al-Mokarramah region and changes in this value from 1992 to 2010 within its governorates are presented in Table (3) and Figure (3).

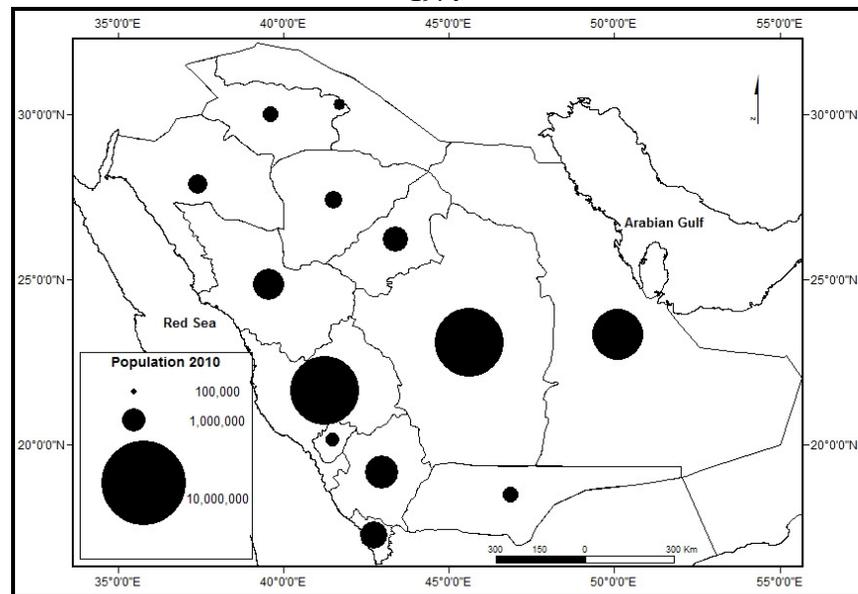
**Table 2.** Evolution of absolute and percentage distribution of the population in the regions of Saudi Arabia: 1974-2010.

Region	1974		1992		2004		2010	
	No.	%	No.	%	No.	%	No.	%
Ar-Riyadh	1,259,145	18.7	3,834,986	22.6	5,458,273	24.1	6,777,146	25
Makkah Al-Mokarramah	1,760,216	26.2	4,467,670	26.3	5,797,184	25.6	6,915,006	25.5
Al-Madinah Al-Monawarah	516,636	7.7	1,084,947	6.4	1,512,724	6.7	1,777,933	6.5
Al-Qaseem	324,543	4.8	750,979	4.4	1,015,972	4.5	1,215,858	4.5
Eastern Region	762,037	11.3	2,575,820	15.2	3,360,031	14.8	4,105,780	15.1
Aseer	678,679	10.1	1,340,168	7.9	1,687,939	7.4	1,913,392	7.1
Tabouk	194,539	2.9	486,134	2.9	691,716	3.1	791,535	2.9
Hail	265,216	3.9	411,284	2.4	526,882	2.3	597,144	2.2
Northern Borders	127,582	1.9	229,060	1.4	279,971	1.2	320,524	1.2
Jazan	408,334	6.1	865,961	5.1	1,187,587	5.2	1,365,110	5
Najran	144,097	2.1	300,994	1.8	420,345	1.9	505,652	1.9
Al-Baha	185,851	2.8	332,157	2	377,900	1.6	411,888	1.5
Al-Jouf	99,591	1.5	268,228	1.6	361,738	1.6	440,009	1.6
<b>Total Kingdom</b>	<b>6,726,466</b>	<b>100 %</b>	<b>16,948,388</b>	<b>100 %</b>	<b>22,678,262</b>	<b>100 %</b>	<b>27,136,977</b>	<b>100 %</b>

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.



1974



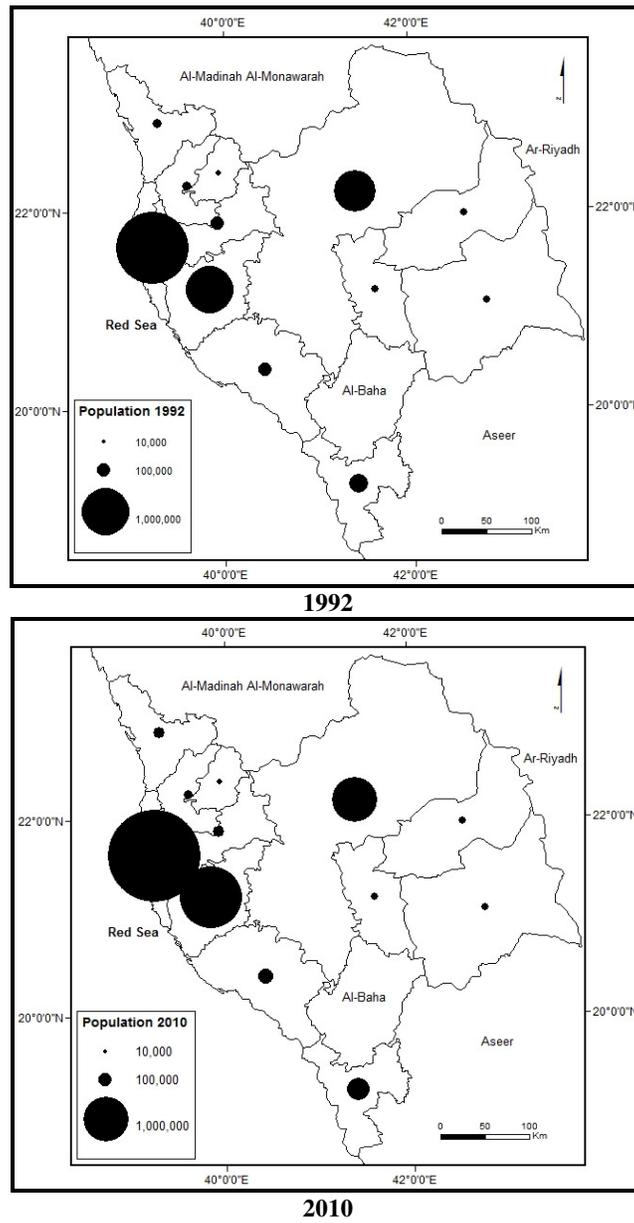
2010

Figure 2. Total population in the regions of Saudi Arabia: 1974, 2010.

**Table 3.** The evolution of the absolute and percentage distribution of the population in the governorates of the Makkah Al-Mokarramah region: 1992-2010.

Governorate	1992		2004		2010	
	No.	%	No.	%	No.	%
Makkah Al-Mokarramah	994,079	22.2	1,402,944	24.2	1,675,368	24.2
Jiddah	2,055,243	46	2,821,371	48.7	3,456,259	50
At-Taif	764,070	17.1	883,538	15.2	987,914	14.3
Al-Qunfidhah	202,603	4.5	240,944	4.1	272,424	4
Al-Lith	96,903	2.2	109,953	1.9	128,529	1.9
Rabigh	60,733	1.3	68,538	1.2	92,072	1.3
Al-Jumum	111,215	2.5	76,026	1.3	92,222	1.3
Khulays	47,323	1.1	49,919	0.9	56,687	0.8
Al-Kamil	19,990	0.5	18,468	0.3	21,419	0.3
Al-Khurmah	35,685	0.8	38,600	0.7	42,223	0.6
Ranyah	40,167	0.9	44,229	0.8	45,942	0.7
Turubah	39,659	0.9	42,654	0.7	43,947	0.6
<b>Total region</b>	<b>4,467,670</b>	<b>100 %</b>	<b>5,797,184</b>	<b>100 %</b>	<b>6,915,006</b>	<b>100 %</b>

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.



**Figure 3.** Total population in the governorates of the Makkah Al-Mokarramah region in 1992 and 2010.

The data on the number and percentage distribution of the population in the governorates of Makkah Al-Mokarramah region show that Jiddah dominated nearly half of the region's population, and the size of its population increased from 2,055,243 in 1992, which is equivalent to 46% of the total regional population of the region in that year, to 3,456,259 in 2010, which is equivalent to 50% of the total population of the region in that year. This is a total increase of 1,401,016 and an approximately 1.7-fold increase of the governorate population size during the specified period.

The steady rise in the population of Jiddah can be attributed to economic prosperity resulting from development programs, which increased the availability of job opportunities and attracted large numbers of migrants from inside and outside the Kingdom. Fifty percent of the governorate's population was non-Saudi in 2010 (Appendix 2).

The Makkah Al-Mokarramah governorate came in second place with an increase in population size from 994,079 in 1992, which is equivalent to 22.2% of the total population of the region in that year, to 1,675,368 in 2010, which is equivalent to 24.2% of the total population of the region in the same year, with a total increase of 681,289. This increased the governorate's population size by approximately 1.7-fold during that period. These changes in Makkah Al-Mokarramah appear to be mostly influenced by environmental and geographical conditions resulting in increased migration from both inside and outside of the Kingdom that accompanied the oil boom. The governorate's population was 44.8% non-Saudi in 2010 (Appendix 2).

In addition to internal and international migration, the current developmental activities primarily concentrated in Makkah Al-Mokarramah may have also caused the pattern of distribution to change in favor of Makkah Al-Mokarramah.

The At-Taif governorate came in third place, where the proportion of the population decreased from 17.1% of the region in 1992 to 14.3% in 2010. The gradual decline in the proportion of the population in At-Taif can be attributed to out-migration from At-Taif to Makkah Al-Mokarramah.

Four governorates held proportions of the total regional population ranging from 1 to 5% from 1992 to 2010. Al-Qunfidhah, Al-Lith, Rabigh and Al-Jumum. Khulays joined this group only in 1992.

The remaining governorates have each recorded ratios of less than 1% of the total regional population 1992 to 2010: Al-Kamil, Al-Khurmah, Ranyah and Turubah. Khulays has belonged to this group since 2004.

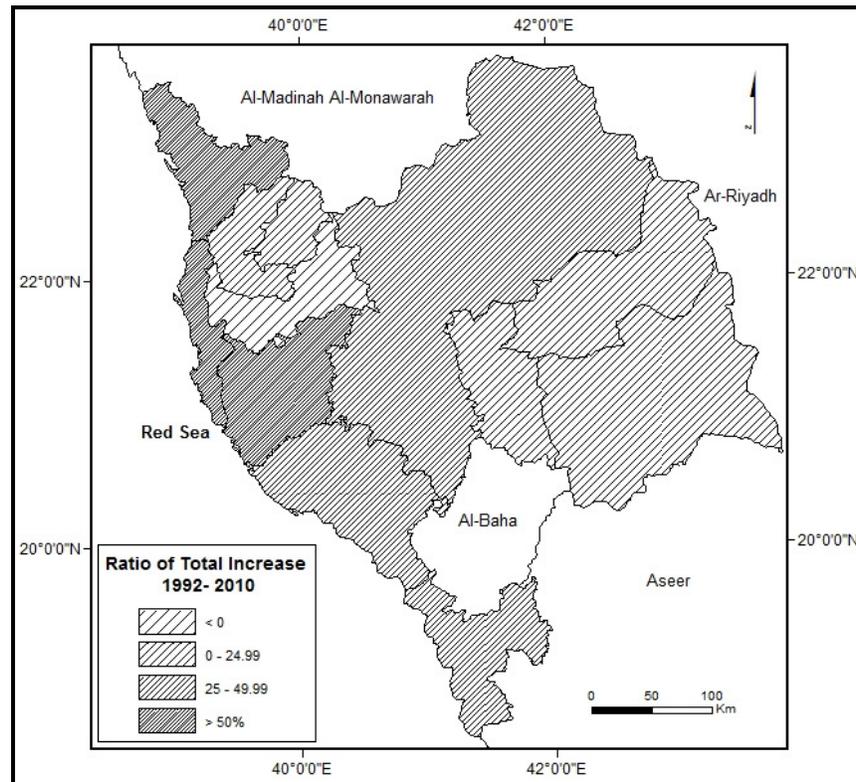
The data on the proportional increase in the sizes of the governorate populations of Makkah Al-Mokarramah from 1992 to 2010 show that two governorates have achieved proportional increases greater than the general increase for the region of 54.8% during that period. Makkah Al-Mokarramah experienced the largest proportional increase (68.5%), followed by Jiddah (68.2%). As previously noted, these changes are due to increased migration from inside and outside of the Kingdom that accompanied the oil boom and the developmental activities concentrated primarily in Makkah Al-Mokarramah and Jiddah.

While the remaining governorates recorded proportional increases of less than the general ratio for the region, those ratios ranged between 51.6% in Rabigh to 7.1% in Al-Kamil. Only one Governorate, Al-Jumum, recorded a proportional decrease in population size (-17.1%). These data are shown in Table (4) and Figure (4). It should be noted that the gradual decline in the proportion of the population in Al-Jumum can be attributed to out-migration from Al-Jumum to Makkah Al-Mokarramah.

**Table 4.** Ratio of population size increases in the governorates of the Makkah Al-Mokarramah region: 1992-2010.

Governorate	Population size			Ratio of total increase %
	1992	2010	Total increase	
Makkah Al-Mokarramah	994,079	1,675,368	681,289	68.5
Jiddah	2,055,243	3,456,259	1,401,016	68.2
At-Taif	764,070	987,914	223,844	29.3
Al-Qunfidhah	202,603	272,424	69,821	34.5
Al-Lith	96,903	128,529	31,626	32.6
Rabigh	60,733	92,072	31,339	51.6
Al-Jumum	111,215	92,222	-18,993	-17.1
Khulays	47,323	56,687	9,364	19.8
Al-Kamil	19,990	21,419	1,429	7.1
Al-Khurmah	35,685	42,223	6,538	18.3
Ranyah	40,167	45,942	5,775	14.4
Turubah	39,659	43,947	4,288	10.8
<b>Total region</b>	<b>4,467,670</b>	<b>6,915,006</b>	<b>2,447,336</b>	<b>54.8</b>

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.



**Figure 4.** Ratio of population size increases in the governorates of the Makkah Al-Mokarramah region: 1992-2010.

## Section Two: Levels of and Trends in Population Growth

It is important to note that the majority of the Kingdom's population growth occurred during the first census period because this period coincided with the oil boom that included the recruitment of large numbers of international laborers to work for infrastructure projects.

Evaluation of the population growth rates in the Kingdom shows that population growth rates have declined between 1974 and 2010, during which time the rate declined from 5% from 1974 to 1992 to 2.4% from 1992 to 2004 and then rose to 3.1% during the last census period from 2004 to 2010.

The major reason for this decline in the population growth rate is attributable the Kingdom's adoption of a policy that replaced international labor with Saudi employees. Nonetheless, the trend still exhibits a relatively high rate of growth.

The data on population growth rates in the Kingdom regions show that during the first census period (1974-1992), the Eastern Region recorded the highest population growth rate (6.5%), followed, in order, by Ar-Riyadh, Al-Jouf, and Makkah Al-Mokarramah. The main reason for this high population growth rate is the concentration of development projects in these regions and specifically in their major cities, which led to increased job opportunities.

While the remaining regions have recorded rates less than the general rate of the Kingdom during the same period, the Hail region came in last with a population growth rate of 2.4%.

In the second census period (1992-2004) five regions recorded rates higher than the general rate of the Kingdom during the same period. The regions of Ar-Riyadh and Tabouk showed the highest population growth rate of 2.9% each, followed by the regions of Al-Madinah Al-Monawarah and Najran, with a population growth rate of 2.7% each, followed by Jazan. This rise is due to the continued concentration of development projects in these regions.

The remaining regions recorded rates less than the general rate of the Kingdom during the same period. It should be noted that the Al-Baha region showed lowest population growth rate 1%. This decline is a result of out-migration to the Makkah Al-Mokarramah region.

During the last census period (2004-2010), three regions recorded rates higher than the general rate of the Kingdom during the same period. The Ar-Riyadh region showed the highest population growth rate (3.7%), followed by Al-Jouf, then Najran.

The remaining regions recorded rates less than the general rate of the Kingdom during the same period. It is worth noting that the Al-Baha region showed the lowest population growth rate (1.5%). These findings are shown in Table (5) and Figure (5).

The data on population growth rates in the Makkah Al-Mokarramah region show that the population growth rate rose between 1992 and 2010. The rate increased from 2.1% from 1992 to 2004 to 3% from 2004 to 2010. This rise was caused by the concentration of development projects in this region and specifically in Makkah Al-Mokarramah city, which resulted in the increased availability of job opportunities.

The data on population growth rates in the governorates of the Makkah Al-Mokarramah region show that during the first census period (1992-2004) two governorates recorded rates higher than the general rate of the region (2.1%) during the same period. Makkah Al-Mokarramah showed highest population growth rate (2.8%), which was primarily a result of immigration. Jiddah followed with a population growth rate of 2.6%. This growth was caused by the concentration of development projects in this city, which increased the availability of job opportunities and consequently increased immigration and migration streams from rural areas.

The remaining governorates recorded rates lower than the general rate of the region during the same period. It should be noted that two governorates recorded negative rates. Al-Kamil showed a population growth rate of -0.6% and Al-Jumum showed the lowest population growth rate (-3.1%). This was caused by out migration from these governorates to Makkah Al-Mokarramah and Jiddah cities.

During the second census period (2004-2010), four governorates recorded rates higher than the general rate of the region (3%) during the same period. The Rabigh governorate showed the highest population growth rate (5.1%). This rise was caused by immigration of non-Saudi migrants which increased from 20.8% of the governorate's population in 2004 to 33.8% in 2010 (Appendix 2). This change occurred because Rabigh is the location of home to several industries. The King Abdullah economic city (megaproject) has also been under construction since it was announced in 2005 and will be completed fully by 2020. It will also help create up to one million jobs, followed, in order, by Jiddah, Al-Jumum, and Makkah Al-Mokarramah. These changes occurred because the cities in these governorates are still receiving migrants.

The remaining governorates recorded rates less than the general rate of the region during the same period. It is worth noting that the Turubah governorate showed the lowest population growth rate (0.5%). This is shown in Table (6) and Figure (6).

**Table 5.** Differentials in population growth rate in the regions of Saudi Arabia: 1974-2010.

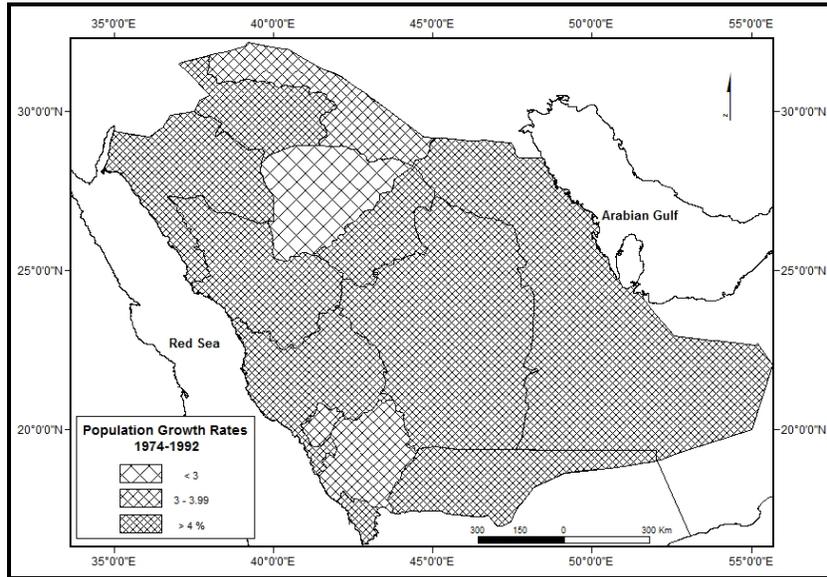
Region														
Census period	Ar-Riyadh	Makkah Al-Mokarramah	Al-Madinah Al-Monawarah	Al-Qaseem	Eastern Region	Aseer	Tabouk	Hail	Northern Borders	Jazan	Najran	Al-Baha	Al-Jouf	Total Kingdom
1974-1992	6	5	4	4.5	6.5	3.7	4.9	2.4	3.1	4	4	3.1	5.3	5
1992-2004	2.9	2.1	2.7	2.4	2.1	1.9	2.9	2	1.6	2.5	2.7	1	2.4	2.4
2004-2010	3.7	3	2.8	3.1	3.5	2.2	2.3	2.2	2.3	2.4	3.2	1.5	3.4	3.1

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.

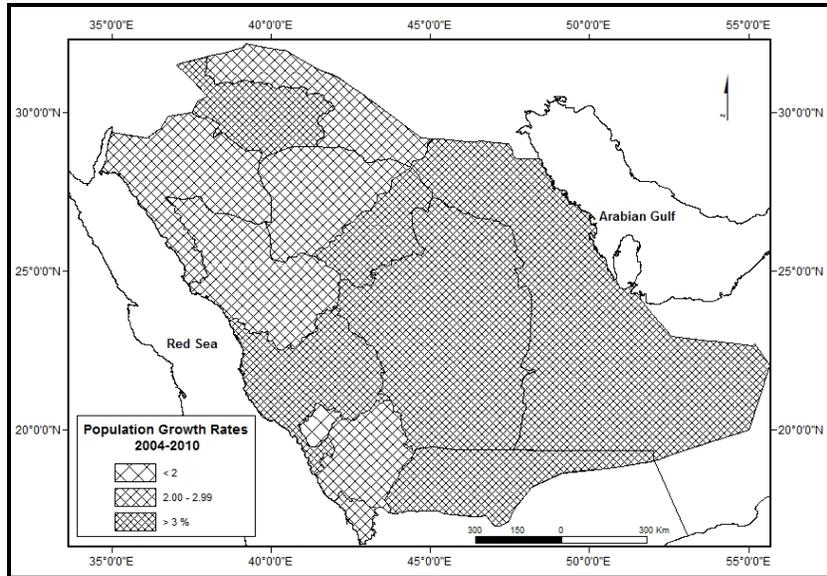
**Table 6.** Differentials in population growth rate in the governorates of the Makkah Al-Mokarramah region: 1992-2010.

Governorate													
Census period	Makkah Al-Mokarramah	Jiddah	At-Taif	Al-Qunfidhah	Al-Lith	Rabigh	Al-Jumum	Khulays	Al-Kamil	Al-Khurmah	Ranyah	Turubah	Total region
1992-2004	2.8	2.6	1.2	1.4	1	0.9	-3.1	0.4	-0.6	0.6	0.8	0.6	2.1
2004-2010	3.1	3.5	1.9	2.1	2.7	5.1	3.3	2.2	2.6	1.5	0.7	0.5	3

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.

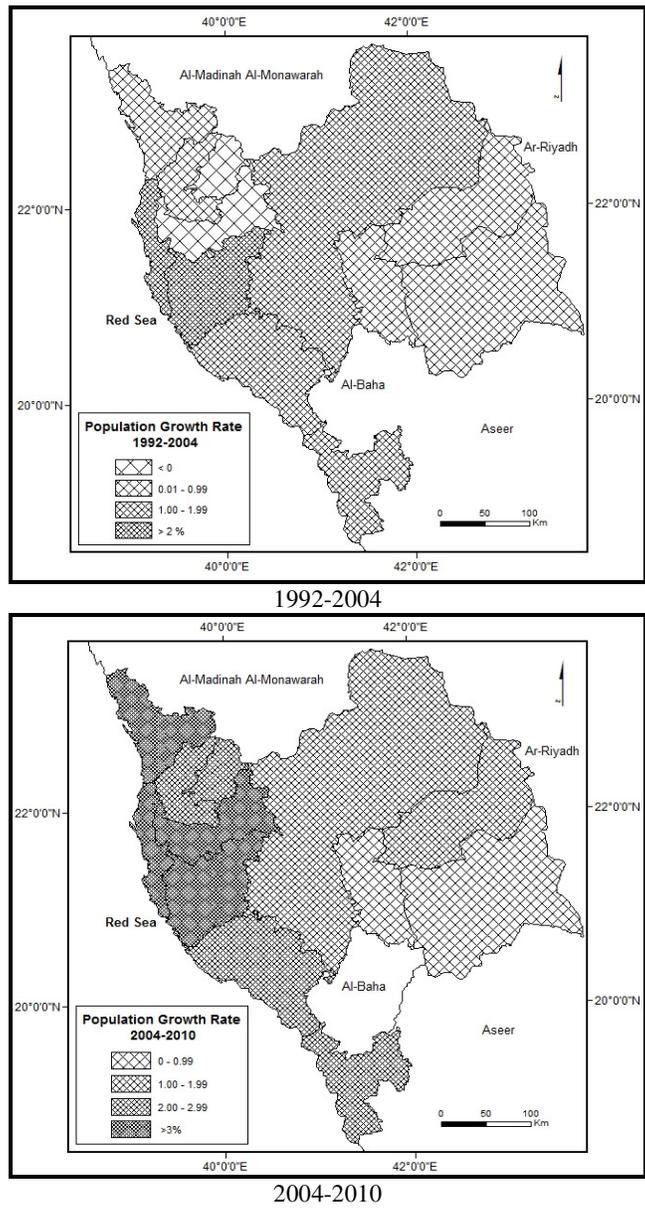


1974-1992



2004-2010

Figure 5. Population growth rate in the regions of Saudi Arabia: 1974-1992 and 2004-2010.



**Figure 6.** Population growth rates in the governorates of the Makkah Al-Mokarramah region: 1992-2004 and 2004-2010.

Studying the number of years required for the population of the Makkah Al-Mokarramah governorates to double in size showed that the number of years required for two of the governorates (Makkah Al-Mokarramah and Jiddah; 24.1) less than the number of years required for the region's population to double (29.2 years); the number of years required for remaining governorates to double their populations is greater than the number of years required for the population of the region to double, which ranges between 30.4 years in Rabigh and 175 years in Al-Kamil. These data are shown in Table (7).

**Table 7** Annual growth rate of the populations in the Makkah Al-Mokarramah governorates and amount of time needed to double the population: 1992-2010.

Governorate	Population size		Growth rate	doubling time
	1992	2010		
Makkah Al-Mokarramah	994,079	1,675,368	2.9	24.1
Jiddah	2,055,243	3,456,259	2.9	24.1
At-Taif	764,070	987,914	1.4	50
Al-Qunfidhah	202,603	272,424	1.6	43.8
Al-Lith	96,903	128,529	1.6	43.8
Rabigh	60,733	92,072	2.3	30.4
Al-Jumum	111,215	92,222	-1	-70
Khulays	47,323	56,687	1	70
Al-Kamil	19,990	21,419	0.4	175.0
Al-Khurmah	35,685	42,223	0.9	77.8
Ranyah	40,167	45,942	0.7	100.0
Turubah	39,659	43,947	0.6	116.7
<b>Total region</b>	<b>4,467,670</b>	<b>6,915,006</b>	<b>2.4</b>	<b>29.2</b>

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.

### Section Three: The Future of Population

#### *Projection hypotheses*

Projection assumptions are usually based on analyses of recent demographic trends, with the exclusion of major abnormal events, such as war and political upheavals (Woods 1979).

The populations of the Makkah Al-Mokarramah region and its governorates for the period of 2010-2035 were projected using three hypotheses. These projections were based on the 2010 census data and a comprehensive analysis of historical population growth rate trends since 1974.

- a. **High projection:** This projection assumes that the population growth rate will increase slowly, by 0.02% per year, during the projection period.
- b. **Medium projection:** This projection assumes that the population growth rate will continue during the projection period as it progressed during the last census period (2004-2010).
- c. **Low projection:** This projection assumes that the population growth rate will decline slowly, by 0.02% per year, during the projection period.

The medium projection to 2035 shows that the population size of the Makkah Al-Mokarramah region will reach 14,650,907 in 2035 based on a population size of 6,915,006 in 2010, thus predicting an increase of 7,735,901 (approximately 112%). The low and high projections show regional population size ranging between 13,753,881 and 15,603,190 in 2035. These projections are shown in Table (8).

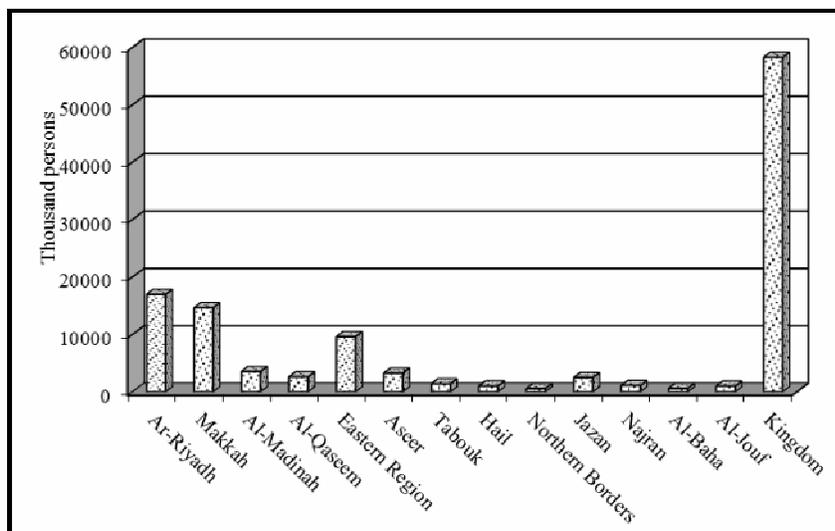
If the population growth rate were to continue in the regions of Ar-Riyadh and Makkah Al-Mokarramah as it did during the recent census period (2004-2010), Ar-Riyadh would be for the first time ranked first among the regions of the Kingdom in terms of population size from 2015 to the end of the projection period, with a population size reaching 16,979,795 in 2035 according to the medium estimate. Makkah Al-Mokarramah would return to second rank with a population size reaching 14,650,907 in 2035 according to the medium estimate, and the remaining regions would maintain their ranks from the last census (2010).

**Table 8.** Population projections for the Makkah Al-Mokarramah region base on high, medium, and low estimates: 2015-2035.

Year	No. of Population			Size of Population Increase		
	High	Medium	Low	High	Medium	Low
2015	8,058,809	8,035,390	8,012,023	-	-	-
2020	9,437,438	9,337,301	9,238,092	1,378,629	1,301,911	1,226,069
2025	11,105,556	10,850,150	10,600,123	1,668,118	1,512,849	1,362,031
2030	13,131,895	12,608,114	12,103,916	2,026,339	1,757,964	1,503,793
2035	15,603,190	14,650,907	13,753,881	2,471,295	2,042,793	1,649,965

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.

It should be noted that some regions (Ar-Riyadh - Makkah Al-Mokarramah - Eastern Region – Aseer - Al-Madinah Al-Monawarah – Jazan - Al-Qaseem) will be million regions in 2015 according to the medium estimate. The region of Tabouk will appear on the list of million regions in 2025, and the Hail, Najran and Al-Jouf regions will join this list in 2035. The regions of Al-Baha and Northern Borders will remain until the end of the projection period as half million regions. These projections are shown in Table (9), Figure (7) and (Appendix 3).



**Figure 7.** Population projections for the regions of Saudi Arabia according to the medium estimate: 2035.

The Jiddah governorate will have the highest population size among the governorates of the Makkah Al-Mokarramah region throughout the census periods. This will continue until 2035, when the size of its population will reach 8,186,670 according to the medium estimate. This region will be followed by the governorate of Makkah Al-Mokarramah, with a population size of 3,566,613, then At-Taif with a population size of 1,593,488 by the end of the projection period according to the medium estimate. It should be noted that the remaining governorates in the Makkah Al-Mokarramah region will remain until the end of the projection period with populations size of less than half a million people. These projections are shown in Table (10), Figure (8) and (Appendix 4).

Table 9. Population projections for the regions of Saudi Arabia according to the high, medium, and low estimates: 2015-2035.

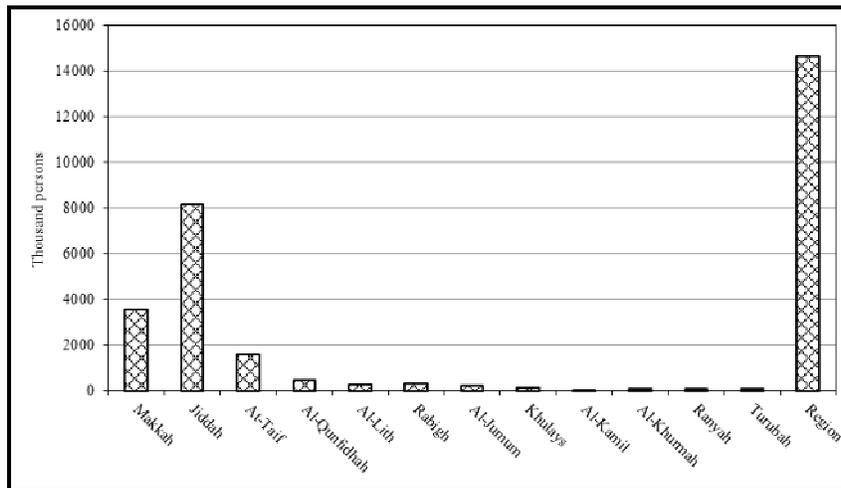
Region	2015			2020			2025			2030			2035		
	High	Medium	Low												
Ar-Riyadh	8167317	8143741	8120217	9890150	9785907	9682624	12034147	11759212	11490028	14713453	14130428	13569058	18075854	16979795	15946923
Makkah Al-Mokarramah	8058809	8035390	8012023	9437438	9337301	9238092	11105556	10850150	10600123	13131895	12608114	12103916	15603190	14650907	13753881
Al-Madinah Al-Monawarah	2046464	2040502	2034554	2367026	2341848	2316905	2751123	2687698	2625611	3213093	3084623	2960968	3770861	3540167	3322891
Al-Qaseem	1420876	1416749	1412632	1668527	1650833	1633303	1968848	1923593	1879291	2334484	2241421	2151835	2781425	2611762	2451938
Eastern Region	4882486	4868354	4854254	5834220	5772563	5711476	7005176	6844712	6687614	8451773	8115994	7792719	10246299	9623393	9036490
Asser	2136231	2129970	2123723	2396711	2371063	2345654	2702117	2639445	2578103	3061340	2938205	2819712	3485266	3270782	3068848
Tabouk	890789	888182	885581	1007394	996631	985968	1144832	1118321	1092372	1307373	1254869	1204342	1500275	1408090	1321291
Hail	666583	664630	662680	747744	739742	731814	842893	823343	804208	954798	916392	879434	1086844	1019957	956984
Northern Borders	360860	359804	358750	408259	403898	399577	464143	453395	442876	530252	508958	488467	608732	571331	536115
Jazan	1542150	1537641	1533142	1750669	1731977	1713461	1997088	1950875	1905642	2289309	2197439	2109025	2637082	2475165	2322700
Najran	593479	591757	590038	699940	692524	685176	829501	810450	791801	987803	948458	910582	1182006	1109966	1042099
Al-Baha	444795	443483	442174	482702	477502	472350	526420	514130	502102	576924	553567	531096	635385	596030	558993
Al-Jouf	521253	519743	518237	620488	613926	607424	742190	725176	708519	892052	856585	822440	1077352	1011807	950054
Total Kingdom	31709791	31617692	31525795	37233097	36838239	36447041	43930563	42920776	41932244	52083981	50007629	48008868	62049650	58264627	54699116

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.

Table 10. Population projections for the governorates of the Makkah Al-Mokarramah region according to the high, medium, and low estimates: 2015-2035.

Governorate	2015			2020			2025			2030			2035		
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
Makkah Al-Mokarramah	1954353	1948675	1943009	2290870	2266567	2242489	2698362	2636317	2575578	3193748	3066386	2943784	3798390	3566613	3348281
Jiddah	4118743	4106828	4094938	4931952	4879852	4828234	5934259	5798383	5665355	7174734	6889807	6615487	8716349	8186670	7687592
Ac-Taif	1090242	1087039	1083843	1209079	1196110	1183262	1347449	1316124	1285467	1509016	1448181	1389645	1698233	1593488	1494886
Al-Qunfudhah	303490	302600	301712	339756	336118	332515	382218	373349	364669	432092	414704	397973	490861	460640	432189
Al-Lah	147266	146837	146409	169558	167753	165965	196175	191648	187217	228074	218947	210162	266450	250134	234769
Rabigh	118430	118093	117756	153060	151468	149890	198758	194275	189885	259326	249180	239407	339958	319603	300406
Al-Jumun	108999	108683	108368	129452	128083	126725	154488	150945	147476	185256	177887	170793	223226	209639	196839
Knulays	63384	63198	63013	71219	70457	69703	80415	78550	76725	91242	87573	84042	104032	97632	91606
Al-Kamil	24380	24308	24237	27885	27588	27293	32050	31309	30584	37016	35533	34105	42960	40326	37846
Al-Khurrah	45736	45601	45467	49785	49249	48718	54460	53190	51946	59867	57445	55115	66135	62041	58188
Ranyah	47613	47471	47330	49590	49051	48518	51906	50684	49489	54600	52371	50228	57718	54115	50725
Turubah	45228	45093	44959	46779	46270	45766	48623	47477	46355	50791	48715	46719	53319	49986	46851
<b>Total region</b>	<b>8058809</b>	<b>8035390</b>	<b>8012023</b>	<b>9437438</b>	<b>9337301</b>	<b>9238092</b>	<b>11105556</b>	<b>10850150</b>	<b>10600123</b>	<b>13131895</b>	<b>12608114</b>	<b>12103916</b>	<b>15603190</b>	<b>14650907</b>	<b>13753881</b>

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.



**Figure 8.** Population projections for the governorates of the Makkah Al-Mokarramah region according to the medium estimate: 2035.

### Conclusion

- The size of population of the Kingdom was 6,726,466 in 1974 and continued to rise until it reached 27,136,977 in 2010.
- The population distribution is unequal distribution across the regions of the Kingdom, as only two regions (Makkah Al-Mokarramah and Ar-Riyadh) held half of the Kingdom's population in 2010.
- The population size of the Makkah Al-Mokarramah region increased from 1,760,216 in 1974 to 6,915,006 in 2010, which means that the population size grew by approximately 3.9-fold once during this period.
- Jiddah held nearly half of the region's population, increasing the size of its population from 2,055,243 in 1992, which is equivalent to 46% of the region's total population in that year, to 3,456,259 in 2010, which is equivalent to 50% of the region's total population in that year.
- The Makkah Al-Mokarramah governorate came in second, with an increase in population size from 994,079 in 1992, which is equivalent to 22.2% of region's the total population in that year, to 1,675,368 in 2010, which is equivalent to 24.2% of the region's total population in that year.
- Population growth rates declined between 1974 and 2010, during which period the rate declined from 5% from 1974 to 1992 to 2.4% from 1992 to 2004 and then rose to 3.1% during the last census period (2004-2010).

- During the last census period (2004-2010), three regions recorded rates higher than the general rate of the Kingdom during the same period, and the Ar-Riyadh region showed highest population growth rate (3.7%), followed, in order, by Al-Jouf and Najran.
- The population growth rate in the Makkah Al-Mokarramah region rose between 1992 and 2010, with an increase from 2.1% from 1992 to 2004 to 3% from 2004 to 2010.
- From 2004 to 2010, four governorates recorded rates higher than the general rate of the region (3%), and the Rabigh governorate showed highest population growth rate (5.1%) followed, in order, by Jiddah, Al-Jumum and Makkah Al-Mokarramah.
- The number of years required for two governorates (Makkah Al-Mokarramah and Jiddah; 24.1) to double their populations is less than the number of years required for the region's population to double (29.2 years).
- Population projections until 2035 indicate that the population size of the Makkah Al-Mokarramah region is expected to reach 14,650,907 in 2035 according to the medium projection based on a population size of 6,915,006 in 2010.
- The Jiddah governorate retained the largest population size among the governorates of the Makkah Al-Mokarramah region throughout the census periods, and this will continue until 2035, when the population size will reach 8,186,670 according to the medium estimate, followed by the governorate of Makkah Al-Mokarramah, with a population size of 3,566,613.

### **Recommendations**

- 1- The study showed that the population is concentrated in three administrative regions: Makkah Al-Mokarramah, Ar-Riyadh and the Eastern Region. It is therefore suggested that mega development projects should be concentrated in each of these administrative region to attract populations in the region around them. This will reduce internal migration to the major regions and achieve a balance in the population distribution of the Kingdom.
- 2- Improving education and health services in the rural regions will directly reduce internal migration to the major cities.
- 3- Further planning and development of the Saudi labor force is required to provide more job opportunities. This development should be implemented via policies that replace foreign labor with Saudi labor, thus closing the gap between them. More research is needed in this area.

- 4- Increasing the contribution of Saudi females to the labor force is encouraged.
- 5- More education and training opportunities should be provided for the Saudi labor force.

## Appendices

**Appendix 1.** Evolution of the absolute and percentage distribution of the population (Saudi - Non-Saudi) in the regions of Saudi Arabia: 1992-2010.

Region	Saudi		Non Saudi		Total	
	No.	%	No.	%	No.	%
<b>1992</b>						
Ar-Riyadh	2,613,915	68.2	1,221,071	31.8	3,834,986	100
Makkah Al-Mokarramah	2,781,075	62.2	1,686,595	37.8	4,467,670	100
Al-Madinah Al-Monawarah	837,695	77.2	247,252	22.8	1,084,947	100
Al-Qaseem	610,566	81.3	140,413	18.7	750,979	100
Eastern Region	1,902,108	73.8	673,712	26.2	2,575,820	100
Aseer	1,150,089	85.8	190,079	14.2	1,340,168	100
Tabouk	401,917	82.7	84,217	17.3	486,134	100
Hail	346,177	84.2	65,107	15.8	411,284	100
Northern Borders	178,610	78.0	50,450	22.0	229,060	100
Jazan	733,968	84.8	131,993	15.2	865,961	100
Najran	240,581	79.9	60,413	20.1	300,994	100
Al-Baha	289,946	87.3	42,211	12.7	332,157	100
Al-Jouf	223,406	83.3	44,822	16.7	268,228	100
Kingdom	12,310,053	72.6	4,638,335	27.4	16,948,388	100
<b>2004</b>						
Ar-Riyadh	3,725,557	68.3	1,732,716	31.7	5,458,273	100
Makkah Al-Mokarramah	3,584,628	61.8	2,212,556	38.2	5,797,184	100
Al-Madinah Al-Monawarah	1,144,271	75.6	368,453	24.4	1,512,724	100
Al-Qaseem	817,271	80.4	198,701	19.6	1,015,972	100
Eastern Region	2,555,502	76.1	804,529	23.9	3,360,031	100
Aseer	1,434,842	85.0	253,097	15.0	1,687,939	100
Tabouk	594,271	85.9	97,445	14.1	691,716	100
Hail	451,747	85.7	75,135	14.3	526,882	100
Northern Borders	239,834	85.7	40,137	14.3	279,971	100
Jazan	994,025	83.7	193,562	16.3	1,187,587	100
Najran	349,041	83.0	71,304	17.0	420,345	100
Al-Baha	328,317	86.9	49,583	13.1	377,900	100
Al-Jouf	308,034	85.2	53,704	14.8	361,738	100
Kingdom	16,527,340	72.9	6,150,922	27.1	22,678,262	100

## Appendix 1. (Continued)

Region	Saudi No.	%	Non Saudi No.	%	Total No.	%
<b>2010</b>						
Ar-Riyadh	4,296,745	63.4	2,480,401	36.6	6,777,146	100
Makkah Al-Mokarramah	4,116,065	59.5	2,798,941	40.5	6,915,006	100
Al-Madinah Al-Monawarah	1,262,512	71.0	515,421	29.0	1,777,933	100
Al-Qaseem	928,491	76.4	287,367	23.6	1,215,858	100
Eastern Region	2,891,115	70.4	1,214,665	29.6	4,105,780	100
Aseer	1,590,847	83.1	322,545	16.9	1,913,392	100
Tabouk	661,153	83.5	130,382	16.5	791,535	100
Hail	487,204	81.6	109,940	18.4	597,144	100
Northern Borders	268,177	83.7	52,347	16.3	320,524	100
Jazan	1,105,095	81.0	260,015	19.0	1,365,110	100
Najran	402,424	79.6	103,228	20.4	505,652	100
Al-Baha	348,636	84.6	63,252	15.4	411,888	100
Al-Jouf	349,112	79.3	90,897	20.7	440,009	100
Kingdom	18,707,576	68.9	8,429,401	31.1	27,136,977	100

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.

**Appendix 2.** Evolution of the absolute and percentage distribution of the population (Saudi – Non-Saudi) in the governorates of the Makkah Al-Mokarramah region: 2004-2010.

Governorate	2004						2010					
	Saudi No.	%	Non Saudi No.	%	Total No.	%	Saudi No.	%	Non Saudi No.	%	Total No.	%
Makkah Al-Mokarramah	814,477	58.1	588,467	41.9	1,402,944	100	924,413	55.2	750,955	44.8	1,675,368	100
Jiddah	1,442,788	51.1	1,378,583	48.9	2,821,371	100	1,729,007	50.0	1,727,252	50.0	3,456,259	100
At-Taif	724,118	82.0	159,420	18.0	883,538	100	798,912	80.9	189,002	19.1	987,914	100
Al-Qunfithah	216,606	89.9	24,338	10.1	240,944	100	239,179	87.8	33,245	12.2	272,424	100
Al-Lah	100,405	91.3	9,548	8.7	109,953	100	113,219	88.1	15,310	11.9	128,529	100
Rabigh	54,300	79.2	14,238	20.8	68,538	100	60,953	66.2	31,119	33.8	92,072	100
Al-Jumum	63,155	83.1	12,871	16.9	76,026	100	71,870	77.9	20,352	22.1	92,222	100
Khulays	43,620	87.4	6,299	12.6	49,919	100	48,562	85.7	8,125	14.3	56,687	100
Al-Karnil	16,461	89.1	2,007	10.9	18,468	100	18,828	87.9	2,591	12.1	21,419	100
Al-Khurrah	32,744	84.8	5,856	15.2	38,600	100	34,974	82.8	7,249	17.2	42,223	100
Ranyah	39,298	88.9	4,931	11.1	44,229	100	39,451	85.9	6,491	14.1	45,942	100
Turubah	36,656	85.9	5,998	14.1	42,654	100	36,697	83.5	7,250	16.5	43,947	100
Region	3,584,628	61.8	2,212,556	38.2	5,797,184	100	4,116,065	59.5	2,798,941	40.5	6,915,006	100

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 2004-2010.

**Appendix 3.** Population projections in the regions of Saudi Arabia according to the high, medium, and low estimates: 2010-2035

Year	Ar-Riyadh			Makkah Al-Mokarramah		
	High	Medium	Low	High	Medium	Low
2010	6,777,146	6,777,146	6,777,146	6,915,006	6,915,006	6,915,006
2011	7,032,115	7,030,760	7,029,404	7,127,213	7,125,830	7,124,447
2012	7,298,083	7,293,864	7,289,647	7,347,357	7,343,081	7,338,806
2013	7,575,571	7,566,815	7,558,065	7,575,771	7,566,956	7,558,147
2014	7,865,124	7,849,980	7,834,856	7,812,800	7,797,656	7,782,532
2015	8,167,317	8,143,741	8,120,217	8,058,809	8,035,390	8,012,023
2016	8,482,754	8,448,496	8,414,347	8,314,175	8,280,372	8,246,678
2017	8,812,071	8,764,655	8,717,448	8,579,296	8,532,822	8,486,556
2018	9,155,935	9,092,645	9,029,724	8,854,587	8,792,970	8,731,714
2019	9,515,049	9,432,909	9,351,380	9,140,483	9,061,049	8,982,208
2020	9,890,150	9,785,907	9,682,624	9,437,438	9,337,301	9,238,092
2021	10,282,017	10,152,114	10,023,664	9,745,927	9,621,975	9,499,418
2022	10,691,467	10,532,026	10,374,713	10,066,450	9,915,328	9,766,236
2023	11,119,360	10,926,155	10,735,980	10,399,527	10,217,626	10,038,596
2024	11,566,602	11,335,033	11,107,680	10,745,705	10,529,139	10,316,543
2025	12,034,147	11,759,212	11,490,028	11,105,556	10,850,150	10,600,123
2026	12,522,997	12,199,264	11,883,239	11,479,678	11,180,948	10,889,377
2027	13,034,210	12,655,784	12,287,530	11,868,700	11,521,831	11,184,347
2028	13,568,898	13,129,388	12,703,118	12,273,279	11,873,107	11,485,070
2029	14,128,234	13,620,715	13,130,221	12,694,103	12,235,092	11,791,582
2030	14,713,453	14,130,428	13,569,058	13,131,895	12,608,114	12,103,916
2031	15,325,855	14,659,216	14,019,849	13,587,413	12,992,508	12,422,102
2032	15,966,812	15,207,792	14,482,811	14,061,448	13,388,622	12,746,168
2033	16,637,768	15,776,897	14,958,165	14,554,834	13,796,813	13,076,139
2034	17,340,247	16,367,299	15,446,129	15,068,443	14,217,448	13,412,037
2035	18,075,854	16,979,795	15,946,923	15,603,190	14,650,907	13,753,881

## Appendix 3. (Continued)

Year	Al-Madinah Al-Monawarah			Al-Qaseem		
	High	Medium	Low	High	Medium	Low
2010	1,777,933	1,777,933	1,777,933	1,215,858	1,215,858	1,215,858
2011	1,827,950	1,827,594	1,827,238	1,253,860	1,253,617	1,253,374
2012	1,879,739	1,878,642	1,877,546	1,293,301	1,292,549	1,291,797
2013	1,933,371	1,931,116	1,928,863	1,334,241	1,332,689	1,331,139
2014	1,988,921	1,985,056	1,981,196	1,376,744	1,374,077	1,371,413
2015	2,046,464	2,040,502	2,034,554	1,420,876	1,416,749	1,412,632
2016	2,106,081	2,097,497	2,088,941	1,466,707	1,460,747	1,454,806
2017	2,167,857	2,156,084	2,144,365	1,514,310	1,506,111	1,497,949
2018	2,231,877	2,216,308	2,200,830	1,563,760	1,552,884	1,542,072
2019	2,298,235	2,278,213	2,258,341	1,615,138	1,601,110	1,587,186
2020	2,367,026	2,341,848	2,316,905	1,668,527	1,650,833	1,633,303
2021	2,438,349	2,407,260	2,376,523	1,724,015	1,702,100	1,680,432
2022	2,512,308	2,474,500	2,437,200	1,781,693	1,754,960	1,728,586
2023	2,589,014	2,543,617	2,498,939	1,841,656	1,809,461	1,777,774
2024	2,668,579	2,614,665	2,561,742	1,904,007	1,865,655	1,828,005
2025	2,751,123	2,687,698	2,625,611	1,968,848	1,923,593	1,879,291
2026	2,836,771	2,762,770	2,690,547	2,036,292	1,983,331	1,931,639
2027	2,925,652	2,839,939	2,756,551	2,106,454	2,044,925	1,985,060
2028	3,017,904	2,919,264	2,823,623	2,179,454	2,108,431	2,039,561
2029	3,113,667	3,000,805	2,891,763	2,255,420	2,173,909	2,095,150
2030	3,213,093	3,084,623	2,960,968	2,334,484	2,241,421	2,151,835
2031	3,316,335	3,170,782	3,031,237	2,416,788	2,311,029	2,209,623
2032	3,423,559	3,259,348	3,102,568	2,502,476	2,382,799	2,268,522
2033	3,534,933	3,350,388	3,174,957	2,591,703	2,456,798	2,328,537
2034	3,650,638	3,443,970	3,248,399	2,684,630	2,533,095	2,389,674
2035	3,770,861	3,540,167	3,322,891	2,781,425	2,611,762	2,451,938

## Appendix 3. (Continued)

Year	Eastern Region			Aseer		
	High	Medium	Low	High	Medium	Low
2010	4,105,780	4,105,780	4,105,780	1,913,392	1,913,392	1,913,392
2011	4,248,904	4,248,083	4,247,262	1,955,253	1,954,870	1,954,487
2012	4,397,867	4,395,318	4,392,769	1,998,420	1,997,247	1,996,074
2013	4,552,932	4,547,656	4,542,383	2,042,940	2,040,543	2,038,147
2014	4,714,375	4,705,274	4,696,184	2,088,861	2,084,777	2,080,699
2015	4,882,486	4,868,354	4,854,254	2,136,231	2,129,970	2,123,723
2016	5,057,567	5,037,087	5,016,673	2,185,103	2,176,143	2,167,211
2017	5,239,939	5,211,669	5,183,524	2,235,530	2,223,317	2,211,158
2018	5,429,935	5,392,301	5,354,886	2,287,568	2,271,513	2,255,552
2019	5,627,906	5,579,193	5,530,843	2,341,275	2,320,754	2,300,388
2020	5,834,220	5,772,563	5,711,476	2,396,711	2,371,063	2,345,654
2021	6,049,264	5,972,635	5,896,866	2,453,939	2,422,462	2,391,342
2022	6,273,445	6,179,642	6,087,094	2,513,024	2,474,975	2,437,441
2023	6,507,188	6,393,823	6,282,241	2,574,035	2,528,627	2,483,942
2024	6,750,942	6,615,427	6,482,387	2,637,041	2,583,441	2,530,833
2025	7,005,176	6,844,712	6,687,614	2,702,117	2,639,445	2,578,103
2026	7,270,386	7,081,944	6,898,001	2,769,339	2,696,662	2,625,741
2027	7,547,091	7,327,399	7,113,627	2,838,788	2,755,119	2,673,733
2028	7,835,836	7,581,360	7,334,570	2,910,546	2,814,843	2,722,068
2029	8,137,196	7,844,123	7,560,908	2,984,700	2,875,863	2,770,732
2030	8,451,773	8,115,994	7,792,719	3,061,340	2,938,205	2,819,712
2031	8,780,202	8,397,287	8,030,079	3,140,560	3,001,898	2,868,994
2032	9,123,149	8,688,330	8,273,062	3,222,459	3,066,972	2,918,564
2033	9,481,316	8,989,460	8,521,744	3,307,138	3,133,457	2,968,406
2034	9,855,441	9,301,027	8,776,196	3,394,703	3,201,383	3,018,506
2035	10,246,299	9,623,393	9,036,490	3,485,266	3,270,782	3,068,848

## Appendix 3. (Continued)

Year	Tabouk			Hail		
	High	Medium	Low	High	Medium	Low
2010	791,535	791,535	791,535	597,144	597,144	597,144
2011	810,142	809,984	809,826	610,189	610,069	609,950
2012	829,349	828,863	828,377	623,641	623,274	622,908
2013	849,178	848,183	847,188	637,514	636,765	636,018
2014	869,650	867,952	866,257	651,823	650,548	649,276
2015	890,789	888,182	885,581	666,583	664,630	662,680
2016	912,621	908,884	905,160	681,812	679,016	676,229
2017	935,170	930,069	924,990	697,524	693,713	689,919
2018	958,463	951,747	945,070	713,738	708,729	703,749
2019	982,528	973,930	965,397	730,472	724,069	717,715
2020	1,007,394	996,631	985,968	747,744	739,742	731,814
2021	1,033,091	1,019,860	1,006,780	765,574	755,754	746,045
2022	1,059,650	1,043,631	1,027,829	783,983	772,112	760,403
2023	1,087,103	1,067,956	1,049,114	802,991	788,825	774,885
2024	1,115,486	1,092,848	1,070,629	822,620	805,899	789,487
2025	1,144,832	1,118,321	1,092,372	842,893	823,343	804,208
2026	1,175,179	1,144,387	1,114,337	863,835	841,164	819,041
2027	1,206,566	1,171,060	1,136,521	885,470	859,372	833,985
2028	1,239,032	1,198,355	1,158,920	907,824	877,973	849,034
2029	1,272,620	1,226,287	1,181,528	930,924	896,977	864,186
2030	1,307,373	1,254,869	1,204,342	954,798	916,392	879,434
2031	1,343,336	1,284,118	1,227,354	979,475	936,228	894,776
2032	1,380,558	1,314,048	1,250,561	1,004,985	956,492	910,207
2033	1,419,087	1,344,676	1,273,957	1,031,361	977,196	925,722
2034	1,458,974	1,376,018	1,297,535	1,058,636	998,348	941,316
2035	1,500,275	1,408,090	1,321,291	1,086,844	1,019,957	956,984

## Appendix 3. (Continued)

Year	Northern Borders			Jazan		
	High	Medium	Low	High	Medium	Low
2010	320,524	320,524	320,524	1,365,110	1,365,110	1,365,110
2011	328,085	328,021	327,957	1,398,266	1,397,993	1,397,720
2012	335,890	335,693	335,497	1,432,508	1,431,669	1,430,830
2013	343,948	343,545	343,142	1,467,874	1,466,155	1,464,438
2014	352,268	351,581	350,894	1,504,407	1,501,473	1,498,543
2015	360,860	359,804	358,750	1,542,150	1,537,641	1,533,142
2016	369,733	368,220	366,711	1,581,149	1,574,680	1,568,233
2017	378,899	376,832	374,775	1,621,450	1,612,612	1,603,813
2018	388,368	385,646	382,941	1,663,102	1,651,457	1,639,881
2019	398,151	394,667	391,209	1,706,158	1,691,238	1,676,431
2020	408,259	403,898	399,577	1,750,669	1,731,977	1,713,461
2021	418,707	413,345	408,044	1,796,691	1,773,698	1,750,966
2022	429,505	423,013	416,608	1,844,282	1,816,424	1,788,941
2023	440,668	432,907	425,270	1,893,503	1,860,178	1,827,383
2024	452,209	443,033	434,026	1,944,417	1,904,987	1,866,285
2025	464,143	453,395	442,876	1,997,088	1,950,875	1,905,642
2026	476,484	464,000	451,817	2,051,585	1,997,869	1,945,448
2027	489,249	474,853	460,849	2,107,980	2,045,994	1,985,696
2028	502,454	485,960	469,969	2,166,347	2,095,279	2,026,380
2029	516,115	497,326	479,176	2,226,763	2,145,751	2,067,492
2030	530,252	508,958	488,467	2,289,309	2,197,439	2,109,025
2031	544,881	520,863	497,840	2,354,070	2,250,372	2,150,970
2032	560,023	533,046	507,294	2,421,134	2,304,580	2,193,319
2033	575,698	545,514	516,826	2,490,592	2,360,093	2,236,064
2034	591,927	558,273	526,434	2,562,542	2,416,944	2,279,194
2035	608,732	571,331	536,115	2,637,082	2,475,165	2,322,700

## Appendix 3. (Continued)

Year	Najran			Al-Baha		
	High	Medium	Low	High	Medium	Low
2010	505,652	505,652	505,652	411,888	411,888	411,888
2011	521,908	521,807	521,706	418,104	418,022	417,939
2012	538,792	538,478	538,165	424,497	424,246	423,996
2013	556,329	555,682	555,036	431,073	430,564	430,055
2014	574,548	573,436	572,325	437,838	436,976	436,115
2015	593,479	591,757	590,038	444,795	443,483	442,174
2016	613,152	610,663	608,182	451,953	450,087	448,227
2017	633,601	630,173	626,761	459,316	456,789	454,275
2018	654,857	650,307	645,783	466,890	463,592	460,313
2019	676,958	671,083	665,253	474,683	470,495	466,339
2020	699,940	692,524	685,176	482,702	477,502	472,350
2021	723,843	714,650	705,560	490,952	484,612	478,345
2022	748,706	737,482	726,408	499,441	491,829	484,320
2023	774,573	761,044	747,728	508,177	499,153	490,273
2024	801,489	785,359	769,524	517,167	506,586	496,202
2025	829,501	810,450	791,801	526,420	514,130	502,102
2026	858,657	836,344	814,564	535,944	521,786	507,972
2027	889,010	863,064	837,819	545,747	529,556	513,810
2028	920,613	890,638	861,571	555,838	537,442	519,611
2029	953,524	919,093	885,824	566,228	545,445	525,374
2030	987,803	948,458	910,582	576,924	553,567	531,096
2031	1,023,511	978,760	935,849	587,939	561,811	536,775
2032	1,060,715	1,010,031	961,631	599,281	570,177	542,406
2033	1,099,483	1,042,300	987,931	610,962	578,667	547,988
2034	1,139,888	1,075,601	1,014,753	622,992	587,285	553,518
2035	1,182,006	1,109,966	1,042,099	635,385	596,030	558,993

## Appendix 3. (Continued)

Year	Al-Jouf			Total Kingdom		
	High	Medium	Low	High	Medium	Low
2010	440,009	440,009	440,009	27,136,977	27,136,977	27,136,977
2011	455,000	454,912	454,824	27,984,622	27,979,194	27,973,767
2012	470,592	470,319	470,046	28,864,340	28,847,551	28,830,765
2013	486,813	486,248	485,684	29,777,487	29,742,857	29,708,252
2014	503,690	502,717	501,745	30,725,476	30,665,950	30,606,505
2015	521,253	519,743	518,237	31,709,791	31,617,692	31,525,795
2016	539,533	537,346	535,167	32,731,981	32,598,972	32,466,392
2017	558,561	555,546	552,543	33,793,669	33,610,707	33,428,559
2018	578,373	574,361	570,373	34,896,552	34,653,842	34,412,555
2019	599,003	593,814	588,664	36,042,408	35,729,351	35,418,634
2020	620,488	613,926	607,424	37,233,097	36,838,239	36,447,041
2021	642,869	634,719	626,661	38,470,568	37,981,543	37,498,021
2022	666,185	656,216	646,381	39,756,862	39,160,330	38,571,806
2023	690,480	678,442	666,593	41,094,115	40,375,702	39,668,626
2024	715,799	701,420	687,303	42,484,567	41,628,794	40,788,701
2025	742,190	725,176	708,519	43,930,563	42,920,776	41,932,244
2026	769,702	749,737	730,249	45,434,560	44,252,856	43,099,461
2027	798,388	775,129	752,499	46,999,135	45,626,278	44,290,548
2028	828,302	801,382	775,276	48,626,987	47,042,326	45,505,695
2029	859,504	828,524	798,587	50,320,947	48,502,322	46,745,078
2030	892,052	856,585	822,440	52,083,981	50,007,629	48,008,868
2031	926,011	885,597	846,841	53,919,201	51,559,656	49,297,224
2032	961,449	915,591	871,797	55,829,870	53,159,850	50,610,294
2033	998,435	946,601	897,313	57,819,411	54,809,708	51,948,217
2034	1,037,043	978,661	923,397	59,891,415	56,510,770	53,311,119
2035	1,077,352	1,011,807	950,054	62,049,650	58,264,627	54,699,116

**Source:** Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1974-2010.

**Appendix 4.** Population projections in the governorates of the Makkah Al-Mokarramah region according to the high, medium, and low estimates: 2010-2035.

Year	Makkah Al-Mokarramah			Jiddah		
	High	Medium	Low	High	Medium	Low
2010	1,675,368	1,675,368	1,675,368	3,456,259	3,456,259	3,456,259
2011	1,727,111	1,726,776	1,726,441	3,578,246	3,577,555	3,576,864
2012	1,780,798	1,779,762	1,778,726	3,705,255	3,703,108	3,700,962
2013	1,836,510	1,834,373	1,832,238	3,837,512	3,833,067	3,828,625
2014	1,894,332	1,890,660	1,886,994	3,975,258	3,967,587	3,959,926
2015	1,954,353	1,948,675	1,943,009	4,118,743	4,106,828	4,094,938
2016	2,016,667	2,008,469	2,000,298	4,268,232	4,250,955	4,233,734
2017	2,081,371	2,070,099	2,058,876	4,423,999	4,400,141	4,376,388
2018	2,148,568	2,133,619	2,118,758	4,586,336	4,554,562	4,522,973
2019	2,218,363	2,199,088	2,179,958	4,755,547	4,714,402	4,673,564
2020	2,290,870	2,266,567	2,242,489	4,931,952	4,879,852	4,828,234
2021	2,366,204	2,336,116	2,306,366	5,115,887	5,051,109	4,987,056
2022	2,444,489	2,407,799	2,371,601	5,307,705	5,228,375	5,150,106
2023	2,525,853	2,481,681	2,438,206	5,507,777	5,411,863	5,317,457
2024	2,610,431	2,557,831	2,506,195	5,716,492	5,601,790	5,489,182
2025	2,698,362	2,636,317	2,575,578	5,934,259	5,798,383	5,665,355
2026	2,789,796	2,717,212	2,646,367	6,161,509	6,001,875	5,846,049
2027	2,884,885	2,800,589	2,718,572	6,398,694	6,212,508	6,031,337
2028	2,983,792	2,886,524	2,792,204	6,646,289	6,430,533	6,221,292
2029	3,086,688	2,975,096	2,867,272	6,904,794	6,656,210	6,415,985
2030	3,193,748	3,066,386	2,943,784	7,174,734	6,889,807	6,615,487
2031	3,305,161	3,160,477	3,021,749	7,456,662	7,131,602	6,819,870
2032	3,421,122	3,257,455	3,101,175	7,751,160	7,381,883	7,029,203
2033	3,541,835	3,357,409	3,182,068	8,058,839	7,640,947	7,243,556
2034	3,667,516	3,460,430	3,264,435	8,380,343	7,909,103	7,462,996
2035	3,798,390	3,566,613	3,348,281	8,716,349	8,186,670	7,687,592

## Appendix 4. (Continued)

Year	At-Taif			Al-Qunfidhah		
	High	Medium	Low	High	Medium	Low
2010	987,914	987,914	987,914	272,424	272,424	272,424
2011	1,007,186	1,006,988	1,006,790	278,263	278,208	278,154
2012	1,027,035	1,026,430	1,025,826	284,282	284,115	283,948
2013	1,047,480	1,046,248	1,045,017	290,489	290,148	289,807
2014	1,068,542	1,066,449	1,064,357	296,889	296,308	295,729
2015	1,090,242	1,087,039	1,083,843	303,490	302,600	301,712
2016	1,112,600	1,108,027	1,103,469	310,298	309,025	307,756
2017	1,135,639	1,129,420	1,123,229	317,321	315,586	313,860
2018	1,159,382	1,151,226	1,143,118	324,566	322,287	320,021
2019	1,183,854	1,173,453	1,163,132	332,041	329,130	326,240
2020	1,209,079	1,196,110	1,183,262	339,756	336,118	332,515
2021	1,235,083	1,219,204	1,203,505	347,717	343,255	338,843
2022	1,261,893	1,242,743	1,223,853	355,934	350,543	345,225
2023	1,289,538	1,266,737	1,244,301	364,417	357,986	351,657
2024	1,318,046	1,291,195	1,264,841	373,175	365,587	358,139
2025	1,347,449	1,316,124	1,285,467	382,218	373,349	364,669
2026	1,377,776	1,341,535	1,306,173	391,557	381,276	371,245
2027	1,409,062	1,367,437	1,326,950	401,202	389,372	377,865
2028	1,441,340	1,393,839	1,347,793	411,165	397,639	384,528
2029	1,474,646	1,420,750	1,368,694	421,457	406,082	391,231
2030	1,509,016	1,448,181	1,389,645	432,092	414,704	397,973
2031	1,544,489	1,476,142	1,410,639	443,081	423,510	404,751
2032	1,581,105	1,504,642	1,431,668	454,438	432,502	411,564
2033	1,618,905	1,533,693	1,452,725	466,177	441,685	418,410
2034	1,657,933	1,563,305	1,473,800	478,313	451,063	425,285
2035	1,698,233	1,593,488	1,494,886	490,861	460,640	432,189

## Appendix 4. (Continued)

Year	Al-Lith			Rabigh		
	High	Medium	Low	High	Medium	Low
2010	128,529	128,529	128,529	92,072	92,072	92,072
2011	132,024	131,998	131,972	96,790	96,771	96,753
2012	135,640	135,561	135,482	101,769	101,711	101,653
2013	139,383	139,220	139,057	107,024	106,902	106,780
2014	143,256	142,978	142,700	112,572	112,358	112,145
2015	147,266	146,837	146,409	118,430	118,093	117,756
2016	151,418	150,800	150,185	124,617	124,120	123,625
2017	155,717	154,871	154,028	131,152	130,456	129,762
2018	160,169	159,051	157,939	138,056	137,114	136,178
2019	164,781	163,344	161,918	145,351	144,112	142,883
2020	169,558	167,753	165,965	153,060	151,468	149,890
2021	174,508	172,281	170,079	161,209	159,199	157,211
2022	179,637	176,931	174,262	169,824	167,324	164,857
2023	184,953	181,707	178,512	178,934	175,865	172,843
2024	190,463	186,611	182,831	188,568	184,841	181,181
2025	196,175	191,648	187,217	198,758	194,275	189,885
2026	202,098	196,821	191,671	209,539	204,191	198,969
2027	208,240	202,134	196,193	220,946	214,613	208,448
2028	214,610	207,589	200,782	233,018	225,567	218,337
2029	221,218	213,193	205,439	245,797	237,080	228,651
2030	228,074	218,947	210,162	259,326	249,180	239,407
2031	235,188	224,857	214,952	273,651	261,899	250,621
2032	242,571	230,926	219,808	288,822	275,266	262,310
2033	250,234	237,159	224,730	304,893	289,316	274,492
2034	258,190	243,560	229,717	321,918	304,082	287,184
2035	266,450	250,134	234,769	339,958	319,603	300,406

## Appendix 4. (Continued)

Year	Al-Jumum			Khulays		
	High	Medium	Low	High	Medium	Low
2010	92,222	92,222	92,222	56,687	56,687	56,687
2011	95,320	95,302	95,283	57,945	57,933	57,922
2012	98,541	98,484	98,427	59,242	59,207	59,172
2013	101,891	101,773	101,655	60,580	60,508	60,437
2014	105,375	105,171	104,968	61,960	61,839	61,718
2015	108,999	108,683	108,368	63,384	63,198	63,013
2016	112,770	112,312	111,857	64,853	64,588	64,323
2017	116,693	116,063	115,435	66,370	66,008	65,647
2018	120,777	119,939	119,105	67,935	67,459	66,985
2019	125,027	123,944	122,868	69,551	68,942	68,337
2020	129,452	128,083	126,725	71,219	70,457	69,703
2021	134,060	132,360	130,678	72,942	72,006	71,082
2022	138,858	136,780	134,729	74,720	73,589	72,474
2023	143,856	141,347	138,877	76,557	75,207	73,878
2024	149,063	146,067	143,126	78,455	76,861	75,296
2025	154,488	150,945	147,476	80,415	78,550	76,725
2026	160,141	155,985	151,929	82,440	80,277	78,166
2027	166,033	161,194	156,486	84,533	82,042	79,619
2028	172,175	166,577	161,148	86,695	83,846	81,083
2029	178,579	172,139	165,917	88,931	85,689	82,557
2030	185,256	177,887	170,793	91,242	87,573	84,042
2031	192,221	183,828	175,779	93,631	89,498	85,537
2032	199,485	189,966	180,876	96,101	91,466	87,041
2033	207,064	196,310	186,084	98,656	93,476	88,554
2034	214,973	202,865	191,404	101,298	95,531	90,076
2035	223,226	209,639	196,839	104,032	97,632	91,606

## Appendix 4. (Continued)

Year	Al-Kamil			Al-Khurmah		
	High	Medium	Low	High	Medium	Low
2010	21,419	21,419	21,419	42,223	42,223	42,223
2011	21,972	21,968	21,964	42,886	42,878	42,870
2012	22,544	22,531	22,518	43,569	43,543	43,517
2013	23,136	23,109	23,082	44,271	44,219	44,166
2014	23,747	23,701	23,655	44,993	44,904	44,816
2015	24,380	24,308	24,237	45,736	45,601	45,467
2016	25,034	24,932	24,830	46,500	46,308	46,117
2017	25,710	25,571	25,431	47,287	47,027	46,768
2018	26,411	26,226	26,042	48,096	47,756	47,419
2019	27,135	26,898	26,663	48,929	48,497	48,069
2020	27,885	27,588	27,293	49,785	49,249	48,718
2021	28,661	28,295	27,933	50,667	50,013	49,367
2022	29,464	29,020	28,582	51,575	50,789	50,014
2023	30,296	29,764	29,240	52,509	51,577	50,660
2024	31,158	30,527	29,908	53,470	52,377	51,304
2025	32,050	31,309	30,584	54,460	53,190	51,946
2026	32,974	32,112	31,270	55,479	54,015	52,586
2027	33,931	32,935	31,966	56,529	54,853	53,223
2028	34,923	33,779	32,670	57,609	55,703	53,857
2029	35,951	34,645	33,383	58,722	56,568	54,487
2030	37,016	35,533	34,105	59,867	57,445	55,115
2031	38,120	36,444	34,836	61,048	58,336	55,738
2032	39,265	37,378	35,576	62,263	59,241	56,357
2033	40,452	38,336	36,324	63,515	60,160	56,972
2034	41,683	39,319	37,081	64,806	61,093	57,583
2035	42,960	40,326	37,846	66,135	62,041	58,188

## Appendix 4. (Continued)

Year	Ranyah			Turubah		
	High	Medium	Low	High	Medium	Low
2010	45,942	45,942	45,942	43,947	43,947	43,947
2011	46,253	46,244	46,235	44,183	44,174	44,165
2012	46,575	46,548	46,520	44,429	44,402	44,376
2013	46,909	46,854	46,798	44,685	44,631	44,578
2014	47,255	47,161	47,068	44,951	44,862	44,773
2015	47,613	47,471	47,330	45,228	45,093	44,959
2016	47,983	47,783	47,584	45,516	45,326	45,137
2017	48,365	48,097	47,830	45,815	45,560	45,307
2018	48,760	48,413	48,068	46,125	45,796	45,469
2019	49,169	48,731	48,297	46,446	46,032	45,621
2020	49,590	49,051	48,518	46,779	46,270	45,766
2021	50,025	49,374	48,730	47,123	46,509	45,901
2022	50,474	49,698	48,933	47,479	46,749	46,028
2023	50,937	50,025	49,127	47,848	46,990	46,146
2024	51,414	50,353	49,313	48,229	47,233	46,255
2025	51,906	50,684	49,489	48,623	47,477	46,355
2026	52,413	51,017	49,656	49,029	47,722	46,446
2027	52,936	51,352	49,813	49,449	47,968	46,528
2028	53,474	51,690	49,961	49,883	48,216	46,601
2029	54,029	52,029	50,099	50,330	48,465	46,665
2030	54,600	52,371	50,228	50,791	48,715	46,719
2031	55,188	52,715	50,347	51,267	48,967	46,764
2032	55,793	53,062	50,457	51,757	49,220	46,800
2033	56,416	53,410	50,556	52,262	49,474	46,826
2034	57,058	53,761	50,645	52,783	49,729	46,843
2035	57,718	54,115	50,725	53,319	49,986	46,851

Source: Calculated by the researcher from Makkah Al-Mokarramah region population censuses, 1992-2010.

## References

1. Abu-Dawood, A. (2002). Development of tourism in the governorate of Jiddah: A Study in the geography of tourism. geographical studies, occasional papers, No.8, the Saudi geographical society, King Saud university, Riyadh, K.S.A.(in arabic)
2. Al-Gabbani, M. (1998). Geographical analysis of migrant workers in Saudi Arabia 1974-1993. geographical papers , No.220 department of geography-university of Kuwait –Kuwait geographical society.(in arabic)
3. Al-Gabbani, M. (1999). Spatial distribution of population and development in Saudi Arabia 1974-1992. research papers in geography,occasional papers, No.37, the Saudi geographical society, King Saud university, Riyadh, K.S.A.(in arabic)
4. Al-Hajri, F. (2002). Planning and development of the manpower in the Kingdom of Saudi Arabia: geography study. faculty of arts journal, Menoufia university, Egypt.(in Arabic)
5. Al-Jabri, N. (2008). Geography of settlement centers in the administrative region of makkah Al-Mokarramah.Makkah,K.S.A.(in Arabic)
6. Al-Ribdi, M. (2005). Studies in the population of Saudi Arabia: sources of information and population data. Riyadh, K.S.A.(in Arabic)
7. Al-Saleh, N. (1991). Primary schools for males in Makkah: A Study in the characteristics of distribution and its patterns. In the scientific book of the fourth geographical symposium on geography departments in K.S.A. , 24-26 / 12 / 1991, Vol2, department of geography-college of social sciences,Umm Al-Qura university, Makkah, K.S.A.(in Arabic)
8. Al-Seryane, M. (1986).Makkah Al-Mokarramah - A study in population change 1974-1983 .publications of cultural Makkah club , K.S.A.(in Arabic)
9. Al-Seryane, M. (1991). Features of urbanization in Saudi Arabia. research series of social sciences , institute of scientific researches,Umm Al-Qura university, No.16, Makkah, K.S.A.(in Arabic)
10. Al-Thomalely, M. (1988). Recruitment of workers in the private sector in Saudi Arabia: A theoretical study of some economic indicators . research series of social sciences , institute of scientific researches,Umm Al-Qura university, No.6, Makkah, K.S.A.(in Arabic)
11. Al-Thomalely, M. (1995). Sites of Saudi cities. geographical papers, No.186 department of geography-university of Kuwait –Kuwait geographical society. (in arabic)
12. Clarke, J. (1972). Population geography. 2<sup>nd</sup> edition, pergamon press, England.
13. Ministry of labor (2012). Statistical year book. Riyadh, K.S.A.(in Arabic)
14. Rowland, D. (2003). Demographic methods and concepts. Oxford university press, New York.
15. Schnell, G. (1983). The study of population: elements, patterns, and processes. bell & howell, U.S.A.
16. Siegel, J. and Swanson, D. (2004). The methods and materials of demography. 2<sup>nd</sup> edition, Elsevier academic press, U.S.A.
17. Woods, R. (1979). Population analysis in geography. Longman, New York.