



# Eighty years of urban growth and socioeconomic trends in Dammam Metropolitan Area, Saudi Arabia



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## ABSTRACT

The Dammam Metropolitan Area of Saudi Arabia gained a leading role on the world stage by establishing itself as a major supplier of energy to the rest of the world. At present, it is the third largest urban center in Saudi Arabia. Little attention has been paid to the environmental and/or developmental aspects of its urban growth in terms of the quality of the urban environment and the potential needs of future generations. The purpose of this study was to examine Dammam's urban growth and socioeconomic trends during the past eight decades to identify present and future challenges. Particular attention was paid to its current and future urban growth and development challenges. The results suggest that Dammam's past and current development is primarily driven by the economic benefits realized by private sector.

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## 1. Introduction

From the time that oil was discovered in the Dammam area of Saudi Arabia in 1937 to the present, development of the Dammam Metropolitan Area (DMA) has been closely linked to the mobilization of natural, capital, and human resources, transforming it into a major supplier of fossil fuel energy to the rest of the world. The DMA comprises the three major cities of Dammam, Alkhobar, and Dhahran and includes relatively new urban developments in Alaziziyah and Half-Moon Bay to the south. The DMA is located in the Eastern Province of Saudi Arabia along the coast of the Arabian Gulf (26°26'0" north and 50°7'0" east) about 400 km east of Saudi Arabia's capital of Riyadh (Fig. 1). Dammam city is the seat of the regional administrative centers, Alkhobar is known for its commercial centers and business offices, and Dhahran has scientific and technological centers. Alaziziyah and Half-Moon Bay are recreational centers.

Dammam Metropolitan Area is the third largest urban center in Saudi Arabia, with a population of about 1.66 million in 2014. The population doubled nine times over the past 50 years, from 0.18 million in 1964 to 1.66 million in 2014. Its strictly urban area doubled in size 46 times during the past 50 years, increasing from about 1162 ha in 1964–2050 ha in 1974 to more than 38,670 ha in 2014 (Fig. 2).

This study examined the 80-year pattern of urban expansion of the DMA together with its socioeconomic trends. Coverage begins a few years before the discovery of oil (1934) and concludes at the

present (2014). The specific objectives are to: (1) outline the process by which the DMA developed into its present form and function, (2) discuss the pattern of changes in terms of socioeconomic development, and (c) assess current and future challenges to the DMA.

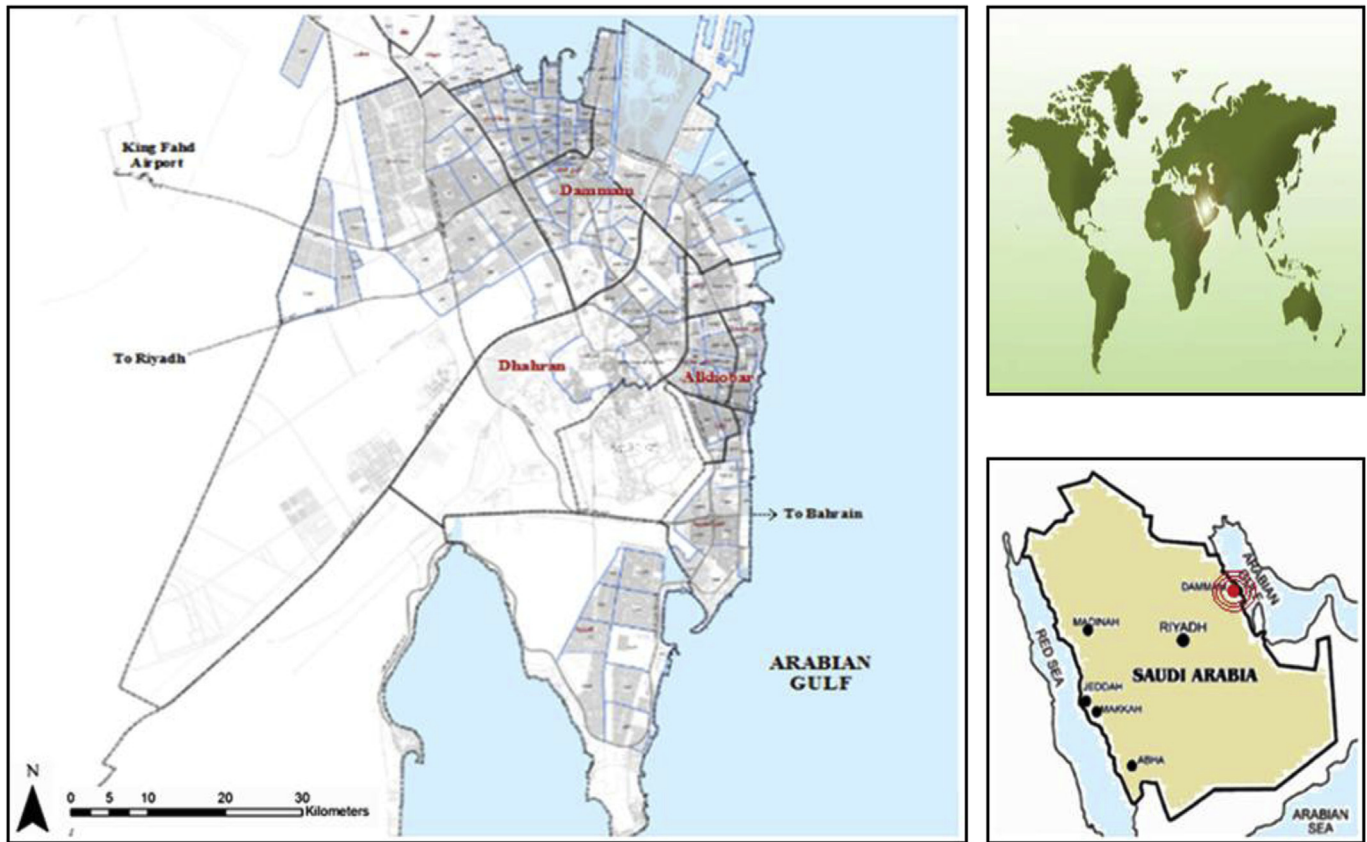
## 2. Historical growth and development

Upon the discovery of oil in 1937, the overall pace of development in the Kingdom of Saudi Arabia immediately accelerated, which was particularly evident in the area that would become the DMA. Rapid urban expansion occurred during the first oil boom, which lasted from the end of WWII until 1956. A period of economic crisis followed until 1974. Then, the second oil boom in 1975 significantly influenced the DMA (Daghistani, 1993). From 1975 until the present, the DMA developed at a breathtaking pace, propelled by powerful physical, economic, environmental, and human developmental pressures. This study examined the growth and development of the DMA in four historical stages. Stage I was the initial stage of growth from 1932 until 1956, Stage II was the formative stage spanning 1956 to 1980, Stage III was the emerging stage that lasted from 1980 until 2000, and Stage IV is a period of maturity that began in 2000 and continues today.

## 3. Stage I: the initial stage (1932–1956)

This period began in 1932, when the modern Kingdom of Saudi Arabia was founded, and ended in 1956, when the capital of the

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**Fig. 1.** Location of Dammam Metropolitan area.  
Source: Ministry of Municipality and Rural Affairs (2008).

Eastern Province (in which the DMA is located) moved from Hofuf city to Dammam city. In 1932, Dammam was a small coastal town which, together with a tiny huddle of fishermen's huts known as Alkhobar, depended on fishing and pearl diving for subsistence. Some El-Dawasir tribesmen emigrated there from Bahrain, which boosted the two towns' populations (ARAMCO., 1968). According to Candilis-Metra (1974, p. 21), in 1935, the total population of the two towns was about 1700 (1500 in Dammam and 200 in Alkhobar) people living in about 330 small huts made of palm fronds. Growth and development remained slow until the discovery of the first oil field in 1938 (Fig. 3).

When the first oil field (Dammam No. 7) was discovered, the drilling and oil exploration work accelerated and oil workers immigrated to the area, but there was no housing in Dammam and Alkhobar except for the fishing huts. Therefore, Dhahran became a campsite for the oil workers, drilling equipment, and other supplies brought from abroad. Alkhobar was selected as the port for loading and unloading cargo (ARAMCO., 1968, p. 31). Thus, Alkhobar briefly served as the exit point of the Saudi Arabian crude oil being transported to the refinery in Bahrain. Urban Dammam and Alkhobar of this period can be characterized as compact; the buildings in the old town sections were unplanned and closely proximate and the streets were inconsistent in width with few open spaces (Candilis-Metra, 1974, p. 23).

After 1950, the urban boundaries began to dramatically expand outward. Two primary driving forces were behind the expansion: (1) the transition of the administrative capital of the Eastern Province from Hofuf to Dammam city in 1953 and (2) the constructions of the King Abdulaziz Seaport in 1955 and the rail line to

Riyadh city in 1951. The port was a major boost to the DMA economy and governmental employment opportunities and industrial growth further intensified the area's development. The built-up area of the DMA increased from about 34.2 ha in 1934 to more than 883 ha in 1954, indicating that the urban area doubled its size more than 24 times during that 20-year period (Table 1). Furthermore, the population increased from about 5000 inhabitants in 1934 to about 98,000 in 1956. The annual growth rate was estimated at about 16.4 percent, which was the highest growth rate in the DMA's history (Essawi, 1993, p. 112).

In 1934, about 94 percent of the DMA population was Saudi. A mere 10 years later, the proportion of Saudis had declined to 80 percent because of the immigration of foreign workers, particularly oil workers (see Table 2). According to Alsubai (1989, p. 153), employment was concentrated in two economic sectors: government and oil (and its related activities). Of secondary importance were agriculture, services, and trade. The majority of Saudi employees worked for the government, whereas non-Saudis dominated the oil sector.

Because of the continual expansion of oil operations, Arab American Oil Company (ARAMCO) decided that a comprehensive plan was needed to facilitate orderly growth for the future. In 1945, it contracted the American architectural firm of Caudill Rowlett Scott (CRS) to prepare master plans for its towns (Al-Mubarak, 1999, p. 45). CRS devised master plans for Dhahran and three other ARAMCO towns modeled on American lifestyles for Americans and other non-Saudi workers (Caudill Rowlett Scott, 1975). Al-Hathloul (1981) and Al-Mubarak (1999) argued that ARAMCO's urban development left indelible marks on the Eastern Province's

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