

2008

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Rghei, A. & Nelson, G. "Designing Protected Areas of Dubai: Past, Present, Future".

Contributed paper for the Canadian Parks for Tomorrow: 40th Anniversary Conference, May 8 to 11, 2008, University of Calgary, Calgary, AB.

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Designing Protected Areas of Dubai: Past, Present, Future

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Abstract

The current emphasis on highly landscaped garden parks in Dubai is described as well as their origin which seems to lie in the Persian paradise garden idea. The development of a few nature sanctuaries and desert conservation areas near the city is acknowledged. Their advantages in terms of current very rapid growth and attendant pressures on water, energy and ecological services are stressed. It is suggested that the heavy ecological imprint of the parks be reduced. More sanctuaries and conservation areas should be developed. Thought should also be given to improving connectivity among the parks and conservation areas.

Parks and conservations areas were unknown in the city and surrounding Emirate of Dubai until about 30 years ago (Figure1). At that time this desert city was in the initial stages of an era of major economic and population growth. In the early 1960s Dubai was a fishing, pearling, and trading village of about 25000 people, entering the transformation arising from the discovery of oil (Thesiger, 1994). In less than 50 years, between 1960 and 2007, the population grew from thousands to about 1.4 million, although the figures vary among sources of information (<http://www.citypopulation.de/UAE.html> and Government of Dubai: Department of Tourism and Commerce, 2007). The city evolved from a strand of low stone, mud brick and palm frond buildings into a metropolis dominated by scores of multiplying skyscrapers, competing like Burj Dubai to be the tallest tower in the world (Figure 2).

Suburbs sprawl for hundreds of square kilometers into the bordering desert (Figures 3) – a place where the average rainfall is 5 inches annually with years sometimes passing without rain at all (Abu Dhabi: Environment Agency, n.d). The city has also expanded into the sea, dredging offshore sands to build and shape hundreds of man-made islands into complexes known as the Palm and The World (Government of Dubai: Department of Tourism and Commerce, 2007).

Dubai's Gross Domestic Product (GDP) in 2005 was about US\$40 Billion, up 27% from 2004. Only 5% of this income currently comes from oil. The rest is produced from finance, trade, tourism, manufacturing, transport infrastructure, construction and real estate (Government of Dubai: Department of Tourism and Commerce, 2007).

The great proportion of the population arrived through migration, only 17% are nationals. The migrants are drawn into the economic crucible of Dubai from all parts of the world, notably India, Pakistan, Iran, Palestine, and other countries in the Middle East. Migrants are largely laborers, service employees, clerical and support staff, with growing numbers in information technology, medical, financial or other more highly qualified positions. The faces of the Middle East and Asia can be seen on construction projects, maintenance, merchandizing, and other activities daily in Dubai.

It is the recreational needs of this expanding work force which provide prime motivation for the development of the Dubai Park system. Parks for recreation are the focus; but other types of protected areas have been established, for example, sanctuaries and conservation areas for highly valued wetland and desert habitats. The sanctuaries and conservation areas protect stressed, threatened, and endangered species and communities while offering vital staging areas for migratory birds. These sanctuaries and conservation areas are set up, however, with the proviso that they also are to be used for recreation and tourism, a major source of income now and potentially in future.

Officially the purposes of the Dubai parks are threefold:

- Creation of recreational facilities for everyone
- Expansion of green spaces
- Environmental protection against pollution (Dubai Municipality: Public Parks and Horticulture Department, 2001).

Of these purposes, the first is of overriding importance; the operational meaning of the second is vague; and, the third seems only marginally effective.

From an administrative and planning standpoint, four main park types are envisioned for the city of Dubai:

- Major public parks
- Residential parks
- City centre parks
- Public squares (Dubai Municipality: Public Parks and Horticulture Department, 2001).

Our interest is mainly in the large public parks and the sanctuaries and conservation areas, which are the responsibility of a different municipal agency than the one in charge of parks.

Currently about seven major parks have been established or are imminent in Dubai (Figure 4). Others are on the drawing board as planners work to keep pace with population growth and recreational needs (Trade Arabia 81/16/2007). The current major parks are Mushrif, Dubai Creek, Al Safa, Jumeirah Beach, Al Mumzar, and Zabeel, with Mirdif imminent (Figures 5 and 6). These parts are distributed unevenly through the urban area, with an apparent and not surprising skew to older residential districts. The park trees, shrubs, lawns, flowers, and landscapes are planted, and maintained apart from their original desert environment. The parks demonstrate little indigenous habitat or ecological thinking.

An instructive example is Mushrif, the earliest known in Dubai, established in 1974 (Dubai Municipality: Public Parks and Horticulture Department, 2001). The park is about 500 acres in size and originally consisted of widely spaced ghaf and other trees amid a savannah – like landscape. Some trees were more than 50 years old and 15 meters high. The areas between the trees seem to have been partly in grass and low shrubs and partly in desert soil, at least that is the case in outlying undeveloped parts of the park where original conditions still apply. The Mushrif Park planners recognized that the area had a dry climate, this apparently being seen as a challenge to overcome in developing the park.

Mushrif Park has now undergone considerable development including widespread planting of trees such as the date palm as well as ornamental exotic shrubbery (Figure 7). Extensive areas of lawn have been created with traditional types of irrigation canals and pools. The park includes a swimming pool, a snackhouse, a fully equipped gymnasium, playgrounds, barbecues, and other facilities intended to encourage family outings. The park is also fragmented by roads, parking spaces and paths.

Similar development has occurred at other major parks such as Al Safa, Dubai Creek and Al Mumzar. Zabeel, a major addition to the system, is designed in a similar way, with the additional intent of using the park to illustrate technical themes such as solar energy (Dubai Municipality: General Manager, 2006).

The construction and maintenance of these parks requires large volumes of water, especially in the summer months when temperatures can exceed 40°C and evaporation and water use are very high. All the parks are served by extensive irrigation systems, mainly lines of hoses that water trees on an individual basis. A growing amount of irrigation water consists of recycled domestic waste.

In reflecting on the state of these parks, it should first be recognized that they definitely provide outdoor recreational opportunities for many Dubai residents who would not have access to such opportunities otherwise, and may, in fact, never have had access to such experiences previously in their lives.

The second reflection is that, in line with the second objective, these parks do provide green space but in an artificial form and at considerable cost in water, energy and money. Many of the plants seem to be exotics which consume large amounts of water. In terms of the third purpose, it is questionable whether these types of parks have a significant effect on air or other pollution. With roughly 4400 square kilometers in urban Dubai, the park area is relatively small and the turn over in oxygen and carbon dioxide not high in relation to the very heavy auto traffic that circulates more or less continuously through the city, some being generated by visits to the parks.

The question naturally rises as to why such high maintenance parks would be established so

pervasively in an arid desert region like Dubai. The answer likely lies in the historical and cultural experience and perspectives of the landscape architects, planners, managers and local officials.

A strong tradition in the Arab world, the Middle East and large parts of Asia is the creation and enjoyment of the park as a garden . Underlying this is an interest in the use of nature for human welfare. The purpose of nature is use for human survival and happiness (Casey Constance, May 21, 2007; Tomasi, Lucia Tongiorgi and Luigi Zangheri, 2006; and, Vaneshdoust. 1993).

In this sense, the garden park is an extension of agriculture, it is created to feed the aesthetic and recreational needs of humans. The garden is a retreat from the practical world, a creative achievement built on manipulation of plants, earth and water. The garden is a human improvement on what was there before. In the context of Islam, the garden is associated with the reward that the good will receive in the next world. It is the paradise garden.

Such gardens historically were built by those with the resources and leisure to do so, especially powerful kings, rulers and sultans. Examples are numerous and include gardens created by conquerors such as Tamerlane. Around his chosen city, Samarkand, he built many garden parks at the end of 14th and the beginning of the 15th centuries (Figure 8). His Moghul descendants conquered Pakistan and Northern India and built great garden parks and palaces there in the 16th, 17th and 18th centuries. Comparable gardens also were built by the Ottoman Emperors at the Topkapi palace and other sites in Istanbul after the conquest of the city in 1453.

The elements that characterize these traditional garden parks are consistent with the large Dubai public parks today. Water flowing in channels and into pools is a key ingredient along with waterfalls, artificial hills, pathways and a great variety of grasses, flowers, shrubs and trees, including exotics brought from other places, often arranged in rectangular to geometric patterns, focusing on pavilions, lodges and palaces.

The Persian gardens were developed by various rulers as far back as Sassanian times before 600 A.D. and the coming of Islam. Design flowered through succeeding rulers and kingdoms up to the 19th and 20th centuries (Wilber 1979). Survivals of such gardens can still be found in Isfahan, Shiraz, Tehran, and places along the south Caspian coast as well as at Andalusia in Spain (Figure 9, 10, 11, 12).

Dubai parks can be seen and understood as part of this long tradition. These parks water and green the desert in the paradise style. They are an expression of human creative manipulation and design of nature. They can offer knowledge of the home place as well as other parts of the world. Educational signs and exhibits could help with this but are generally lacking in the Dubai Parks.

Given the ancient garden tradition, it is understandable that Dubai parks would be created in a paradise image and not as attempts to protect relatively undisturbed nature in the iconic sense of many great parks in North America. Yet the traditional model of the paradise garden park does not give the perspective on the natural world that seems to be needed in highly developed and urbanized Dubai at this time of growing human stress on the indigenous natural systems that sustain us. More and more urban dwellers are isolated from the wild, self generating natural systems that can be enjoyed, understood and learned from as heritage. Wild Parks can serve as benchmarks against which to judge and measure the sustainability of ways of life and development proposals – and do so without the high cost in resources, environment, energy and funding

required by the public parks of Dubai.

Some examples of the advantages of protecting wild systems are in place in Dubai region. These focus on conserving the existing or historic state of wetlands and deserts. Key examples are sanctuaries and conservation areas such as the Ras Al Khor and the Jebel Ali and Desert Conservation Areas respectively (Mueller, 2004).

The Ras Al Khor is a wetland at the head of Dubai Creek within the city boundaries (Gulf News, 2008, Ras Al Khor Wildlife Sanctuary, 2005; and, Ahmed, January 22, 2008). (Figure 13). This sanctuary was created by the municipality to protect hundreds of acres of mangrove, marsh and mudflat of great value for wildlife especially migratory birds. The sanctuary is managed by staff in the municipal Environment Department which has been vigorous in limiting potentially damaging uses, in publicizing the sanctuary's importance, and in cooperating with national and international agencies to protect it, by working for recent designation as an UNESCO Ramsar wetland.

The Ras Al Khor is threatened by intense residential, commercial, highway, and other construction and use along its borders. This may already be causing sedimentation and chemical pollution in the sanctuary. Given its urban location and the heavy pressures of growth, the future of the sanctuary is uncertain. Yet it is invaluable for its own sake and for the enjoyment and education of residents and visitors from elsewhere. Plans are underway to build an interpretation centre which will present the values of the wetland to visitors of varying backgrounds and sensitivities to nature, including youth and children.

The Dubai Desert Conservation Area is located outside of the city boundaries and is under the jurisdiction of the Dubai Emirate (Mueller, 2004) It is basically intended to conserve the desert as it was. Restoration plans are underway for the gazelle, Arabian oryx and other indigenous species which were severely depleted by over hunting and other stresses in the past. The Desert Conservation Area seems to have the support of Dubai's leaders who may see it as reflection of Bedouin heritage. Vegetation studies have been conducted, including assessments of parts of the reserve with different land use and grazing histories (EL Alqamy, 2004).

Camel grazing has been strictly controlled within an internal protected area set up around a tourism resort. This area shows more diverse vegetation communities and higher biodiversity than parts of the more heavily used Desert Conservation Area outside the internal boundary. All terrain vehicle and other uses are permitted in the Conservation Area and could become a conservation concern. The Desert Conservation Area does, however, have the advantage of legal rules and regulations promulgated by the ruler of Dubai which provide a basic framework for management (Emirate of Dubai: The Ruler's Court, 2003; Emirate of Dubai, nd).

Beyond this is the desirability of planning for more sanctuaries and conservation areas as a balance against the great emphasis on traditional gardens and as a resource for natural heritage, science, education, and sustainable development in Dubai. Efforts also can be made through landscape planning, to reduce exotics, water use and other characteristics that give the Dubai garden parks such a heavy ecological footprint. A big question is how the garden parks, sanctuaries and conservation areas can be conceptually and spatially linked to maintain gene and other natural flows, biodiversity, water supply, and other ecological services needed to sustain the economic and social activities of Dubai and the recreational needs of the people.

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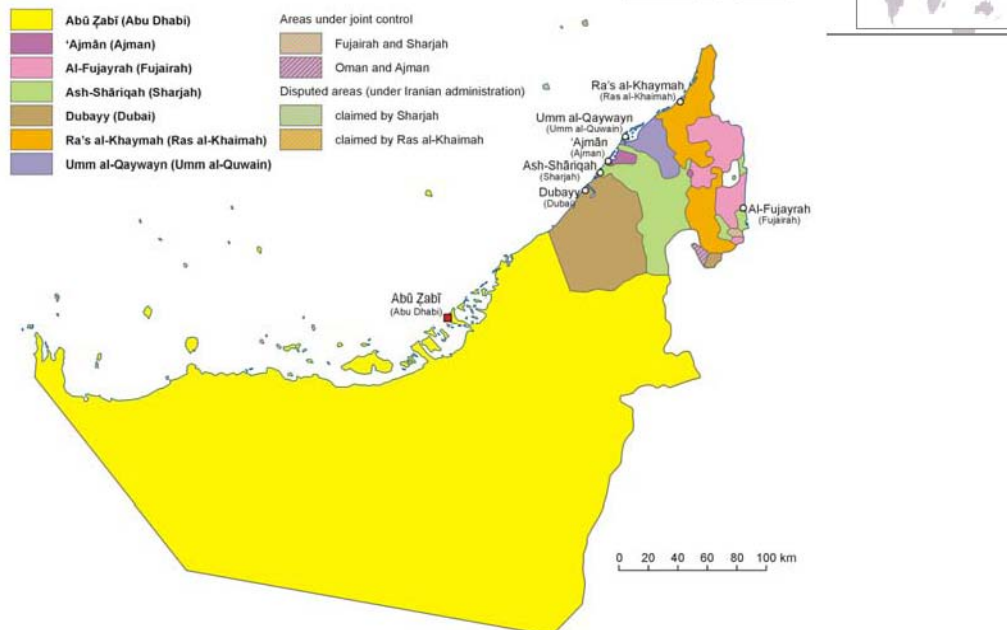
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Figure 1

Location Map



Source: http://upload.wikimedia.org/wikipedia/commons/7/73/UAE_en-map.png

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Figure 1

Location Map

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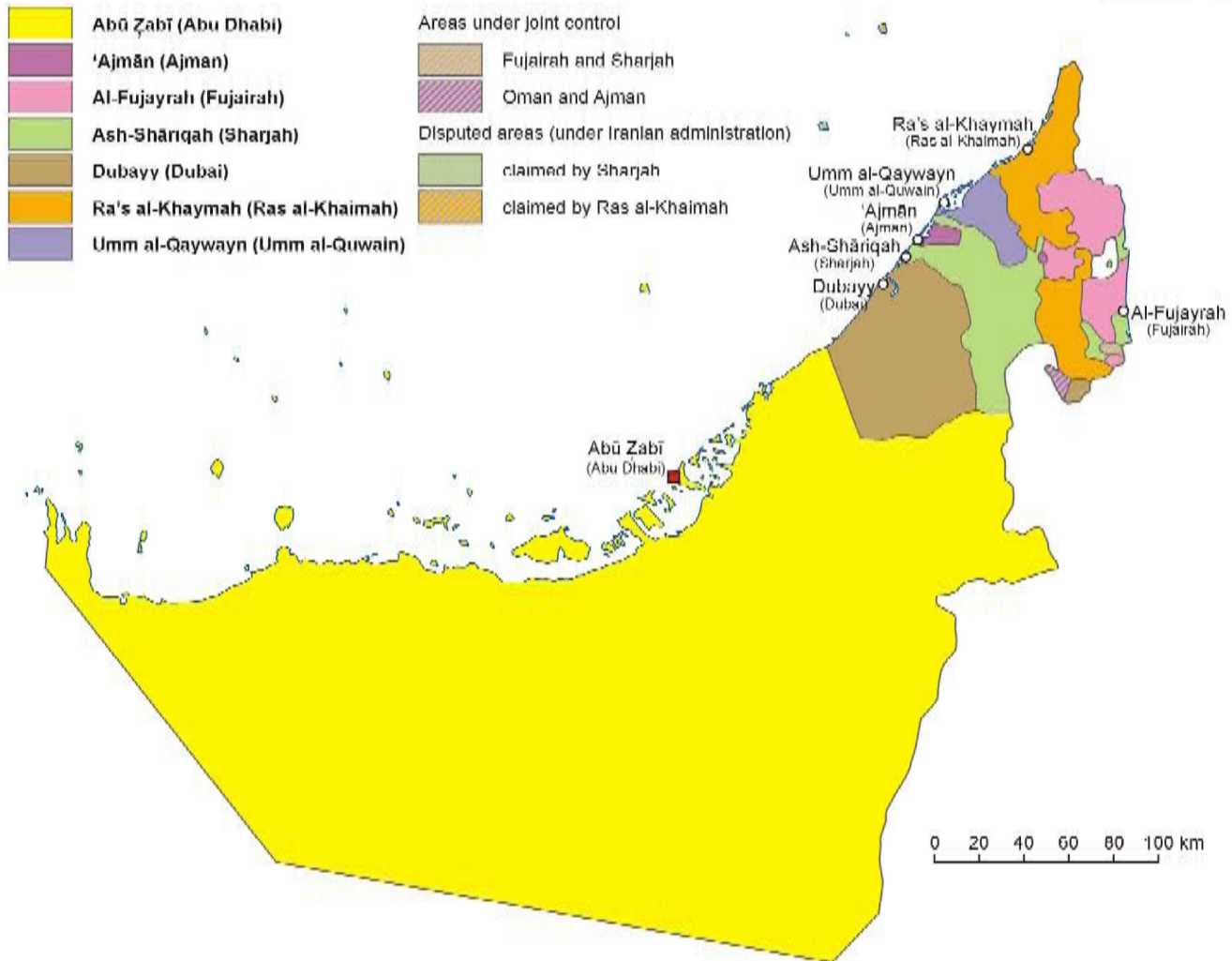
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**Distribution of
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Date 1994
Location: Dubai Creek
Size: 96 ha
Cost: 172 M





Source: Municipality of Dubai

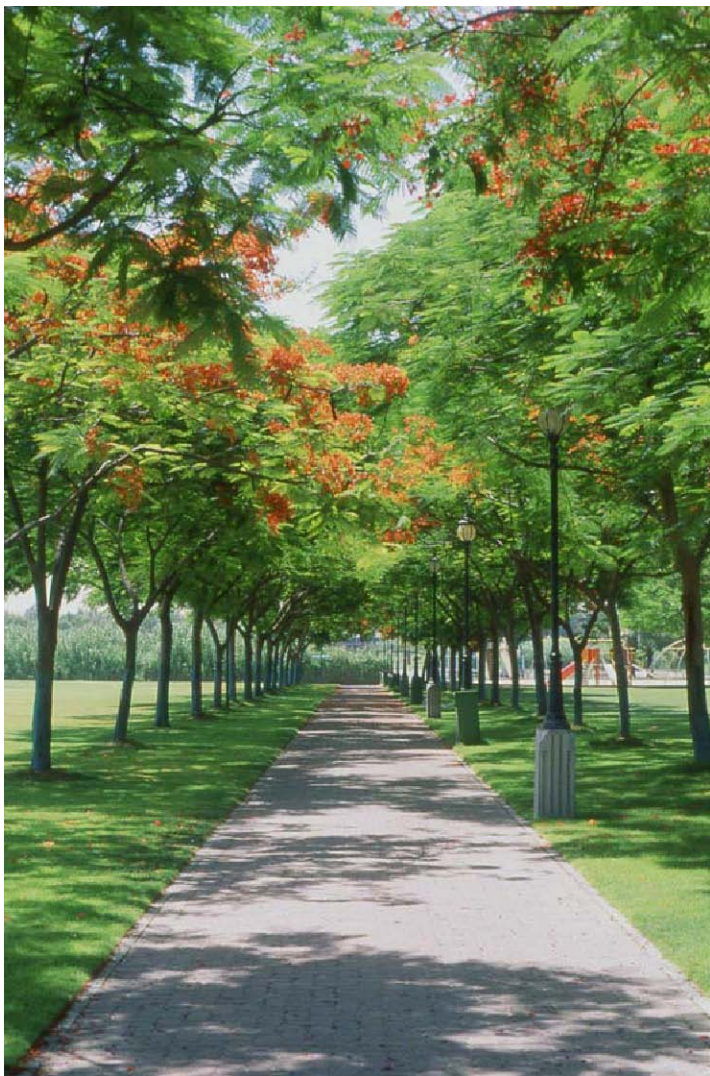
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Date : 1975- Ext 1992

Location : Safa

Size: 64 ha

Cost: 56 M





SAFA PARK

Source: Municipality of Dubai

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Cost: 66 M



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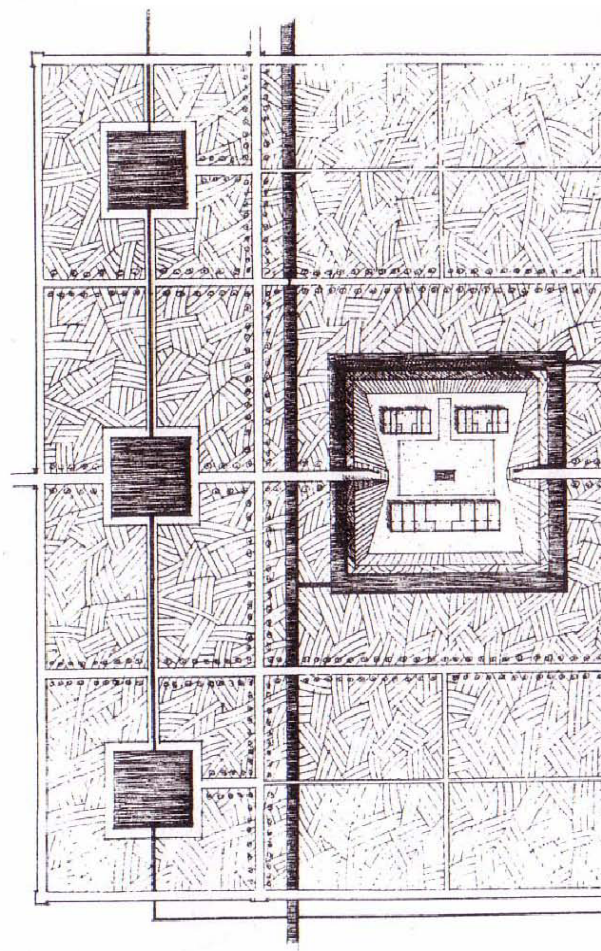
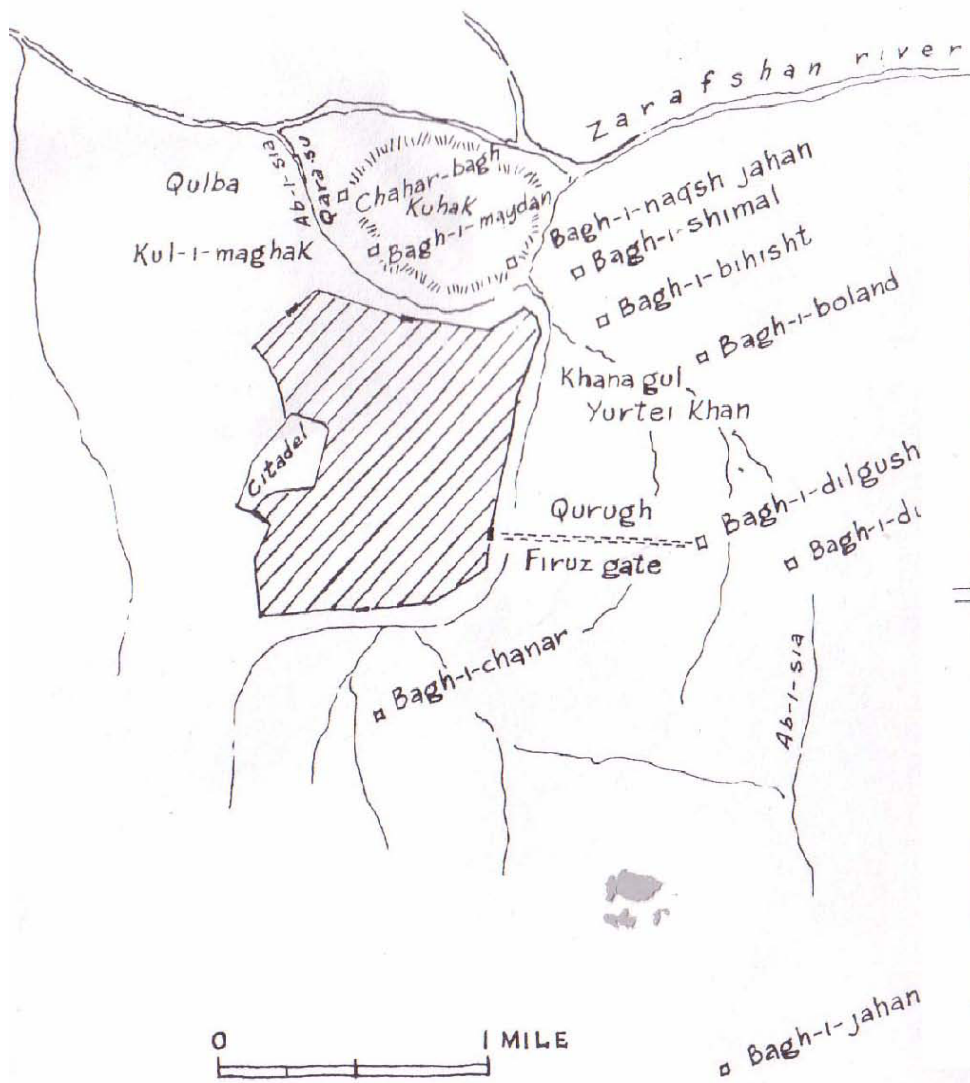
**Maps of Gardens and
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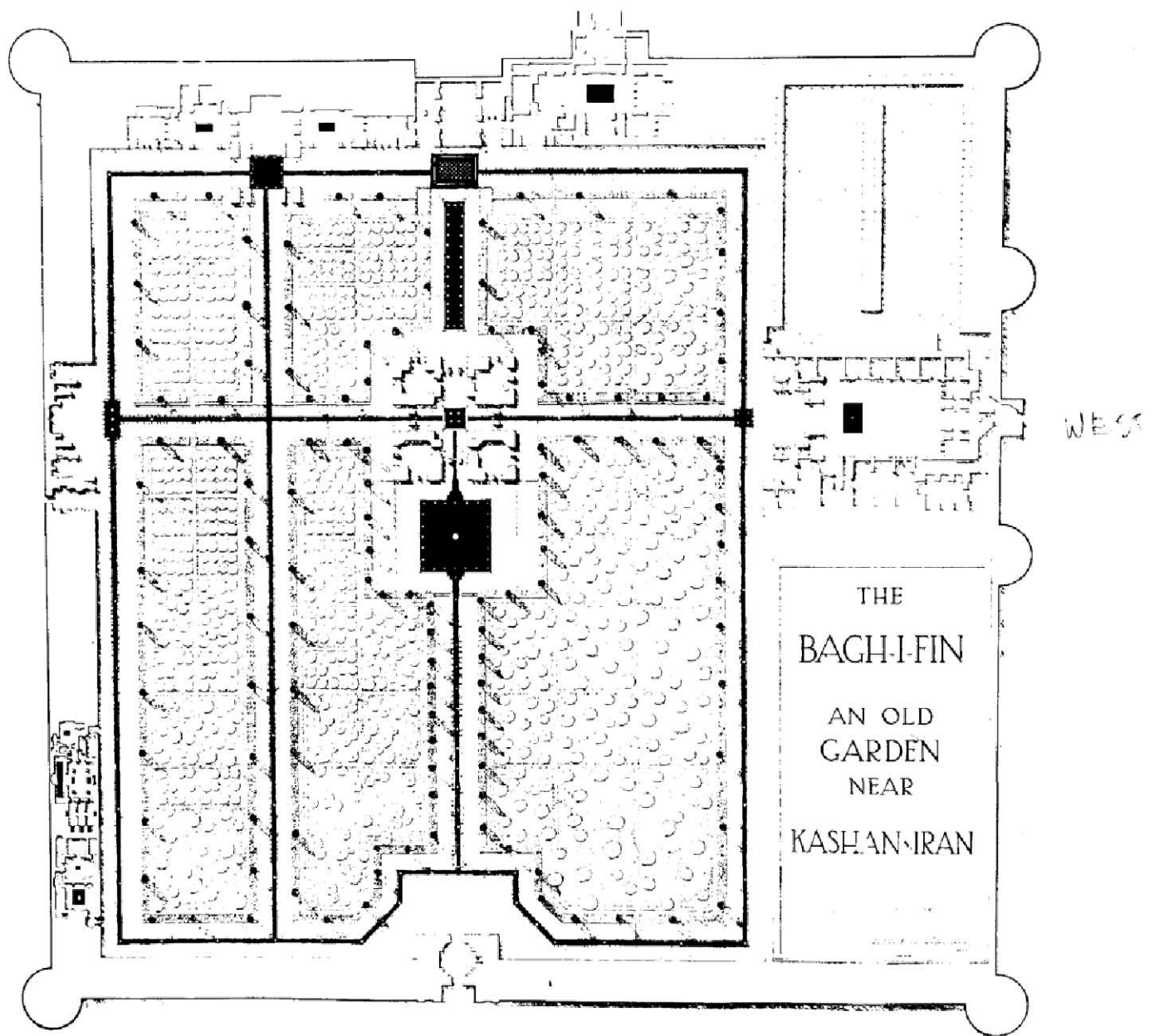
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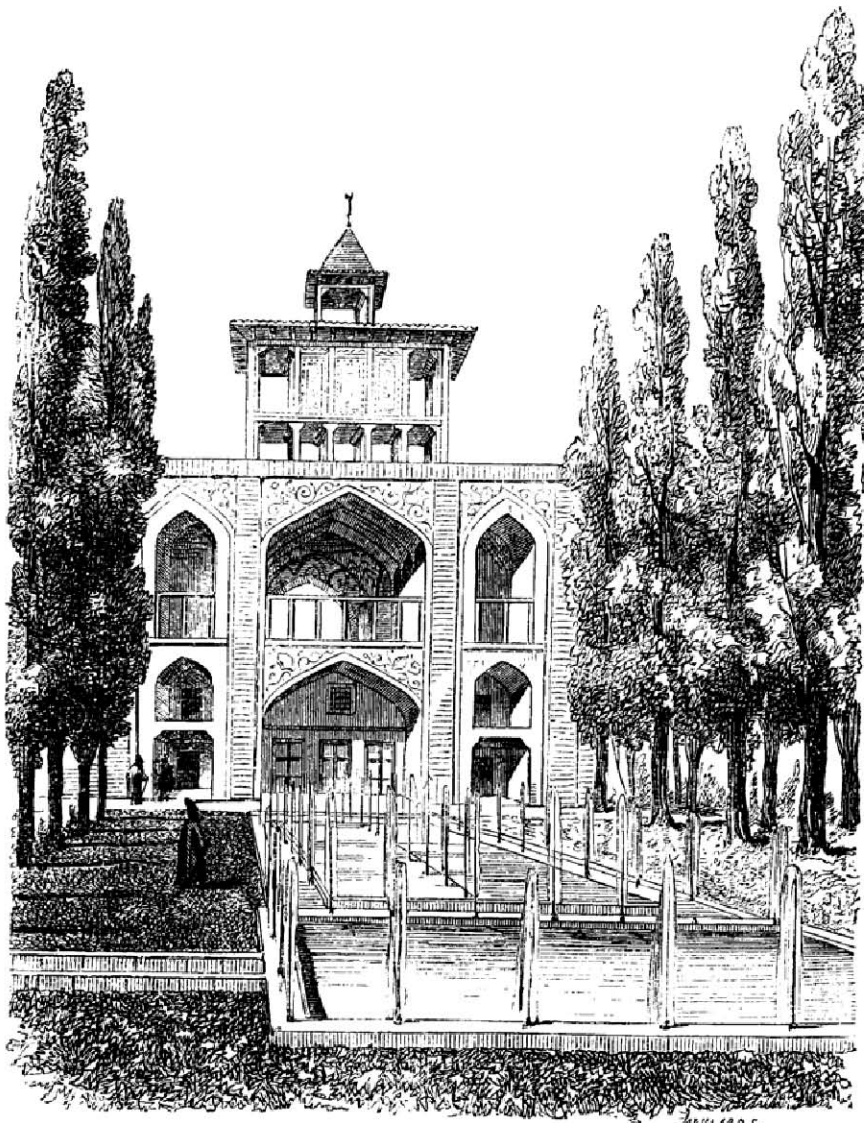


Source: Wilber, 1979

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Source: Wilber, 1979



Main Pavilion and Garden of Bagh-i-Fin at Kashan, Iran

Figure 10

Source: Wilber, 1979

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Shah Abba's Garden at Sari, Caspian Coast

Source: Wilber, 1979

**Private
Garden in
Andalucia,**

Spain

F i g u r e 1 2

Source: The Geometric Gardens of
Andalusia, <http://www.helleniccomserve.com/andalusia.html>





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**Source: Gulf
News,
January
23, 2008**

