



## Jeddah

Saleh Al-Hathloul and Muhammad Aslam Mughal

Jeddah is a thriving business centre and a beautiful coastal city of the kingdom of Saudi Arabia. It has come a long way from a small fishing village to a modern cosmopolitan city over a period of 2500 years. More than 90% of Jeddah was developed after 1948 as a response to the expanding Saudi economy; hence its housing stock and infrastructure are relatively new. It is one of the few cities in the world which has surplus housing and infrastructure at present. The historic part containing some magnificent buildings has been preserved and blended with modern Jeddah. Future concerns will be more with management and infill than further expansion of the city.

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Jeddah, known as the Bride of the Red Sea, is the most important port and business centre in the kingdom of Saudi Arabia. In terms of population it is the second largest after the capital, Riyadh. Another significance of this city is that it is the entry point for pilgrims to Mecca coming from all over the world. It has a coastal climate with an average temperature of 32°C and relative humidity in the range 70–80%. It boasts a beautiful cityscape with modern infrastructure and architecture reflecting Islamic traditions.

### Historical development

Recorded settlement begins about two thousand five hundred years ago.<sup>1</sup> Jeddah began as a small fishing village and is said to have been first peopled by the immigrants affected by the collapse of the Ma'rib dam in south-western Arabia. There is controversy about the origin of its name. According to some it got its name from Eve, who is said to be buried in the city. Jeddah in Arabic means grandmother, hence the origin of the name; however, other accounts dispute this.<sup>2</sup> The growth of Jeddah was closely linked to the advent of Islam in the peninsula in 611 and the increasing flow of pilgrims to Mecca, as historical records from that early period of Islam testify. Shuaiba, a settlement situated 15 kilometres to the south of Jeddah, acted as port of entry for the pilgrims. It was in 646, during the reign of Caliph Othman, that the port was shifted to Jeddah and since then it has

contributed significantly to the economy of the city in particular and the peninsula in general. Even after the shifting of the capital of the Islamic Empire from Medina to Kufa in 657, the port of Jeddah continued to be an important entry point for imports of commercial goods into the peninsula. The settlement, in the early period, was mostly confined to the square kilometre presently occupied by the old part of the town. The Persian poet Naser Khusro, who visited Jeddah in 1050, described it as a great city with a wall around it which is said to have withstood the Portuguese attack. 'The walls were still standing in 1761 as substantiated by the Danish Expedition in the same year'.<sup>3</sup> It was in 1948, the Saudi period, that the walls were pulled down to permit the expansion of the town required by the economic upsurge which resulted from the discovery of oil on the peninsula (in 1950). Since then the city growth has exploded in a linear form; it now covers an area of approximately 350 km<sup>2</sup>.

### Population growth and pilgrimage

In its growth from a small fishing village to a modern metropolis the town has passed through different stages. Unfortunately the authenticity of the recorded population data cannot be established as the only census carried out was in 1974. The other data are derived from historical accounts and reports giving some estimates (Table 1).

It should, however, be pointed out

<sup>1</sup>Ministry of Interior and Municipal Affairs, *Master Plan of Jeddah*, 1973.

<sup>2</sup>Jeddah: *The Bride of the Red Sea*, The Arabian Publishing House for Encyclopedias, Cairo.

<sup>3</sup>Jeddah: *Old and New*, Stacey International, London.

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Table 1. Population growth

Year	Population
1050	5 000
1948	30 000
1970	350 000
1982	1 000 000
1987	1 312 000
1990	1 600 000

Sources: *Jeddah: Old and New*, Stacey International, London; *Jeddah: The Bride of the Red Sea*, The Arabian Publishing House for Encyclopaedias, Cairo; and Ministry of Municipal and Rural Affairs, *Jeddah Urban Boundaries*, 1987.

Table 2. Growth of foreign pilgrims.

Years	Number of pilgrims
1930	39 000
1940	24 000
1950	100 000
1960	286 000
1970	431 000
1980	813 000
1987	960 000

Source: *Jeddah The Bride of the Red Sea*, The Arabian Publishing House for Encyclopaedias, Cairo; and *Pilgrims Statistics*, Ministry of Interior 1407H.

that the rapid growth in the national and Jeddah economy necessitated the import of immigrant labour in all categories ie highly skilled, skilled and unskilled; these people were counted in the population estimates, particularly from 1948 onwards. In 1987 foreigners constituted 55% of the total.

The story of Jeddah's population growth is incomplete without relating it to the increase in the number of pilgrims who have used the city as a port of entry for the last 1400 years. In fact, in the initial stages of its growth, pilgrims were the main source of income for city residents. However, its relative importance was gradually reduced as a result of the unprecedented growth of the national economy. The increase in pilgrims over the years is listed in Table 2.

It can be seen from Table 2 that there has been a substantial increase in the number of pilgrims: more than ninefold between 1950 and 1987. But the population has increased over the same period by 50 times. This can be explained by the fact that whereas up to the year 1950 pilgrimage was a major economic activity within the urban context the situation changed with the discovery of oil. From 1950 onward Jeddah assumed the role of the main commercial and business centre of the kingdom, with the bustling port handling about 80% of imports for the ever expanding economy and the massive infrastructure development programme of the country.

## Economy and employment

As stated earlier Jeddah started as a settlement with fishing as its economic base. Later on port functions were added; these gradually grew in importance during the Islamic Empire by handling the ever increasing number of pilgrims and imports into the Arabian peninsula. Jeddah also became an important stopping point for ships operating in the Red Sea. It gained real significance with the opening of Suez Canal in 1869; this resulted in increased ship traffic between the Mediterranean and the Arabian Sea.

The economy of Jeddah has been growing and adjusting with its changing functions. The original function of

fishing was soon taken over by port related activities, which include trade and commerce. The business aspect was tremendously boosted during the Saudi period, when Jeddah became the most important business and commercial centre in the kingdom. Earlier statistics are not available, but in 1971 3.4% of employment was in agriculture and fishing; this decreased to 0.7% in 1978.<sup>4</sup> On the other hand the manufacturing share increased from 3.6% to 13.2% and the construction sector rose from 10.4% to 19.6% over the same period. The most significant increase has been in the service sector, which constitutes roughly 50% of total employment and continues to be the mainstay of the local economy.

The total in employment in 1971 was 103 000; this increased to 640 000 in 1990. According to the city's action master plan, this figure is expected to reach 900 000 in the year 2000.<sup>5</sup> Another aspect of employment is the foreign component of the labour force; this had to be engaged to undertake the gigantic development programme planned to take place over a short period of time. Expatriates formed 70% of Jeddah's total workforce in 1990; but in accordance with the kingdom's policy of Saudization, and the increased supply of local workers, this percentage is expected to decrease with the passage of time.

## Traffic and transport

The city has an excellent road network which, combined with low petrol prices and the high affordability of cars, has resulted in increased reliance on private cars for movement within and outside the urban area. As can be seen from Figure 1, car ownership has increased from 50 cars per thousand persons in 1970 to 120 in 1978 and is presently estimated at 250 (roughly two cars for each household). It is expected to achieve a saturation level of 350 cars per thousand persons by the year 2010. As a result of high car ownership and low density of development, the public transport system is not very well used and its share of passenger movement is quite low. It consists of buses on major routes,

<sup>4</sup>Ministry of Municipal and Rural Affairs, Deputy Ministry of Town Planning, *Action Master Plan of Jeddah: Report 9*, 1983.

<sup>5</sup>Action master plans are essentially master plans which include more detailed action plans as integral parts of the study so that implementation can be initiated as quickly as possible. These plans were prepared during the period 1975-82, which witnessed an unprecedented rate of growth; hence an action oriented planning approach was adopted.



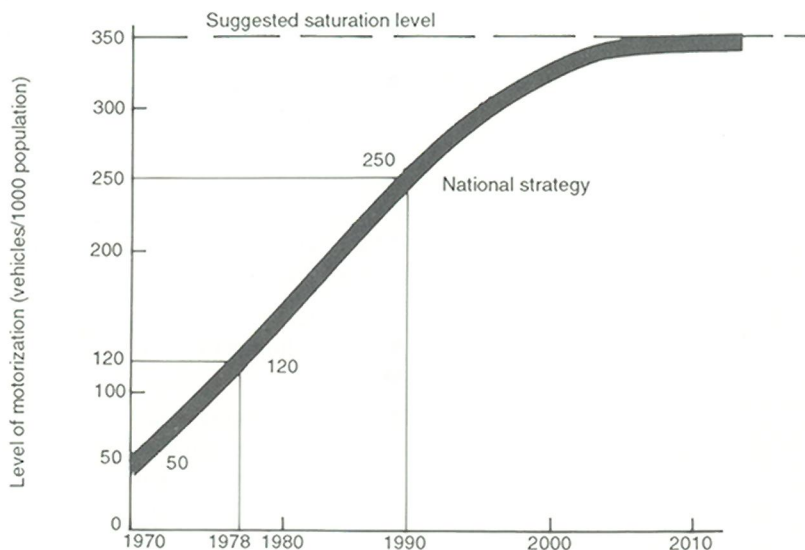


Figure 1. Car ownership predictions.

Source: Action master plan, Jeddah.

generally used by low paid foreign workers.

#### Housing

According to a survey carried out in 1987 there were over 262 000 housing units and 8000 collective living quarters in the city. This second category provides housing for institutions or large labour forces belonging to private companies. This survey also revealed that about 18% of the total housing units were vacant, indicating surplus housing in the city. The majority of the housing units (60%) consisted of apartments; traditional houses formed 30%, with only 10% of villas. The housing stock is generally in good condition as the major part has been built over the last 15 years with modern infrastructure.

The surplus housing situation has emerged as a result of the aggressive and sustained housing policies of the government whereby large-scale infrastructure was developed by the public sector and interest free loans were granted by the government, providing incentives to the private sector to undertake construction. Low income groups have been provided with free lots in addition to interest free loans. Public institutions like the armed forces, the university and the Health Ministry have carried out huge projects to provide housing for their employees. The Ministry of Housing has also undertaken a limited pro-

gramme of housing for the general public consisting of 1966 high-rise apartments and more than 3000 other housing units. Unmarried foreign workers, who are a major component of the labour force, are usually housed in collective living quarters; those with families can choose to rent from the open market.

#### City administration

Since the 1880s the affairs of the city were handled by a municipality directorate but its functions were limited to safety, cleaning and maintenance of buildings. A staff of seven officials was headed by the chief councillor. The directorate was later transformed into municipality.<sup>6</sup> In 1990, the municipality had a staff of over 3000 with an annual budget of US\$86 million. It is headed by a mayor appointed by the government.

The municipality has a main office and 13 submunicipalities to provide municipal services more conveniently at the local level. The decentralization was necessitated by the increase in population and the physical spread of the city. The main office of the municipality has the following major departments:

- mayor's office headed by a director;
- technical affairs, headed by a deputy mayor;
- municipal affairs headed by a deputy mayor;

<sup>6</sup>Op cit, Ref 2.

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- lands department headed by a director-general; and
- administrative and financial affairs, headed by a director-general.

The Directorate General of Physical Planning is part of the Technical Affairs Department and has the following three sections:

- studies;
- building permit; and
- survey.

The responsibility for immediate, medium- and long-term planning lies with the Directorate General of Planning; but this is still in the phase of institution building. It has hence had to rely heavily on consultants for all major studies undertaken so far including master plans, action area plans, execution plans and a conservation study.<sup>7</sup> All these studies were initiated by Ministry of Municipal and Rural Affairs and were completed with the active involvement of the municipality staff.

## *Planning efforts*

There is no evidence available that the city was established according to any preconceived plan. It came into being as a fishing village and the pattern developed over time. The city maintained its configuration and overall size for a long time. With the demolition of the walls in 1948, a massive expansion of the city began, necessitating some kind of planning framework. The period since 1948 can be divided into four stages.

The first stage, from 1948-61, was the period of unplanned development and extension towards the coastal plains in the north and the south, and the valleys in the east for the development and building of new communities to accommodate the ever increasing population. Planning effort in this period was restricted to the layout of individual communities, without any overall framework.

The second stage, from 1961-70, witnessed the initiation of overall studies within the framework of five provinces of the country. A master plan for Jeddah was also prepared within

this context. This envisaged the growth of the city to the north and south. An important component of this plan was a detailed study of the old part of the city which focused on the examination of 6000 old buildings and recommended conservation of 537. Steps were also proposed for the preservation of the general character of the area. The implementation of this study has resulted in the preservation of the historic and cultural heritage of Jeddah. Also during this period the first detailed aerial photography of Jeddah was undertaken in 1966 and studies in demography, recreation, communication and utilities were carried out, thus providing the necessary data base for the master plan as well as for future planning and decision making.

The third stage (1971-85) was by far the most significant period in the development of the country in general and of Jeddah in particular. The introduction of five-year development plans at the national level brought a coordinated growth in all sectors of the economy. The jump in oil prices in 1974 provided the necessary financial resources to initiate and implement a very ambitious infrastructure programme including communications, electricity, housing, water supply and sewerage in addition to health and education facilities.

Due to unprecedented growth, the previous master plan (1973) became outdated; so preparation of an action master plan was launched in 1978 to guide the development of the rapidly growing city. An integral part of this plan was the presentation of execution plans for the whole city and action area plans for selected areas.

The period from 1986 to the present has been one of consolidation after the tremendous expansion of the previous period. The city now has a surplus in housing, developed land and infrastructure. This, coupled with a slowdown in the economy, has required a different approach, focusing more on management than expansion. It was during this period that urban boundaries were delineated in order to direct growth according to a phased programme. The idea was to induce com-

<sup>7</sup>Execution plans provide detail of the action master plans at a scale of 1:2500, indicating the street network and other services. They thus provide a basis for the preparation of annual and five-year investment programmes. Action area plans are site specific detailed plans for selected areas within the framework of action master plans and execution plans, at a scale of 1:1000, with investment schedules identifying the implementing agencies.





Figure 2. City centre.

pact development by restricting the provision of infrastructure in phases, starting with the central area.

#### *Conservation through extension*

Jeddah has undertaken a massive land reclamation programme which has added land for city functions. This has been carried out along the whole coastline; but its most significant contribution has been to the city centre. This includes the historical part with meandering streets, magnificent old houses and typical oriental bazaars with a lively environment much too different from the rest of the city.

As the master plan recommended, a conservation plan for this area was developed, but its implementation was not possible unless additional land was made available through land reclamation in the vicinity of the centre. This provided an opportunity to extend the CBD, improve accessibility and to provide recreational facilities. All this was necessary to reduce pressure on the historical part and to help make it a vibrant commercial and residential area (Figure 2). 'Had this possibility not been available, the historical part of the Central Area could not have withstood the development pressure and any conservation would have been extremely difficult'.<sup>8</sup>

A detailed programme of preserva-

tion and conservation was initiated by Jeddah municipality; this has preserved the general fabric of the old commercial and historic areas (Figure 3). This was done through a series of measures including incentives, technical assistance and strict building codes. 'The Central Area has been able to retain its past and still play a dynamic role in building a better and more attractive Jeddah while making a significant contribution to its economy'.<sup>9</sup>

#### *Physical development*

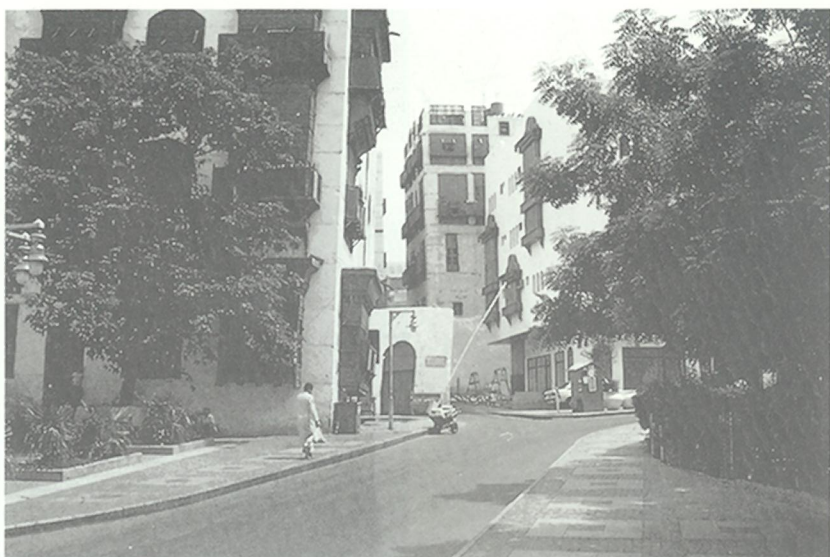
'The City has grown from a small primitive fishing settlement of 100 ha to a modern beautiful metropolis covering an area of 30 800 ha in 1987 stretching in a linear form along the coast'.<sup>10</sup> The form of the city has been dictated by the topography and the attraction of the water front on the Red Sea coast. However, some locational decisions have also been instrumental in giving the city its present shape. The most significant of these has been the siting of the new airport (Figure 4) to the north; this has created a strong nodal point with a busy communication corridor parallel to the coastline. The location of the new Jeddah-Mecca expressway to the east of the city has also acted as a constraint on the growth of the city in that direction. Now, however, growth has overspilled the expressway and a siz-

<sup>8</sup>S. Al-Hathloul and M.A. Mughal, 'Jeddah: conservation through extension', Paper published in *Urban Regeneration and The Shaping of Growth*, by the Agha Khan Program for Islamic Architecture at Harvard University and the Massachusetts Institute of Technology, 1990.

<sup>9</sup>*Ibid.*

<sup>10</sup>Ministry of Municipal and Rural Affairs, *Jeddah Urban Boundaries*, 1987.

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**Figure 3.** A section of the preserved historic part.

able low income community has developed in that area, even though a large number of lots with all basic services have been available on the city side; these were probably not affordable by low income groups. The result has been that low income groups are either in the old central part or in new areas away from the corniche. This may be attributed to the income differentials and affordability levels. High income housing has generally developed along the coast, pushing low income housing to old parts and in an eastern direction.

Jeddah was a walled city until 1948, when the walls had to be demolished to accommodate the ever increasing population and related activities. Unlike the old part of the city with narrow streets, recent development has a modern network of expressways for intercity connections and wide arterial

roads within the metropolis. New development is also low density, as most of the new housing consists of one- or two-storey villas. Even the new apartment buildings have spacious open areas for recreation and circulation. Jeddah's most ambitious and impressive project is the corniche development stretching over a length of about 80 kilometres. As stated elsewhere, most of the corniche development has been on reclaimed land. The corniche is a large integrated recreational project providing many play areas, coffee shops, restaurants, fishing spots, clubs and plantation areas. This recreational facility is not limited to Jeddah residents only; visitors from other regions of the kingdom also flock here in large number, and during holiday periods every available room is rented, which contributes to the economy of the city.



**Figure 4.** King Abdul Aziz international airport.



### *Future*

The city has reached a stage of self-propelling economic development; no major injection of financial resources from the public sector is anticipated. It will continue to be the leading business and commercial centre of the kingdom and investment by the private sector is expected to increase as it has an attractive business climate and excellent infrastructure. In the last two decades the public sector has had to make huge investments to develop the infrastructure; but it will now be primarily concerned with the maintenance function with limited extensions. This means a reversal of the past investment trend in favour of the private sector in the years to come.

In terms of physical development the emphasis will be on the infill process, utilizing available vacant land in and around the city, and excess infrastructure capacity. This will create a more compact and denser city than at present, and the urban boundaries approved by the council of ministers will be an effective tool in bringing this about. The vast old airport site, covering an area of 10 square kilometres close to the city centre presents an excellent opportunity to provide needed public facilities for the central area and commercial space for expanding business activities. This can be a major project undertaken through an active partnership between public and private sectors.

The physical infrastructure of the

city is brand new; maintenance problems are therefore restricted to the operation of the various systems. However, as time goes by maintenance will require more and more resources if the present level of services is to be maintained; major repair and rebuilding may be needed in the future. At present there is no taxation to pay for the development of municipal services as the entire budget is provided by the central government. With the expanding infrastructure and increase in population this situation may not continue for long. Resource generation at the local level may therefore have to be initiated in order for the municipality to share maintenance expenditure with the government. However, this has to be viewed within the context of national policies.

Due to surplus housing and infrastructure and the increasing role of the private sector, the public sector is expected to shift its focus from direct development effort to management. This means strengthening local institutions, particularly the municipality, so that they are capable of assuming the new responsibilities. In the past major planning studies have been conducted by the national government, a role which is gradually being taken over by the local level. This will require the strengthening of the local institutions through the training of suitable staff in all the related disciplines of urban planning and management.

# Urban design in traditional Islamic culture

## Recycling its successes

Besim S. Hakim

*This short paper summarizes the author's current thoughts on the problem of learning from traditional settlements. At this stage it is intended for discussion, to be followed by further elaboration and refinements in the future. The systematic citations of the author's previous work are intentional, to familiarize his work to others involved in the field of traditional settlements, and to facilitate research and accessibility to the material.*

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The ideas in this paper were first presented during March 1987 in an informal seminar at King Faisal University. It was printed and distributed locally in Saudi Arabia in early autumn of 1988. A revised version was presented to the Second International Conference on Urbanism in Islam held in Tokyo, Japan during 27-29 November 1990.

<sup>1</sup>B. Hakim, 'The contemporary benefits of traditional mid-east urbanism', *Proceedings of First National Conference in Urban Design*, New York, 18-21 October 1978; B. Hakim, *Sidi Bou Sa'id, Tunisia: A Study* continued on page 275

After completing extensive research and writing on the factors that shaped traditional dwellings and settlements in North Africa, culminating in the publication of the book *Arabic-Islamic Cities: Building and Planning Principles*, it was apparent that the question of what we can do with this new awareness and knowledge to improve our contemporary and future environments begged an adequate answer; this modest contribution addresses it.

The paper emphasizes the notion that we should not copy from tradition, but develop principles and lessons from a clear understanding of concepts, models and theories from man-environment studies as applied to traditional settlements. Seven sample issues and concepts are briefly discussed to illuminate this approach. A framework for viewing lessons from the past is proposed. It is divided into two broad categories of *process* and *product*, and three areas of lessons are grouped under each of those headings (Table 1).

### Motivation and objectives

My primary motivation in undertaking

research on traditional Islamic environments was to derive principles and lessons from the past which can be used today to improve the quality of our contemporary built environment, regardless of location; and to learn how to develop the framework and mechanisms necessary to allow a culture's identity to be reflected in its architecture and built environment, using Islamic culture as a case study. I attempted to identify the lessons available from my research in the form of general points in lectures given since 1978 and in related publications.<sup>1</sup>

Another research objective which I set myself in mid-1974 was the recycling and testing of the principles which would be identified as an outcome of that effort. As the evidence and results began to take shape, it became clearer that testing the experience of the traditional process was more crucial than the direct testing of the physical organizational system and built form. The opportunity for undertaking such a test on a real project was not available in 1978-79 when I was in the process of completing the difficult task of documenting the results of that research, which was completed in mid-