

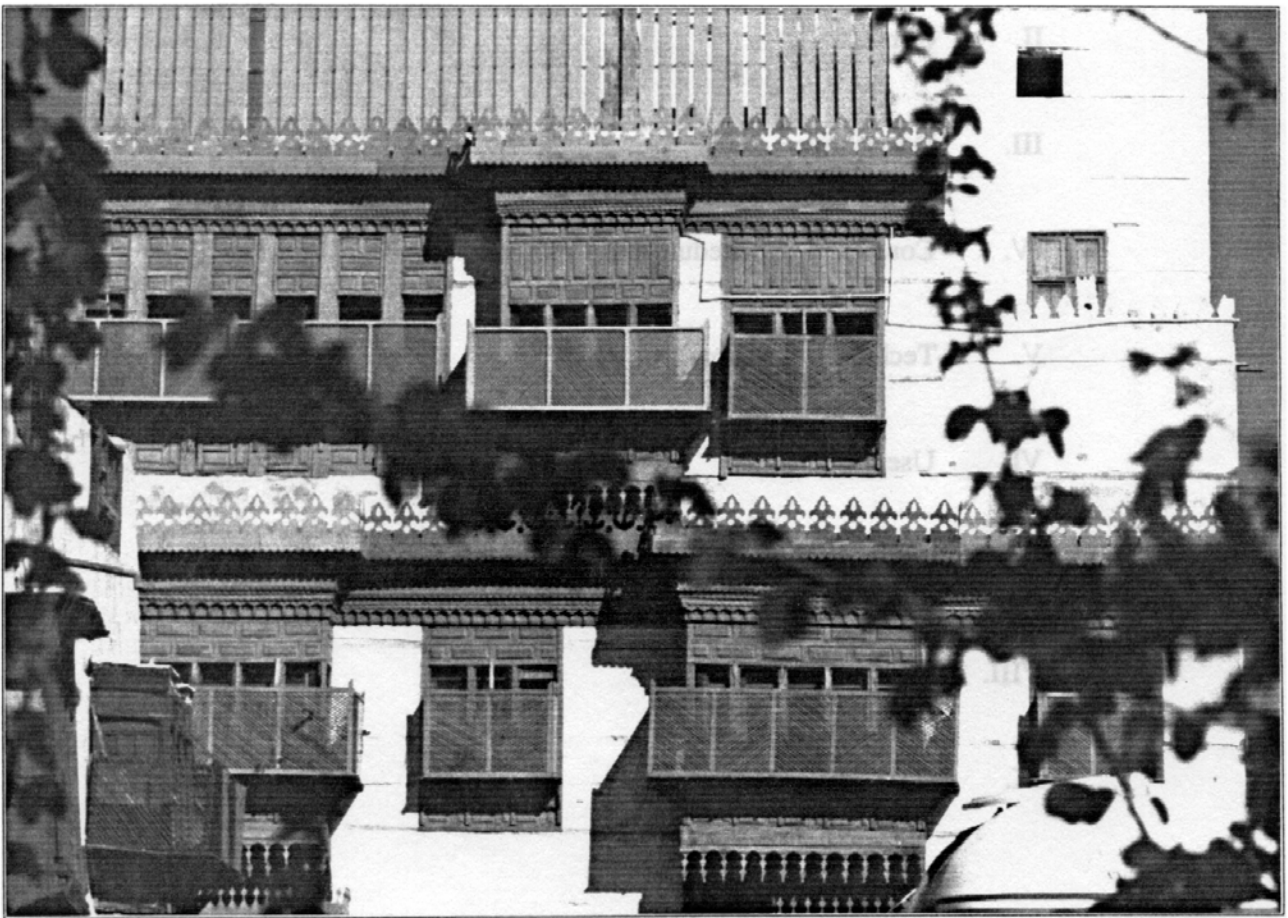


1992 Technical Review Summary
by *Yildirim Yavuz*

1121.SAU

AMAR Headquarters

Jeddah, Saudi Arabia



Architect

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Jeddah, Saudi Arabia

Client

Arabian Company for Development of Architectural Heritage (AMAR)
Jeddah, Saudi Arabia

Completed

1988

Amar Headquarters, Jeddah, Saudi Arabia

I. Introduction

The Arabian Peninsula has witnessed the rise of great civilisations, and particularly that of Islam. Most of its important urban centres are located on the western region, known as *Hijaz*. This is due to the presence of the caravan routes from Yemen to the Mediterranean Sea. Jeddah is one such urban centres established in pre-Islamic times. Due to its situation on the coast, Jeddah is also known as the seaport of Mecca, the holy city of Islam. Today, it is the most important commercial port of the Kingdom of Saudi Arabia, and has an international flavour.

The old town of Jeddah has a specific architectural character that has been preserved by government regulations. The recognition that the past may have an impact on the future, has transformed old Jeddah into a centre for historical reference. Nevertheless, the new architecture of the Kingdom has little inspiration from the traditional art of building, which is so well displayed in old Jeddah. Unfortunately, most of the houses that compose the old city are deserted and in need of urgent repair. The local citizens seem to be quite unaware of the inherent qualities of the district in terms of thermal comfort, human scale, and environmental aesthetics.

The Arabian Company for the Development of Architectural Heritage (AMAR), has been established to promote the idea of the safeguard of historical sites and buildings in Saudi Arabia. To promote this cause by example, AMAR have ventured to restore one of the old houses of Jeddah which they considered might be suitably adapted as their headquarters. The project aspires to initiate other restoration projects in the district as well as in other historic cities of Saudi Arabia.

II. Context

a. *Historical Background*

Jeddah

While the existence of Jeddah dates back to pre-Islamic times, its prominence in connection with the holy city of Mecca, and as a commercial centre was determined by Caliph Uthman in 646 AD. By referendum, the citizens of Mecca decided to abandon the old port of Shuaybah - 20 km south of the city - in favour of Jeddah. As the primary focus of Islam and the capital of an expanding empire, Mecca derived great wealth from the initial wars of *jihad*. The spoils were channelled to Mecca through the port of Jeddah which rapidly transformed into an active trade centre.

Even when the political importance of *Hijaz* diminished, when the capital shifted first to Damascus under the Umayyads and then to Baghdad under the Abbasids, Mecca continued to enjoy great prestige for its sanctity. Thus, Mecca, together with Jeddah, was able to support herself with the income of the annual pilgrimage; indeed the two cities were mutually dependent for economic prosperity.

In 702, Jeddah was sacked by the Abyssinian pirates, but assured economic survival through taxes levied on pilgrims. After the capture of Baghdad by the Mongols, and the transfer of the Abbasid Caliphate to Cairo under the protection of the Mamluks, *Hijaz* became the target of the Egyptians who had shown interest in the Red Sea and eastern trade for some time previous. Various attempts of annexation failed, until 1425, when Mamluk Sultan Barsbay stationed a permanent garrison in Mecca and began to impose customs duties in Jeddah.

With the decline of the Abbasids, Jeddah became very active as most of the eastern trade which used to pass to Baghdad, *via* Basra, then passed to Egypt through the Red Sea and Jeddah.

With the fall of Constantinople in 1453, Jeddah again benefited from favourable circumstances. When the Ottomans closed the Bosphorus to curtail access to Crimea, only the Red Sea route remained for Far-Eastern and Indian trade. The Arabs and the Egyptians gained virtual monopoly in spice traffic.

When Vasco di Gama discovered the eastern sea-route south of Africa in 1498, the effect on Jeddah was negative. A high percentage of trade-income was lost to sea-faring European merchant ships.

In the early years of the 16th Century, the Portuguese established many colonies on the Indian and Arabian coasts and began to attack Arabian ships involved with eastern trade. The Mamluk Sultan Qansawh al-Ghawri displeased by these attacks, which hindered pilgrimage as well as trade, organised an expedition against the Portuguese in the Red Sea. Husayn al-Kurdi was charged to command the fleet of fifty sailing ships. The campaign started from Suez in 1507. Jeddah was selected as the base for the naval war against the Portuguese.

After a disastrous campaign against Portuguese colonies in India, Husayn al-Kurdi returned to Jeddah and proclaimed himself governor. Under his rule (1509-1514), the city walls, which had been ruined, were re-built to protect Jeddah and Mecca from Portuguese attacks.

On August 24, 1516, at the battle of Merj Dabiq near Aleppo, the Egyptian Sultan Qansawh al-Ghawri was killed in the field by the Ottomans. On January 22, 1517, under the leadership of the Turk Sultan Selim I, the Ottoman armies entered Cairo. The last Mamluk Sultan, Tuman Beg, was executed and the last Caliph, al- Mutamakkil, was deported to Istanbul.

With the occupation of Egypt, the Ottomans annexed the Red Sea provinces of the Mamluk Empire. Barakat II, the Sharif of Mecca, welcomed the annexation and sent her son Abu Numayy to Selim's court for formal recognition of his authority. In return, Selim I confirmed Sharif's jurisdiction over *Hijaz*, and upon complaints by Sharif's son, ordered the execution of Husayn al-Kurdi, who ruled Jeddah against the wishes of the Sharif.

During the rule of Suleyman the Magnificent, the Ottoman navy, under the leadership of Piri Reis, fought the Portuguese for supremacy in eastern trade. As a result, the Red Sea was cleared of foreign ships. For the remainder of the 16th Century, Jeddah continued to be an important centre of eastern trade, in spite of the new Cape Route initiated by the Portuguese.

However, in the 17th Century, there was a sharp decline due, mainly, to Dutch and English merchants who succeeded in breaking the Portuguese monopoly. Jeddah then experienced a period of eclipse. In 1803, Mecca was occupied and Jeddah was besieged by the *Wahhabi* tribe from *Najd* under the rule of Abdulaziz. The people of Jeddah withstood the siege until the *wahhabis* had to leave; the same year, Sharif Galib returned to Mecca. In November of the same year, Abdulaziz was assassinated by a Shi-ite from Kerbela and was succeeded by his son Saud. Yanbu, Medina and Mecca were recaptured by Saud's armies by 1806 though Jeddah still resisted the renewed Wahhabi attacks.

The Ottomans encouraged the new Khidiv of Egypt, Muhammad Ali, to crush the Wahhabis and take over first Hijaz in 1813, and then the whole of Najd in 1818. With the opening of the Suez canal in 1869, Ottoman control of *Hijaz* was reinforced, since troops could be sent over by ships. Direct Turkish administration was established in Medina, Taif and Jeddah, while Mecca was ruled by the Sharif.

In 1901, Abdulaziz from the Saud family re-conquered Riyadh and established his rule all over Najd. At the outbreak of the First World War in 1914 - when Turkey aligned with Germany - the British aligned with the Saudi family and the *Wahhabis* for the independence of *Hijaz*.

The *Wahhabis* entered Mecca in October 1924, and Jeddah in December 1925. In January 1926, Abdulaziz was proclaimed King and in September 1932, the country was officially named; the Kingdom of Saudi Arabia. For a long time Jeddah, as the largest city of the Kingdom, hosted foreign embassies. Recently, the embassies have moved to the capital city of Riyadh; however, Jeddah continues to be the most important port city of the Kingdom - with a population of over

1.5 million - and has retained her sacred and historical rôle as the main gate to the holy city of Mecca.

After the demolition of the 3-to-4-metre-high ramparts in 1947, the town began to grow around and above the *Al-Manqaba* lagoon to the north. From 1949 onwards, Jeddah experienced remarkable growth that set the pattern for the existing linear form of the city, which today stretches approximately 40 km from north to south.

Bayt al-Shafi' (AMAR Headquarters)

AMAR Headquarters operates from *al-Balad* (the old city) at number one, Harat al-Mazlum, directly opposite the large Shafi' Mosque. It is known as *Bayt al-Shafi'* as it is a *wakf* for the Shafi' Mosque. The building is also known as Bayt Abu-Saleh, after the family who owned the house 58 years previous (1354H, 1935 A.D.). The last owner was Sheikh Ahmad al-Zahrah, who endowed the house to the mosque before he deceased in Medina, in 1364H (1944 A.D.). The house is also known as Bayt al-Sabban and Bayt al-Sogati according to official references.

The al-Shafi' Mosque is one of the oldest mosques of Jeddah. It was built by one of the Yemeni-Ayyubid Kings; Suleyman bin Saad Uddin Shahinshah, who died in 649H (1542 A.D.) It was re-built in 940 H (1533 A.D.) by an Indian merchant named Mohammed Ali, who brought its columns and timber parts from India. As the houses of al-Balad were deserted, the mosque was closed for lack of funds (the houses are endowed for the welfare of the mosque). When al-Shafi' house was leased to AMAR, the rental was used to finance the renovation of the mosque, and to provide rugs and air-conditioning. The mosque is again used by the public.

b. Local Architectural Character

Old Jeddah, which today is called *al-Balad*, has always been impressive with its distinct urban character formed of lofty, shuttered buildings, and narrow, winding lanes, which create a compact mass. Today, the immediate surroundings of *al-Balad* form the shopping and business centre of Jeddah and - particularly on the sea side - has been transformed into a high-rise district with international banks, corporate company offices and multi-storey shopping arcades.

The revenues of the oil boom have resulted in a new architecture, in Jeddah, that is daring, international and varied. The long, landscaped corniche, the dazzling white buildings and the busy commercial port, give Jeddah the allure of a lively Mediterranean city. Due to the congestion of the centre of the city, vehicular circulation has become a problem around al-Balad.

The municipality has turned al-Balad into a pedestrian zone. The façades of the old houses have been white-washed; the projecting, latticed *roshans* have been painted either apple green or dark-brown in colour; and the streets have been paved with granite and cobblestones. Despite the renovation of the façades, most of the al-Balad houses are deserted, and in derelict condition. Structural failures have caused some buildings to lean to one side. Nevertheless the tall, white, stone façades, which feature intricate timber projections of *roshans*, covered by *mashrabiyyas*, create an interesting maze of traditional buildings, which, on the outer edges of al-Balad, intermingle with the contemporary high-rise buildings of the city.

c. Climatic Conditions

The uncomfortable climate of Jeddah is related to its location on the Red Sea; it is situated between the Mediterranean Sea and regions to the south which have monsoon-type climate. Rain-fall in Jeddah is scarce and erratic and usually occurs between October and April. Rain is often torrential and this creates floods in low-lying areas of the city. Average rainfall is 50-100 mm per year. The prevailing wind is from the north-west; though sand-storms blow from the south for approximately 30 days a year.

An average relative humidity of 80%-85% coupled with an average daily temperature of 30°C creates an extremely oppressive atmosphere within the town.

d. *Immediate Surroundings*

The old city of Jeddah is divided in two by the new thoroughfare of Shar'a Malik Faisal which cuts through the traditional fabric of al-Balad in the north-south direction, as a continuation of Medina Street, the main north-south artery of the town.

The area between Shar'a Malik Faisal and Shar'a Malik Abd-al-Aziz, further west towards the sea, is the main shopping area of the town with covered *suqs* which offer various merchandise. To the east of Shar'a Malik Faisal, the old urban texture has been conserved.

AMAR Headquarters operates from one of the old houses centrally situated in *al-Balad*, directly opposite the Shafi'i Mosque, in Harat al-Mazlum. The building is flanked on both sides by similar structures in dilapidated condition. To the east lies a short street with a demolished structure, a well that opens into an underground cistern. This area, which also has three mature palm trees at its centre, is being planned as an open-air cafe by the AMAR administration.

The Shafi'i Mosque directly opposite AMAR is a single-storey, multi-columnar building with coral stone walls which are plastered over and white-washed. The courtyard is small and is surrounded by a *riwaq*. The prayer hall floor is lower than the street level and it has thin, slender columns with wooden capitals.

e. *Topography*

The site of AMAR Headquarters in the central part of *al-Balad* is quite flat as is the city of Jeddah. From the low floor level of the Shafi'i Mosque, it can be assumed that the immediate area may have been filled with the debris of previous buildings. This may have contributed to the structural failure that can be observed in a number of buildings in various parts of *al-Balad*.

III. Description

a. *Background of Project*

How to link that which is historical with that which is contemporary in a rapidly changing architectural environment like that of the Kingdom of Saudi Arabia, incited a group of Saudi Intellectuals to form AMAR: a centre for the safeguard of architectural heritage. The aim is to make the public aware of the inherent values of the existing traditional environment and to search for ways to integrate these values with those of contemporary architecture.

After preliminary surveys and various considerations, the old city of Jeddah was chosen as the location for AMAR; it is an historical district that has been upgraded and is protected, though situated within a rapidly changing city.

The centre opened in December 1988, on completion of the restoration.

b. *General Objectives*

- To take a pioneering and exemplary step in the preservation and restoration of historical buildings in the *al-Balad* district of Jeddah, as well as in other historical towns of the Kingdom of Saudi Arabia.
- To link the old and the new in an historical building restored for adaptive re-use; to set an example as to what may be done in the historical districts of Saudi Arabian cities, as an alternative to demolition and redevelopment.

- To encourage businessmen as well as local house owners to develop and maintain their buildings or initiate new business in them.
- To establish a centre which would enlighten the public on various aspects of environmental problems through lectures, exhibitions, and classes.
- To create a centre for information, reference, and research on the traditional architecture of Islamic countries. The storage and dissemination of accumulated knowledge will use the most sophisticated, and contemporary means.

c. Functional Requirements

- Utilisation of the restored building as AMAR offices for the Development of Architectural Heritage.
- Installation of an architectural image library which uses advanced technology and sophisticated electronic equipment.
- Establishment of a computer aided design library for elements of traditional architecture where desired information is produced in drawing form on computer to allow the re-production of accurate components in bulk.
- Establishment of a permanent showroom to display traditional or contemporary architectural elements and artefacts from all over the Islamic world to feature the unity and versatility of the Islamic heritage in the field of art and architecture.
- To establish lecture rooms, meeting halls and guest quarters where public lectures and meetings can be held and where prominent visitors from other countries, who are interested in the affairs of AMAR, can be accommodated.

d. Building Data

Bayt al-Shafi, where AMAR Headquarters is located, is a typical, 18th Century Jeddah house. The building has a square plan of 13.90 x 13.70 m, with an addition on the eastern side which measures 5.25 x 9.30 m. Together with this addition, the building assumes a rectangular plan with the north-eastern corner missing. While the main building is five storeys - including the terrace level at the top - the annex at the rear has only three storeys, and only the two upper levels are connected to the main building.

Inside the building, large and small rooms are arranged around a stairway while the top floor has a large roof terrace. On every floor, the larger rooms oriented towards the north and west, are endowed with *roshans*, protected from public view by intricate *mashrabiyyas*.

The building covers an area of 240 m² and totals approximately 1120 m² on five floors.

e. Structure, Materials and Technology

Interventions

The structural consolidation of the building includes the replacement of two short walls on the ground floor level and the reinforcement of all existing walls with stone. The floors were cleared of thick layers of heavy concrete and old floor tiles which had accumulated in the course of various renovations. Walls were cleaned, re-plastered and whitewashed and new tile or marble floors were installed over a thin layer of reinforced concrete. A 5 cm reinforced concrete floor was also laid on the terrace to water proof the building.

A new electrical system was installed together with individual air-conditioning units. All timber elements were exposed and treated with preservative to protect the wood against humidity and termites. The original layer of green stain was cleaned, though without much success, as it is deeply impregnated.

At approximately 40 cm above street level, holes were drilled all around the building through the external walls, to absorb and discard the rising ground moisture.

Materials

The walls of Bayt al-Shafi are built of coral stone, bonded by sand and lime mortar. Tree branches were placed in the walls at 1 m intervals as bond beams. These have been left exposed. Irregular and closely spaced, thin tree trunks were utilised as floor beams. A thin layer of reinforced concrete was poured over these, with red floor tiles, and black and white marble floor finish.

For wall plaster, a mixture of sand and lime was used. After several layers of simple, lime white-wash, a last layer of white, water soluble plastic paint was applied. New sanitary equipment was installed in bathrooms and the new electrical wiring systems were placed behind the new floor and wall skirtings.

Restoration Technology

The restoration of the building was realised by traditional craftsmen and with local technology. Whenever necessary, the building was propped by timber buttresses to permit consolidation of the walls at lower level. The same traditional coral stone was utilised to replace the missing or decayed stones.

Building Services and Site Utilities

Al-Balad district in Jeddah has renewed water, telephone, electrical and sewage networks, which have been connected to the building.

Origin of Technology, Materials and Expertise

One aim of the project was to use traditional techniques and building materials in the restoration of the historical houses of Jeddah. Therefore, traditional methods and craftsmen have been utilised in the restoration of Bayt al-Shafi. With the exception of industrial materials such as reinforced concrete, solvents and preservatives, local, traditional materials were used for the restoration. Expertise was supplied by the AMAR group and the two craftsmen who worked on the building, were from Egypt. Two experienced Saudi builders gave advice on local construction methods, techniques and details.

V. Construction Schedule and Costs

History of Project

The choice of Bayt al-Shafi for restoration as AMAR Headquarters was determined by the Board of Directors, after long discussions of whether to construct purpose-built premises or to restore and adapt an existing structure to suit the purpose. The selection of the building to be restored depended on its centrality in *al-Balad* and its proximity to the traditional market area, and the 400 year old mosque of al-Shafi. The possibility of expansion through the purchase of nearby buildings was another positive aspect of the choice of building.

The building was rented from the *Wakf* organisation in 1987 and the centre opened in December 1988.

Amar Headquarters, Jeddah, Saudi Arabia

b. Total Costs and Sources of Finance

The initial budget donated by the four members of the Board of Directors of AMAR totalled SAR 1'000'000 (USD 266'650). Of this, a total of SAR 713'160 (USD 190'175) was used to restore and furnish the building.

c. Comparative Costs

The directors of AMAR stated that at least twice the amount of money spent for restoration would have been necessary for the construction of a new building, excluding the price of land.

d. Analysis of Costs

The breakdown of costs is as follows:

	Saudi Arabian Riyals	US Dollars
Total Cost of Restoration work is	395'300	105'400
Structural works:		
- materials	107'775	
- salaries	31'770	
total cost	139'545	
Painting:		
- materials	16'940	
- salaries	27'470	
total cost	44'410	
Plumbing and Sanitation:		
- materials	46'050	
- salaries	39'095	
total cost	85'145	
Electrical works:		
- materials	43'100	
- salaries	20'350	
total cost	63'450	
Carpentry:		
- materials	39'640	
- salaries	23'110	
total cost	62'750	
Total Cost of Furnishing is	317'860	
Breakdown of Furnishing costs:		
- Air conditioning	132'095	
- Telephone installation	36'490	
- Furniture	83'910	
- Lighting Fixtures	59'000	
- Water fountain	6'365	
The average cost per m ² is	339.6	90

USD = SAR 3.74, Saudi Arabian Riyals.

e. *Maintenance Costs*

The average cost of maintenance SAR 40'000 (USD 10'650) per year.

V. Technical Assessment

a. *Functional Assessment*

The restored building houses the offices of AMAR Headquarters:

- The old *majlis* room across from the reception at the entrance, is transformed into a classroom for the use of students from university, who attend lectures on traditional architecture once a week.
- The remainder of the ground floor houses a special reference library on Islamic architecture and the exhibition rooms for traditional and contemporary architectural elements and artefacts from various Islamic countries.
- The directors' offices occupy the first floor and general administration is placed on the second floor. The third floor is reserved for computerised data and image banks, while the fourth floor is designed as a large *majlis*, a dining room and guest quarters for social activities.
- The large open-air terrace on the fifth floor is also used for social-gatherings, concerts and feasts in the traditional style.

b. *Choice of Materials and Level of Technology*

Except for wood preservatives and a minimal use of reinforced concrete, the restoration interventions at Bayt al-Shafi retained as much of the original materials as possible. The walls and ceilings were restored with little intervention and spatial changes were kept to a minimum. The use of craftsmen equipped with traditional techniques and experience is a sign of the traditional approach to restoration.

c. *Ageing and Maintenance Problems*

The precautions taken to control humidity at ground level seem to have worked positively and no action of water seepage from the earth is evident since completion of the restoration work. For the past three years - since completion of the restoration - no intervention has been necessary, except for attempts to clean the green paint from wood members by the use of new solvents.

VI. Users

a. *Identification of Users*

AMAR has been established to give service and information to Saudi citizens on the subject of architectural heritage. Lectures and meetings organised by the centre are attended by an ever increasing number of Saudi intellectuals, students of architecture and interested citizens. The data banks of the centre are also contacted by universities and research centres from various countries for information.

b. Response to Project

The interest shown in AMAR activities by Saudi intellectuals and students of architecture is increasing. Recently, it is observed that AMAR Headquarters has set an example of awareness in traditional building conservation. The building adjacent is now being prepared for restoration by its owner, and two other buildings nearby are currently undergoing structural consolidation repairs.

VII. Persons Involved

Client AMAR - Arabian Company for Development of Architectural Heritage.

The Board of Directors consists of the following people:

- H.E.Sheikh Ahmad Zaki Yamani, Chairman
- H.E.Dr.Mohammed Said Farsi, Member
- Dr.Sami Mohsin Angawi, Member
- Abdel-Aziz Abdullan Kamel, architect, Member.

Architect Dr.Sami Mohsin Angawi, Consultant architect of AMAR.

Craftsmen - Ismail Ahmed Arif, traditional mason (Egyptian)
- Hasan Ali Ahmad, traditional carpenter (Egyptian)
- Jameel Mo'allim, master builder (consultant)
- Abdullah Aleemi, master builder (consultant).

Yildirim Yavuz
Jeddah, June 1992.