Conservation in an Islamic context a case study of Makkah

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CONSERVATION IN AN ISLAMIC CONTEXT
A CASE STUDY OF MAKKAH

DEPARTMENT OF GEOGRAPHY

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Dedication

To Makkah, the heart of the Islamic world,
I dedicate this research, may Allah accept my humble work.

The Author

DECLARATION

The author declares that the total work in this thesis is the sole submission to the University of Durham, Faculty of Social Sciences, Department of Geography.

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ABSTRACT
CONSERVATION IN AN ISLAMIC CONTEXT
A CASE STUDY OF MAKKAH

The Holy Qu`rān contains many injunctions for Muslims to respect and conserve the natural environment but few address the built environment. Habitat at the time of the Prophet (PBOH) was in the vernacular and relatively impermanent. The first habitat was the cave, the second the tent and then simple flat roofed buildings of post and lintel construction made of mud and rubble. Later buildings were not indigenous but reflected the architectural styles and techniques of Muslim pilgrims from beyond the Arabian peninsula. Permanent exotic buildings were later erected as reminders of holy places and events.

This work advances a case to restore and preserve historic and religious sites in Makkah, Saudi Arabia. Makkah is the destination for millions of Muslim pilgrims who annually pay homage to Allah during the occasions of Hajj, Ramadan and Umra. The tranquillity and peaceful ambience that one associates with the holiest of Islamic experiences have, over the years, given way to jostling crowds of people who must be expediently housed, fed, transported, and protected. Due to the lack of planning and the insensitive but profitable development of the city, Makkah is in grave danger of becoming a bustling metropolis instead of a sanctuary where pilgrims gather to perform their religious rites and reaffirm their dedication to Allah.

The author calls for professional planning and international cooperation to guide future development for this expanding and sensitive area. The author's ideas are grounded in practical and aesthetic study, therefore, the political, environmental and economic issues are examined in relationship to religious, historic and artistic values. The author makes proposals for a future Makkah that would provide pilgrims with the physical comforts, security, and serene environment they deserve—without destroying the city they came to visit.

The author discusses preservation and conservation in the western world and the need for their acceptance in Muslim countries, the former being an aesthetic and intellectual concept sustained by law and the latter being the prescribed free expression of the individual unhindered by material considerations. Both worlds are rapidly being overwhelmed by materialism, but body, mind and spirit combine in making us aware of our surroundings and the way in what we see around us has come into being.

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CHAPTER ONE

Introduction and Summary Outline

A. The Author

The reason I chose this topic for my thesis is highly personal. It began on my first visit to the Holy Mosque. I was 25 years of age and I had formed strong perceptions of what to expect. The Mosque impressed me by its enormous size. It was obvious that the area had been expanded and care taken to use expensive materials and good workmanship. However I was disappointed. I had expected to see a dignified, beautiful historical structure embodying history and religion. The expansion had resulted in something less than expected. Although beautiful and functional, the Mosque lacked a sacred essence and spiritual aura. It did not have the quality to involve the visitor emotionally or the tranquillity expected in such a glorious place.

Subsequent visits have confirmed my initial reaction, that the undeniable quality of tranquillity and aura of serenity are incomplete. While the glory of its holiness is obvious and overwhelming, it still did not give me an experience of calm and comfort that I had expected. The Ka'aba has a long history, predating Islam, and I expected to be overwhelmed. I was not.

The Haram, which is the sacred ground around the Ka'aba, is radiant, clean and has a contemporary look. It is illuminated at night, indistinguishable from a sports stadium. It has been expanded to provide a very functional area for prayers and for the Muslim pilgrims to perform one of the five pillars of Islam, the Hajj, the holy trip to Makkah.

The ancient, confined and relatively small area has been enlarged many times. In the process, the old architecture has been demolished without any concern or attempt to preserve its heritage. In designing the new structure, there was no apparent effort to incorporate the old with the new. Moreover, in the several expansion stages, the original surrounding structures outside the Mosque

have been demolished and replaced with contemporary designs of several architectural styles consisting of glass monuments and concrete structures. These leave one with little emotion, warmth of heart or spiritual inclination. They lack a relationship with the Holy Mosque.

I have asked several relatives, friends and fellow architects for their impressions and comments concerning this subject and most have confirmed their disappointment, linking it with the destruction of the irreplaceable architectural design which had been lost forever in and around the Makkah Haram. I have also questioned several planners and architects concerning their theories as to why this expansion so totally ignored the preservation of the past. I have received answers of varying interpretations, but no one has fully explained to my satisfaction why such an act was performed apparently deliberately to wipe out the identity of so much of the past and the total disregard for the tranquil nature of this locality.

In the absence of a reasonable explanation, I decided to research the judgement and the mystery associated with the issues that led to the deliberate, conscious methods used simply to provide more room for the pilgrims. I believe there could have been a better solution. Any discussion must, of course, be within the context of the laws of Islam concerning the preservation of the environment and the preservation of important sites, building structures and monuments in the Kingdom of Saudi Arabia and the holy city of Makkah in particular.

B. The Topic

The problems arising from modern demands for urban expansion in Makkah, which is the focus of this study, had its origin with the discovery and exploitation of oil. This had a significant impact in the development of the entire Arabian peninsula. The world oil crisis during the 1970s created enormous revenues in a relatively short period of time. The development in Saudi Arabia was very rapid and significant. Transportation and communications were the major initial thrust. Roads and airports now united internally this large desert country, and the major highways linked the Kingdom with all its neighbouring states and the

Middle East in general. Seaport improvement provided additional facilities for the movement of people and goods. Twenty five airports were constructed in record time to facilitate the flow of people entering and departing the Kingdom. These improved methods of transportation, which were relatively inexpensive, made it easier for the world's pilgrims to journey to Makkah to perform Hajj, one of the five pillars of Islam.

The pilgrimage is one of the requirements of all Muslims to perform at least once in a lifetime. It is required by those who can physically and financially afford it, but at the same time not create undue hardships upon those dependent on the individual performing the journey. If for any reason the obligation cannot be met, then the requirement is not mandatory. The number of pilgrims performing Hajj continues to increase each year. Through more efficient and inexpensive means of transportation, pilgrims include not only those from an increasing world population but also from expatriates working in the Kingdom who had responded to the demand for personnel to work in the Kingdom. There were not enough Saudi, Kuwaiti or Gulf state citizens to supply all the labour required for the modernisation. The large workforce of expatriates brought with them skills and technology not present in the Kingdom. They also added to the burden on the Saudi Arabian government to accommodate pilgrims. All cities grew, not least Makkah and Madinah, being the twin foci of the Hajj.

The introduction of the wide body jet aircraft in the 1960s allowed pilgrims to travel at a reasonable cost in greater numbers to the holy cities to perform Hajj. The arrival of pilgrims in the holy cities required additional and improved facilities for accommodation, augmentation of transportation and a need for medical facilities. These logistics required extensive planning. In order to satisfy the needs of the large influx of pilgrims, and to accommodate the time frame required to perform specific rituals, an expansion of the holy sites was required. Thus the necessity to care for and accommodate an estimated number of two million additional people in the holy cities placed an enormous burden on all government agencies in general and city planners in particular.

In order to expand the Holy Mosque in Makkah, the Saudi government conducted extensive studies. They contracted with consultants and city planners, both locally and internationally. The recommendations ultimately submitted concluded that to provide suitably for the increasing number of pilgrims, an expansion was needed around the Ka'aba. Unfortunately, their decision involved demolishing a large area around the Holy Mosque to accomplish this.

As I explored this issue, it was apparent that two opposing views existed on how best to deal with this expansion: 1) The authorities, supported by one Islamic jurist, determined that priority should be given to universal interests rather than the local interest of the historical and religious sites. The concept utilised was similar to that in the planning of some European cities where the minority won over the majority; a typical governmental decision. This method of proposed expansion involved the loss of quality that Makkah once had of intimacy, historic value, and serene tranquillity; 2) The conservationists, supported by many architects, city planners, and some Makkan citizens and religious schools, argued that Islam supports conservation in Makkah. They argued that the consultants and planners did not attempt to find alternative solutions to accommodate the increasing number of pilgrims without altering the character of not only the Haram around the Ka'aba, but the entire area in central Makkah.

While the expansion was successful in terms of providing more room for the pilgrims, an integral part of old Makkah was lost forever. In general, the level of awareness about the locale is a twentieth century phenomenon, namely that the replacing of major important historical and religious sites by more functional buildings, such as hotels and furnished apartments, destroys the valuable treasures of the past that are irreplaceable. In emerging nations, such as the Kingdom of Saudi Arabia, awareness of the importance of projecting a strong positive, modern image to the world has meant that any sensitivity to the past and of incorporating both past and present in harmony has been absent until very recently.

With regard to reference sources for researching this thesis, the author could locate volumes of information about the recent development of cities in Islamic countries, but could find very little documented references about efforts to

preserve older sites. There is a significant lack of documented references from the Golden Age of Islam and from the major time periods of the various dynasties, such as the Abbasied period in Iraq and the Omayyed in Damascus, the period which produced some of the most beautiful and magnificent architecture from Spain in the west to China in the east. However, in spite of all of this, the author believes that Islam's position on preservation of the environment is clear, as will be explained. Faced with this challenge of seeking answers to perplexing questions, the author will be making personal interpretations and presenting viewpoints based on the obtainable materials and related sources that touch on the subject. Even so, the very sensitivity of the topic has to be acknowledged, for the context of the research differs greatly from that conducted in a conventional Western context. This will become evident as the discussion proceeds.

Nevertheless, this thesis will attempt to address the different opinions, arguments and debates of this controversial topic of the expansion of Makkah and the Holy Mosque. It will also involve an examination of the position of Islam towards various religious monuments and structures of significance in the environment. The author hopes that discussion will lead to a further understanding of both side of the debate.

One final point concerning the topic relates to the illustrations. These are regarded as an integral, not incidental, part of the work, not least those relating to buildings or environments now changed or destroyed. A variety of private and public sources have been tapped in an effort to present as full a picture as possible.

C. Summary Outline

Chapter 2 reviews the history of Makkah: the physical setting of the city, its topography and climate, and their influence on preservation and conservation. Reference is also made to the time of Ibraham and his son Ismail who set the foundation for the Ka'aba, the house of God. The chapter also deals with Zamzam, the water well within the holy site and its importance to the settlement of the areas prior to the beginning of the Islamic period.

The significance of Hajj is explained in its importance as one of the five pillars of the Islamic Religion. The ordeal of this journey to Makkah and the early hardship of this undertaking is discussed. The chapter reviews the history of the expansion of the Mosque in Makkah from the first expansion to the most recent and major enlargement. The annual increase in the total number of pilgrims travelling to Makkah and the impact of this is also discussed. A brief outline of the various ministries involved in the planning of Hajj are included in this chapter.

Chapter 3 explains the urban foundation and identity of Makkah from the beginning of Islam to the present time. It explains how the major urban structures such as schools, markets, aqueducts, caravanarsees or lodging places, houses and the arrangement of roads formed the blueprint of the city, and how it was designed with a respect for the Ka'aba and Holy Mosque.

The chapter also discusses the destruction of the historical sites, buildings and the permanent alteration of the region, particularly in the city of Makkah. The effects of two major expansion plans for the city – Dar Al-Handasah's plan and Robert Mathew Johnson-Marshall and Partners, otherwise known as RMJM – are discussed as well. The effects of this expansion such as with the Zamzam water well, the surrounding flora, and the loss of the original settlement greatly altered what had once existed. This loss was replaced with a blend of architectural styles which were mostly high-rise high density buildings, hotels, banks, restaurants etc. The new structures serve multiple functions but lack compatibility with the design and character of the old city. The new design approach is that of undesirable facades, incompatible materials, large and high concrete blocks overlooking very narrow roads, and an exaggerated use of lighting. The city lost its original identity and its serene holiness as illustrated in its glorious age and the aesthetics of the past. This timeless splendour, unfortunately, has been lost forever.

Chapter 4 discusses the context of the thesis more specifically by examining the importance of the holy areas under Islam. It defines Islam not only as a religion, but also as a constitutional code of ethics with laws, rules and regulations for humankind to live by. Specifically, the chapter deals with Islam and the environment. It highlights Islamic ideals in which the approach to the environment

remains compatible with those ideals. Discussion is also provided to show the relationship between people and this environment under the Islamic way of life.

Another important section explains the viewpoint of Islam towards the importance of conservation and preservation of historical sites. Various Quaranic references and interpretations of early Islamic leaders relating to conservation and environmental issues are included here.

Chapter 5 relates directly to the previous chapter and examines the viewpoint of the Western World on the subject. The author makes suggestions to establish guidelines and rules to regulate the preservation within the Islamic world. These are congruous with the teachings of Islam. The chapter presents varying opinions of Western thinkers towards land ethics and the rights of the future generations. The chapter discusses different historic preservation laws from Western countries and how the Arab and Muslim nations could benefit from these laws by selecting what is suitable for their culture and needs.

Chapter 6 discusses the answers received from the number of questionnaires distributed, and the interviews conducted by the author with some prominent architects, town planners and social scientists and thinkers, providing comments on the various perspectives.

The chapter also presents recommendations to prevent the repetition of past destructive steps. It provides guidelines to increase the level of awareness and the importance of preservation and conservation for the future. It also makes some recommendations on how to improve the situation in Makkah. If the current trend of increase in the number of pilgrims making the Hajj journey to the holy cities continues, there will be further need to increase accommodation for them. The modifications should not repeat the previous destruction of important sites, but should seek to employ other workable alternatives. The author's recommendations include a halt to the demolition and redevelopment of the few remaining historical sites and the replacement of those which have been lost to contemporary development; the reconciliation of conservationists and religious scholars; restrictions on the number of pilgrims attempting the Hajj and the provision for

those who do with temporary accommodation in small, fully composite and self-sustaining communities within the consecrated city boundary; the declaration of a conservation area within the provisions of Sharia law; and finally the creation of an international panel of experts from the Muslim world charged with the responsibility for re-establishing the lost identity of Makkah.

Chapter 7 is the author's personal summary of the main reasons that led to the neglect and absence of interest in saving a past heritage, and his deep concern at the loss of identity in Makkah as the symbol and the focal point for all Muslims. It concludes with recommendations for the future conservation of Makkah.

CHAPTER TWO

The Growth of Makkah and the Impact of Hajj

A. Historical Context

The Holy Qu'rān says (in Sura III, Verse 96) "The first house" of worship appointed for man was that at Bakkah. It was full of blessings and guidance for all mankind. Yusuf Ali claims that Bakkah is the same as Makkah, but it is perhaps an older name,[1] while Yaqut al-Hamawi claims that Bakkah refers to the site of the Ka'aba or the Holy House, while Makkah refers to the city around the Haram. Another story refers to Adam as the one who constructed the Ka'aba with stones from the five surrounding mountains.

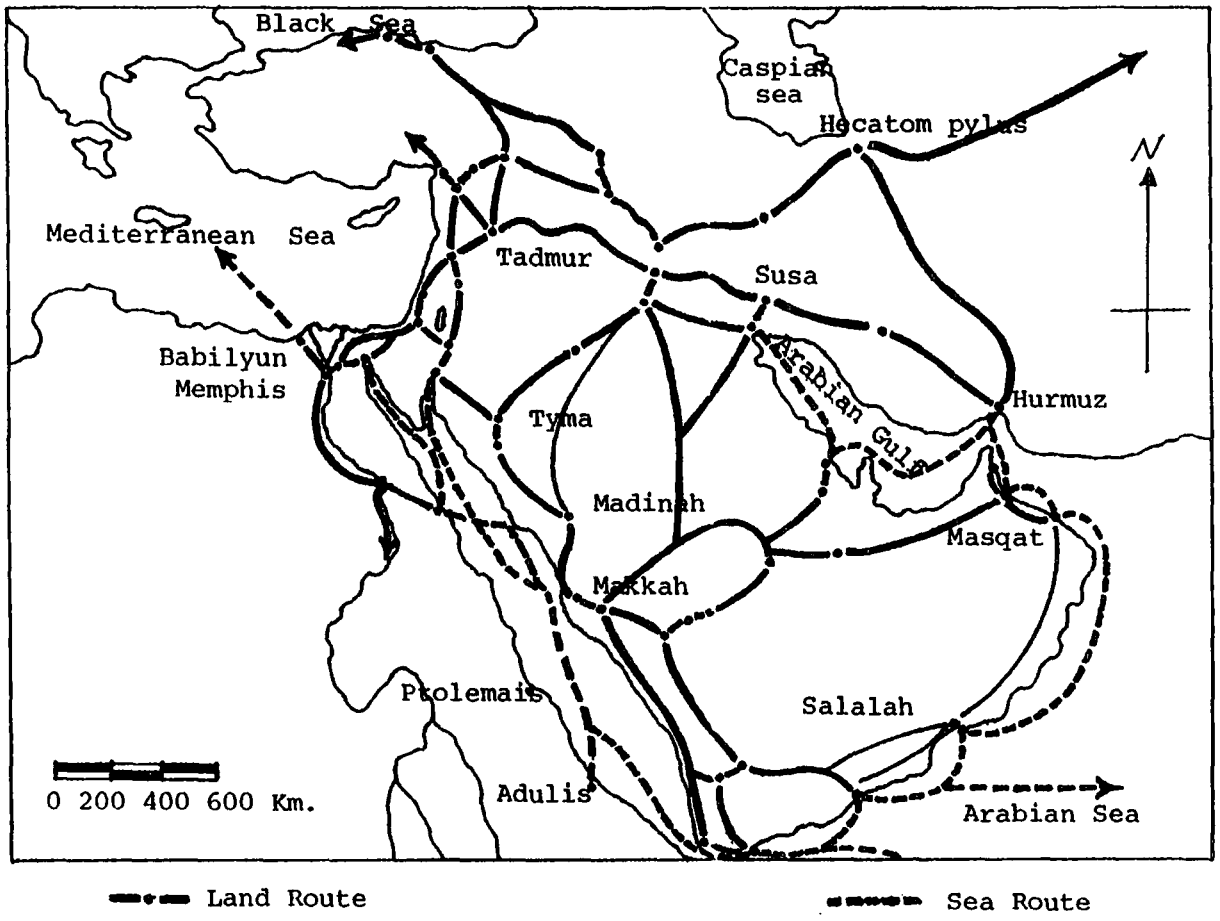
Certainly the origin of Makkah dates back thousands of years to the time of Ibraham. The Holy Qu'rān states (Sura 14, Verse 37); "Our Lord: I have made some of my offspring to dwell in a valley without cultivation by the sacred House." Ibraham left his wife Hajar and his son Ismail in the place known now as the valley of Ibraham when the Lord ordered him to do so. After they ran out of water, Hajar searched for more water by walking in between the hill and rocks of Safa and Marwa, while Ismail the young baby, crying of thirst, pounded the earth, when a spring of water gushed out of the ground. This spring became known as the Zamzam Well. It led to the beginning of habitation after some members of the tribe of Jurham from Yemen came to establish the first settlement in Makkah, which was located on the opposite edge of the valley near the well. Later Ibraham visited the place four times, and on the fourth visit, he informed his son that Allah had instructed him to raise the foundation and construct a house of worship. Both the father and son built the Ka'aba next to the hut of Hajar where she is buried, and that is the location of the Ka'aba to this day. Upon completion of the construction of the Ka'aba, the call for pilgrimage began and continued in various modes of worship until the essence of Islam brought it to its present way of worship--"And proclaim unto mankind the pilgrimage. They will come unto thee on foot on every lean camel. They will come from every deep ravine" (Sura 22 verse 27).

The Ka'aba was left isolated in the valley, while the settlements were on the lowest slopes of Abu Qubays and the red mountains. However, the Ka'aba on the red hill was safe from the floods, although the alluvial mud carried down by the flood waters gradually raised the level of the surrounding valley floor.[2]

The Amalikites of the Bible, known as Al-Amaliqah tribe, ruled Makkah for a long period of time. Later the Amaliqah were evicted from the valley and divided between the tribes of Qatura and Jurham who occupied the valley of Makkah and divided it along a line running from the south west to the north east. This division and the right of each tribe were respected and acknowledged by passing travellers and pilgrims. Makkah became a meeting point for caravans (Figure 2.1) because of its location between the south and the north, and because of the Ka'aba and pilgrimage. The strong tribal ties along the ports on the Red Sea, the cultivated land of Taif, in addition to the Ka'aba led to dominance over the other tribes in the Peninsula. Upon the deterioration of Ma'rib Dam in Yemen, the tribe of Khuza'ah migrated north toward Makkah, defeated Jurham, settled and ruled Makkah.

For a long period of time after Ibraham, people were worshipping one God, Allah, until Amri ibn Luhayy brought a statue of Hubal from Hyt and set it up for worship at the Ka'aba, thus establishing the first association of worship of Allah jointly with other divinities. Soon, (last century BC) other Arab tribes started bringing their own divinities. This in turn attracted more tribes for pilgrimage. They worshipped Allah in addition to their minor idols. The transcendental oneness of God (Tawhid) which Ibraham and his family taught had not been easy to retain. It required a level of sophisticated belief and faith in one God, which did not always remain paramount in the minds of many. How many polytheistic generations survived in Makkah after Ismail nobody knows.[3]

Figure 2.1: Trade Routes in the Arabian Peninsula before Islam (Al-Faruqi, 1986)



By the fourth century A.D. Makkah had witnessed many changes. First, the empire in Rome, the major importer of frankincense, had collapsed. Second, the Egyptian dynasties had already come to an end, and Egypt had become a province of the Eastern Roman Empire. The spread of Christianity and the changes in religious practices helped to reduce the demands for frankincense.[4] At the same time, the great Ma'rib Dam in Yemen, which had been neglected and finally collapsed, helped to bring about the decline of caravan routes between Felix, Arabia and the Mediterranean. By 400 AD Qusayy ibn Lu'ayy, the fifth forefather of the Prophet Mohammed (PBUH), became the ruler of Makkah, establishing the rule of the Quraysh in Makkah. He was a strong ruler and influenced his people to settle in Makkah.

Qusayy laid the foundation of religious and political power. He operated and controlled five functions: Dar al-Nadwa, to summon the council of Quraysh; Liwa, to command the army of Quraysh; Rifadha, to feed the poor pilgrims; Hijaba, to hold the keys of the Ka'aba, and finally Siqaya, to supply water for the thousands of pilgrims during their journey. After the death of Qusayy, his eldest son, Abdu ud-Dar exercised all of these functions. After his death, the responsibilities were distributed among the sons of Abd ud-Dar who took care of Hijaba, Nadwa and Liwa, while Abd-Manaf exercised the functions of the Rifadha and Siqaya. The youngest and richest son of Abd-Manaf was Amr who was known as Hashim. He was a rich merchant. He used to send two caravans from Makkah, one in the winter to Yemen, and one in the summer to Syria. He had a son, from a Yathribite woman named Shayba, who was later called Abdul Muttalib after his uncle Muttalib. Abdullah, one of his sons was the father of the Prophet Mohammed (PBUH).

Makkah witnessed the birth and the first call to Islam by the Prophet Mohammed (PBUH). Makkah entered a new era in its history when the Prophet began his message: the call to Islam in 620 AD. Islam had a great impact on the way of life of the tribesmen in the Saharas of Arabia. Not least was the affect of bringing together the different tribes into permanent settlements.[5] Despite the barren location, rugged topography, lack of water and discomfiting climate,

Makkah had witnessed a large growth and development mainly because of the existence of the Holy Ka'aba which attracted pilgrims from all parts of Arabia. After arriving there they established an important trade centre. All these reasons encouraged the settlement and development of Makkah.

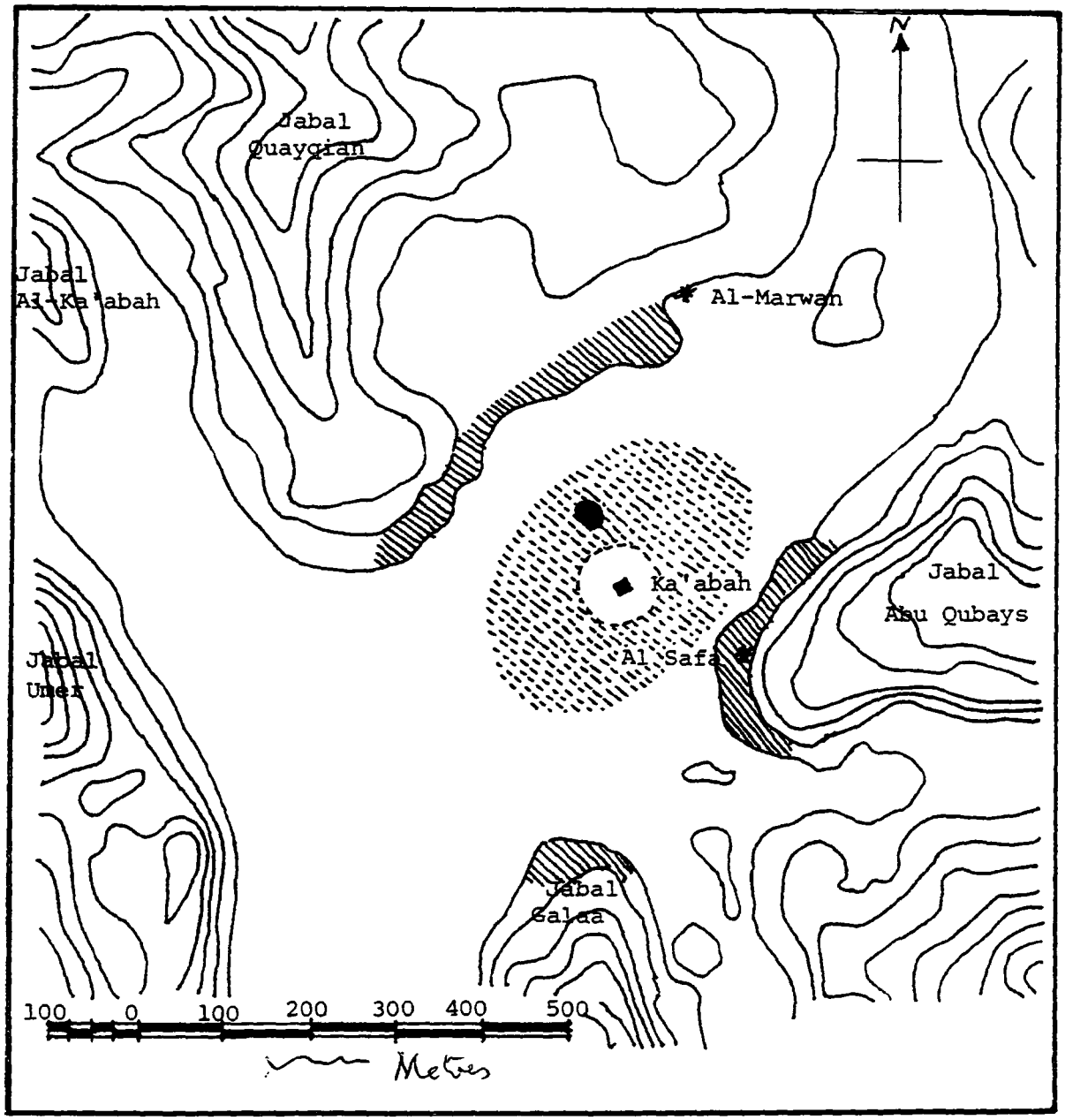
Makkah then declined in its development throughout the Abbasid, Fatimid, Ayyubid and Mamluk dynasties (from 750 to 1520 AD) for a variety of political, economic and social reasons. It later regained its leading role and most important political influence during the Ottoman and Ashraf dynasties (1520 - 1920 AD). Then, the ending of the Russian oppression in some of the Asian regions and colonial movements of Britain and France in the Middle East contributed to an increase in the number of pilgrims. Also as the Hajj routes became safer, more people were willing to make the pilgrimage. A large number of people from these areas migrated to live in Makkah, Madinah and Jeddah. This affected the ethnic structure in the city of Makkah as well as defining the present day urban composition.[6]

B. Physical Setting

1. Topography, Geology and Climate of Makkah

The geology and land forms in Makkah have had significant affect on the development of settlements throughout history. Makkah is situated in a valley bottom which is surrounded by steep mountains (Figure 2.2). The built-up area and the expansion of the city were restricted to the narrow valleys that divide the steep mountains. This restrictive topography has also affected the network of roads and streets. Narrow and irregularly-shaped districts were and still are the major characteristics of the city layout. The constraints also led latterly to a very high population density along with the construction of high rise buildings in the city centre around the Holy Mosque.

Figure 2.2: Topography of Makkah



DAR AL-NADWAH

HABITATION IN THE VALLEY.

HABITATION ON HILL SLOPES.

The bed rock geology of the mountains surrounding the Holy Mosque does not give rise to making reservoirs of ground water. Such geology and arid climate make water in Makkah very scarce and concentrated in specific locations. The ancient well is that at Zamzam. More recently, it was replaced by the ground water of Wadi Fatimah. Most recently, this was replaced in turn by desalinated sea water.

Makkah is too far from the Red Sea and the Arabian Gulf for any amelioration of its desert climate. Direct solar radiation in Makkah is intensive, up to 1200 watts a square metre on the horizontal surface. Most of the year, the sky in Makkah is cloudless, but haze and dust storms are frequent. In summer, the unobstructed solar rays heat the land surface to 70 degrees C at midday, but at night it loses its heat by long wave radiation to cool the surface to 15 degrees C (Figure 2.3).[7]

The wind speed is low in the morning, higher at noon, and reaches the maximum in the afternoon and is accompanied by sand and dust. The relative humidity fluctuates with the air temperature, ranging from 15 percent in the afternoon to exceed 40 percent at night.[8]

Average rainfall in Makkah ranges between 75-125 mm.[9] Almost 90 percent of the annual precipitation falls during November, December and January. However, even though rainfall is scarce in Makkah, rainstorms can be severe. Occasional violent flash floods could break suddenly and last for a few hours because of steep walled mountain catchments, narrow valleys and lack of vegetation. Because the Ka'aba is in the path of floods which run through Wadi Ibraham southward, and flood waters from Ajyad in the south eastern part of Makkah, the Holy Ka'aba has witnessed severe floods (Figure 2.4). These floods caused severe damage and loss of life until the Saudi government constructed a large project of storm water drainage system.

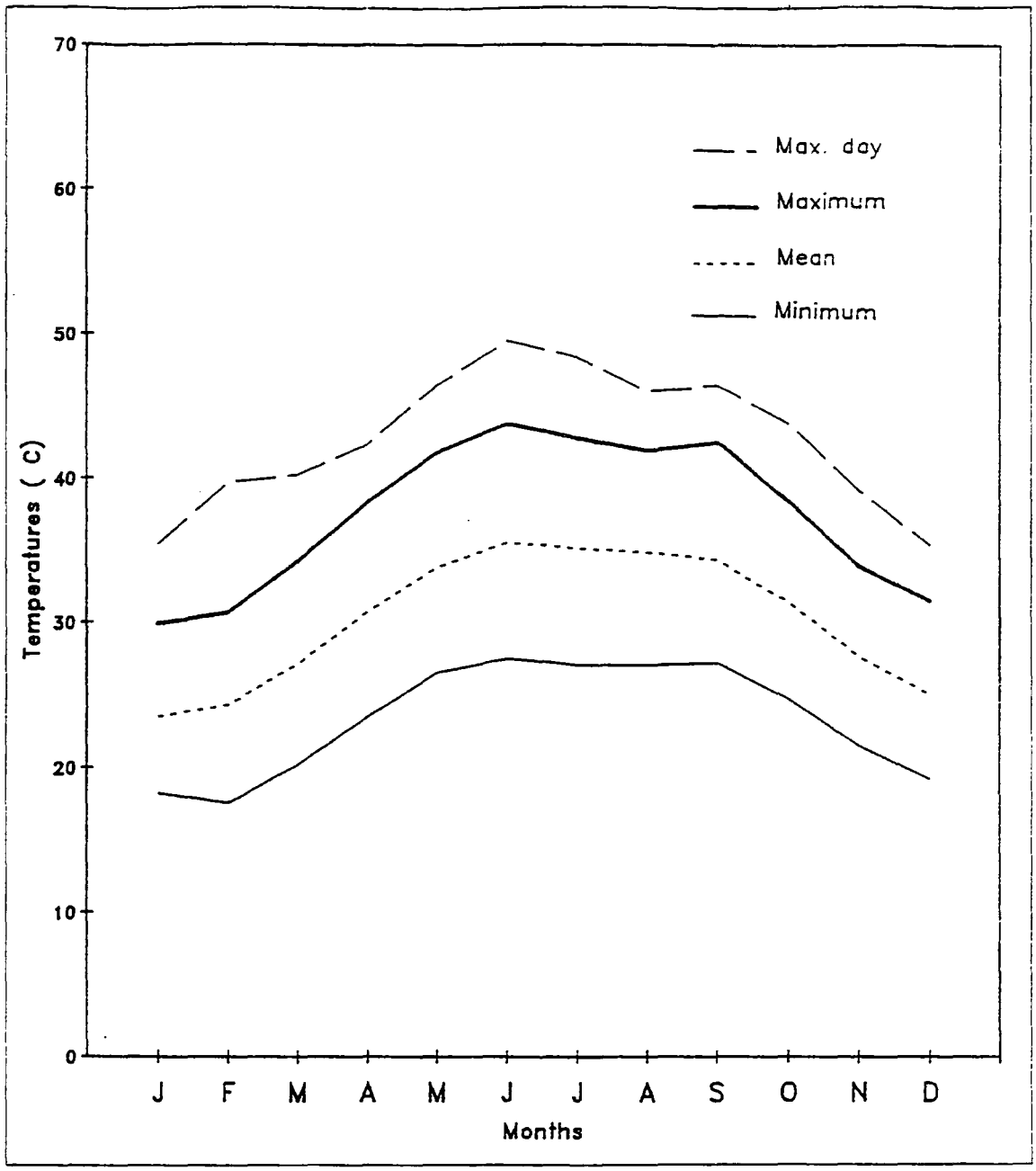


Fig. 2.3: Mean monthly temperature in Makkah (1983-1985)

(Hajj Research Centre, 1986)

Fig. 2.4: Recorded severe floods in Makkah in each century

(Hajj Research Centre, 1980)

CENTURY	NUMBER OF RECORDED SEVERE FLOODS
7	4
8	4
9	9
10	1
11	2
12	5
13	4
14	5
15	16
16	8
17	13
18	3
19	4
20	15*
TOTAL	**93**

* Last severe flood occurred in 1979.

2. The Impact of the Physical Background

The city of Makkah, then, is situated in a valley bottom, with steep surrounding mountain ranges providing a strong physical constraint, so that growth is in the relationship to the wadi-range system. The built-up area and the expansion of the city were restricted to the narrow valleys which divide the steep mountains, notably Wadi-Ibrahim and Wadi Tandabawi. This also affected the direction and importance of transportation routes. The network of roads and streets shows a strong relationship to the contour map (compare Figures 2.2 and 2.5).

Major roads logically follow wadi-flow directions unless connection to other cities interferes with this relationship, in which case the routes are diverted through high and sometimes steeply sloping mountainous areas. The compact, narrow and zigzagged alleys is a major characteristic of the city in its old and intermediate zones. This is dictated largely by the nature of the site to the relationship between possible built-up zones and the spaces that should be available for routing and traffic. Elevated houses of three storeys or more, which do not exceed 10 metres in width, characterise the building in a high density pattern in most areas. In most areas of Makkah houses are on gentler slopes. The problem of accessibility to these places by vehicles still exists because of the unplanned growth of the building pattern. The houses on the upper slopes are connected to main roads by short lanes or long stairs.

In addition to the influence of landforms, the urban landscape is also affected by climatic conditions. Temperature influence is reflected in building structures. Concrete is now widely used but not well suited to such climatic conditions unless properly graded. Flat roofs and large balconies, in the old styles, are responses to the hot dry summer nights where sitting and sleeping outside is essential and, more important, an energy-saving concept. Other major relations between climate and urban landscape in Makkah appear in the building of the old city. First, the concentration of buildings has been arranged in such a way that they are shaded for as much of the time of the day as possible. This is reflected in the

Figure 2.5: Slope Analysis (Dar Al Handasah, 1986)

size of streets and roads, usually 3 to 6 metres wide and shaded by relatively tall buildings 9 to 12 metres in height.

Recent housing areas are planned according to designs that do not always take adequate consideration of climatic requirements. This is noticeable in the newly developed areas where the roads are very wide, 15 to 25 metres, and the buildings are spaced farther apart and set back from the streets. The difference in shade cast over roads and streets is sufficient to cause noticeable difference in temperature. There is also the problem of dust and sand moving into roads and streets because of the open spaces provided by placing buildings farther apart. It was less dusty in earlier times and house maintenance in terms of cleaning used to be much less demanding than it is today.

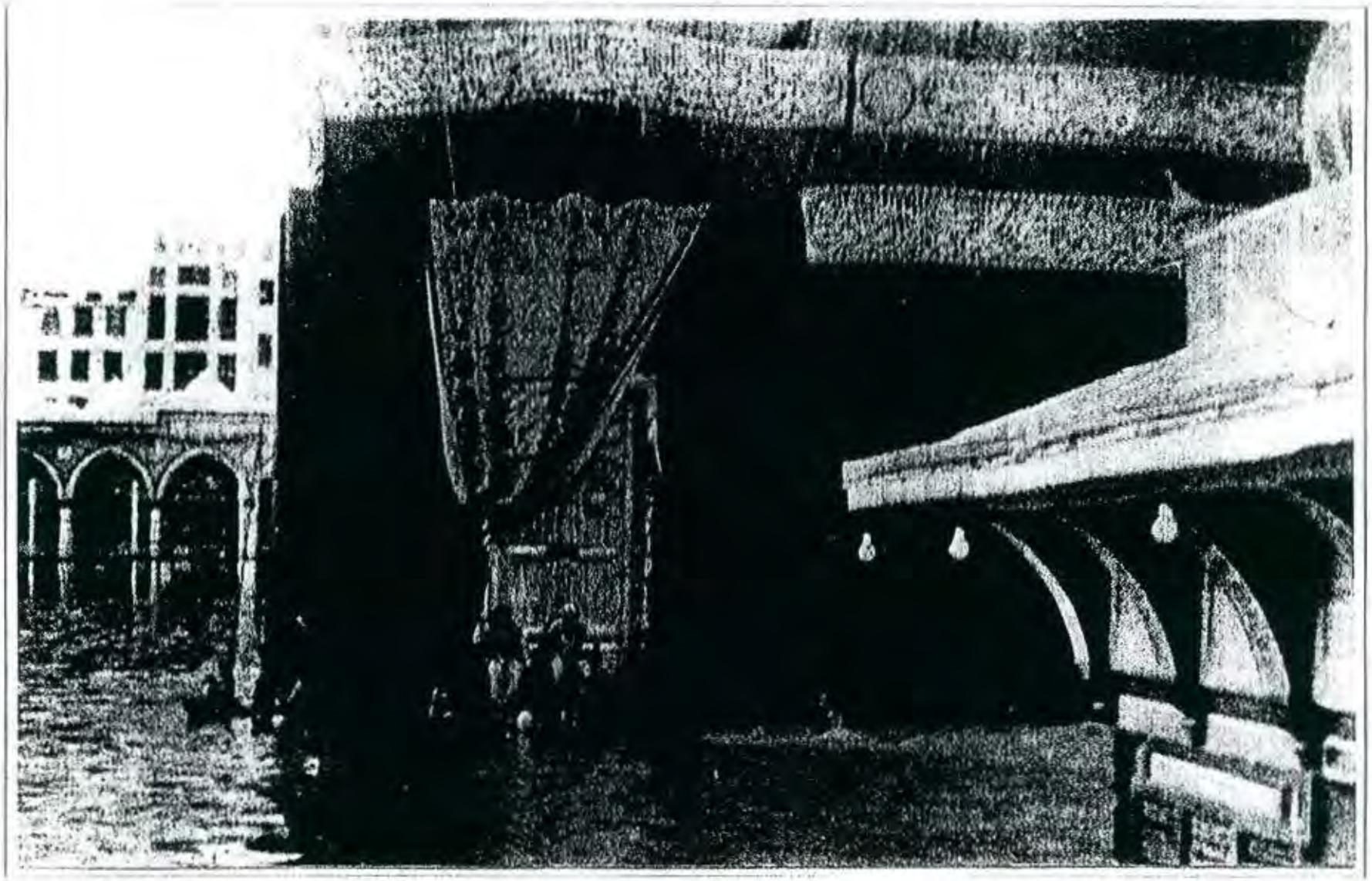
Despite the fact that rain is a rare event in most of Saudi Arabia, Makkah receives some sporadically in a torrential form for a short period. The unprotected soils and rock outcrops, and the availability of unconsolidated materials on the hill slopes create heavy flooding shortly after the rain. The mechanical breakdown of rocks as well as the slow chemical weathering provide large loads for the streams that form during the rainy hours, creating floods in confined valleys and tributaries. The storms inevitably inundate the streets of Makkah as flash floods. However this situation has never deterred people from building their houses on the wadi beds, on the intermittent stream channels, or on the flood plains. The economic benefits encourage people to risk the flood hazards (Figure 2.6).

C. Urban Growth of Makkah

The urban growth of the city falls into three chronological periods:
1) before Islam, 2) after the foundation of Islam and 3) modern times.

As previously mentioned briefly, the Ka'aba as the house of Allah was in the middle of Ibraham's valley, with scattered camps of tents around the Ka'aba and the well of Zamzam.[10] Trade was the main economic activity of Makkah during this period. Caravans stopped in Makkah as it was the midway location between

Figure 2.6: Flood waters surrounding the Ka'aba in 1952 (Personal Archive)



the north and south caravan routes, as well as being of religious importance as a pilgrimage city for most of the tribes. Until the time of the Quraysh, Makkah went through several periods of political unrest and turmoil. When the Quraysh ruled Makkah, it became in control of external trade and enjoyed stability and prosperity. During this dynasty, Makkah influenced many tribes to settle in the area and establish small communities. These tribes included Egyptians, Abyssinians, Christians, Jews and other communities from neighbouring settlements. Each community brought its own culture, habits and arts and established its own industries.

The first building erected beside the Ka'aba was Dar Al-Nadwa, the council house of the chiefs of Makkah. Later a small town was built surrounding the Ka'aba, but with deferential respect to the height of the Ka'aba. Houses were mainly built of stones and mud and were very close to each other.[11]

The city of Makkah witnessed significant growth after the ascendance of Islam. As Makkah's economy became stronger, more immigrants were attracted. As the heart of Islam, it evolved features which are now characteristic of any Islamic city, i.e. a mosque, located in the city centre and surrounded by the public market, administrative buildings, and the governor's house. The residential areas consisted of small congested houses which also encircled these areas.

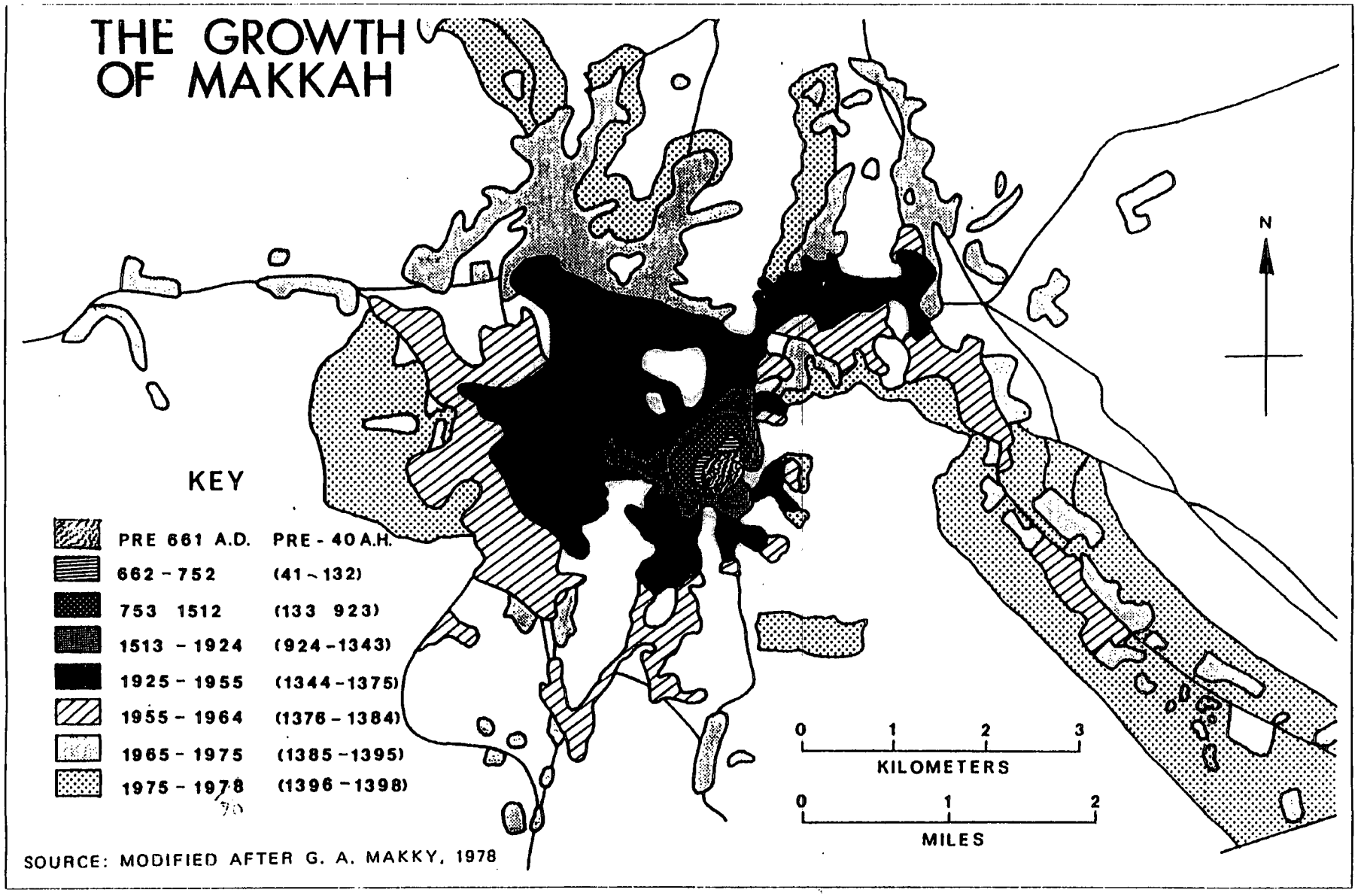
Makkah witnessed a decline during the Abbasid rule which forced many rich Makkan businessmen to migrate to other cities. The Fatimids, who succeeded the Abbasids in Egypt, had more influence than the Abbasids in Iraq over the rule of the Makkah and Hijaz area. When Ibn Buttutah (1304-1377 AD) visited he gave a detailed description of Makkah, its walls, gates, the Holy Mosque and the market which was full of every kind of vegetable and fruit as well as its many houses. Makkah then witnessed further growth and development when the Ottomans assumed power from the Mamluks in Egypt, and established a strong relationship with the Ashraf family, the rulers of Makkah, who totally dominated Makkah by 1802 AD. Makkah at that time extended to the cemetery of Al-Ma'alat to the

north, to Al-Masfala to the south and to A-Shubaikah to the west. The different nations left an impact on the architectural style as well as language, food and dress.

The city of Makkah experienced its greatest growth during the modern dynasty of the new Kingdom of Saudi Arabia which was founded by King Abdul Aziz in 1932 AD. The city has seen growth along the roads through the mountain valleys away from the centre. Expansion has seen the construction of new streets in different parts of the city. Houses near the Holy Mosque have risen up to 13 storeys. Pilgrim accommodation is not only tied to the city's centre, but has also spread out to the peripheries in the quarters of Al Aziziziah, Al Nazha and Al Zuhara.

By 1970, Makkah's 35,250 houses[12] were more compact in the old city than in the newly developed residential areas. Many houses had been removed to enlarge the areas around the Holy Mosque and to allow the construction of new and wider roads. These projects, then, cleared the centre and expanded the periphery of the city. By the end of the decade Makkah had extended to the mountains located within the city and also along the main roads beyond. Such city streets are Al Aziziah Street towards the Northeast (about 11 kilometres from the city centre), Al Tan'im Street towards the Northwest (8 kilometres), Al Misfala towards the south (4 kilometres), Ajiyad towards the east (2 kilometres from the city centre) (Figure 2.7).

Today the city covers about 180 square kilometres, excluding the holy areas of Arafat, Muzdalifa and Mina. The population of Makkah has grown from 300,000 in 1971 to more than 600,000 today. Obviously, the discovery of oil has had an enormous impact on the development of the Kingdom and specifically on Makkah. New road networks were constructed, and in particular the tunnel system has helped in overcoming the constraints of the surrounding mountains of Wadi Ibraham. These have linked the city together. New districts away from the city centre were established to attract many people from the congested area around the Holy Mosque. However, the Holy Mosque remains the focal point of the holy city, and with the new modern transportation system, having increased the


THE GROWTH OF MAKKAH
KEY
PRE 661 A.D. PRE - 40 A.H.
662 - 752 (41 - 132)
753 1512 (133 923)
1513 - 1924 (924 - 1343)
1925 - 1955 (1344 - 1375)
1955 - 1964 (1376 - 1384)
1965 - 1975 (1385 - 1395)
1975 - 1978 (1396 - 1398)
N
0 1 2 3
KILOMETERS
0 1 2
MILES
SOURCE: MODIFIED AFTER G. A. MAKKY, 1978

pressure on the city centre. Accommodation needed for the growing number of pilgrums contributed to the increased height of buildings. These facts have forced the government to expand the area of the Holy Mosque. Further details and analysis will follow in Chapter Three.

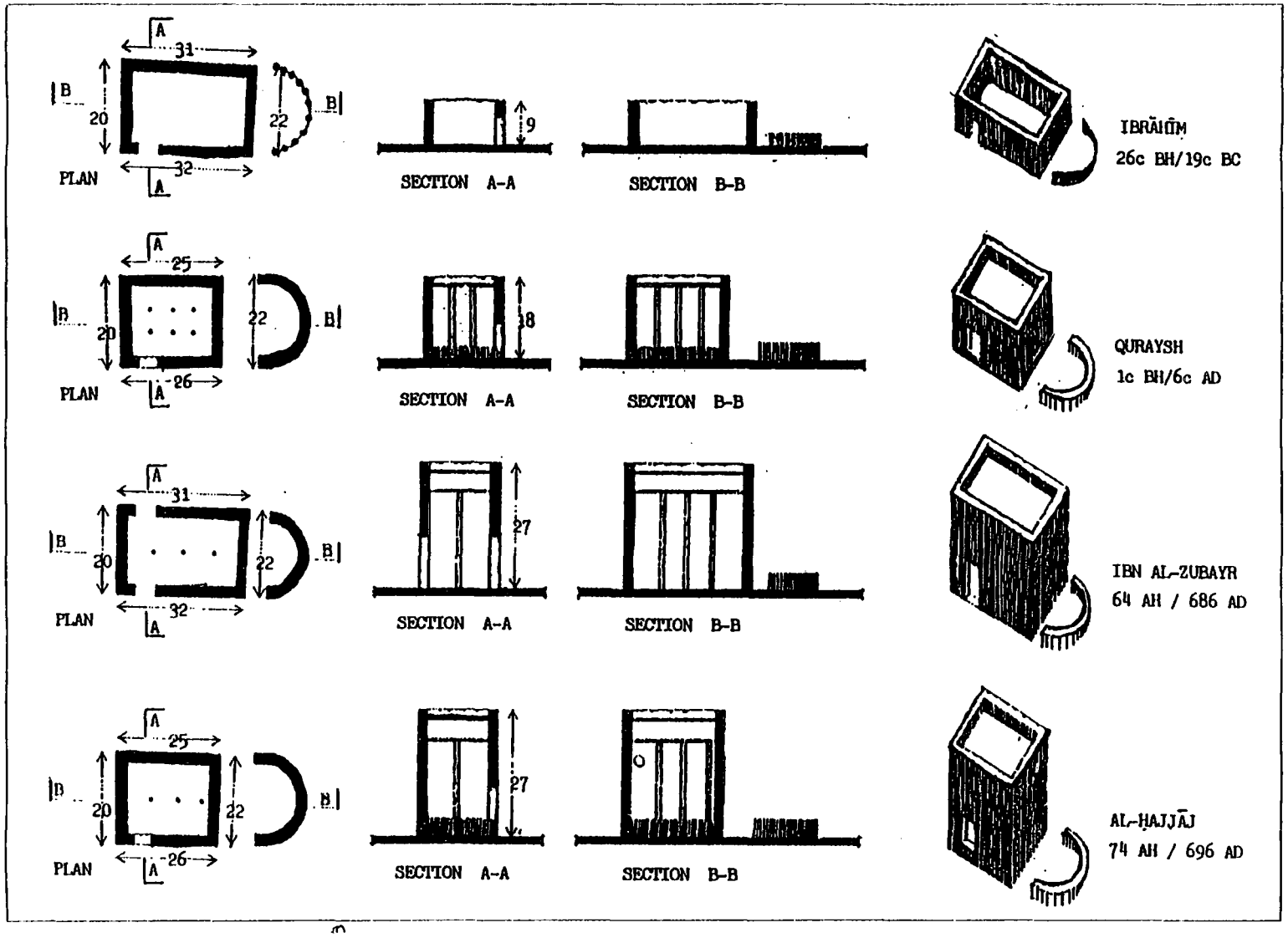
D. The Ka'aba Within Makkah

The Ka'aba is the house of Allah which Muslims from all over the world face while performing their five daily prayers. The documented event of constructing the Ka'aba was mentioned in the Holy Qu'rān Sura II, verse 125: "Remember we made the House a place of assembly for men and a place of safety; and take ye the station of Ibrahim as a place of prayer; and we covenanted with Ibrahim and Isma'il, that they should sanctify my house for those who compass it around or use it as a retreat, or bow, or prostrate themselves." Also see in Sura II, Verse 127: "And remember Ibrahim and Ismail raised the foundations of the house, our Lord! Accept from us, for those art the all-hearing, the all-knowing."

The Ka'aba has witnessed several states of reconstruction. Figure 2.8 shows briefly the different dimensions of the Ka'aba in a chronological sequence with reference to the builder. Unfortunately, due to a lack of further documentation, the references end at 696 AD. Severe floods caused the destruction of the Ka'aba several times, but the original foundation that was built by Ibraham is still in place today.

When the Quraysh rebuilt the Ka'aba, the height was raised twice that of Ibraham's. Later Ibn al-Zubayr raised the height to three times that of Ibraham's. The height of the Ka'aba originally determined the architectural height and scale of Makkah's other buildings, but later the architectural scale was affected by the height of the Mosque and minarets (Figure 2.9).[13]

Figure 2.8: Dimensions of the Ka'aba in cubits (Angawi, 1988) One cubit = 18-22 inches



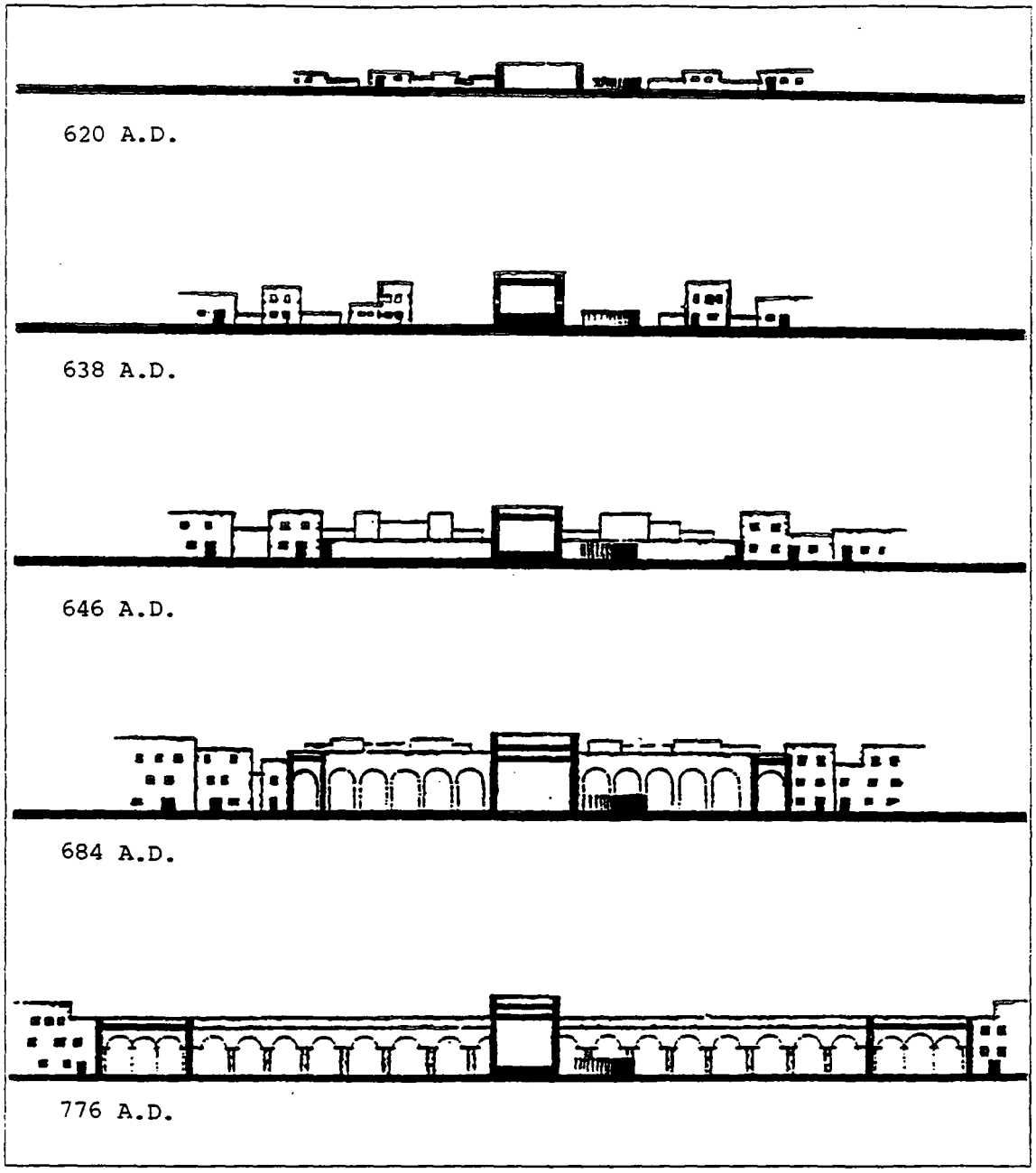


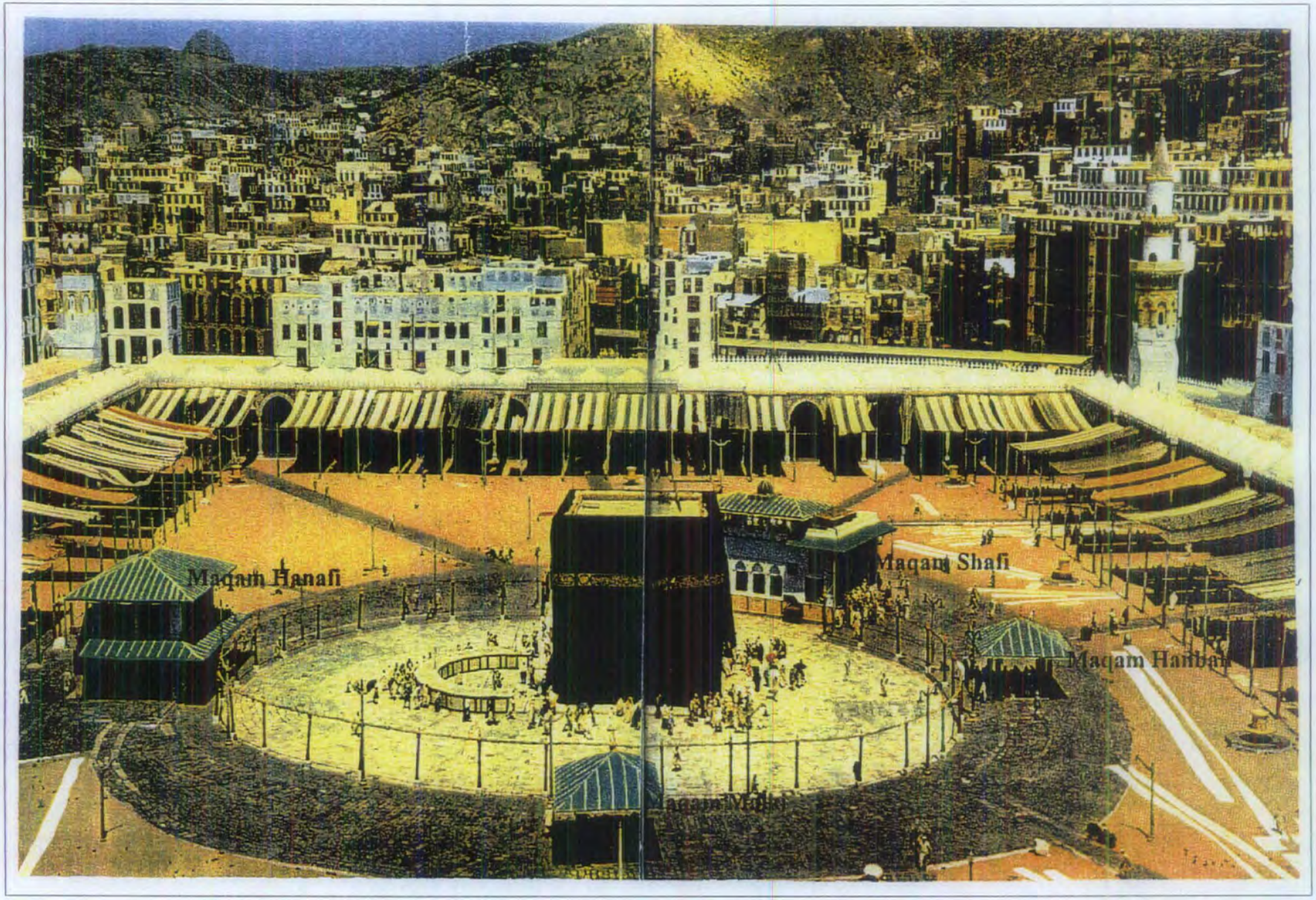
Fig. 2.9: Changes in the height of the Ka'aba (Angawi, 1988)

Some historians refer to Adam as the first person to lay the foundation of the Ka'aba. Ali Ibn Abi Talib, the fourth Khalif after the Prophet Mohammed (PBUH) stated that the rocks which were used for the foundation of the Ka'aba were taken from five mountains and were so large that it took thirty men to carry one rock. Ibraham then laid the stones of the wall without mortar or mud and made one door way as an entrance, but did not make any ceiling. Quasyy Ibn Kilab was the first person to roof the Ka'aba with dry date palm leaves. Later when the Ka'aba was rebuilt, the Quraysh used a combination of layers of stones and wood and roofed the Ka'aba with flat wood that was supported by six columns and raised the door sill to about two metres. Ibn al-Zubair later used stones from the mountain of al-Ka'aba and joined it by a kind of mortar which was brought from San'a (Yemen) and introduced another door to the western wall. Al Hajjaj in 693 AD rebuilt the Ka'aba deleting the extra door and excluding the Higr from the Ka'aba which Ibn al-Zubair had included as part of the body of the house. Al Walid Ibn Abdul-Malik was the first person to decorate the door of the Ka'aba. He used golden shutters.

There were four schools of thought after the establishment of Islam, each following the leader of the school, Shafie, Malki, Hanafi and Hanbali. For each one of these leaders, a maqam, or a place was established inside the Holy Mosque (Figure 2.10).

When Makkah became densely crowded with people wishing to be close to the Holy Mosque, houses started to rise vertically. Inhabitants then began to relate the height of their houses to the height of the minarets of the Holy Mosque.[14]

Qusayy Ibn Kilab was the first person in the sixth century AD to preserve the areas around the Ka'aba for Tawaf and to restrict the height of the houses to below the height of the Ka'aba. He is the one who constructed Dar al-Nadwa beside the Ka'aba and other houses within this zone. It was then Umar, the second Khalifa, who expanded the area around the Ka'aba. Umar purchased the houses around the Ka'aba, demolished them and built a wall to establish the first expansion of the Holy Mosque in 638 AD The third Khalifa of Islam, Uthman Ibn Affan, then



View of Makkah in 1953
(The National Geographic Magazine , 1953)

Figure 2.10: The four Maqamat within the Holy Haram (National Geographical Magazine, 1958)

enlarged the space after more demolition of houses to establish the second expansion of the Holy Mosque in 646 AD[16]

Abdullah Ibn al-Zubayr also rebuilt the Ka'aba after a fire and expanded the area of the Holy Mosque by purchasing some houses and leaving some inside the wall boundary of the Mosque, as well as adding the first covered shaded area behind Maqam Ibrahim in 684 AD. Abdul Malik Ibn Marwan later in 694 AD extended the shaded area of the Mosque. In 709 AD Al-Walid Ibn Abdul Malik converted some of the construction into marble and used wood for shading some areas, and used gold plating for the crowns of the columns. He also expanded the Mosque to the east to set up the fourth enlargement of the Mosque. Abu Jafar al-Mansur, the second Abbasid Khalifa in 754 AD, enlarged the north and south sides of the Mosque and erected the first minaret of the Holy Mosque at Bab al-Umra which was considered the fifth expansion. Al-Mahdi, who succeeded his father Al-Mansur in 777 AD made another expansion. Harun Al-Rashid after al-Mahdi built the residence of Dar al-Qawarir and erected many minarets on the surrounding hills to relay the Adhan from the Holy Mosque and be able to spread the word over Makkah.

Al Mu-Tadid Billah then reconstructed the whole Mosque in 897AD and extended the Mosque to the north side, demolished Dar Al Nadwah, and built new walls and gates. After Al-Muqtader Billah no major changes occurred in the Holy Mosque until the Uthman Dynasty. During the Ottoman period, many Khalifas made great enhancements in the Mosque, including the shaded areas, reconstructing the Ka'aba in 1629 AD after a severe flood, rebuilding the four Maqamats and introducing marble columns and stone walls to the Mosque. Then in 1955 AD King Abdul Aziz, the founder of Saudi Arabia, made another major extension, increasing the area of the Mosque from 160,000 square metres to 361,000 square metres. He extended Al-Masa's (the running course) by adding another floor, and the construction of seven minarets, each 90 metres high.

There is no doubt that the largest expansion ever made to the Holy Mosques in Makkah was the recent one by Kind Fahd Ibn Abdul Aziz. The

extension included building six bridges in Al-Masa'a and a cooling station for Zamzam water, improving the lighting of the Mosque, extending al-Mataf areas around the Ka'aba, installing fire alarm systems and an air conditioning system. The project was designed to expand the Mosque to accommodate an additional 140,000 at prayer as part of a phased programme to increase the capacity to over 1.5 million at prayer. The extension provided a new major entrance and 14 other smaller ones besides two entrances to the basement. The expansion also included two new minarets in addition to the existing seven. More escalators were added to provide access to the roof which is used for prayer during the high seasons. New power transformers and a broadcasting system was also included in the expansion (Figure 2.11). On the other hand, the four maqams were removed. [15]

E. The Hajj and Its Impact on Makkah

The pilgrimage to the sanctuaries of Makkah and its surrounding areas actually predates Islam. The Hajj was completely assimilated into Arabian paganism, contradicting the original monotheistic message, being associated with various ceremonies. Idols were located not only in significant spots in the holy area but in residence in the Ka'aba itself, the very symbol of monotheistic belief. The Ka'aba was especially venerated throughout Arabia. The advent of Islam took Hajj back to its original state and as it is practised now. The idols were demolished and the holy places were purified for the worship of Allah. The tribe of the Quraish, which had guarded the Ka'aba, was relegated to the level of any other, in accordance with the Islamic declaration that any distinction based on family, tribe, race or colour was abhorrent. All people in Hajj again wore the same dress of unstitched material and had uncovered heads as a sign of equality and humble admiration for their Creator. Women were allowed to wear ordinary clothes but were required to cover their bodies entirely except their hands and faces. The indignities that womanhood suffered before Islam in Hajj were redressed by treating them as a privileged group.

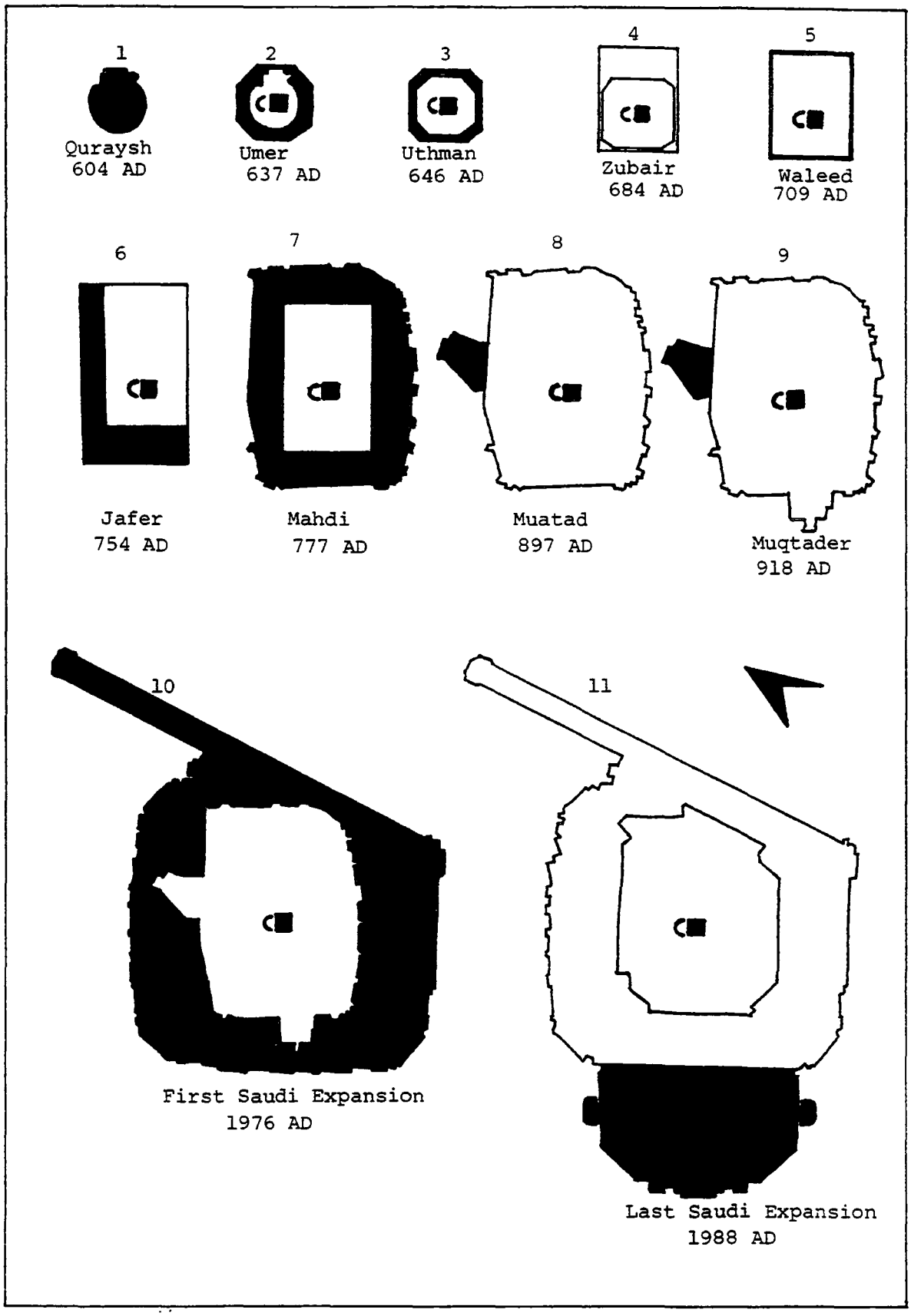


Figure 2.11: The Expansion of the Holy Haram through History (After Ukaz, 1992)

The Hajj was made obligatory in the ninth year of the Hijra after the conquest of Makkah by the Prophet. The destruction of all the pagan idols immediately followed his conquest. Every aspect of the Hajj demonstrated and emphasised the full commitment and the total surrender of the worshippers to Allah. Any person taking refuge in the Haram was safe and secure. Plants and animals of the Haram were also protected and existed in peace and harmony with their environment. The pilgrims in particular were instructed to refrain from lewdness, abuse, hostile argument, sexual activity or contracting a marriage. They were not to use perfume, cut their hair or clip their nails. The whole idea of the pilgrimage was a complete devotion to Allah without any attention to one's appearance. The Prophet said, "Those who perform the Hajj in the right manner and with full spiritual and emotional involvement shall come from Arafat pure as the day his mother gave birth to him." The Hajj is thus a living, dynamic and operational act of the command of God who commanded "Perform Hajj and Umra for Allah." (The Qu'rān, III, 96). As such, it is performed, not because the pilgrims seek inspiration, but because they are inspired to begin with. As an expression of belief, the Hajj is the apex of spiritual experience of Muslims. It is a journey through the enlightened history of Islam.

Figure 2.12 shows the stages and flow of pilgrims between the Holy Places and Makkah during the Hajj days. The holy city of Makkah receives the bulk of pilgrims often two months ahead of the Hajj season. With the modern day development of transportation, hundreds of thousands of people arrive and settle in Makkah. The number of pilgrims increases gradually until it reaches more than two million in the first days of Dhul Hijjah, the tenth month of the Hijri calendar. In Makkah the pilgrims spend much of their time absorbing the history and holiness of the environment. They spend time in the Holy Mosque worshipping and praying until the time Hajj begins. On the eighth of Dhul Hijjah, pilgrims move to Mina and stay the night. They then depart to Arafat before the midday of the ninth. After the sunset of the same day, pilgrims start to move to Muzdaifah and spend the night until the dawn of the tenth of Dhul Hijjah. They then move back to Mina where they are to remain for three days. Within this three day period, many pilgrims prefer to return to Makkah to perform Tawaf and sacrifice an animal. After

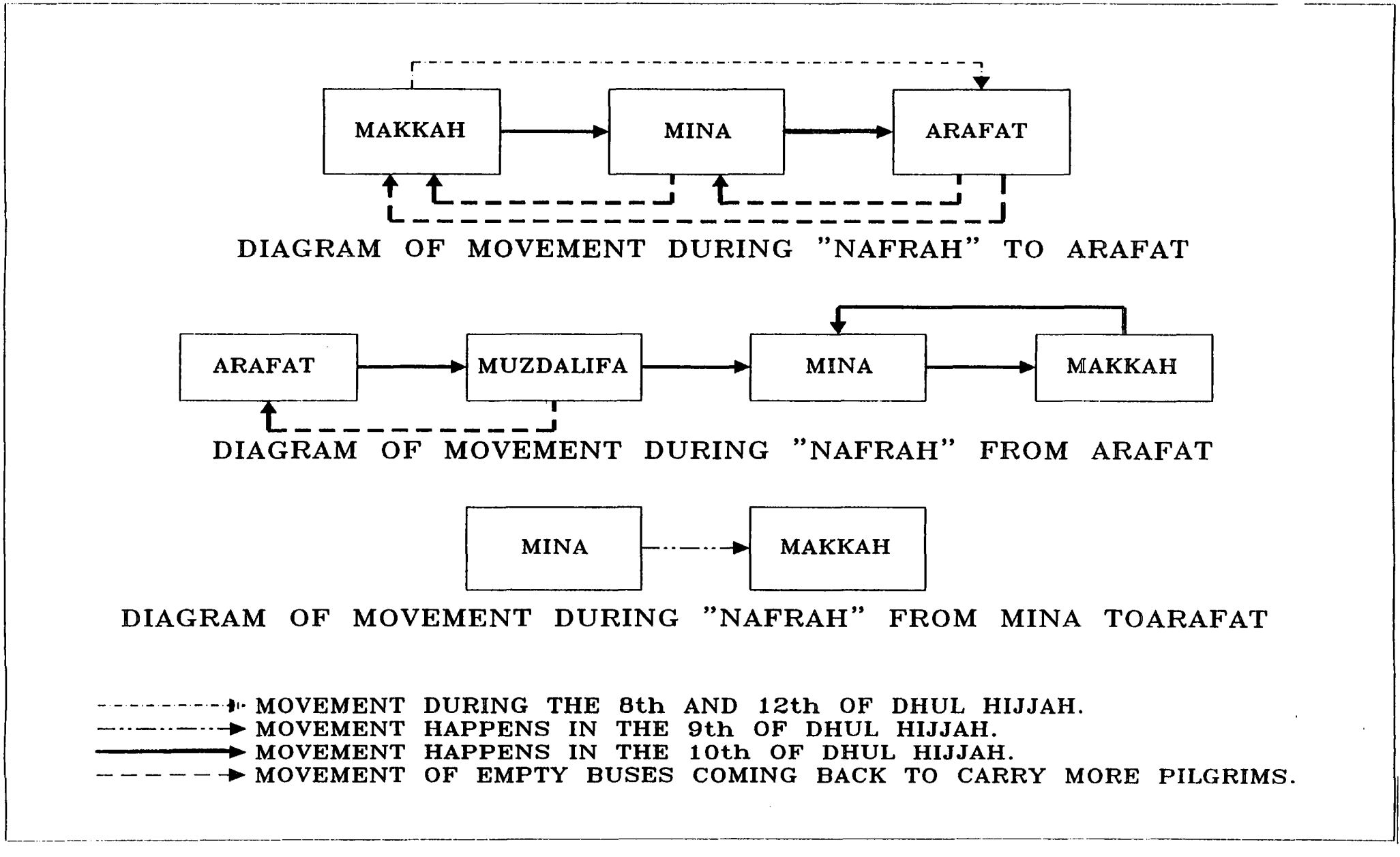


Fig. 2.12: The sequence of movement between the holy places during Dhul Hijjah (Hajj Research Centre, 1980)

performing these two steps, they can shed Ihram (Hajj clothing) and practice their normal life again. The pilgrims then move back to Makkah or Madinah to visit the Prophet's Mosque and grave. After completing the rituals of Hajj, the pilgrims depart for home.

The sequence of Hajj as shown in Figure 2.12, shows Makkah as the beginning and end of all steps where pilgrims spend much of their time in a unique spiritual journey. People might save money all their lives to perform this trip seeking the forgiveness of Allah and looking for a new beginning in life. The Hajj, besides being a pillar of Islam, is a conference centre for Muslims world-wide. Here, they can meet and discuss their problems and affairs peacefully.

As the message of Islam reached every corner of the world, Makkah began to receive not only pilgrims performing Hajj, but also those pilgrims who sought to remain. Many who came stayed, while others brought their skills to service the pilgrimage. The early years were ones of poverty for the Saudis, so taxes levied on pilgrims were set to alleviate the administrative costs of the Hajj, for it was believed that it had to be economically self-reliant, depending entirely on the annual arrival of pilgrims for its source of income. The old practice of leading the gullible, if devoted, pilgrims to shrines of dubious authenticity and prescribing various ideas and processes, all for a price, was immediately eradicated by religious officials under Saudi rule. The distortion of religious rites, ritual innovation, etc., all for a price, are thoroughly reprehensible and repudiated in Islamic law. Today, with so much emphasis on education within the Kingdom of Saudi Arabia and other Muslim states, the Hajj ministries and other Muslim organisations, it is very unlikely that such flagrant abuses either on the part of the people of Makkah or the pilgrims will ever occur again.

Within the city, the combination of rapid population growth, poor public transportation, inexpensive trucks and automobiles and low-cost petrol, have produced a phenomenal rise in car ownership which has meant that development has tended towards the convenience of the car rather than the pedestrian. The result is that traffic congestion, especially around the Ka'aba, can be formidable.

The housing congestion likewise has pushed further out from the centre of the city and increased the height of buildings. Although the aim has been more towards the former, a building close to the Ka'aba commands higher rental rates during the Hajj season. These buildings however, increase the population density in the city of Makkah during the Hajj season and also in Umra. Such was the expansion and transformation of the area around the Holy Mosque into a huge piazza to accommodate the growing number of pilgrims that the problem could no longer be controlled by the Ministry of Hajj. Several other ministries therefore became involved in the expansion, as will be explained later.

F. Change and Problems of Growth.[18]

The problems of Hajj and pilgrims in the Makkah valley require detailed study in order to avoid the annual disasters which often characterise the Hajj. The attempt to accommodate such a large mass of humanity is an enormous challenge. In many locations during Hajj it is a major requirement to stay within the sacred boundaries of the area as in Arafat and Mina. During this mass movement of two million people or more, the pilgrims concentrate on religious observance rather than safety and security. This creates many hazards such as structural failure of accommodation systems as a result of heavy weight and over-use, the danger of falling from high places, as many areas are rocky, and from fire hazard, as most of the accommodation facilities do not contain any fire alarm systems.

Throughout the Hajj trip there are many factors that affect health and hygiene, not only the gathering of many different nationalities with different health needs, but also poor sanitary systems, and the accumulation of garbage. Most of the lodging units do not include devices for natural ventilation to adapt to the changing weather conditions, day as well as night, and the seasons of summer and winter. Lack of privacy is a common problem. Accommodations may lack privacy for women as well as individuals and groups. Spaces are dedicated for regular prayers, but are not enough. They cannot accommodate the large numbers involved, which leads to divisions. There is a lack of essential services such as electricity, water drainage and refuse systems in both accommodation units and in

the sacred places. In some areas many pilgrims do not find a space to stay except the mountains, which can prove to be unsafe places because they have very steep slopes.

Another problem for Hajj unique to Makkah stems from the central location of Al Haram and the limited capacity of the surrounding flat land adaptable for development. Because of the central location of Al Haram to everything that takes place in the city, competition is very keen for the same small limited area. The result is some of the highest land values anywhere in the world. As stated earlier, pilgrims and Umra visitors need accommodation close to the mosque. They also generate demands for commercial and financial services. The volume of traffic and transport needs, including off-street parking, created by these two activities alone are phenomenal. As a result, streets, highways, and parking garages are major users of land. The area is also a prime residential location for those who can afford the excessive prices and wish to live close to the Al Haram and have the ability to walk to and pray there on a daily basis.

It was the enormity of the problem which resulted in the creation of The Hajj Research Centre at King Abdul Aziz University in Jeddah in 1975. The Centre's official statistics for the number of non-Saudi pilgrims in the last 70 years are given below:

Year -	Number		Year-	Number
1927-	90,764		1967 -	318-507
1932 -	25,291		1972 -	645,182
1937 -	59,577		1977 -	739,319
1942 -	62,590		1982-	1,029,212
1947 -	75,614		1987 -	1,224,633
1952 -	149,841		1992 -	1,421,000
1957 -	209,197		1994 -	1,631,500
1962 -	199,038	(Expected)	2005 -	3,046,000[18]

(Absolute figures for year in question)

There was an exceptional peak of 2.5 million pilgrims in 1983 for quite specific reasons. Nearly half of those who attended in that year were expatriate workers with their families who chose to perform Hajj on short notice. Also, the sighting of the moon at the end of the previous month resulted in Hajj shifting one day, thus falling on a Friday. This was significant because the only Hajj of the Prophet Mohammed (PBUH) was on a Friday. This caused a sudden rush by those Saudi citizens and expatriates who could travel easily and on short distance from other parts of the country. Problems encountered that year led the Saudi government to limit the number of expatriates allowed to perform Hajj to once every five years. Those restrictions reduced the number of pilgrims in 1984 to about 1.6 million. Annual increases since then have been very modest. The impact of Umra expenditures, while less dramatic, is equally significant. During the peak Umra seasons, in the last ten days of Ramadan, the month of fasting, the number of visitors to the city exceeds 750,000.

The number of pilgrims is expected gradually to grow, but perhaps at a reduced rate. Projections made in 1984 by the Makkah Planning and Development Office and the Hajj Research Centre of Ummul Qura University, estimate the number of pilgrims at about 3.75 million by the year 2005. These projections were conservative, allowing for possible restrictions other countries imposed on their own pilgrim population. On the other hand, they also accounted for the impact of Hajj's movement toward winter and the continuous improvement in the facilities and services provided by the host government.

Toulan in a recent study concluded that:

> There is no doubt that numbers of this magnitude will exert considerable pressures on housing, transportation, utilities, and most government services other than education. Indeed, the large number of pilgrims as compared to the resident population (3:1 today and 2.5:1 projected in 2005), as well as the seasonal fluctuations in the number of Umra visitors, creates a difficult situation for the municipal government. The problem

arises in relation to service standards provided and design structures for the municipal utility systems.[19]

He also emphasized that:

> Roads and highways must be capable of serving the peak congestion days so as to avoid disruption of the movement of the pilgrims. Optimum design capacities, therefore, vary from one network or service to another, a problem that adds considerable difficulties to the planning process. This is because possible qualitative and/or quantitative errors in population and visitor projections can have serious impact on the city's ability to cope.[20]

The importance of the Hajj for the Kingdom means that there is a duty to ensure significant progress is made in providing facilities and services to meet the needs of the growing number of pilgrims. Therefore, a basic plan that involves several ministries and departments directly related to the Hajj must be implemented. The organisational and management problems are compounded by the fact that millions of Muslims have different languages and cultures when they arrive in Saudi Arabia from around the world. One can witness the cross roads of humanity. The entire government down to the Makkah municipal administration is involved in one way or another in this movement. The current organisations directly concerned with the effective operation of the Hajj journey are the Ministries of Interior; the High Committee for Hajj, also known as the Central Hajj Committee; the Ministries of Hajj and Awkaf; Public Works and Housing; Communication and Transport; and Municipal and Rural Affairs. Two other important organisations, the Directorate of Haramin al-Sharfain and the Hajj Research Centre are also responsible for Hajj activities. Below is a brief summary of these various organisations which form the administrative structure intend to oversee the successful functioning of the Hajj.

The Ministry of Interior presides over the High Committee for Hajj and is directly responsible to the King and the Council of Ministries. Members are ministers having direct responsibility for the Hajj. It receives and reviews previous

and current problems as well as recommendations concerning administrative improvements for the Hajj in the following year. The committee also receives proposals and projects from other ministries as well as from the Central Hajj committee and may sanction or approve these accordingly.

The Central Committee for Hajj is presided over by the Prince of Makkah. The Central Committee is composed of representatives from various administrative ministries and governmental departments. The following are the three sub-committees formed from time to time under the Central Committee:

1. The Technical Sub-Committee dealing mainly with technical planning and development matters and activities directly related to the Hajj. It designs specific projects in detail and submits them to the main committee for review and evaluation and then forwards them to the cabinet level committee for approval and sanction.
2. The Implementation and Execution Sub-Committee dealing with the execution of sanctioned projects in accordance with the approved time schedule. It also supervises the supply of essential services and facilities to the pilgrims during their Hajj performance.
3. The Land Allotment Sub-Committee dealing with the allotment and assignment of space at Mina, Muzdalifah and Arafat during Hajj.

The Ministry of Hajj and Awkaf is responsible for many of the logistical problems concerning the Hajj. Its main duties are to provide transport for the pilgrims during the annual event, and to arrange and manage accommodation through guides. It is also responsible for the registration of guides, who in turn are responsible to the pilgrims under their care.

The Ministry of Public Works and Housing implements the Mina development project, including the entire planning, designing and execution of all facilities at Mina, Muzdalifah and Arafat and its connection with the city of Makkah.

The Ministry of Communication and Transport is responsible for the planning, design and construction of highway, fly-overs, viaducts, express ways, tunnels and bridges.

The Directorate of Haramin al-Sharifain is responsible for the upkeep, maintenance and, if necessary, the extension of the Holy Mosque at Makkah and the prophet's mosque at Madinah. Any expansion project planning related to the Holy Mosque falls within their jurisdiction.

The formation of the Hajj Research Centre in 1975 was timely, as the need for objective, systematic scientific research on the environment of Hajj was long overdue. The location of the Centre in a major, growing university close to Makkah was a logical step. Moreover, this location gave the Centre freedom from constraints of day-to-day problem-solving, planning, implementation and diverse activities such as those which bind the function of various ministries involved in projects related to Hajj. The location also permitted an overview for scientific research necessary to address the problems of Hajj. The academic nature of the Centre awards it a special status above the commercial interests and limitations of foreign consultants.

The Hajj Research Centre, the Ministry of Municipal and Rural Affairs, the Makkah Municipality and others are involved either directly or indirectly in the efficient implementation of tasks and responsibilities considered necessary to improve the Hajj situation. These organisations are intended to ensure that significant progress is made by providing services and facilities to meet the needs of the growing number of pilgrims making the journey.

SOURCES OF FIGURES

Figure Number: 2.1 Al-Faruqui, 1986.

Figure Numbers: 2.6, 2.7, 2.8, 2.9
Sami Angawi, Makkan Architecture, Ph. D. Thesis, University of London, 1988.

Figure Numbers: 2.2,2.5
Dar-al Handasah's report of 1986.

Figure Numbers: 2.3,2.4
The Hajj Research Centre, 1986.

Figure Number: 2.10 The National Geographic Magazine, Vol. CIV, No.1, July, 1953,p.24.

Figure Number: 2.11 Ukaz Magazine, 1992.

Figure Number: 2.12 The Hajj Research Centre, 1980.

REFERENCES

1 Angawi, Sami Makkan Architecture, Ph.D. Thesis, University of London, 1988, p.24.

2 Ibid. p. 28.

3 Al-Faruqi, Ismail The Cultural Atlas of Islam, New York: Macmillan Publishing Company, 1986, p. 34.

4 Al-Akkad, Abbas The Geniuses of Mohammed, Cairo, Dar Al-Sherouk, 1960 (in Arabic).

5 Merza, Meraj N. The Impact of Selected Physical Factors on Settlement Development in Makkah, MS Thesis, Eastern Michigan University, 1979, p.11.

6 Ibid, p. 16.

7 Ibid, p. 17.

8 Ibid, p. 18.

9 Ibid, p. 18.

10 Al-Siba'ee, Ahmed History of Makkah, Volume 1, 2 Makkah, Koreish Publications, 1960, p. 26.

11 Ibid, p. 17.

12 Merza, Meraj N. The Impact of Selected Physical Factors on Settlement Development in Makkah, Ms. Thesis, Eastern Michigan University, 1979, p. 12.

13 Angawi, Sami, 1988, op. cit., p. 81.

14 Ibid p. 116.

15 Ibid p. 118.

16 Farsi, Zaki M. National Guide & Atlas of the Kingdom of Saudi Arabia, Jeddah, Zaki Farsi, 1989, p. 22.

17 Hajj Research Centre, King Abdul Aziz University Press, 1975, vol.1.

18 Hajj Statistics, Ministry of Interior, 1991 Issue.

19 Toulan, Nohad A. , Planning and Development in Makka, in Amirahmadi, H. and El-Shakhs, S.S., Urban Development in the Muslim World, Rutgers, The State University of New Jersey, 1993, p. 48

20 Ibid, p. 48

CHAPTER THREE

Urban Fabric and Identity: Characteristics and Change

This chapter presents the major elements that have characterised the City of Makkah throughout history. It deals with the loss of some of the major historical sites and buildings as a result of the expansion of the Holy Mosque. The author charts these losses and shows the consequences of urbanisation on the natural environment and habitat.

A. The Traditional Urban Fabric through History

As described in the previous chapter, the growth of Makkah was confined by the valley of Ibraham and surrounding mountains. By the time of the migration of the Prophet Mohammed (PBUH), Makkah consisted of a small nucleus of houses belonging to the elite of Makkah's tribes and encircling the Ka'aba. These houses and compounds were enclosed by temporary structures of tents, dry stone shacks and covered shelters where the slaves, servants and other labourers lived and worked to serve their masters as well as the pilgrims. Located at a distance from the houses were some scattered tents of nomads and herds of camels, sheep and goats belonging to the merchant families of Makkah.[1]

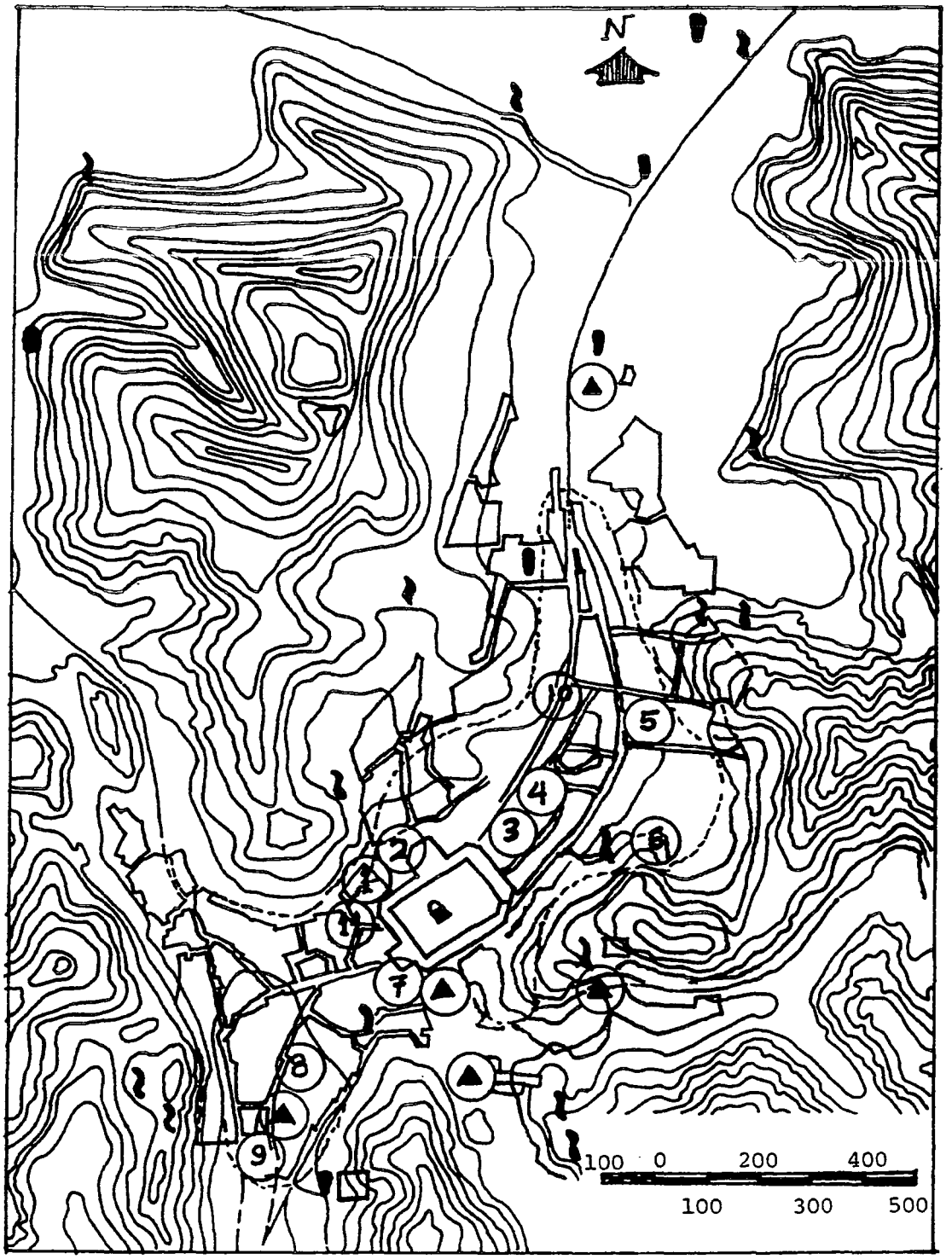
Before the time of Hijra there were no schools, baths or markets in Makkah, but the forty years after Hijra witnessed the development of urban areas from Mudda'a in the north to Al-Shubaykah in the south and from Ajyad in the east to Al-Shamiyyah in the west. At that time the settlements were close together and the houses and compounds had more rooms. However, the buildings remained single storey in respect for the Ka'aba. Umer and Uthman, the second and third governors of the Islamic state, built a wall to expand and limit the Mataf area in between Safa and Marwa. Al-Azraqi in Akhbar Makkah mentioned that by the time of Mu'awiyah, the founder of the Ommayed Dynasty, Shaybah Ibn Uthman demolished any house exceeding the height of the Ka'aba. This restriction forced people to relocate and build many houses further from the Ka'aba.[2] The history of the rebuilding of the Ka'aba showed its height ratios between 9 to 13 metres, and

accordingly, the height of houses varied from 3 to 4 storeys in relation to the height of the Ka'aba.

A major public works programme was developed during the time of Mu'awiyah, who constructed basins to collect rain water necessary to fill reservoirs. The other project was that of Darb Zubaydah, the Abbaside Khalifa and wife of Haroon Al Rasheed, who constructed a highway from Iraq to Makkah known as Darb Zubaydah. This highway developed a safer passage for travel to Makkah. Haroon built minarets on the hills surrounding the Holy Mosque. The minarets assisted in being able to call Adhan (the call for prayer) over a wider distance in and around Makkah (Figure 3-1). Another major work started by Zubaydah was the bringing of water to Makkah. She constructed two aqueducts. One was from Wadi Nua'man mainly to serve pilgrims travelling through Arafat, Muzdalifah and Mina. That aqueduct stopped to the north of Makkah and was called Ayn Zubaydah. The second one was called Ayn Hunayn. This aqueduct took water 24 kilometres to Makkah (Figure 3-2). These fountains and aqueducts had a significant affect on the urban growth of Makkah and surrounding areas.

At the time of the Hijra towards the end of September in 622 AD, there was no record of markets other than Ukaz for the exchange of goods. But after two and a half centuries, Al Azraqi mentioned 26 markets in Makkah. Some disappeared as a result of the expansion of the Holy Mosque at that time, while others remained. Al-Azraqi also mentioned the construction of baths in Makkah similar to the Roman baths. These baths were used by the public as water is a very essential symbol of personal hygiene and cleanliness for Muslims. Al-Azraqi described Makkah quarter by quarter, where every quarter was occupied by extended families forming communities. A quarter usually consisted of a group of compounds located in different parts of Makkah. He also described the different branches of the tribe of Quraysh.[3]

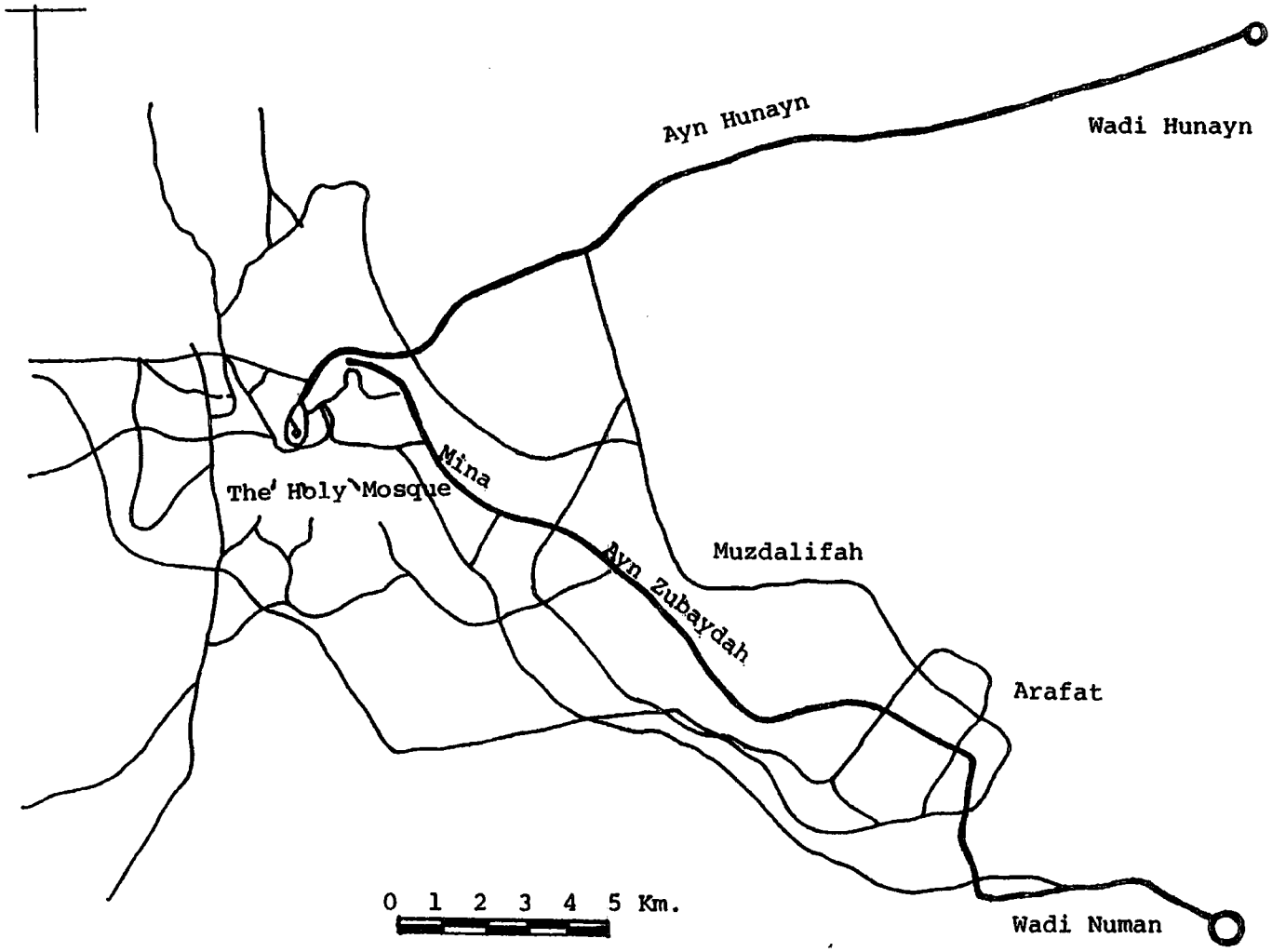
Fig. 3.1: Makkah at the end of Abbasid Rule (1258 AD) (Angawi, 1988)



(1) Dar Hujair Ibn Abi Ihad
(2) Dar Al-Nadwah
(3) Dar Al-Azraq
(4) Dar Khadijah
(5) Dar Abdullah Ibn Abd Al-Muttalib
(6) Dar Ali
(7) Dar Al-Sharab
(8) Abu Bakr Mosque
(9) Hamzah Mosque
(10) Al-Mudda'a
(11) Dar Al-Ajalah

(▲) well
(▯) Ayn
( ) Minaret

Fig. 3.2: Aquaducts of Zubaydah and Hunayn (Angawi, 1988)



Upon the rule of Al-Ashraf in Makkah in 968 AD, Ja'afer Ibn Mohammed, the first ruler, erected defensive walls around Makkah and across three valleys that lead to the city. Ibn Jubayr in 1183 AD visited Makkah and described the walls in between the hills of Moalah, Misfalah, and the road from Bab Al-Umrah (Figure 3-3). During his visit the walls fell, but the gates remained until Qutadah Ibn Idris completed the ring of the city wall in 1202 AD.[4]

Lodging places for the poor and destitute were also constructed by the tenth century AD in Makkah, even before schools were built. However, when school construction began later, mainly for students travelling to Makkah for education, sections of these schools were used as lodging places to accommodate the poor in addition to the students. The first schools in Makkah were built in 1175 AD and later established throughout the city.

For a long time before and after the establishment of Islam, people respected the Ka'aba site in Ibraham's valley, until Qusayy built Dar Al-Nadwah close to the Ka'aba. The city's population was encouraged to build houses closer to the Ka'aba in a similar pattern, but lower and smaller to maintain respect for the Ka'aba. Houses by the time of Hijra remained one storey, but due to further expansions of the Holy Mosque and demolition of houses, people began to build two, three and four storey houses. With the introduction of minarets at the Holy Mosque, another dimension of houses began to appear. However, all surrounding hills remained undeveloped. The spaces around the Ka'aba were used for religious and social gatherings of the citizens. The area between Safa and Marwa remained the main piazza of Makkah.[5]

Three main roads tunnelled through the three natural valleys and the fourth road through a passage to Kudayy which led to the Ka'aba. To reach the Holy Mosque, one had to walk between houses leading to the gates and then to the court of the Holy Mosque, hidden between more houses arranged in narrow spaces. The Holy Mosque, then, was part of the entire fabric and pattern of the city and was not isolated as it is today (Figures 3-4 and 3-5). That was a typical pattern

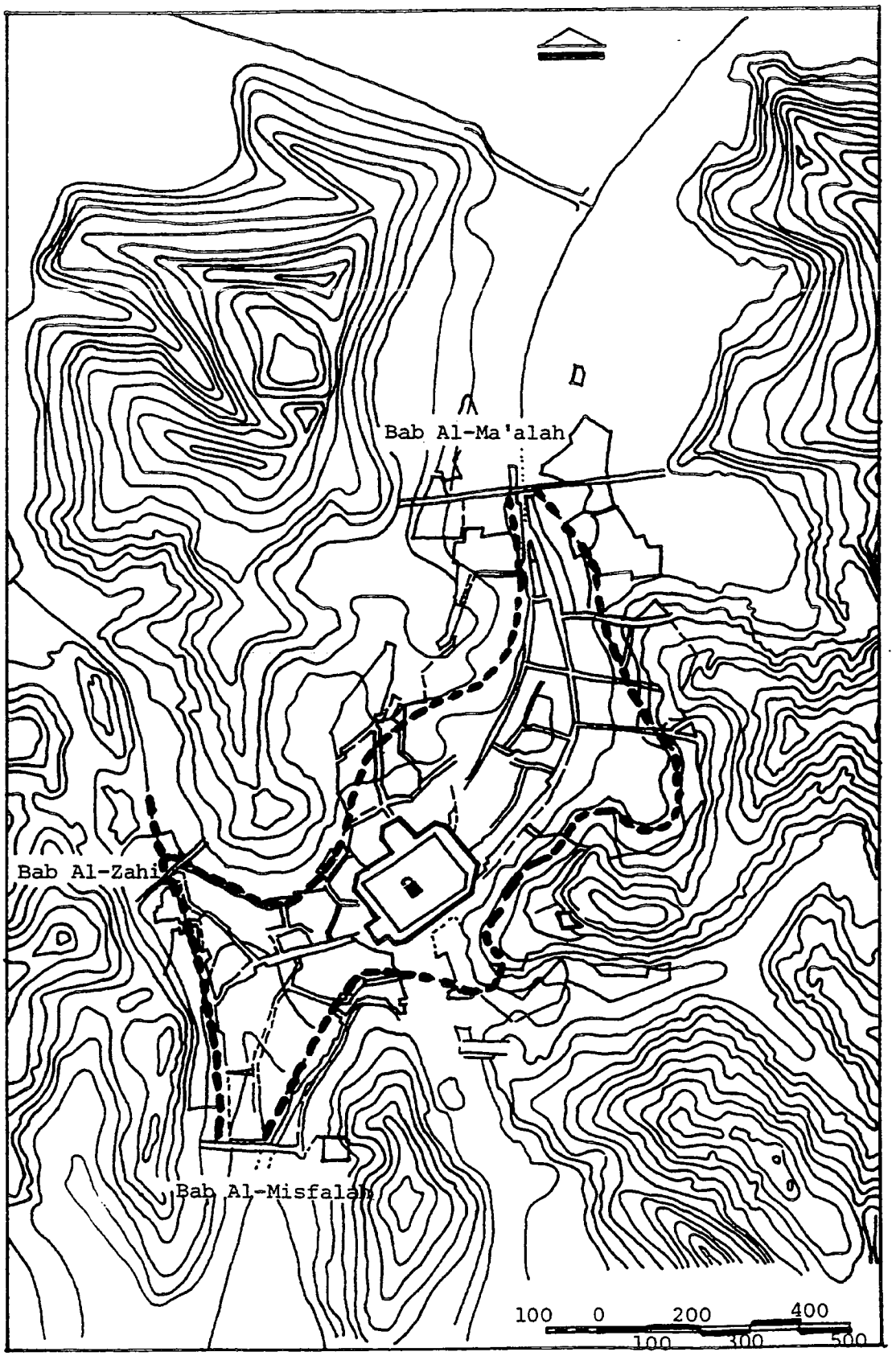


Fig. 3.3: City Walls of Makkah (Angawi, 1988)

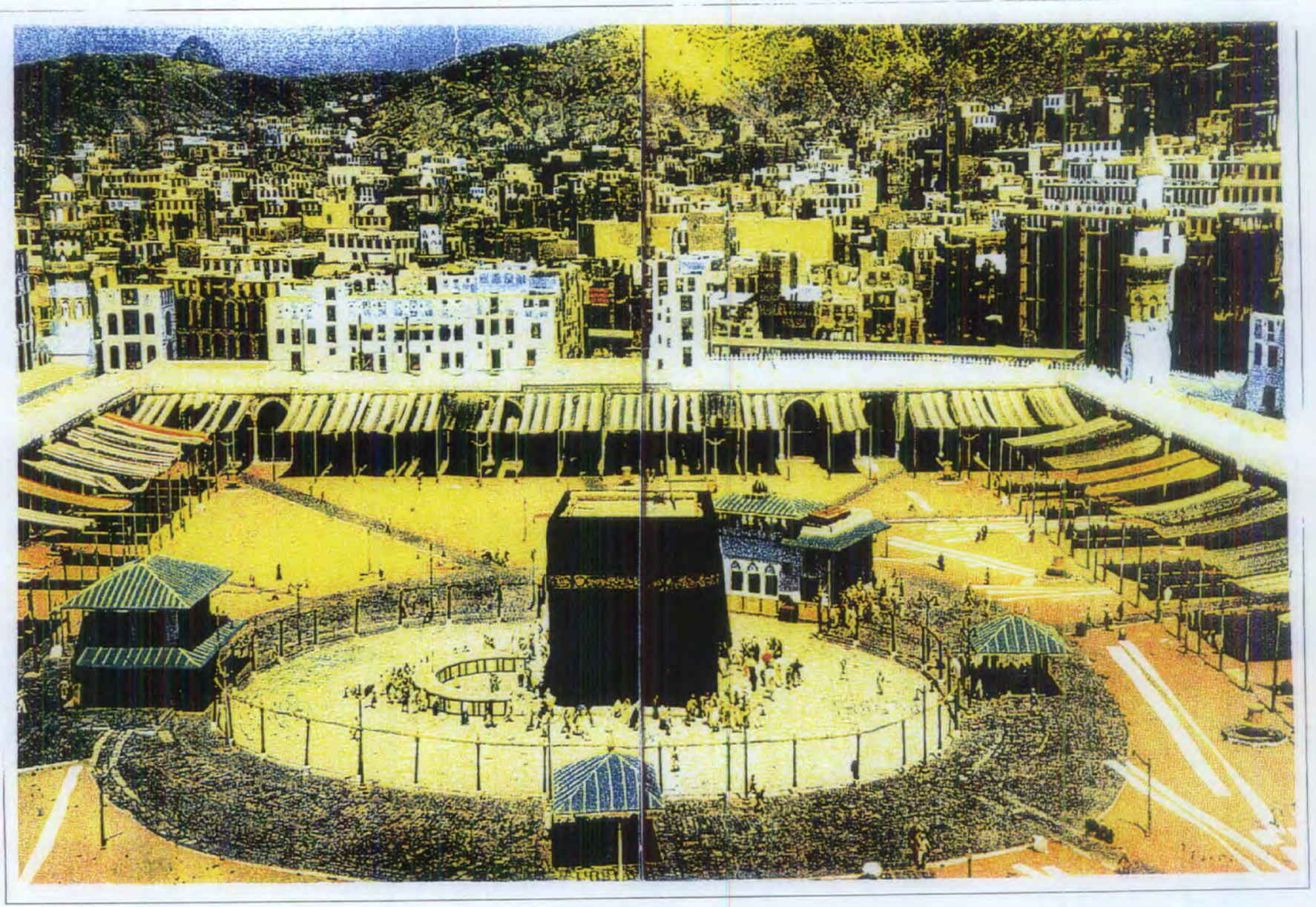


Fig. 3.4: View of Makkah in 1953 (National Geographical Magazine, 1953)

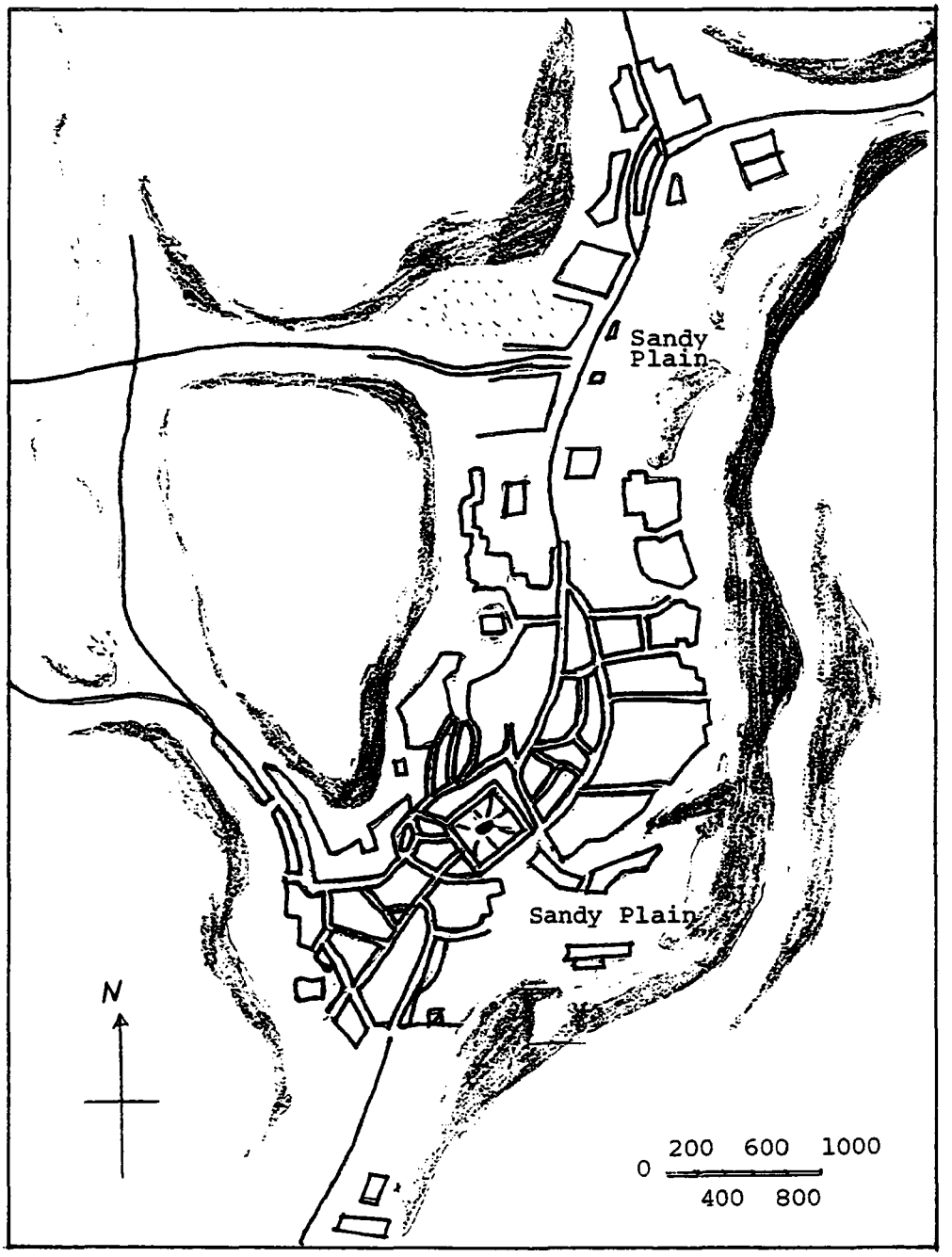


Fig. 3.5: Plan of Makkah in 1814 (Angawi, 1988, after Burckhardt)

of Islamic cities in which the street layout was closely knit and the Mosque fit within the building plan, although in Makkah the scale was somewhat larger.

The width of the streets varied and followed the outline of the houses. The spaces in most Islamic cities were created by the criss-crossing of roads from neighbourhoods. These cells or neighbourhoods had a recognisable community residing there, and had a road network that led from the public square to semi-public lanes to private cul-de-sacs where doors to private houses opened.[6] However, the situation in Makkah was unique in that the road network was quite loose. Some larger spaces were created for public use and the doors of Makkah were freely open everywhere. In Makkah, there were main roads that led from outside to the city centre, where smaller roads branched from it and varied in width between three to six metres. Local shops were located on these minor roads. Narrow passages then followed with sharp bends to end with cul-de-sacs. These narrow passages were not used for commercial areas, but for private purposes. When the roads were set back in certain areas, it created small squares used for public gatherings.

Houses were arranged in straight lines with staggered flat roofs creating shade and protecting them from the hot, sunny weather of Makkah. Houses had more than one facade and stood alone to emphasise their existence, and perhaps to attract pilgrims to live there. The staggering of houses and the uneven shape of narrow roads helped to position most of the roads in shade.

The very first building to be constructed in Ibraham's valley was the Ka'aba. It remained isolated in the valley for two thousand years until the Qusay built Dar Al Nadwah, the house of consultancy, near the Ka'aba in the fifth century AD. Other houses followed, but were built in circular fashion and lower than the Ka'aba (Figure 3-6). Al Siba'ee in Tarikh Makkah (The History of Makkah) mentioned that the first dwelling built in Makkah, after Dar Al-Nadwah, was built by Abd Manaf Ibn Qusayy or Said Ibn Amr Al-Sahmi.[7]

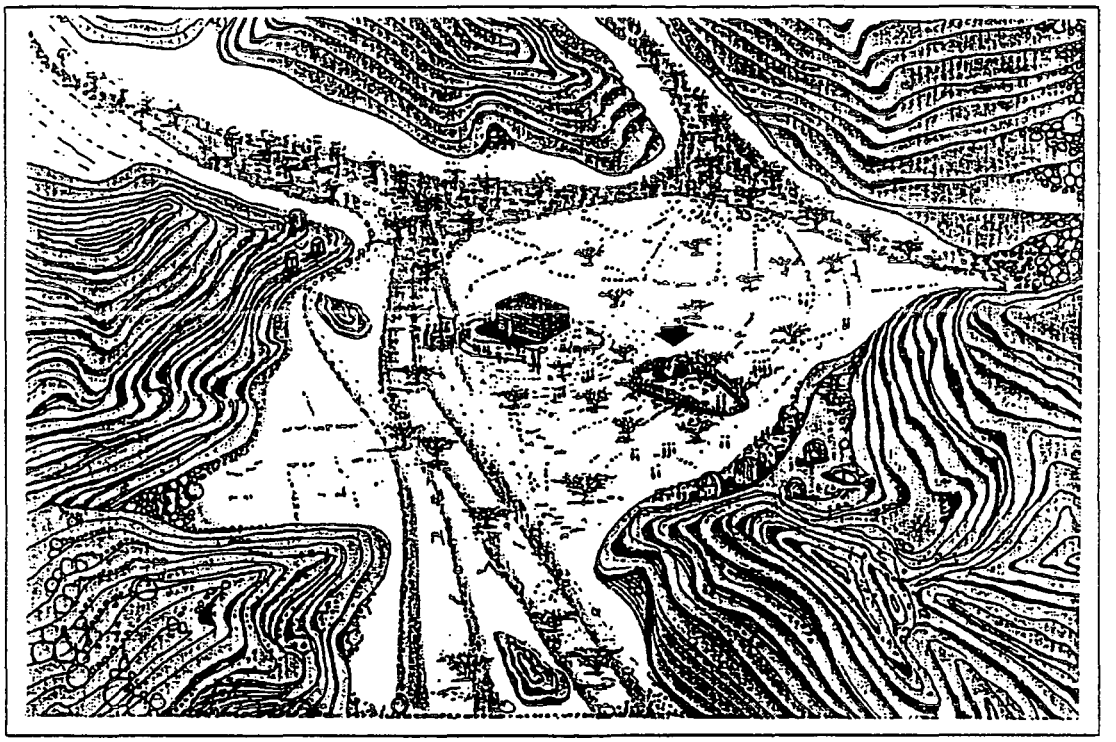


Fig. 3.6: Conjectural view of Dar Al-Nadwah (Angawi, 1988)

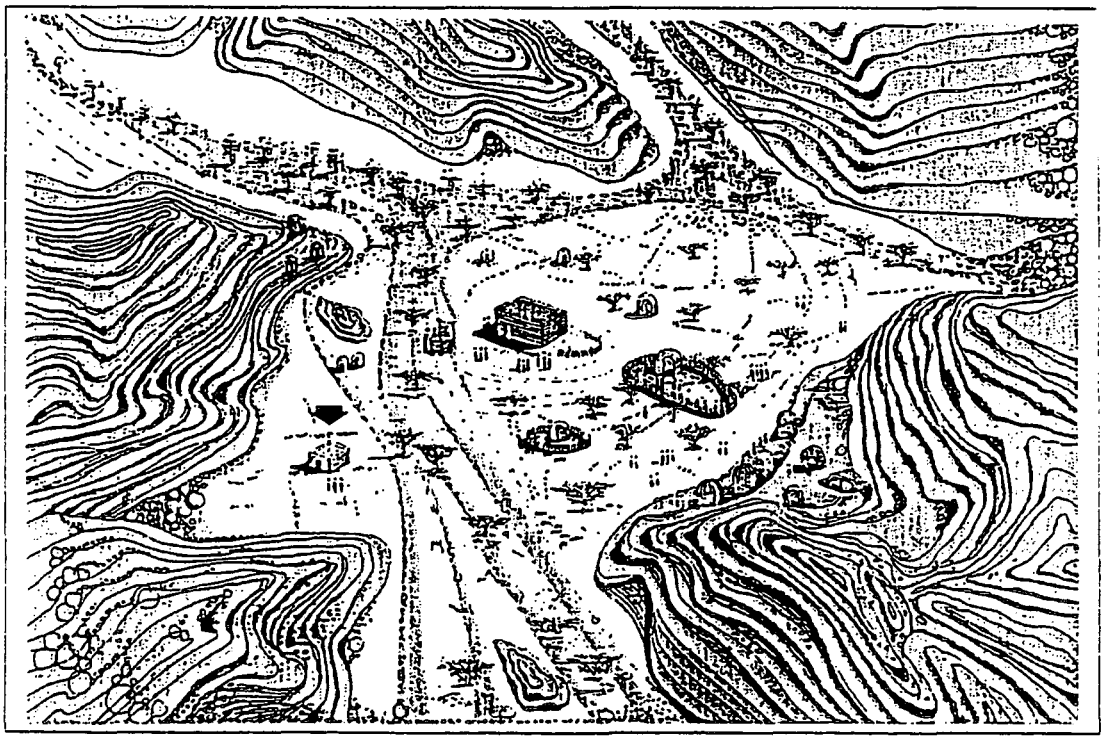


Fig. 3.7: Conjectural view of the first house with corners (Angawi, 1988)

The first individual to build a square house was Humayd Ibn Uzza (Figure 3-7). Many inhabitants of Makkah expected horrifying consequences because of superstitions against imitating the shape of the Ka'aba. This event occurred by the time of Mohammed (PBUH) but before the creation of Islam. Houses were constructed of stone with a varying number of rooms and with two main doors, one for entry and the other for exit.

The construction technique was quite simple, consisting of layers of stones and wood laid in alternate rows, which can still be seen in some historic houses in Makkah today. Al-Azraqi in Tarikh Makkah gave detailed descriptions of some of the most important houses in Makkah in 845 AD. This included Dar Al-Nadwah, Dar Al-Ajalah, Dar A-Qawarir and Dar Zubaydah. Some travellers gave descriptions of the houses of Makkah as well. Nasiri Khusraw in 1047 AD wrote, "Many nationalities have their own areas from Khurasan, Persia; but most are in decay and are in dire need of repair. There were buildings by the Caliphs of Baghdad that were beautifully built, but some were in disrepair."[8] In 1228 AD Yaqut Al-Hamawi mentioned that there were many houses in Makkah surrounding the Holy Mosque. The construction of those houses consisted of black and white stones. The buildings were of several storeys and cleanly painted.[9] A hundred years later, Al-Maqdisi in 1343 AD, added nothing to the description of Al-Hamawi, which leads us to believe that no major changes had occurred in that period. But Ibn Battutah in 1377 AD mentioned that the Holy Mosque was surrounded by houses overlooking the Mosque. He described the height of the Ka'aba to be 10 metres and the houses were three storeys high with flat roofs.[10]

In 1477 AD Sultan Qaitbay, of the Mamluk rule, built a school in Makkah. The building lasted for more than 500 years and can be seen in the photograph by Philby taken in 1930 (Figure 3-8). Preservation of the school leads us to believe that people took care of and preserved important buildings. The first known non-Muslim traveller describing Makkah, Ludovicus Vertommanus in 1503 AD, said, for instance, that the houses in Makkah were in extremely good shape and clean like those in Italy.[11]

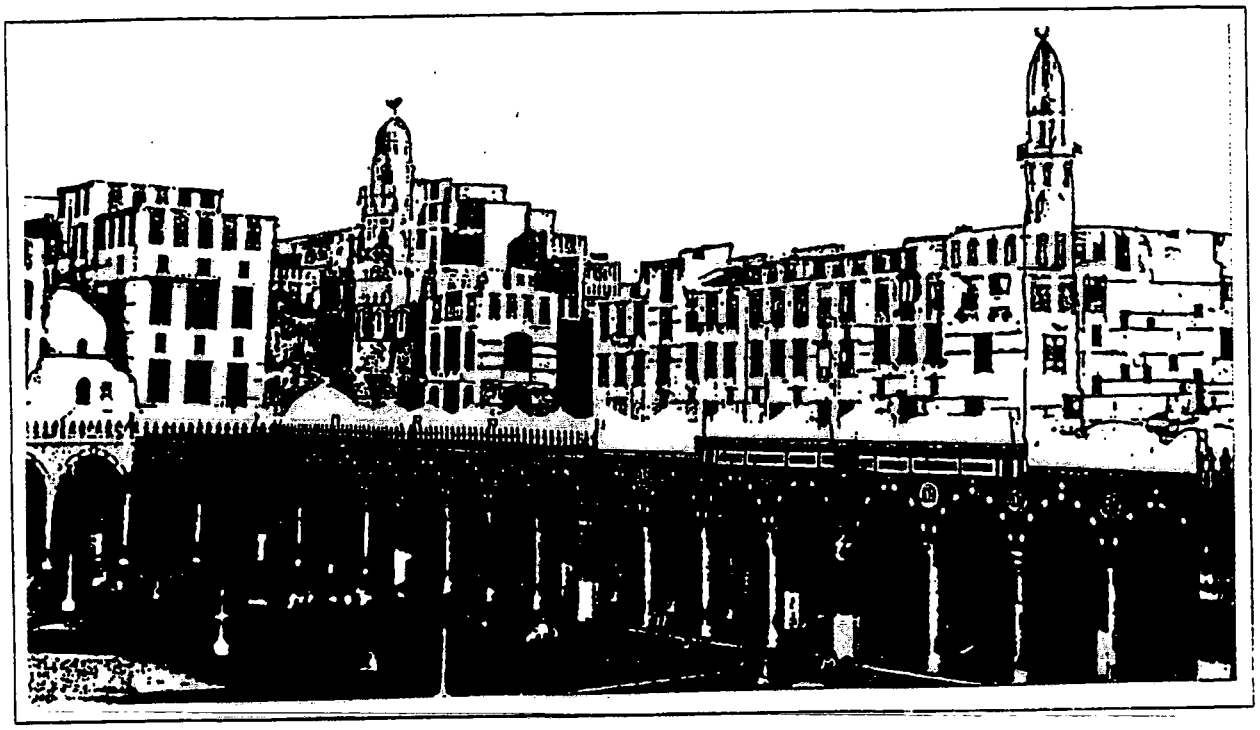


Fig. 3.8: View of Haram, towards Sultan Qaitbay School, 1931 (Hajj Research Centre after photograph by Philby)

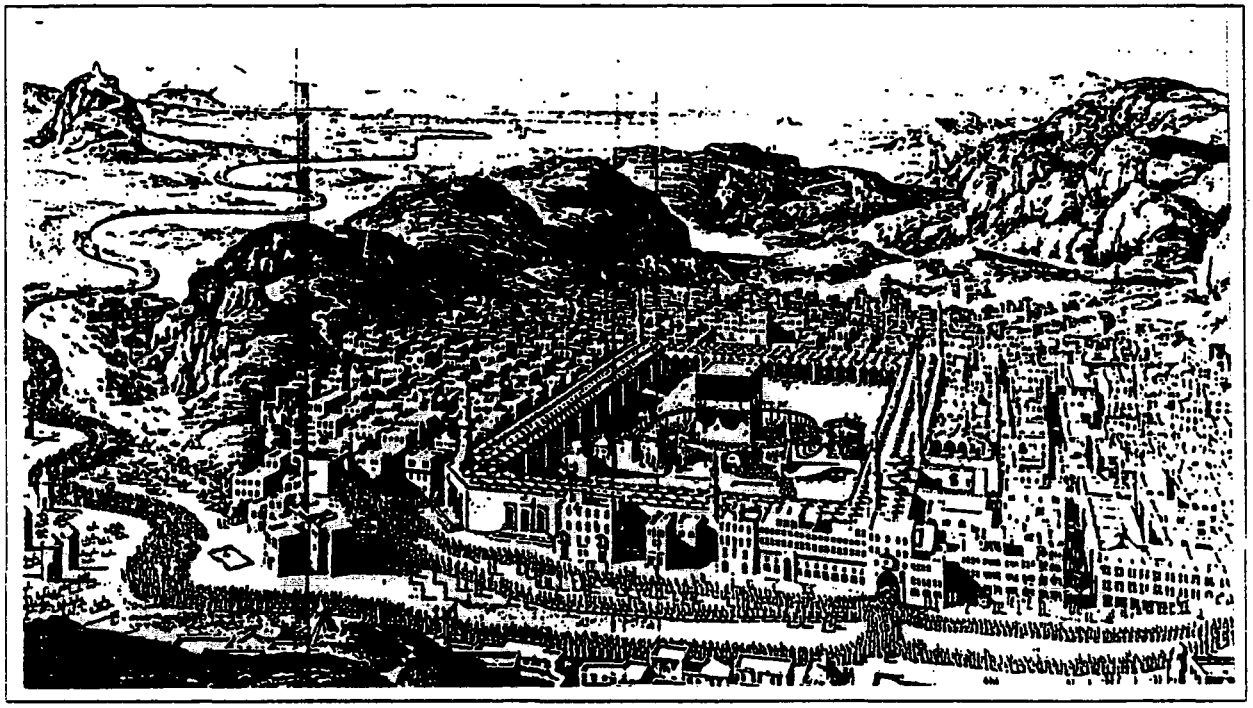


Fig. 3.9: View of Makkah 1740 (Hajj Research Centre after D'ohsson)

In 1680 AD Joseph Pitts mentioned that buildings in Makkah were plain and ordinary, and that people slept on the roofs for fresh air.[12] D'Ohsson's illustration of Makkah in 1740 AD (Figure 3-9) confirms the height of the houses to be a maximum of between three and four storeys high. Ali Bey, in 1807 AD gave the first detailed description of Makkah's houses by rendering hand sketches, but without scale. Upon returning to Europe, engravers made etchings based on those sketches[13] (Figure 3-10). Ali Bey's drawing of the house of the Sharif of Makkah was almost identical to the photograph taken one hundred years later of the same house (Figure 3-11).

Jacob Burkhardt, the Swiss traveller, visited Makkah in 1818 AD, producing a map (Figure 3-12) and giving the following description:

"Makkah may be styled a handsome town, its streets in general are broader than those of eastern cities, the houses lofty, and built of stone, and the numerous windows that face the streets give them a more lively and European aspect than those of Egypt and Syria, where the houses present but few windows toward the exterior. At Makkah, it was necessary to leave the passage wide for the innumerable visitors who have crowded together, and it is in the houses adapted for the reception of pilgrims and other sojourners, that the windows are so contrived as to command a view of the street. The only public place in the body of the town is the ample squares of the great Mosque. No trees or gardens to cheer the eye, and the scene is enlivened only during the pilgrimage by the great number of well-stored shops which are found in every quarter." [14]

In 1893 AD Gervais Courtellemont, a Frenchman who lived in Algeria and converted to Islam, had visited Makkah and took the first early photographs of the holy city (Figures 3-13 and 3-14). He described Makkah in his book Mon Voyage à la Mecque as follows:

"The approximate number of population of Makkah at that time was 100,000 people, and almost 75 percent of the population were Indians. The city has one major street across it, with so many 'Cul de sacs' deviating from the road.....

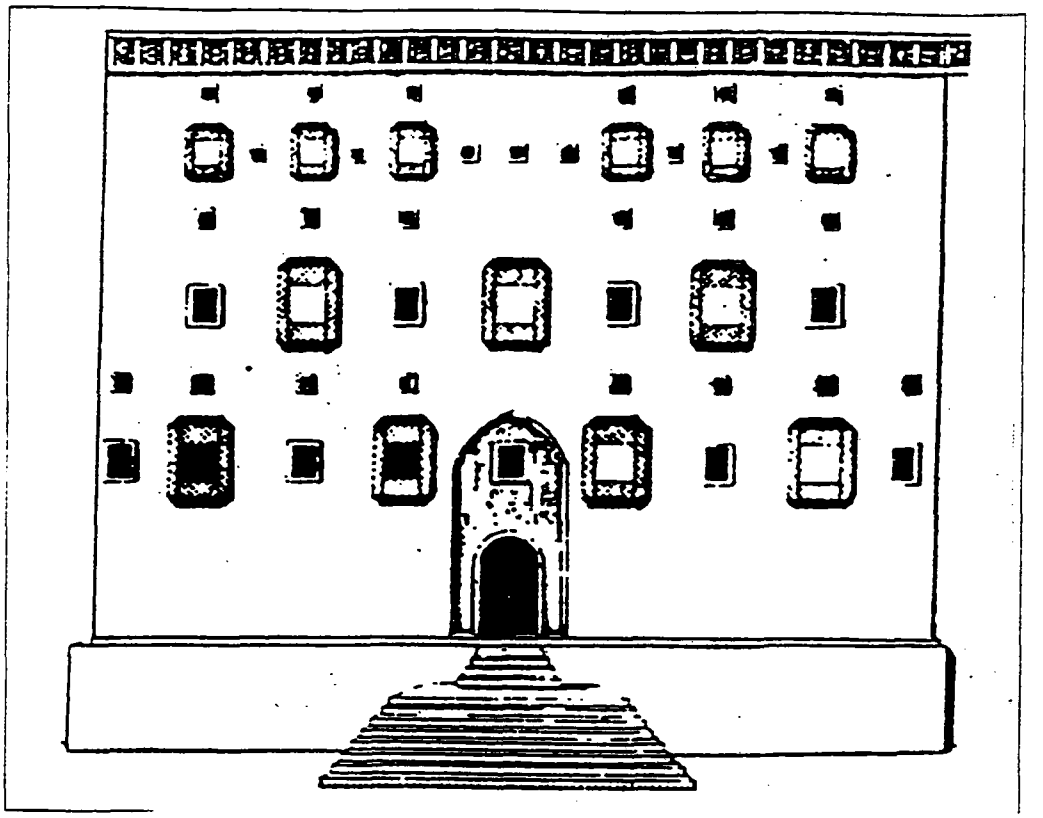
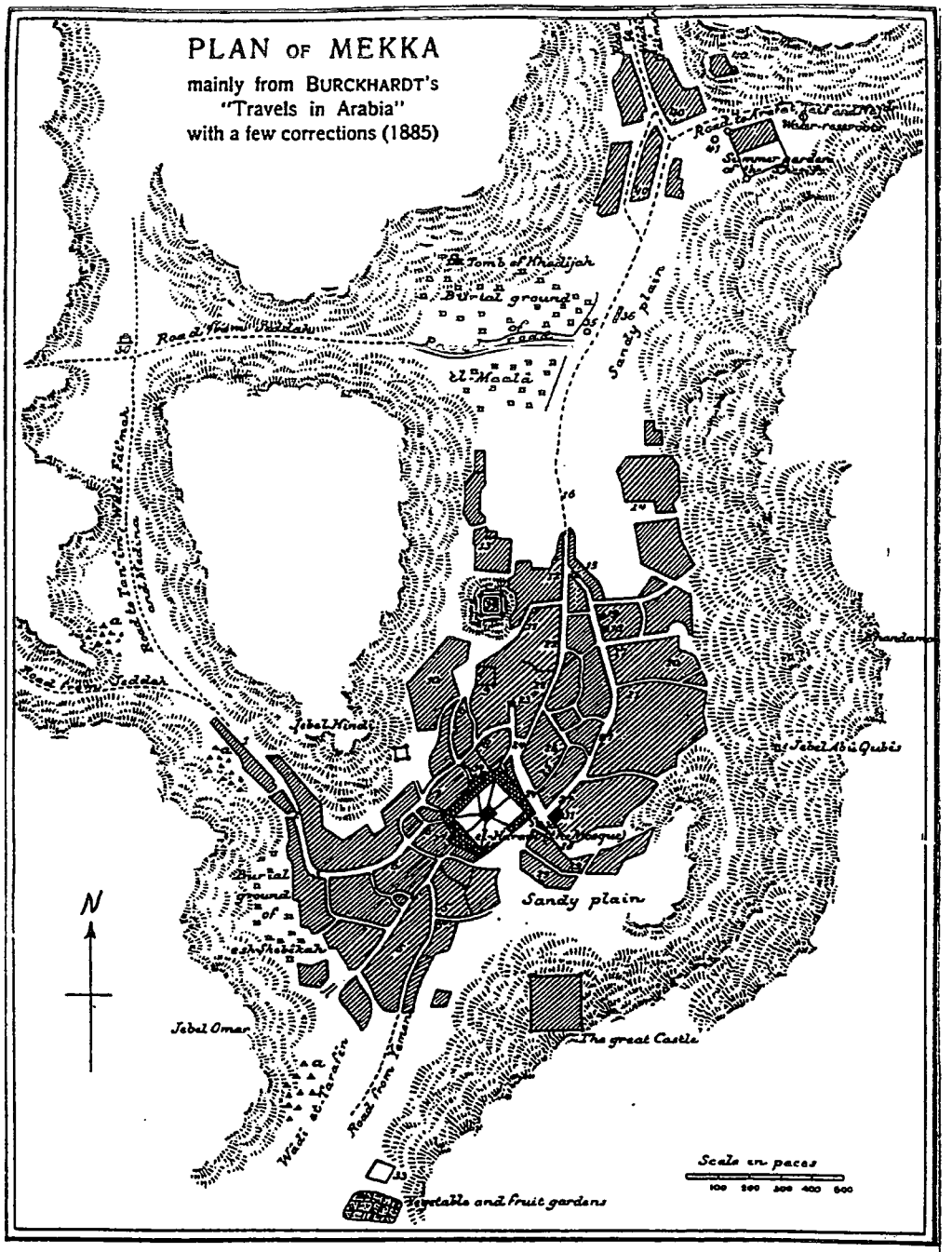


Fig. 3.10: House of the Sharif of Makkah, 1807
(Angawi, 1988)

Fig. 3.11: House of the Sharif of Makkah, 1970
(Angawi, 1988, after a contemporary photograph)



1. The Quarter of Jirwal.
2. " " " el-Bâb.
3. " " " esh-Shebêka.
4. " " " Sûq es-saghîr.
5. " " " el-Mesfalah.
6. " " " Bâb el-'Umrah.
7. " " " Shamiyyah.
8. " " " Sûêqah.
9. " " " Qarârah.
10. Huts.
11. The Quarter of Rakûbah.
12. " " " en-Nûqa.
13. " " " es-Selêmâniyyah.
14. " " " Shi'b 'Amir
15. The Haddâdîn (Blacksmiths') Street.
16. The Street el-Maalâ.
17. The Ghazza-quarter.
18. Palace of the Grand-Sherîf Aun ar-Rafîq (1882—1905) built by his father Muhammed ibn 'Aun.
19. Palace of the Grand-Sherîf Abdallah († 1877) elder brother of 'Aun ar-Rafîq.
20. The Quarter of Shi'b el-Maulid.
21. " " " Sûq el-lêl.
22. " " " el-Mudda'a.
23. El-Merwah.
24. El-Mas'a.
25. Stone Street (Zuqâq el-Hajar).
26. Maulid Sittanâ Fât'mah.
27. The Quarter of el-Qushâshiyyah.
28. Es-Safâ.
29. The Quarter of el-Jiâd (in this quarter are the Egyptian Têkkiyye = Foundation Building, and the new Government Building).
30. Main guard-house.
31. House of the Wâlî (Governor) of the Hejaz, the Police Office etc.
32. Madrasah, now used as office of the Committee for the Aqueduct of Zubaydah and bureau of the Rèyyis (chief of the mu'nddhins).
33. Birket Mâjin (vulg. pronounced Mâjid) great cistern in connexion with the aqueduct.
34. Court of Justice and dwelling house of the Qâdhî.
35. Tomb of Abû Tâlib (uncle of Muhammad).
36. Watering place in connection with the aqueduct.
37. Tomb of Seyyid 'Aqil.
38. Tomb of the Saint Sheikh Mahmûd.
39. Jebel Qu'êqi'ân.
40. The Quarter of Ma'âbdah.
41. Reservoir of water from the aqueduct. Several such reservoirs are now in all the main streets.
a. Beduin huts.

Figure 3.12: Land Use in Makkah, 1885 (After Burkhardt, 1818)

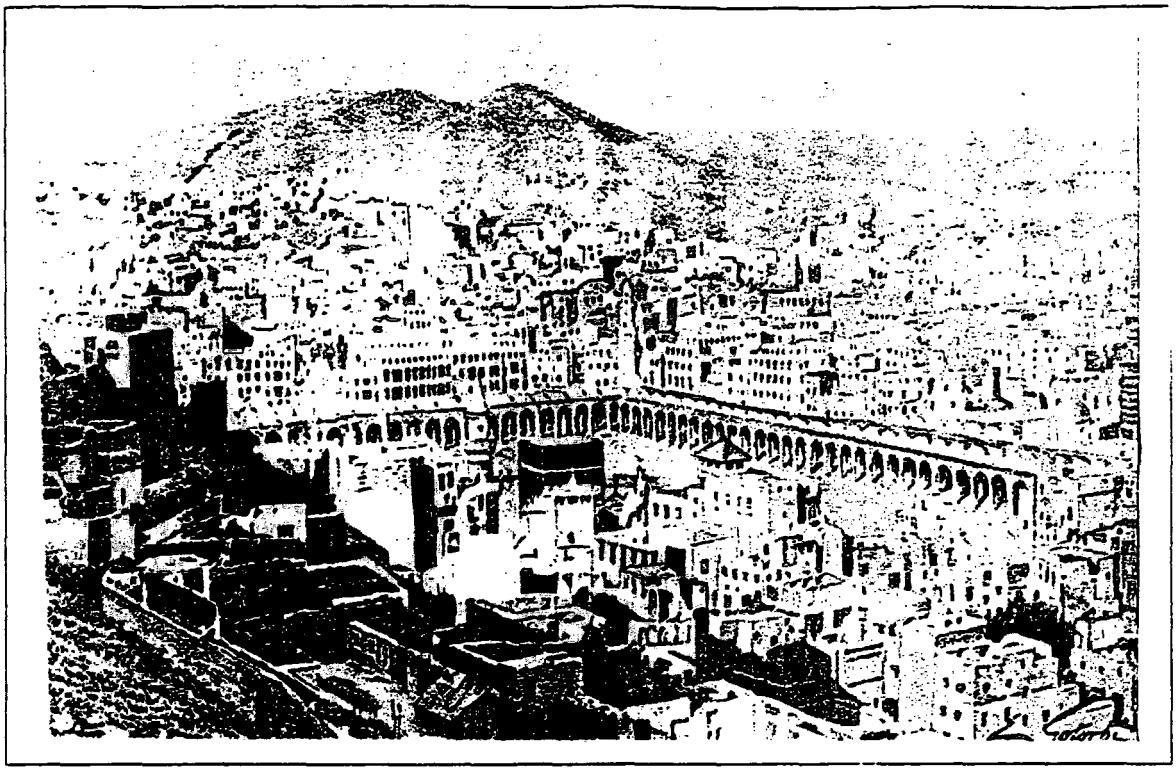


Fig. 3.13: Makkah from Jabal Qubays in 1890
(Courtellemont, 1890)

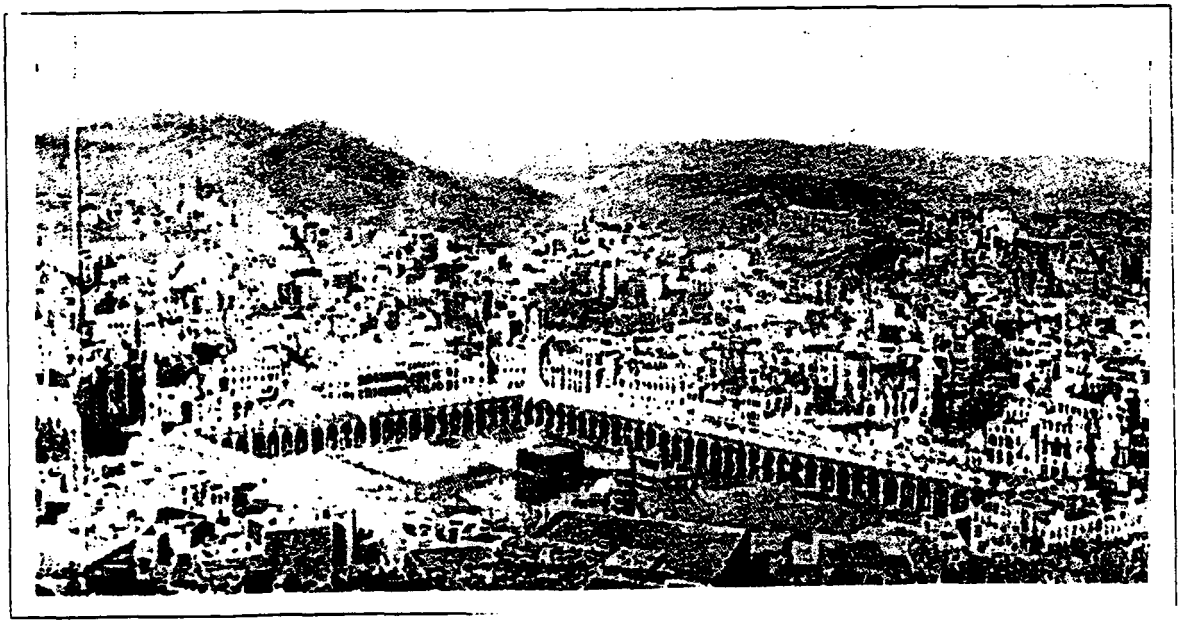


Fig. 3.14: Panoramic view of Makkah, 1890
(Courtellemont, 1890)

The market was changing its nature every day; one day to sell clothes, another day for perfumes, and another for jewellery. But Makkah's streets were very clean, and the residents themselves were taking care of cleaning the streets.

Most of the houses of Makkah have windows screened by wooden lattices to allow the air inside, but also to protect the view from people passing by from the outside. Most of the year, people prefer to sleep in these 'Shorofat' or bay windows or on top of the deck roof looking for cooler weather. The houses were divided into sections for men, women and servants, as well as the deck roof.... ."

He described the holiness of the Holy Mosque, saying:

"I was sitting in the Holy Mosque on the marble tiles listening to the Mo'azen calling for the sunset prayer to begin. Simultaneously, other Mo'azens were calling for prayer from other minarets in a harmonious way that stirred my senses and feelings. Upon the call to prayer, about 20,000 people in their white dresses gathered in circles around the Ka'aba and listened quietly to the Imam who was reciting the Qur'ān."[15]

Descriptions by past historians and travellers, referred to above, confirm that the basic components of Makkah houses were established 800 years ago and have formed a continuous tradition. In consequence, as Angawi remarks, the architecture of Makkah had evolved a character of its own. The many influences were a result of trade and pilgrims entering from many places. These were adapted to suit the local needs of society, physical conditions and climate. Contributions were also made by the Mamluks and the Ottomans in the decoration, but not in the basic form of the houses.[16] These influences by various cultures have remained a hallmark of Makkah's design and history. The present legacy continues with a fusion of many cultural influences, even though much has been lost through Makkah's recent development.

B. The Urban Fabric Today

(i). The RMJM Master Plan [18]

The most recent changes to Makkah, however, have been in remarkable contrast and occurred at a pace quite unlike any other time in its history. With such rapid change and expansion due to new wealth, came a realisation that the conflicting needs arising out of such change required debate and planning. Together with the ministries mentioned in Chapter 2, outside consultants were brought in to devise plans to ease expansion problems and pave the way for an expanded Hajj.

In 1971, the consultant firm of Robert Matthew Johnson-Marshall (RMJM), headed by Dr George Duncan, was commissioned by the Ministry of Interior to prepare a master plan for the city of Makkah. This plan was part of a much larger regional plan which included the western region of Saudi Arabia. The RMJM plan had the advantage of placing the city within a regional context, that is, to consider its planning in terms of communication and transportation links within this region and to place growth and change within a regional rather than a local or urban context.

One of the first tasks of RMJM was to complete a population growth estimate for the following 20 years, for both Makkah resident population and expected pilgrim population. Due to the lack of prior population figures and to ensure flexible forward planning, RMJM devised two population growth rates—a low rate and a high rate, but all further stages of the plan were based on the high growth rate. For Makkah, this meant the master plan was designed to accommodate 950,00 people permanently residing in the city. The total pilgrim population during Hajj was estimated to swell to 2,075,000 in that same time period.

RMJM's proposal also predicted a growth in vehicle trips by a rate of 2 ½ times over this 20 year period. Noting the proximity of Makkah to Jeddah and the fact that most pilgrims stop in Jeddah (either in the airport or seaport), RMJM

concluded that a public transport system would be included in the plan. At this strategic level, RMJM allowed for a rapid transit route serving both metropolitan areas of Jeddah and Makkah. This public transport system would need to accommodate Omrah visitors throughout the year as well as the annual Hajj pilgrims.

RMJM addressed the problem of the central area of Makkah in relation to the transport system envisioned. The consultants prepared a detailed land use/transportation plan which was highly sympathetic to the special nature of Makkah and its surrounding environs, particularly the area around the Haram. The location of this area, with a total area of 450 hectares, containing the religious and commercial "heart" of Makkah, is shown in Figure 3-15. The figure also shows the consultants' modified primary road network which was to be developed by way of a proposed Inner Ring Urban Motorway. The consultants located this major ring road, for the most part, outside the historic heart of the city. In addition, no major roads, with the exception of one road along the western side of the area, were allowed to penetrate this historic area. In the consultants' view, this was "....to minimise the barrier effects of major transport considerations."

The severe nature of the terrain and the spiritual significance of the Ka'aba have very largely determined the long established physical, economic, and social structure of the area, and it was the prime objective of the plan to retain and improve this structure. In particular, the plan proposed a reorganisation of land use and movement around the Haram to provide a substantial increase in space for prayer, commerce, Hajj services, car parking and the elimination of all non-essential vehicular movements within this important area; the retention of the "village" communities on the surrounding hilltops and in the closed valleys (sha'abs) with improved vehicular and pedestrian access and community facilities; the utilisation of the level areas of land in the western part of the area for the larger non-central space users such as hospitals, markets, secondary schools and playing fields; and the retention of the steeply sided mountain tops as vantage points and public open space.

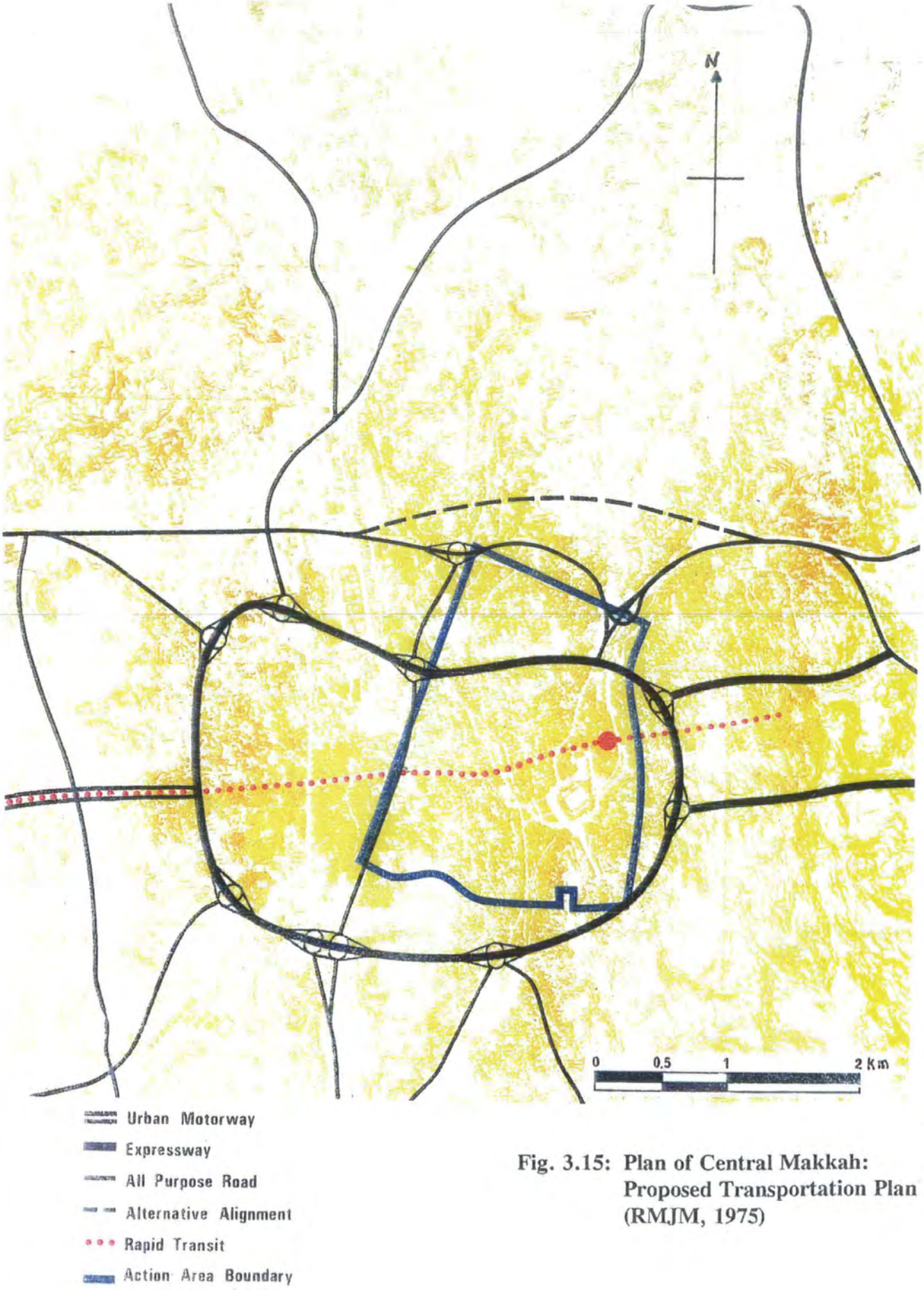


Fig. 3.15: Plan of Central Makkah: Proposed Transportation Plan (RMJM, 1975)

RMJM also recognised the intense pressure for development around the Haram and strongly recommended a policy that would control that development. Their plan envisioned a relocation of government and private offices and retailing centres away from the Haram. They further proposed that the Haram should be regarded as a Special Design Area. Characteristics of this Special Design Area are listed below:

- The location is in the valleys to the north and southwest of the Haram. The northern portion of the Special Design Area is bounded by the Ma'la cemeteries.
- With the exception of a few modern buildings, the area contained very few buildings in excellent condition. Selective redevelopment would of necessity have involved the demolition of poorer quality buildings, except those of architectural interest and importance, and the consolidation of smaller properties into manageable building blocks.
- Thirty-four percent of the Special Design Area was then presently developed with buildings of an average of 3.5 floors. They proposed that this floor area should be increased to cater for all controlled growth in the residential and commercial sector.
- The existing land use pattern within Makkah was a finely textured patchwork of busy and varied activities, with a mixture of small scale activities being the essence of the character of the Holy City. It was the intention of the Special Design Area proposals to retain this richness, variety and quality of life-style and to sustain it with all modern conveniences. They avoided therefore, any enforcement of overall regulation on land use which would prohibit the flourishing of a variety of activities. The regulations, for the Special Design Area, specified both a minimum and maximum plot size in order to retain the small scale activities. Such a regulation would prohibit the harmful development of large scale office and apartment buildings.
- The basic land uses within the Special Design Area, apart from the religious function of the Haram and environs, were to be commercial and residential. By dispersing employment throughout the city, new office and apartment blocks could be located in other employment centres.

- The Special Design Area also accommodated a transportation interchange for rapid transit services from Jeddah. Thus, people would be able to travel quickly and comfortably from Jeddah to central Makkah.
- In order to encourage the retention and maintenance of old buildings, it was recognised that special financial and technical aid, including traditional design and craft skills, should be available. Careful and considerate design attention should also be given to the urban design in general.
- The development areas adjacent to the Haram, which enclose the public open spaces, were some of the least distinguished in Makkah and contained buildings which were in poor physical condition and out of scale with the Haram. Since these development areas were the physical transition between the Haram and the general fabric of the Holy City, it was the intention of the special design proposals to integrate physically the Haram into the urban fabric as in the days of the Prophet.
- The Holy City of Makkah had many historic buildings which should be considered for preservation of Islamic heritage. RMJM's list of these buildings included mosques, special birthplace sites, cemeteries, houses, and other miscellaneous buildings.

RMJM also recognised the importance of architectural planning in such a way as to emphasise the maximum benefits of shade. They provided details for building locations and forms to maximise this benefit.

RMJM completed their proposals in July 1975. Unfortunately, follow up did not occur. At that time, the Municipality did not have a sufficiently strong and well trained planning department capable of implementing the plans. At the same time, changes took place in the structure of the government. A new ministry, Ministry of Municipalities and Rural Affairs (MOMRA), was established and, unlike the predecessor, had no contract with RMJM during the plan preparation stages. The RMJM plans for the proposed new transit system depended on further study of feasibility, including financial, engineering, and design aspects. None of these items were addressed further by the new ministry.

A major weakness in the system for RMJM implementation lay in the nature of employing outside consultants from the private sector. Although a necessity and therefore unavoidable, it nevertheless set up a situation that precluded implementation unless there were further commissions to provide the needed guidance. Unless there is a strong and sympathetic organisation within government to follow up the many and complex aspects of implementation, such plans are either partially achieved or not achieved at all. Makkah compares badly with Jeddah in this respect. In Jeddah, the consultants were asked to continue their work through the implementation stage with assistance from a Technical Assistance Programme. This co-operative effort continued for almost ten years after the completion and approval of a master plan, and the plans were successfully carried through to completion. In hindsight, it is likely that, had a similar system operated in Makkah, keeping in mind the nature of RMJM's approach to conservation in the Holy City, a different situation would be present today. But the consultants' call for controlled development, in the face of pressure for rapid growth, led to the plan receiving an early death.

(ii) Dar Al-Handasah's Master Plan [19]

In 1985, a consultant, Dar Al-Handasah, produced a report for the development of Makkah. It was considered to be the first comprehensive study ever done on the city of Makkah comprising a detailed review of the city's historical and religious buildings, besides planning recommendations.

The main points of the consultant's 1985 Master Plan were related to the conservation of the city, particularly as relating to the cultural area of Al-Haram. The report identified two broad objectives for the development of the cultural area plans. First, to ascertain what is considered to be of value; secondly, by judicious delineation, to create physical frameworks at city and regional levels. In conserving sites and buildings, attention was paid to the preservation of historical and religious monuments, together with their special meanings in appropriate settings.

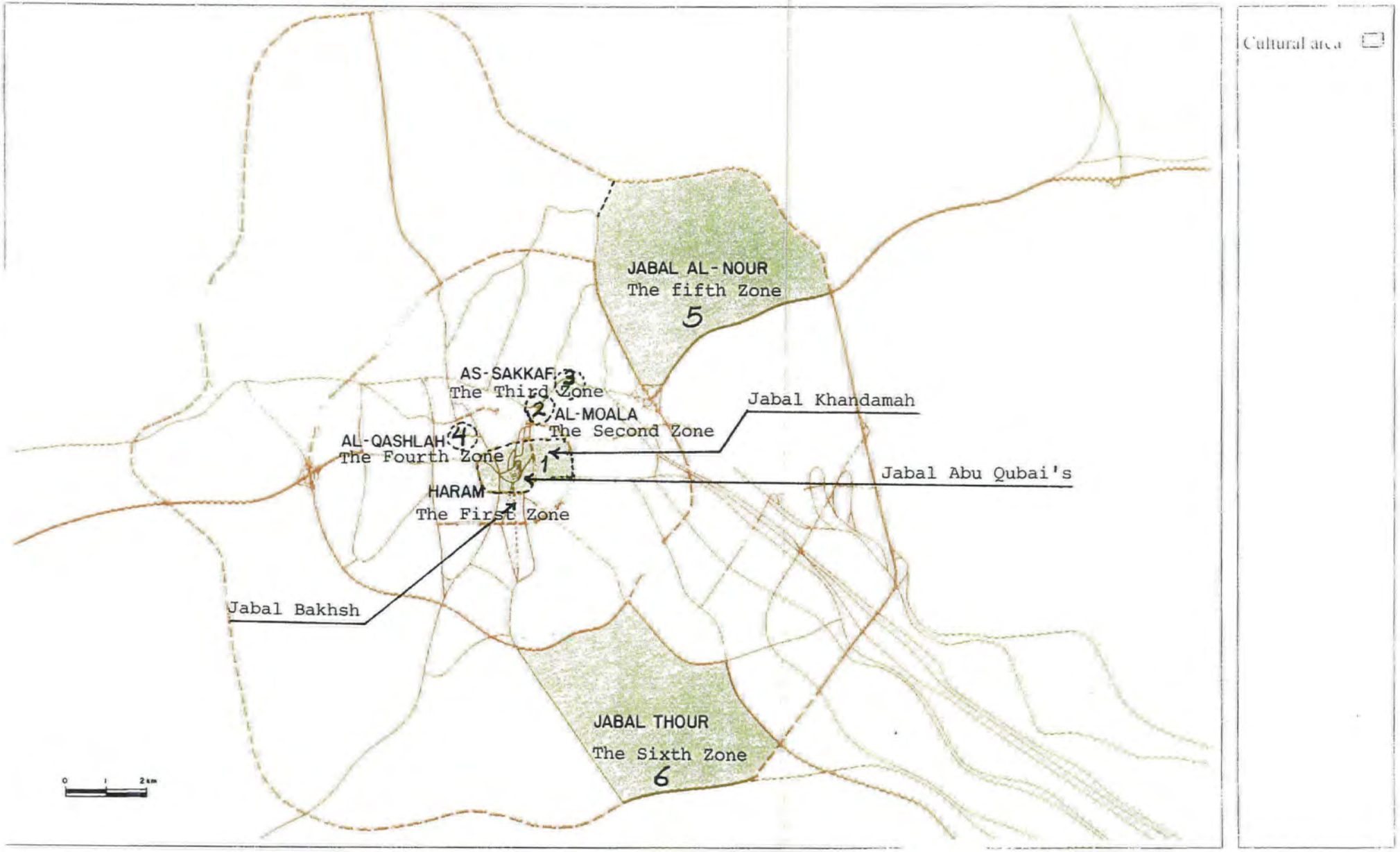


Fig. 3.16: Location of the Six Cultural Areas or Zones identified by Dar al-Handasah, 1986

Cultural areas were delimited. These contained a significant number of culturally important buildings and sites. They also incorporated areas where traditional urban architecture of intrinsic value contributes substantially to the townscape. Thirdly, there was the inclusion of open space and landscape features adjoining selected buildings and sites judged to be integral with the physical and visual quality of these places (Refer to Figure 3-16).

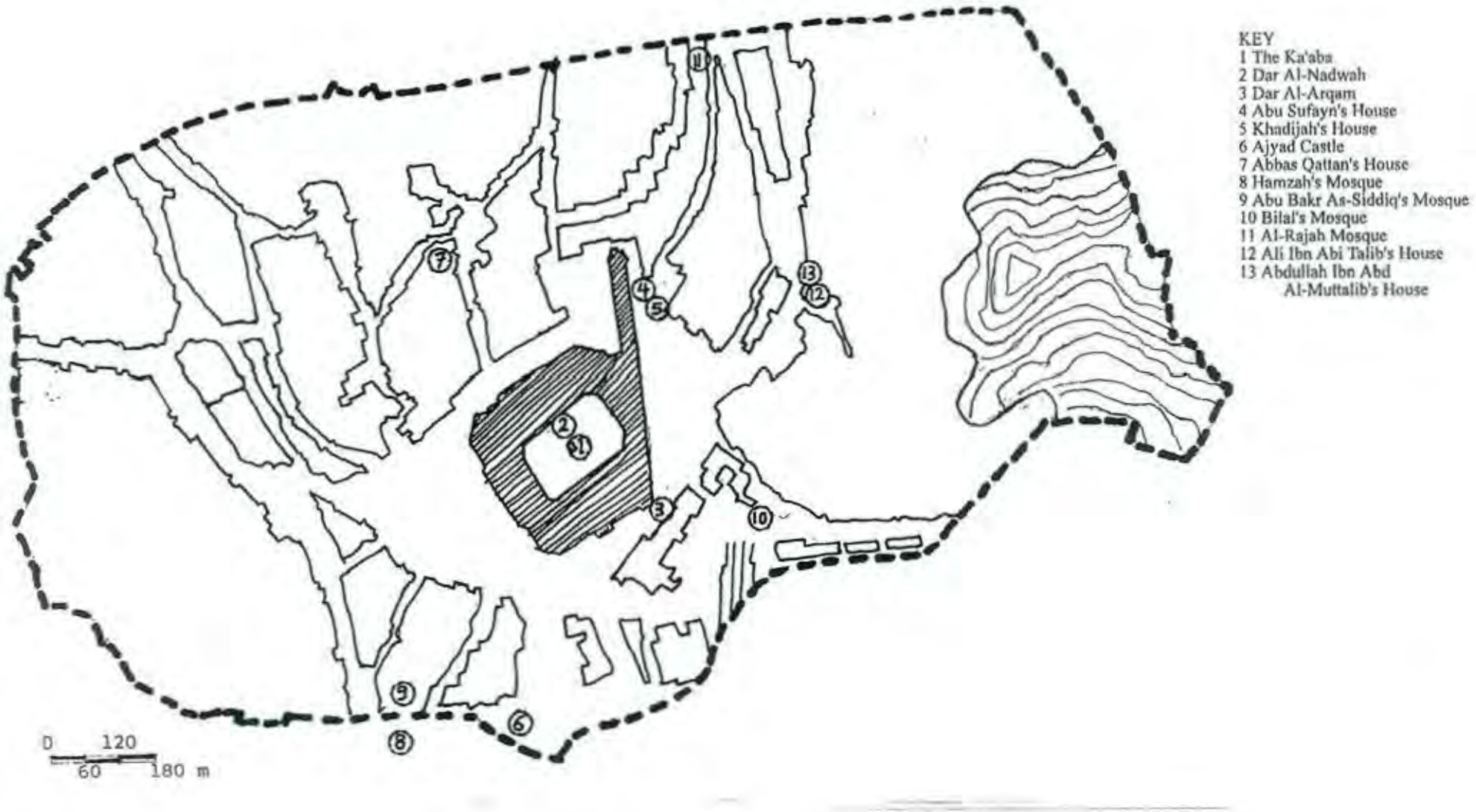
The report reviewed existing conditions for the Al-Haram cultural area including detailed boundary descriptions and the broad land ownership pattern. From this review, a number of problems and issues were identified and a set of objectives were formulated. On the basis of these objectives, the Al-Haram Cultural Area Plan was presented in terms of an urban design concept, urban design guidelines and development control measures. The report asserts that the purpose of designating cultural areas is to maintain the individual distinctiveness of Makkah and region, through conservation of those elements which contribute most to this quality, so that the fabric of the townscape and the surrounding landscape maintains a continuity and consistency of appearance.

In briefly reviewing the six cultural zones recognised by Dar Al-Handasah, the present author has inserted a few additional sites which he considers to be important. These are marked on Fig. 3.17.

The first zone, or Haram Cultural Area, contains numerous sites (Figure 3.17). They are as follows:

1. The Ka'aba and the Holy Mosque (Figure 3.18), which were given detailed explanation in Chapter 2.
2. Dar A-Nadwah, was the first construction built by Qusayy beside the Ka'aba. It was a place of assembly for the Quraysh where all community decisions were made, from marriages to wars. During Islam, it was maintained and used as a guest house for the Muslim governess and then neglected and used as a store until it was demolished (Figure 3-6).

Fig. 3.17: Remaining Historic Sites in Central Zone of Cultural Area No. 1 (after Dar Al-Handasah, 1986)



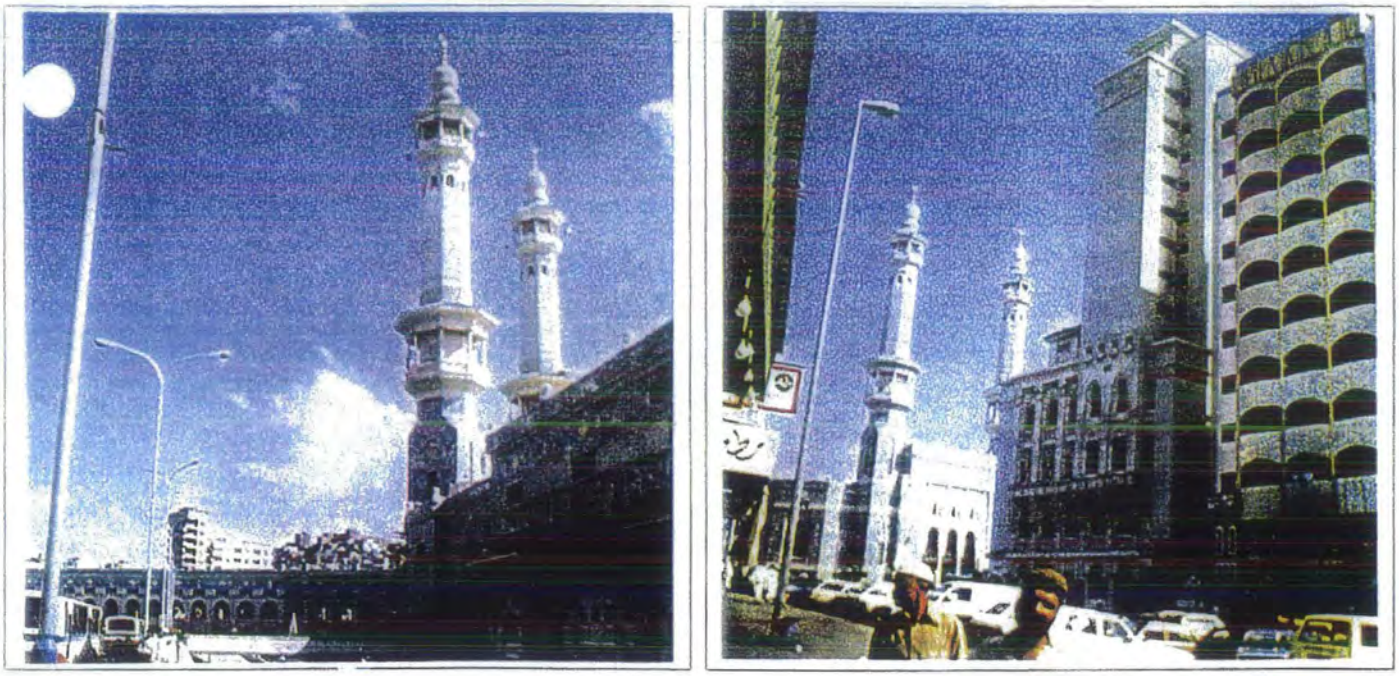


Fig. 3.18: Selected views of the Holy Haram (Hajj Research Centre, 1985)

1. Dar al Arqam is very important in Islamic history. The Prophet of Islam hid in this house with his followers when he taught them the basics of Islam and the Qur'ānic verses.
2. The house of Abu Sufyan also has historic significance. Abu Sufyan was the head of the Quraysh and the worst enemy of the Prophet. When the Prophet conquered Makkah he declared that anyone residing in the Ka'aba was safe, and anyone residing in Abu Sufyan's house was safe as well. Abu-Sufyan converted to Islam following the Prophet's declaration.
3. The house of Khadijah Bint Khuwaylid is extremely important in Islamic history. Khadijah, the first wife of the Prophet, was the first woman to believe in the message of Islam. She strongly supported her husband, who lived in this house for a long period of time. The house was recorded by Al-Batanumi and Rifat Basha. Their descriptions were identical even though they were separated by over 600 years (Figure 3-19). It was a terrible loss when the house was demolished in 1985 after it had survived for 14 centuries. It was shameful to wipe out one of the most important monuments in Islamic history. The house held a great importance because it was the site in which the change of prayer away from Jerusalem and towards Makkah occurred. In its place a public toilet stands today, a sad commentary indeed.
4. Ajyad Castle was an important military post during Turkish times and was one of the most important landmarks of Makkah. It is important architecturally because it blends in with the surrounding landscape.
5. The Abbas Qattan House is an architecturally unique, traditional house of Makkan style. The wooden lattice, or Rowshan, on the facade is unique and beautiful (Figure 3-20).
6. The religiously important Mosque of Hamza Bin Abd Al-Mutallib is named after the close uncle of the Prophet who strongly supported Islam. He also challenged the Quraysh not to harm the Prophet.
7. The Mosque of Abu Bakr As-Siddiq is another significant and important monument (Figure 3-21). Abu Bakr was the first Khalifa of Islam after the death of the Prophet and his closest friend. Abu Bakr migrated with the Prophet from Makkah to Madinah. The mosque was demolished in 1985 for a large commercial hotel complex beside the Holy Mosque.

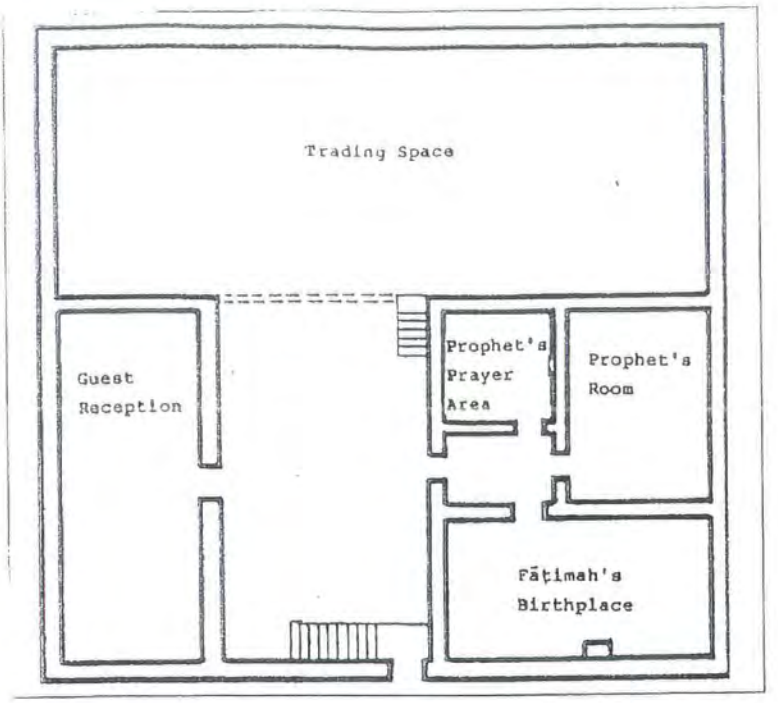


Fig. 3.19: The House of Khadija
(Al-Batanuni, 1938)

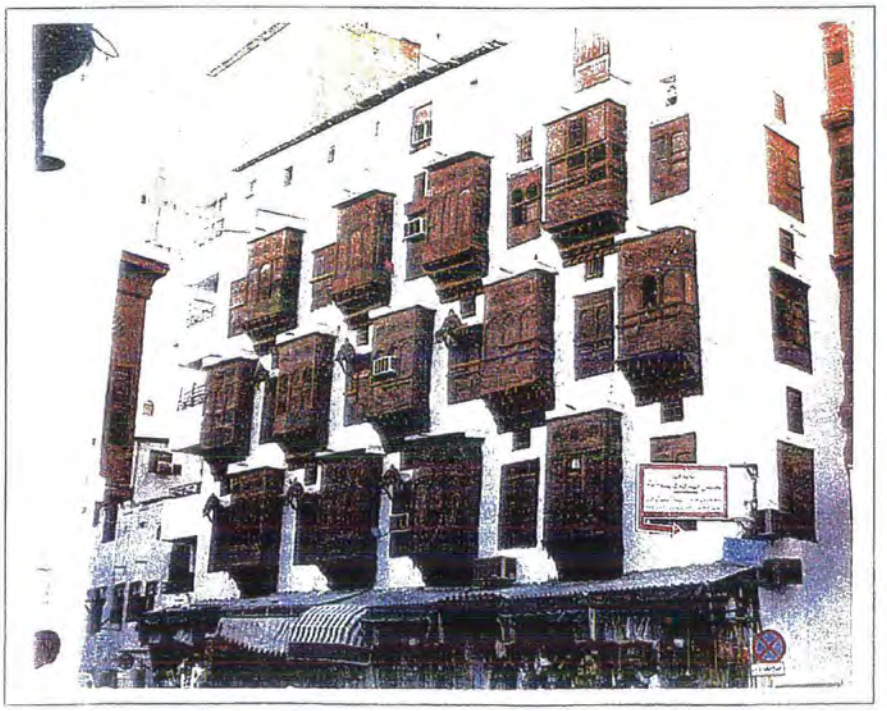


Fig. 3.20: Abbas Al-Qattan House
(Hajj Research Centre, 1985)

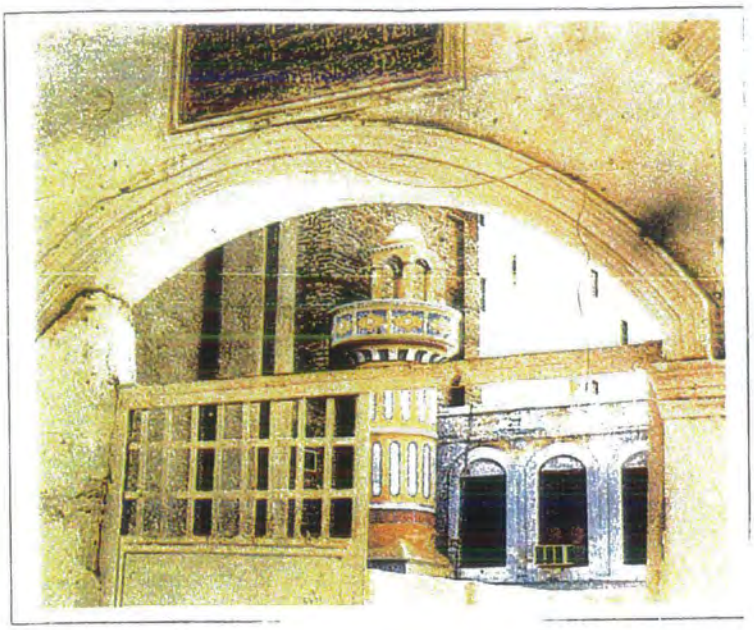


Fig. 3.21: The Mosque of Abu Bakr
(Dar Al-Handasah, 1986)

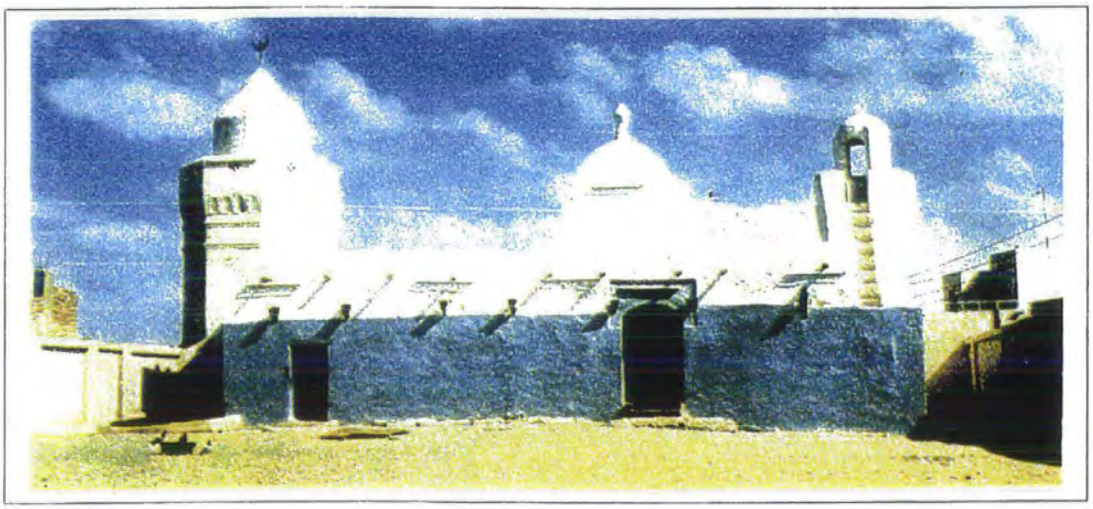


Fig. 22: The Mosque of Bilal
(Dar Al-Handasah, 1986)

1. The Mosque of Bilal is an important religious monument. Bilal was a black slave who suffered greatly under the masters of the Quraysh until Abu Bakr bought and freed him. Bilal was the first Moa'dhen (one who calls for prayers) in Islam. He had a superb voice and was the favourite Moa'dhen of the Prophet (Figure 3-22).
2. The Mosque of Al-Raiah.
3. The house of Ali ibn Abi Talib is well known. He was the cousin of the Prophet and replaced him in his bed at the night of the Prophet's migration to Madinah. Ali was the first person who believed in the message of Islam and became a prominent figure in Islamic history.
4. The House of Abdullah ibn Abd-Al-Muttalib had a very significant religious and historic importance because the house was the site of the Prophet's birth in 570 AD. The house was described by Al-Batanumi in 1327 AD as well as by Ibrahim Rifa'at Basha in 1908 AD. They described a very simple design and the room where the Prophet was born (Figure 3-23). The floor of the house was 1.5 metres below street level. For more than 13 centuries Muslims maintained this monument until it was recently demolished to make way for a public building project.
5. This, and the subsequent four properties, or sites, I would wish to add to the list. The first, Dar Al Hana, is one of the oldest houses still standing in Makkah, although incomplete. Most of it was demolished and the remaining section is deteriorating. It is thought that the construction of this house dates back 300 years. The building has a significant architectural style because of its beautiful woodwork and design. The facade is reported to have been one of the finest in Makkah, close to the Mamluk style in construction[17].
6. Group of houses in Suq Allayl. This group of five splendid houses dates back more than 300 years. The rowshan, or the wooden window screen, was one of the oldest in Makkah. The houses were small but represented a typical design of Makkah houses. These houses were demolished in 1980 for a minor development project. The demolition was so quick that there was no time to record the elevations in detail (Figure 3-24).
7. The area of Suq Al-Saghir. Sami Angawi reported eight beautiful houses in this area that were extremely significant architecturally. They had the finest woodwork and rowshans in Makkah. The facades changed from isolated

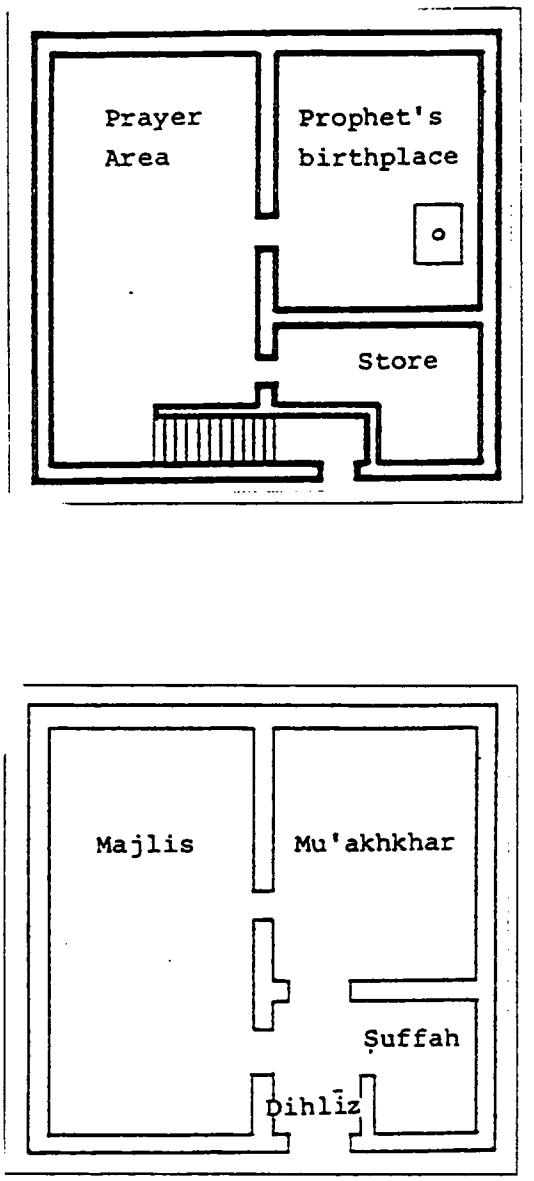


Fig. 3.23: Plans at lower and upper level of the Prophet's Birthplace, the house of Abdulla Ibn Abd-Al-Muttalib
(Angawi, 1988)

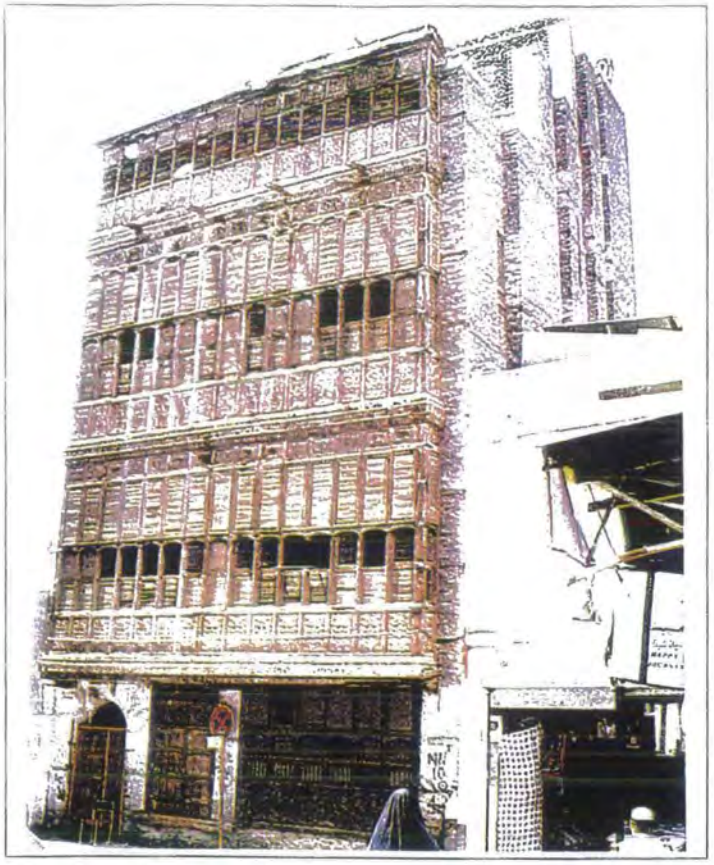


Fig. 3.24: A house in Suq Allayl
(Dar Al-Handasah, 1986)

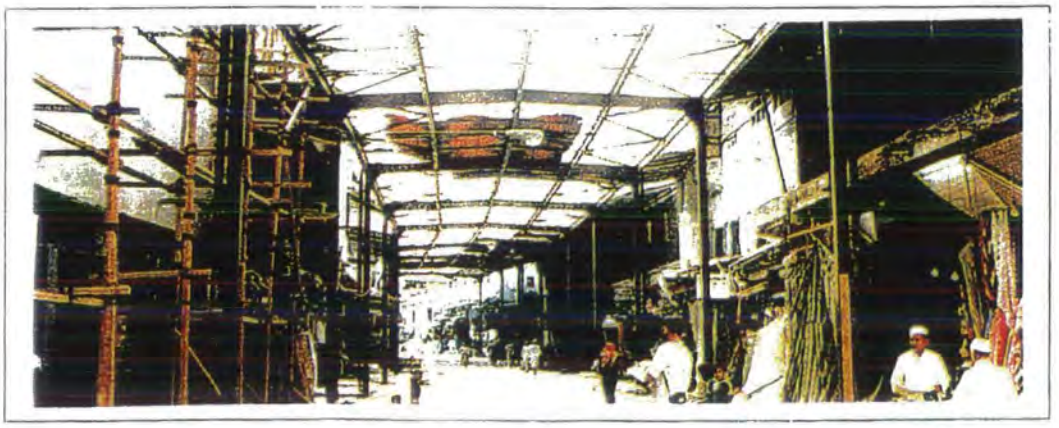


Fig. 3.25: Suq Al-Saghir
(Dar al-Handasah, 1986)

rowshans to one of a continuous pattern (Figure 3.25). This area was completely demolished in 1983 to allow for the expansion of the Holy Mosque.

1. The house in Harat Al-Bab, although farther from the Holy Mosque, is architecturally significant and consists of two dwellings in one building. All rooms facing the main road display beautifully constructed rowshans (Figure 3.26).
2. Houses in Shiab Amir. These houses are located about 700 metres from the Holy Mosque. They date back almost 150 years and represent a typical example of Makkan traditional houses (Figure 3.27).

The second zone, the cultural area of Al Mo'ala, lies about 500 metres to the north of the Holy Mosque (Figure 3.28). The most important historical monuments and sites in this area are the Al Mo'ala cemetery, the Khadijah cemetery, the Mosque of Al-Jin (see Figure 3.29) and the Mosque of Al-Tawbah (Figure 3.30). The Al Mo'ala cemetery occupies about one third of the zone. Khadijah cemetery is where the first wife of the Prophet is buried as well as some of her companions. The primary importance of this area is the landscape and its relationship to the location of other areas, as well as to the area of the Holy Mosque. Cemeteries witness the visit of pilgrims and other visitors throughout the year. The number of pilgrims increases considerably during the Hajj season. Pilgrims visit the burial place of the Prophet's companions. Although not an obligatory ritual, many people may feel the need to remember the early events of the call to Islam.

The cemetery is situated in a narrow part of Ibraham's valley. It is confined by the steep slope of Jabal Dhaf to the west, Jabal Khandomah to the east, Jabal Al-Sayidah to the north and the central area of the Holy Mosque to the south (Figure 3.31). The landscape is a very important feature of central Makkah because it is one of the few hill areas that have remained undeveloped. In addition to the cemetery, there is a group of houses varying in conditions from good, fair to substandard (Figure 3.32). There are no significant historical buildings in the area.

Within this second zone, the cultural area of Al-Mo'ala could be conserved in its original state, enhanced by landscaping and suitable vegetation. The few traditional houses remaining in the area could be conserved, and any new

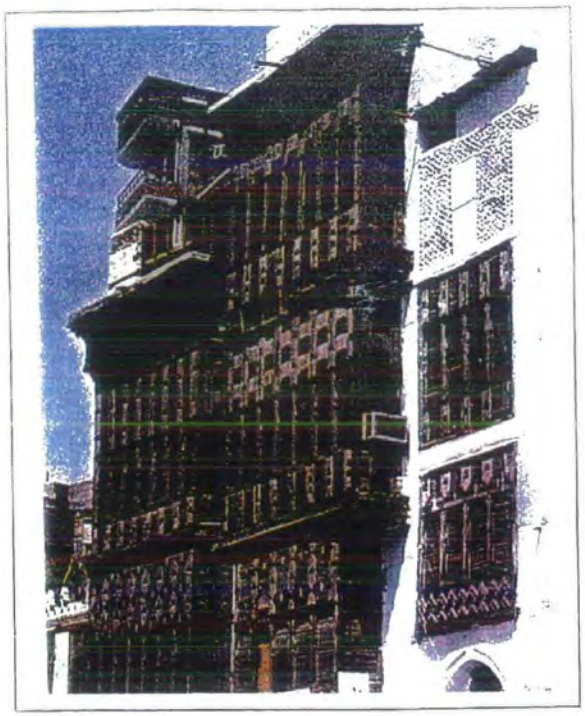


Fig. 3.26: House in Harat Al-Bab
(Dar al-Handasah, 1986)

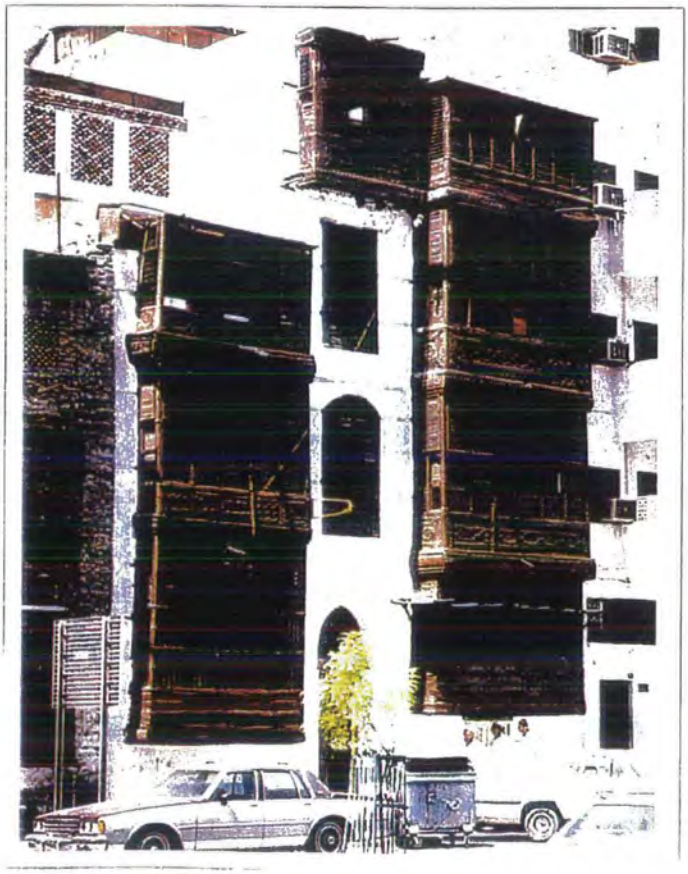


Fig. 3.27: House in Shiab Amir
(Angawi, 1988)

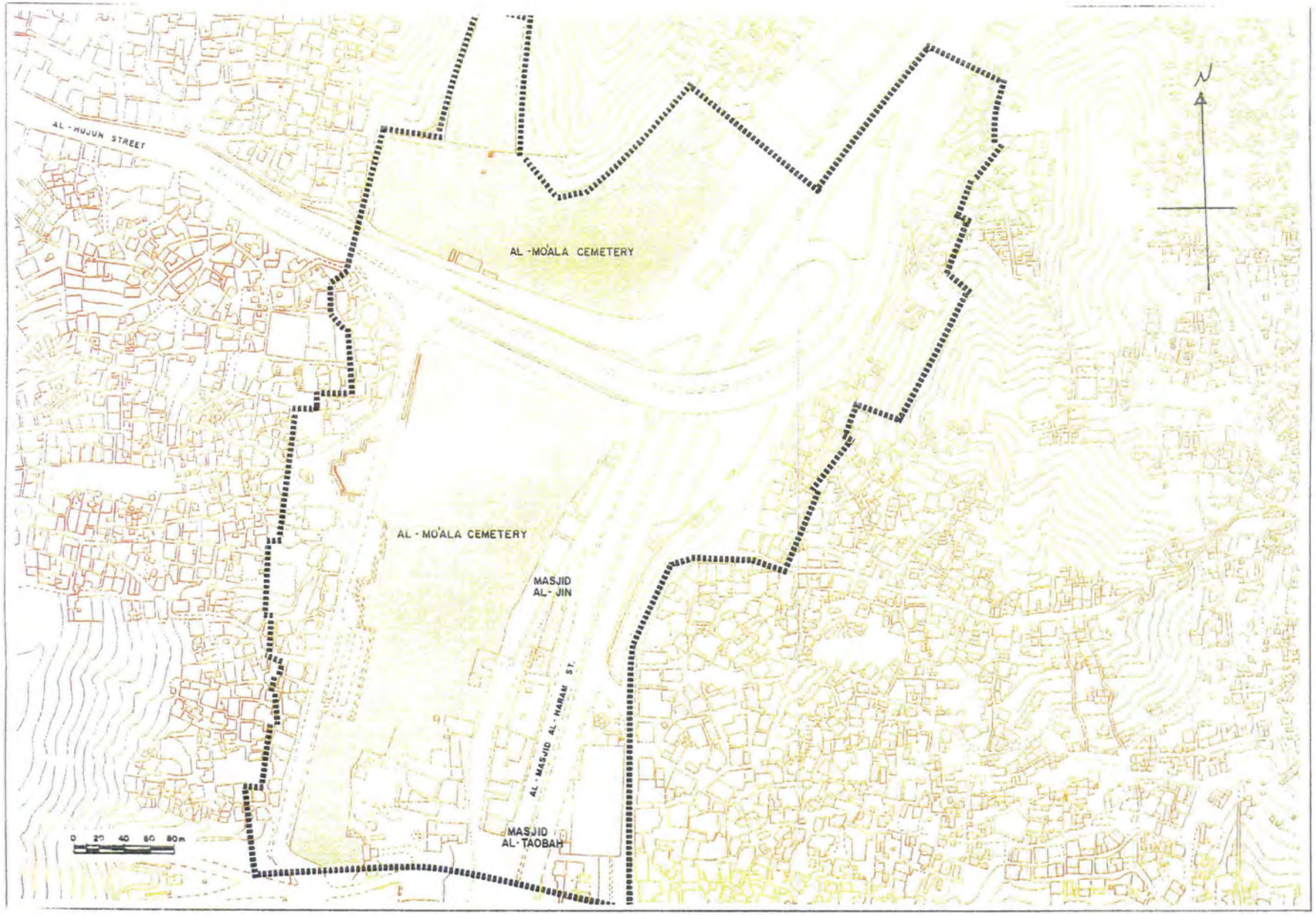


Fig. 3.28: The second cultural area (Al-Mo'ala) indicating historic zones of places and buildings (Makkah Region Planning - 1985)

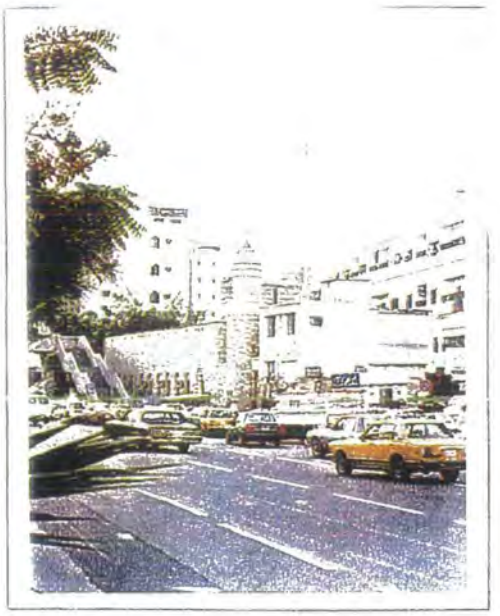


Fig. 3.29: The Mosque of Al-Jin
(Dar al-Handasah, 1986)

Fig. 3.30: The Mosque of Al-Towbah
(Dar Al-Handasah, 1986)

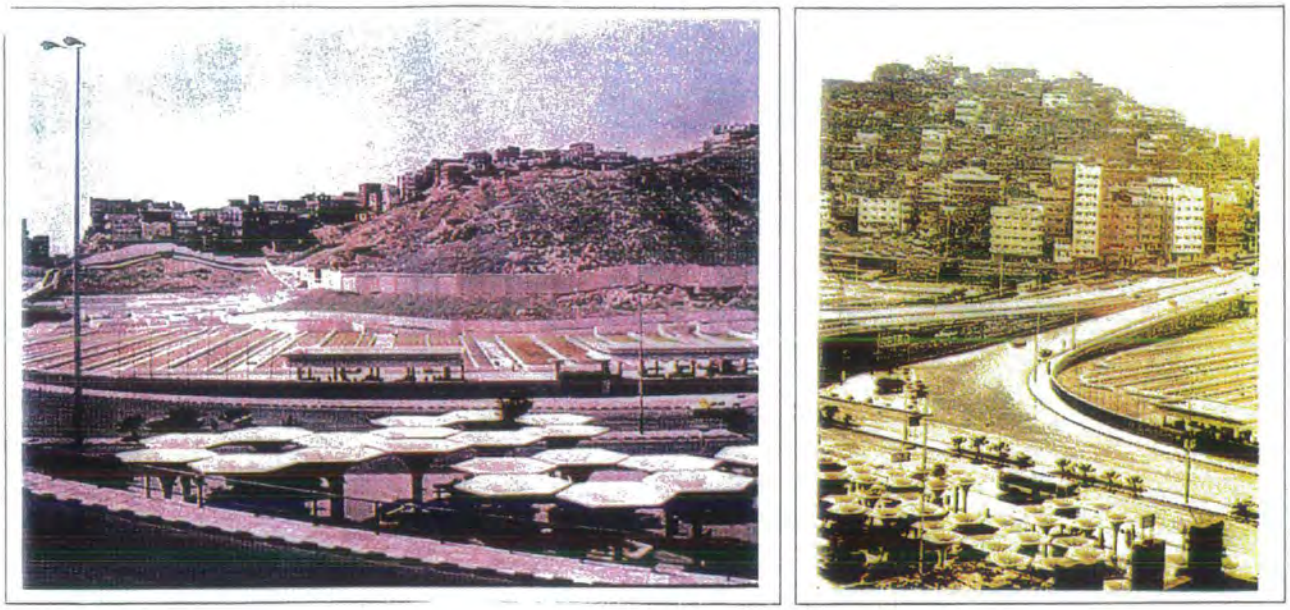


Fig. 3.31: Views of Al-Mo'ala
(Dar al-Handasah, 1986)

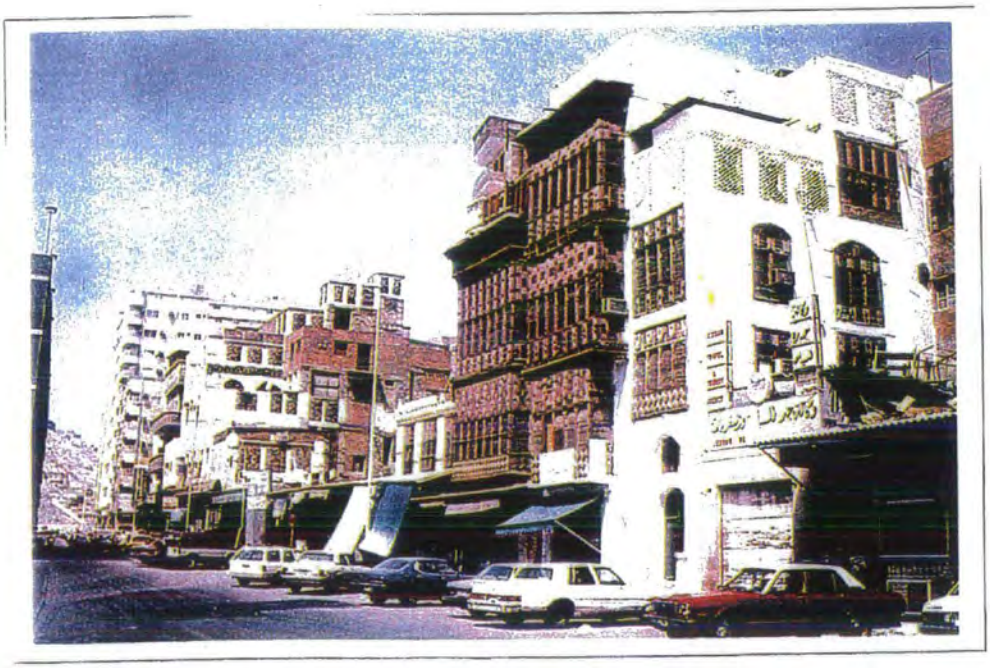


Fig. 3.32: Historic buildings in Al-Mo'ala
(Dar al-Handasah, 1986)

development could retain the distinction of the area as an important open landscape uncongested by roads and high rise buildings such as seen in the central area of the Holy Mosque.

The third zone, the As-Sakkaf cultural area, is located northeast of the Holy Mosque and the Al Mo'ala cultural area. It is surrounded by roads and landscape as shown in Figure 3.33. The area is occupied by government offices such as the Makkah Municipality offices, the Emirates Buildings, the Police Headquarters and the Muslim World League offices, the last named now occupying the former Al-Sakkaf Palace. A large part of this cultural location is open space used as parking for government office workers. The area contains three mosques, one of which is the Masjid Al-Ejaba (Figure 3.34). This mosque is significant because it is one where the Prophet Mohammed (PBUH) offered prayers. It was first built in the Eighth of Hijrah after the return of the Prophet to Makkah. The mosque was rebuilt several times with the latest construction occurring in 1974. Al-Sakkaf Palace occupies a large segment of land and comprises several buildings. Although constructed at different times, it has a unified architectural harmony and significance. Some parts of the palace are well maintained while others are not. The structure has a long facade with arcades at ground level and windows at the upper level presenting an impressive elevation (Figure 3.35).

The Al-Qashlah cultural area, the fourth zone, is defined by existing and proposed roads and lanes (Figure 3.36). This area is dominated by educational institutions. It consists of low density development with an equal mix of old and new buildings. This includes Al-Qashlah, once used as a garrison. Although the building has little architectural significance, it has historical value as it is a remnant of the Turkish period in Makkah's history. It also includes a group of deteriorating old buildings. The large open spaces could be used as a children's playground to serve the number of schools existing in the area. The most significant monument in this area is the House of Abdullah Ibn-Sulaiman. It was once used to house the Al-Haram Library, but now it is used for residential purposes. It deserves maintaining and conserving because it is such a unique architectural monument (Figure 3.37).

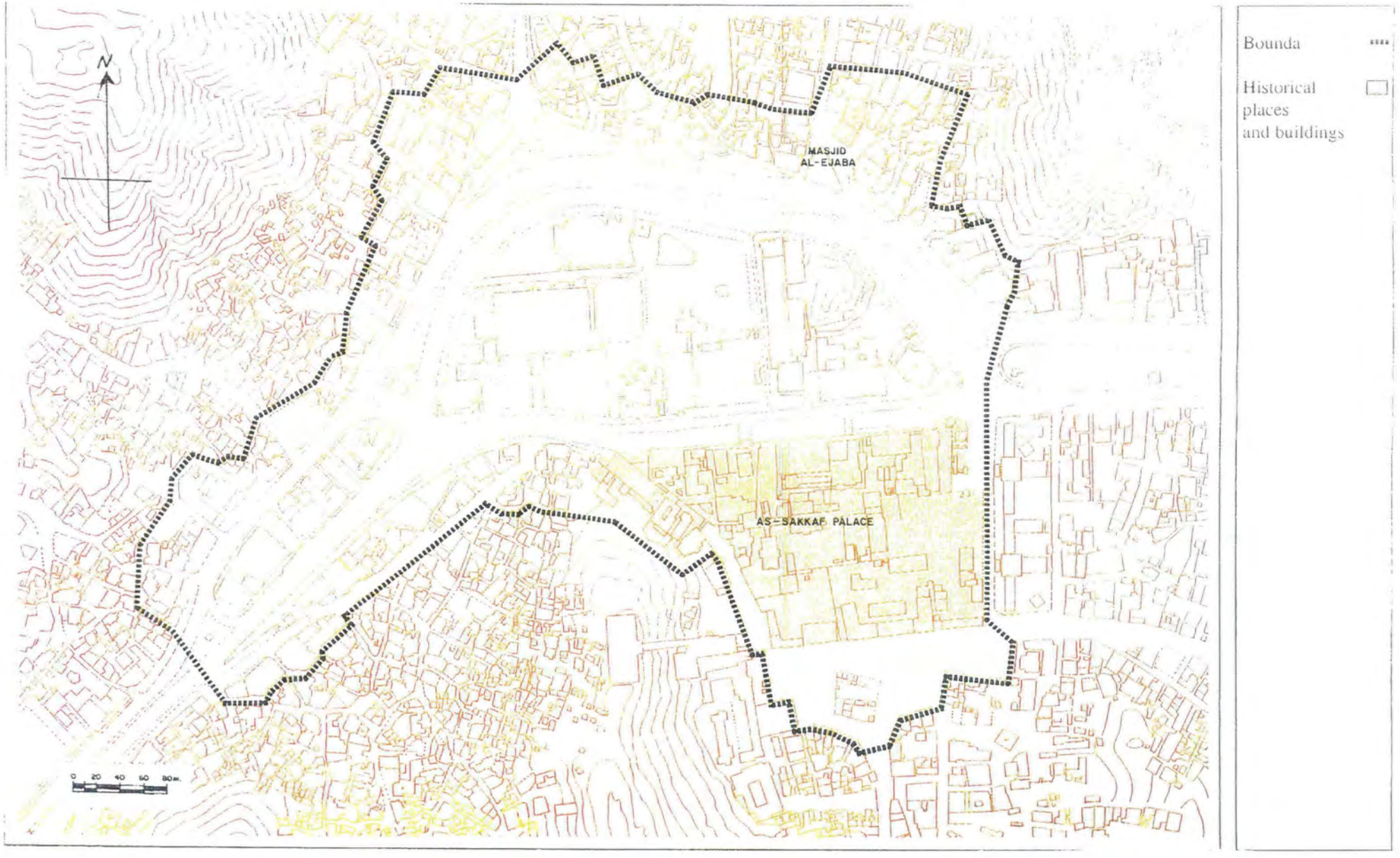


Fig. 3.33: The third cultural area indicating the historic As-Sakkaf Palace zone (Dar al-Handasah, 1986)

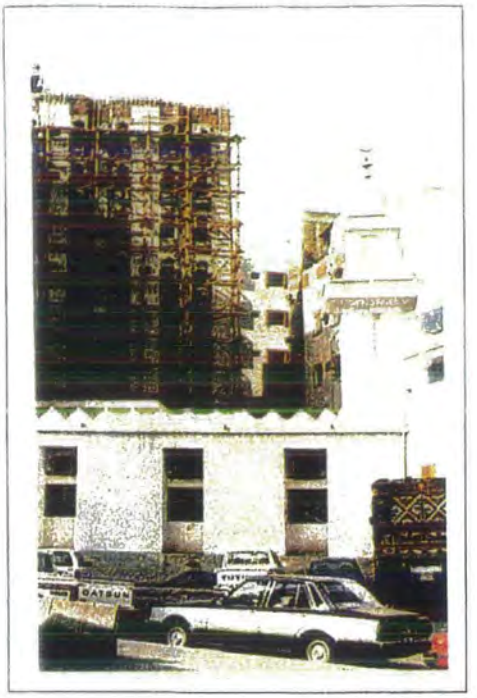


Fig. 3.34: The Mosque of Al-Ejabah
(Dar Al-Handasah, 1986)

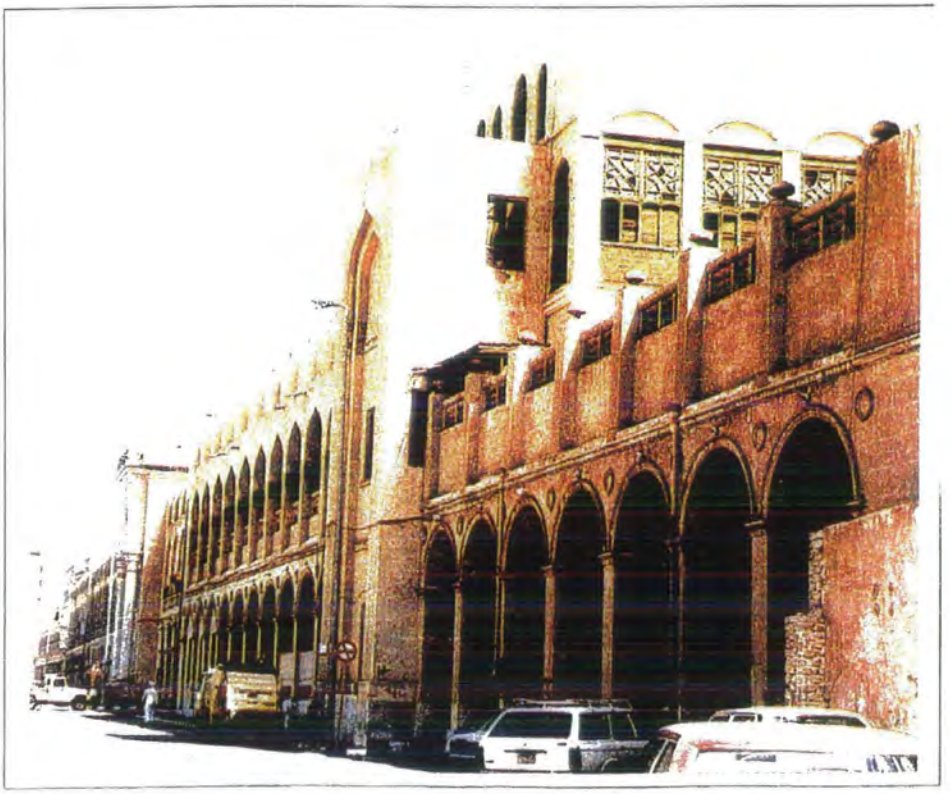


Fig. 3.35: As-Sakkaf Palace
(Dar Al-Handasah, 1986)

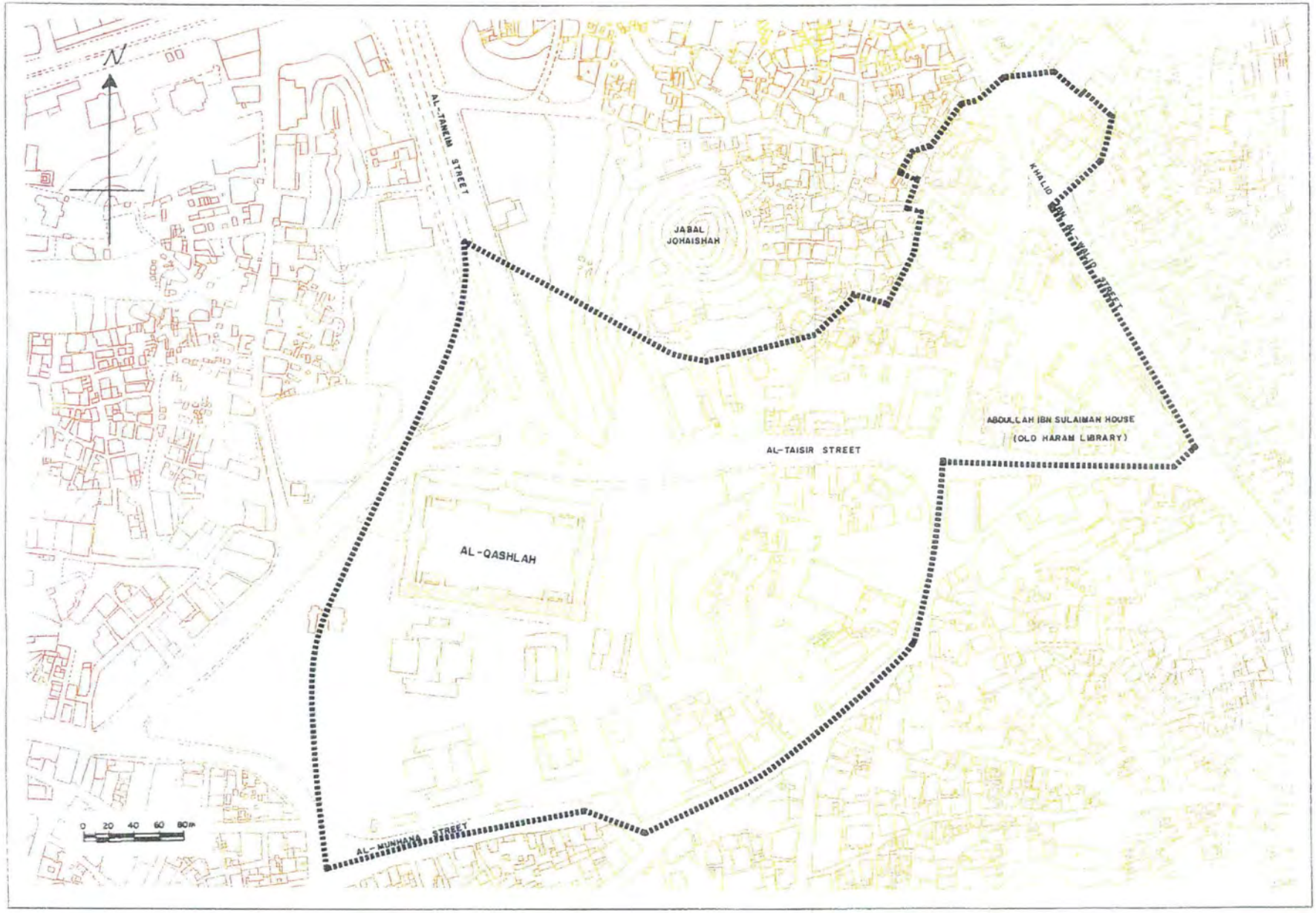


Fig. 3.36: Al-Qashlah Cultural Area No. 4 showing location of historic sites

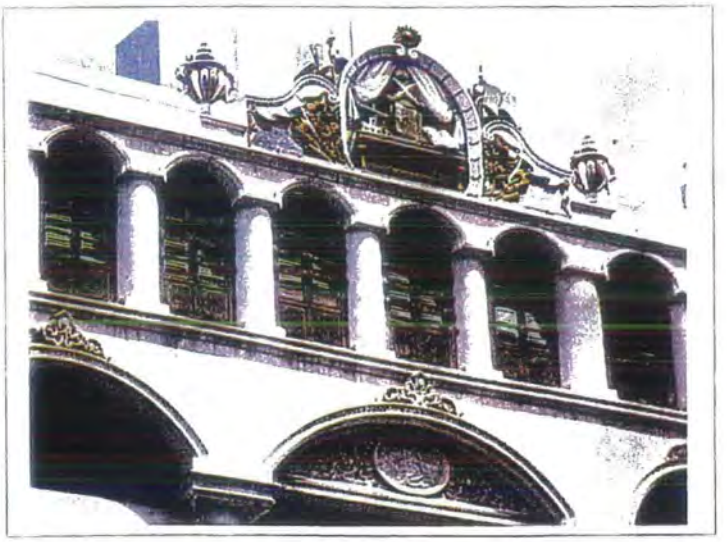


Fig. 3.37: Architectural Details of As-Sulaiman House
(Dar Al-Handasah, 1986)

The fifth cultural zone of Jabal Al-Nour is located to the northeast of Al-Haram. Most of the area is mountainous with new development to the south of Jabal Al-Nour (Figure 3.38, 3.39). Jabal Al-Nour can be identified as an important landmark from many locations in Makkah because of its conical shape and height which varies from 350 to 650 metres. This mountainous area has a very important religious and historical significance as it contains the Cave of Heraa (Figure 3.40). The Prophet meditated here before he attained prophethood. It was here that the revelation of the Qur'ān began in 610 AD. The Prophet spent a great deal of time in the cave worshipping Allah and praying until he received the call to spread Islam. It is unfortunate that large parts of the lower slopes are being subdivided for development. Some of these buildings have reached six storeys in height and as a result ruin the scenic view as well as the religious and historical landscape (Figure 3.41).

The area of Jabal Thour, the sixth zone, is located to the southeast of the holy city. It is the site of the cave where the Prophet and his companion Abu Bakr hid for three days from the Quraish during their migration from Makkah to Madinah to spread the call to Islam. This migration was the beginning of the Hijri-calendar. The cave is located in one of the most prominent mountains which has an elevation over 700 metres (Figure 3.42). It is considered a regional landmark (Figure 3.43). The scenic value of this topographical feature is evident from its visual and spatial characteristics. The lower slopes have been subjected to subdivision, which again detracts from its scenic value (Figure 3.44).

Altogether, there are four important mountains contributing to the landscape of Makkah. These are: a) Jabal Kahndamah, a hill range located east of Al-Haram; b) Jabal Abu Qubais, located immediately to the east of Al-Haram where the historic Mosque of Bilal is located overlooking the Holy Mosque; c) Jabal Bakhsh, to the south of Al-Haram, occupied by the Ajyad Castle, a Turkish fort, is to a large extent a natural land form that penetrates into the heart of Makkah; d) Jabal Dhaf, on the north side of Al-Haram and to the west of the Al-Mo'ala cemetery, and one of the remaining hill tops undeveloped (Refer to Figure 3.31).

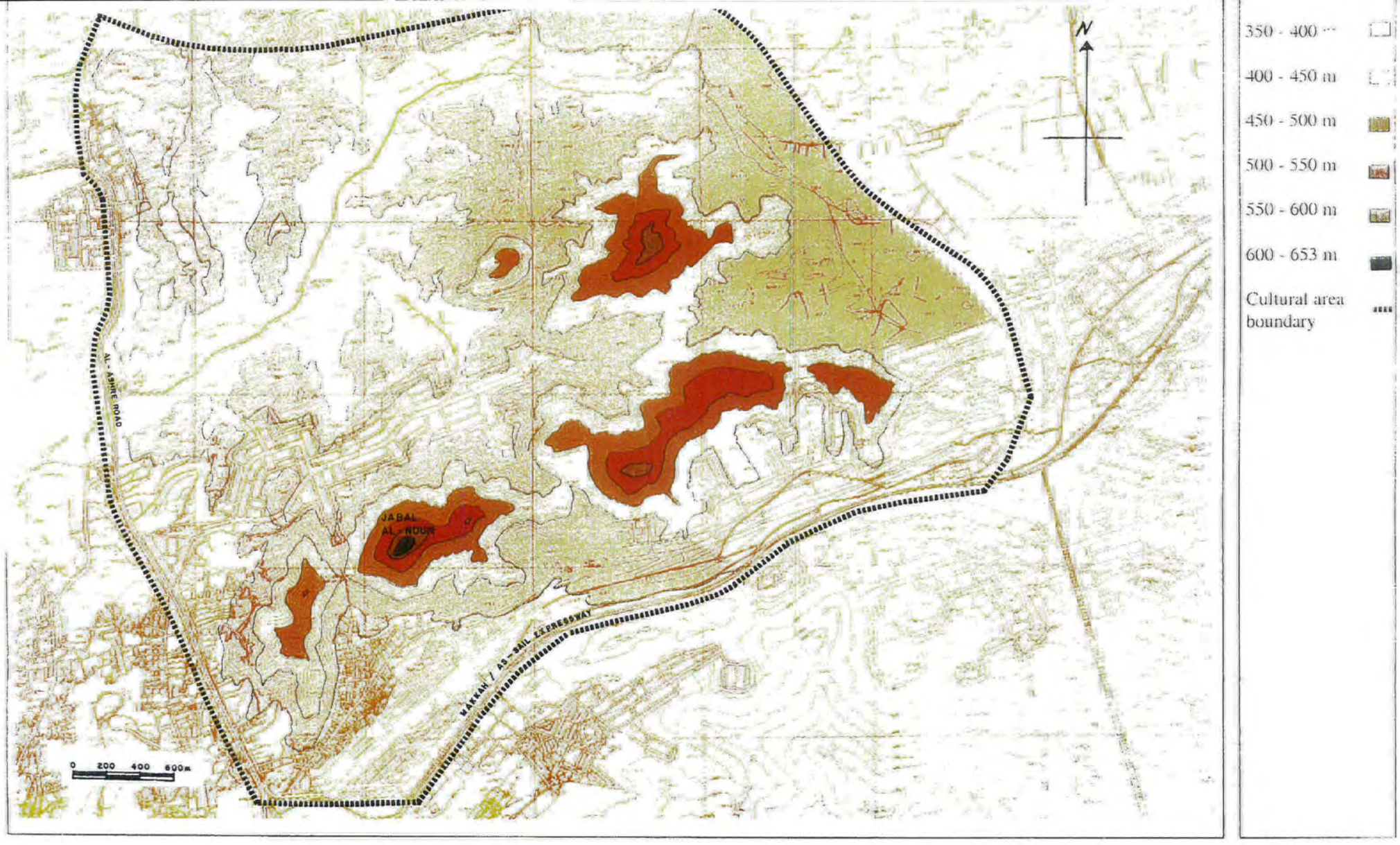


Fig. 3.38: Jabal Al-Nour Cultural Area No. 5 indicating historic physical locations

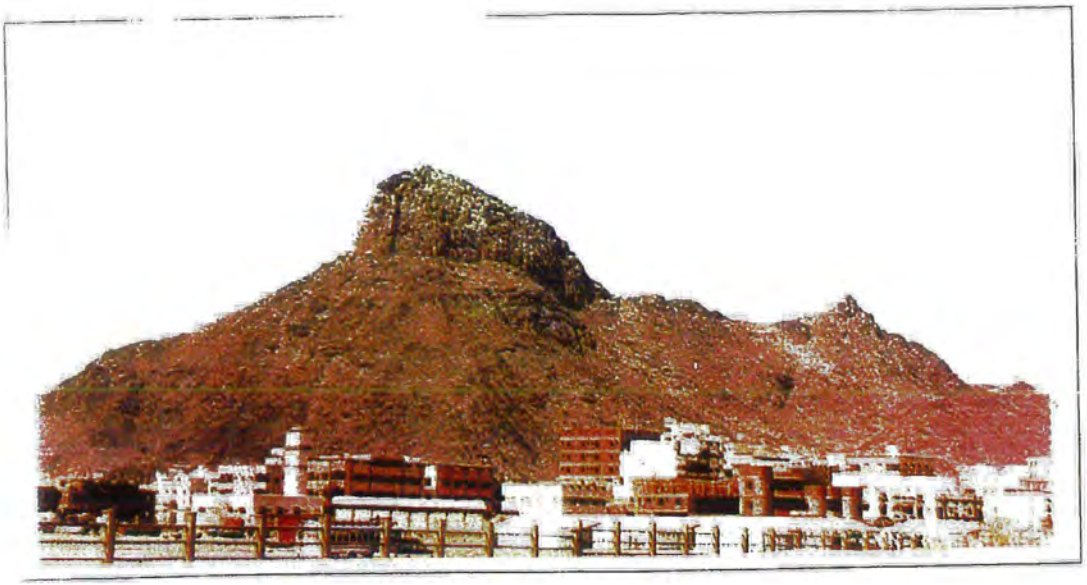


Fig. 3.39: View of Jabal Al-Nour mountain

Figures 3.39-3.41 of historic sites within the Jabal Al-Nour cultural area No. 5
(Dar Al-Handasah, 1986)

Fig. 3.40: The Herra Cave

Fig. 3.41: Development surrounding Jabal al-Nour

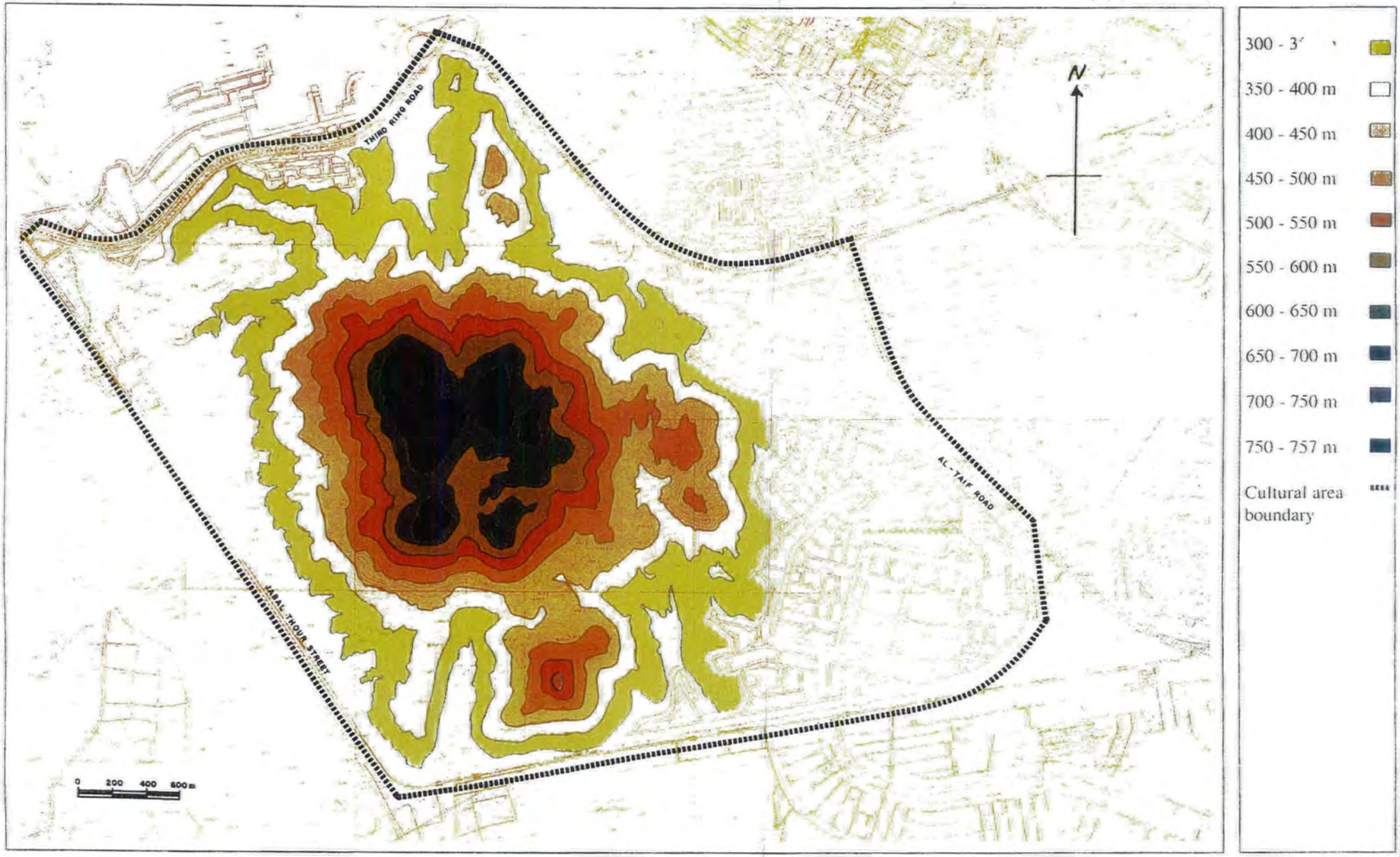


Fig. 3.42: The sixth cultural area of Jabal Thour (Dar Al-Handasah, 1986)

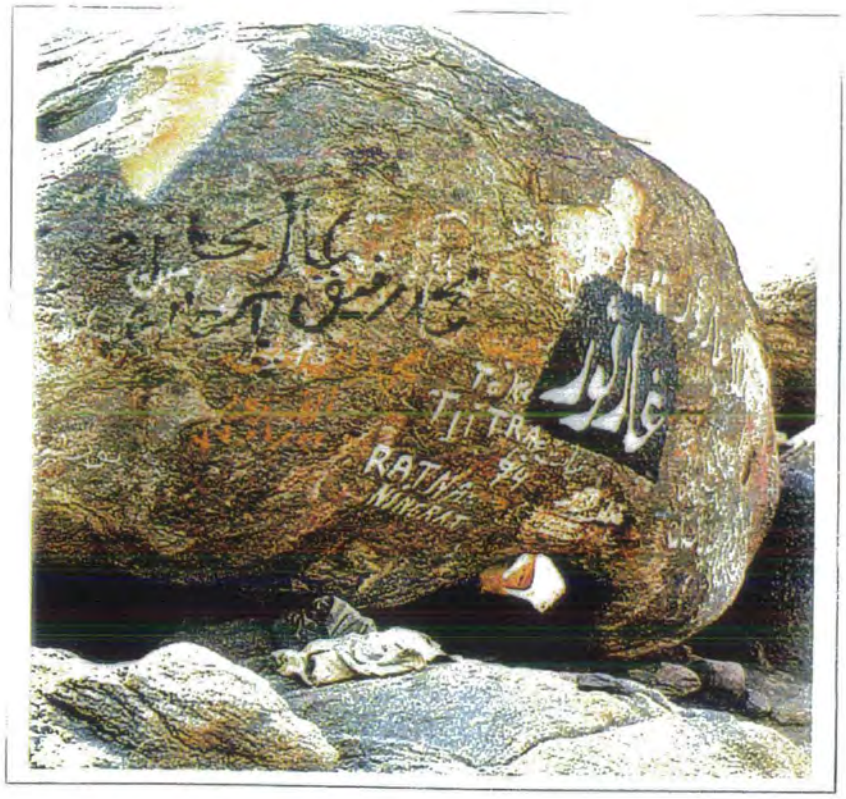


Fig. 3.43: The Cave at Thour

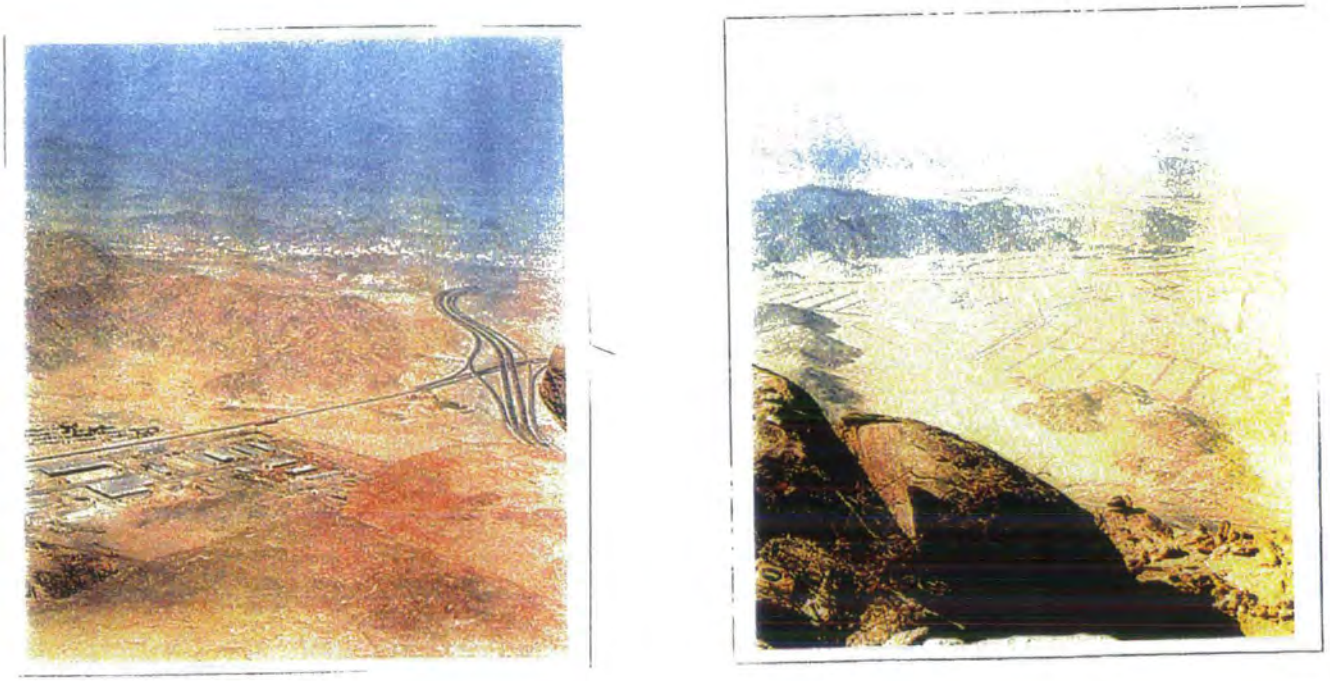


Fig. 3.44: Development intruding into the Jabal Thour zone

Illustrating historic zones within the sixth cultural area
(Dar Al-Handasah, 1985)

Even though it was considered that the identity of a place may not lie so much in its physical form as in the meanings accorded to it by a community of concerned citizens, nevertheless, it is necessary to ensure the continued existence of the artefacts and landscape which make up the location. It is important that they be passed down from generation to generation. In the case of the city of Makkah, these would include not only the places associated with the history of Islam, but also other elements which, through time, have played an important part in the Holy City's environment. Hence, the designation of cultural areas and attention to preservation, conservation or development in the 1985 Master Directive Plan.

As stated earlier, particular attention was paid to the Al Haram Cultural Area (the first zone). The central element of this cultural area is that it is the holiest place in the religion of Islam. Its physical surroundings must in some way overtly express this fact and all that it represents. Such an area deserves the highest, most sympathetic and appropriate response from any consultant, both functionally and aesthetically. This would suggest that, given the will to implement such a carefully arrived atmosphere, and the availability of necessary funds, the physical constraints of the area would be minor to overcome. Limitations to development in the residential areas may be slightly greater, but they would arise mostly out of the topographic characteristics, excluding these and the presence of a few important buildings such as the royal palaces and Ajyad Castle. Other significant limitations would include a network of major roads.

The land use pattern (Figure 3.45), together with the age and condition of buildings indicates significant areas of substandard and poor quality buildings. These areas offer considerable potential for redevelopment by demolition of substandard and derelict structures and reorganisation of parcels of land. The road network is a limiting factor in certain situations (Figure 3.46). In others, it opens up new possibilities for development. Pedestrian traffic in the Al-Haram area is possible mainly because of the presence of the first ring road. Service and access can be obtained from this road without vehicles penetrating too far towards Al-Haram. On the other hand, the two tunnel openings into the Al-Haram area, below Ajyad Castle, are important constraints. Special provisions have been made to incorporate them into the design. The north end of the first ring road tunnel near

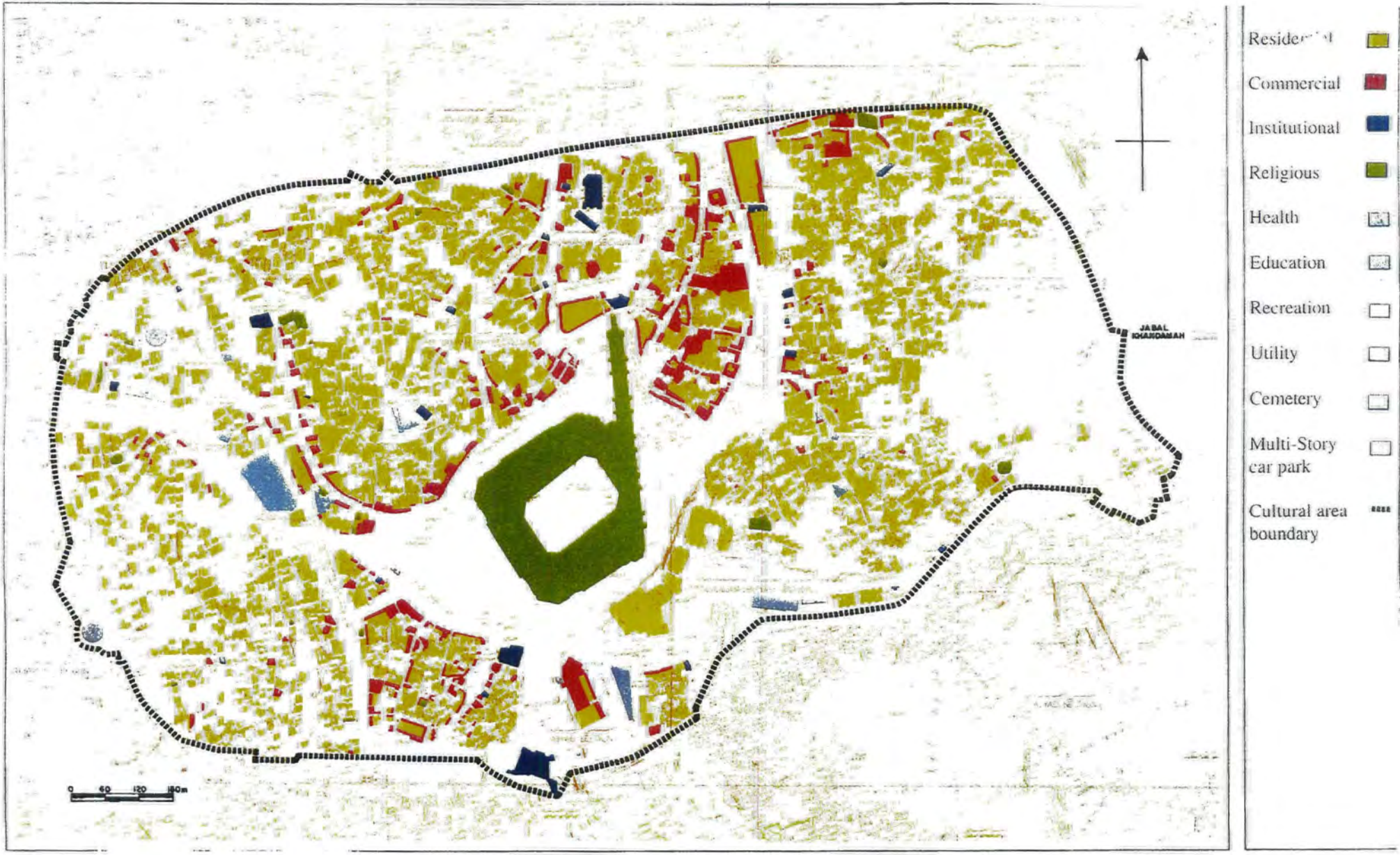


Fig. 3.45: Land use in Central Makkah
(Dar Al-Handasah, 1986)

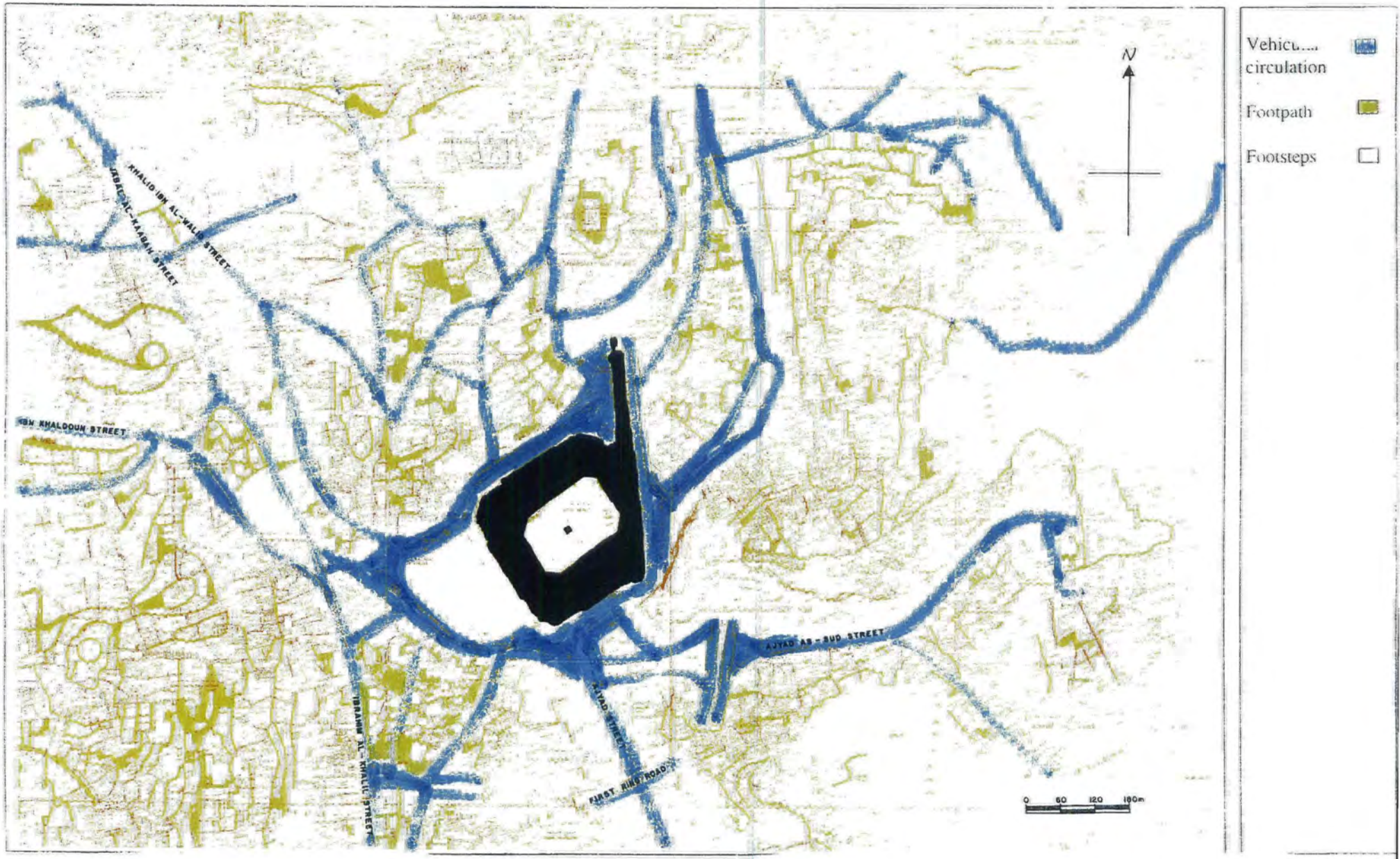


Fig. 3.46: Existing road network in Makkah
(Dar Al-Handasah, 1986)

the site of the house of Abdullah Bin Abd Al-Muttalib also presents problems, as at present the alignment of this road passes too close to the House. It would have to be realigned. The existing road, bridges and network of major primary roads on the western part of the cultural area constitute another limiting factor in development.

The major constraint to development around the Al-Haram is the rugged topography. The site is limited very sharply on the east by Jabal Abu Qubais, on which the royal palaces are located, on the south by the hill where Ajyad Castle is situated, and near the western gate of Al-Haram by Jabal Hindi rising steeply above. The remaining area around Al-Haram is flat and open, available for pedestrians and future development or conservation (Refer to Figure 2.2).

The cultural areas identified to the north and south of the Al-Haram are also constraints on development, but they are seen to have great potential to add to the visual richness of the urban design. They could be integrated with new development which would match their scale and characteristics.

Due to the sheer complexity of the urban development, not least in relation to the rugged topography, Dar Al-Handasah presented three alternative design concepts that share the following elements in common: 1) all buildings are to be raised on colonnades to allow expansion of the open plaza for prayer, services and parking; 2) building heights will range from an average of seven floors immediately adjacent to the Al-Haram to a maximum of 15 floors; 3) the Al-Haram plaza will be constructed with circular white marble centring around the Holy Ka'aba. This area will be strictly for pedestrians except for emergency and service vehicles; 4) the streets leading to Al-Haram will radiate from the holy Ka'aba whenever possible, except for the major existing streets which are to remain; and 5) Al-Haram plaza will be landscaped with plants and shade trees, partially covered with shading devices and enhanced by water fountains, lighting, benches and street furniture.

Each of Dar Al-Handasah's three alternatives was accompanied by highly-informed illustrations, which are reproduced here. The first of the consultant's three alternatives is based on the most appealing feature in this plan, which is the

spatial quality of the areas enclosed by the buildings around Al-Haram. These buildings, having an average height of seven floors, are set on a podium raised one level above the Al-Haram plaza and connected to the plaza by shallow steps (Figures 3.47, 3.48).

In the second alternative scheme, the spatial organisation of the buildings enclosing Al-Haram is intended to break the circular segments of the building line into a more organic form and group them closer to the Al-Haram wall. The resulting spatial form produces proportionally smaller scale volume than the other schemes, with intimate spaces relating Al-Haram more closely to its surroundings (Figures 3.49, 3.50).

The urban design layout of the third alternative plan combines the advantages of both previous designs and improves on them to develop in more detail many of the characteristics of the site (Figures 3.51, 3.52). The main feature of this design is the recognition of the earth contours and contours of Jabal Hindi which were not clearly expressed in either of the previous designs. The buildings are placed in curved rows in relationship with the existing buildings on Khalid Ibn Al-Walid Street which will be preserved, thus making this street a main access to the Al-Haram Plaza (Figure 3.53).

When dealing with building conservation, Dar Al Handasah recommended two concepts: 1) the preservation or restoration of all the selected culturally significant buildings. The improvements of the area around them would form part of this design; 2) the temporary halting of development action on specifically identified buildings and areas of significant traditional architectural importance (Figure 3.54).

When comparing between these alternatives and what has actually occurred in Makkah, we find a complex and complicated situation. The current picture is totally different from that which originally existed. There was once a picture of a harmonious pattern of traditional and historical buildings merging with the topography of the area, and a strong emphasis on the relationship between the Holy Mosque and the surrounding mountains. Moreover, there has been no clear

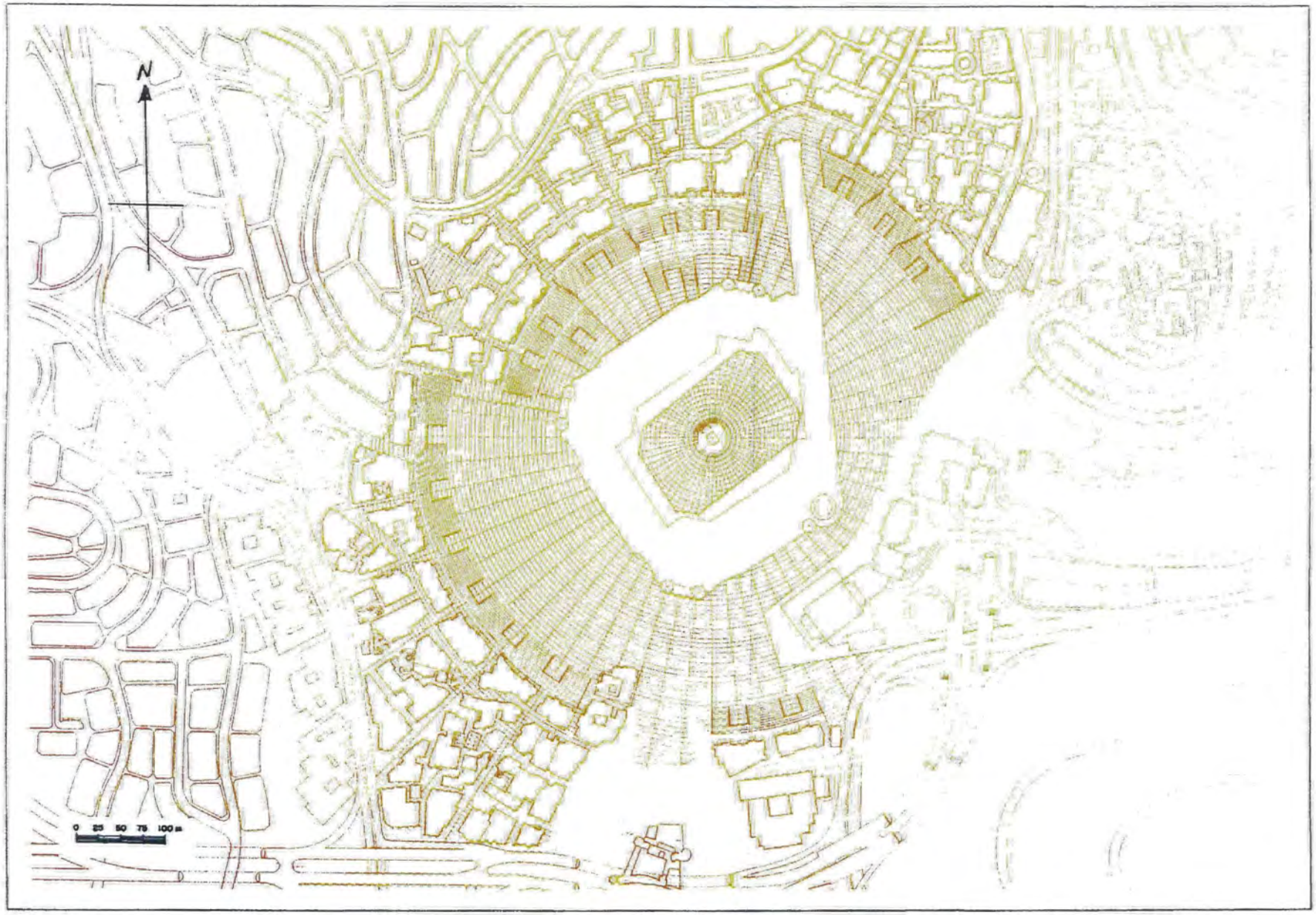


Fig. 3.47: First Urban Design Concept
(Dar Al-Handasah, 1986)

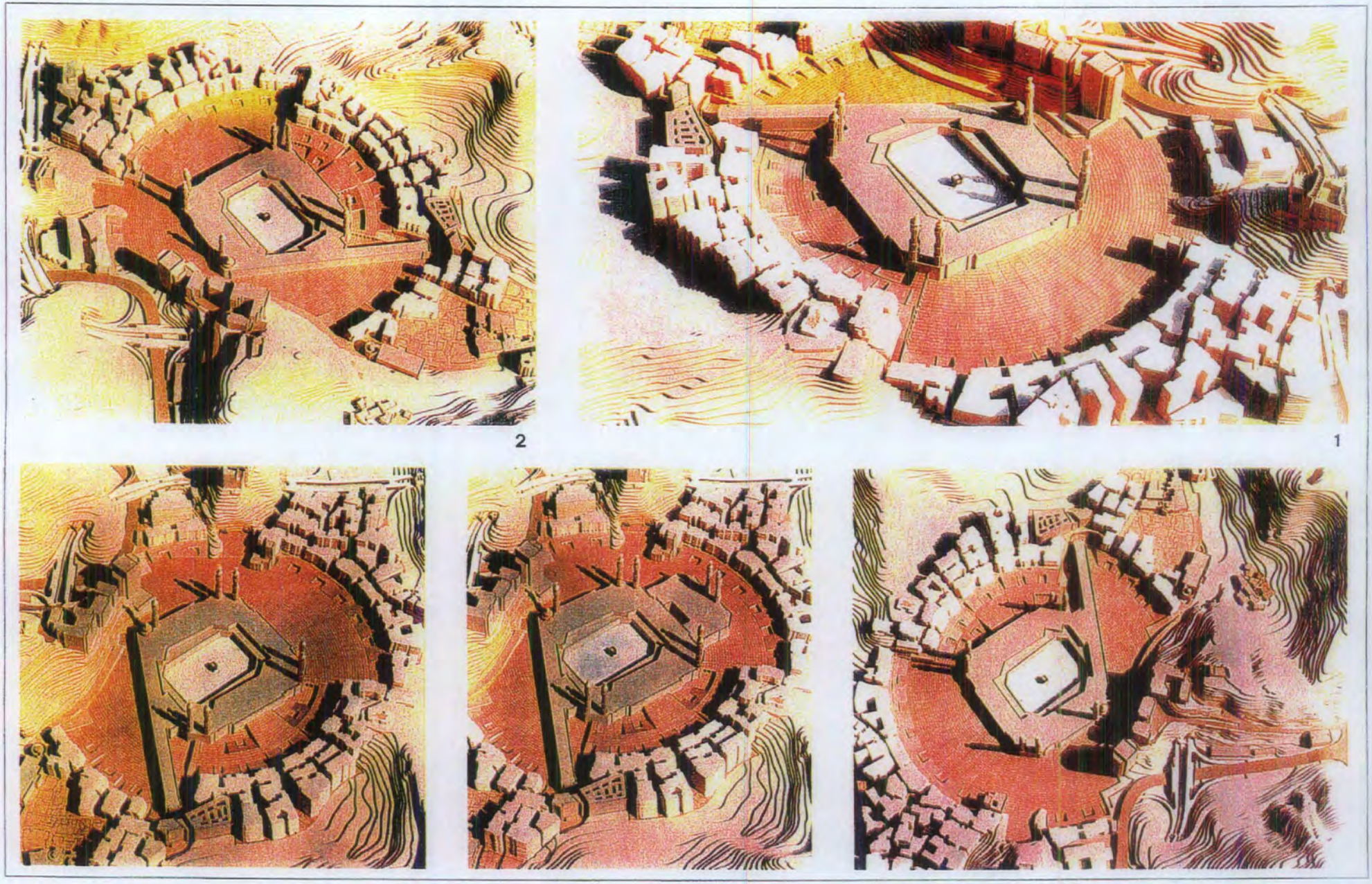


Fig. 3.48: Model of First Urban Design Concept
(Dar Al Handasah, 1986)

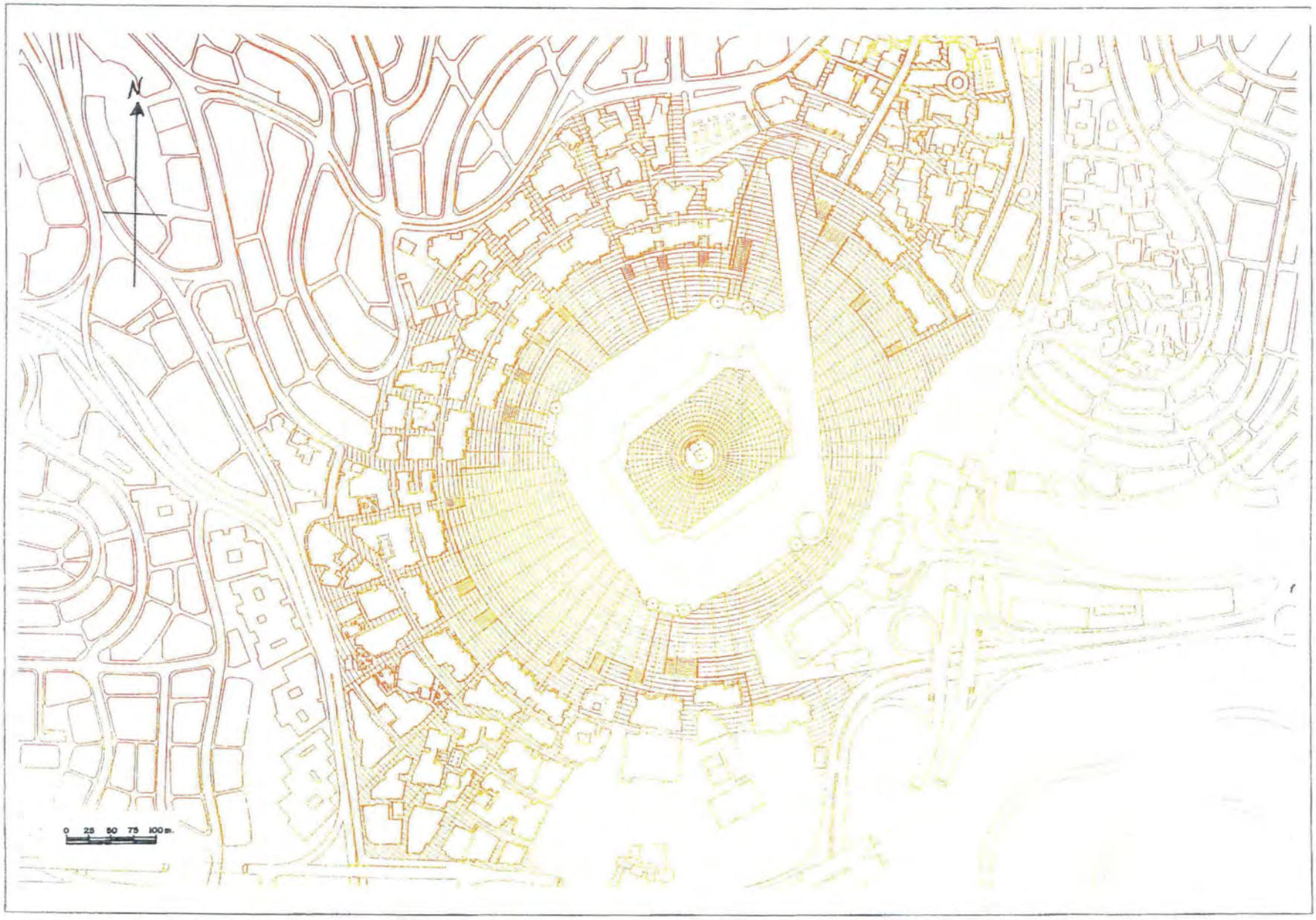


Fig. 3.49: Second Urban Design Concept
(Dar Al-Handasah, 1986)

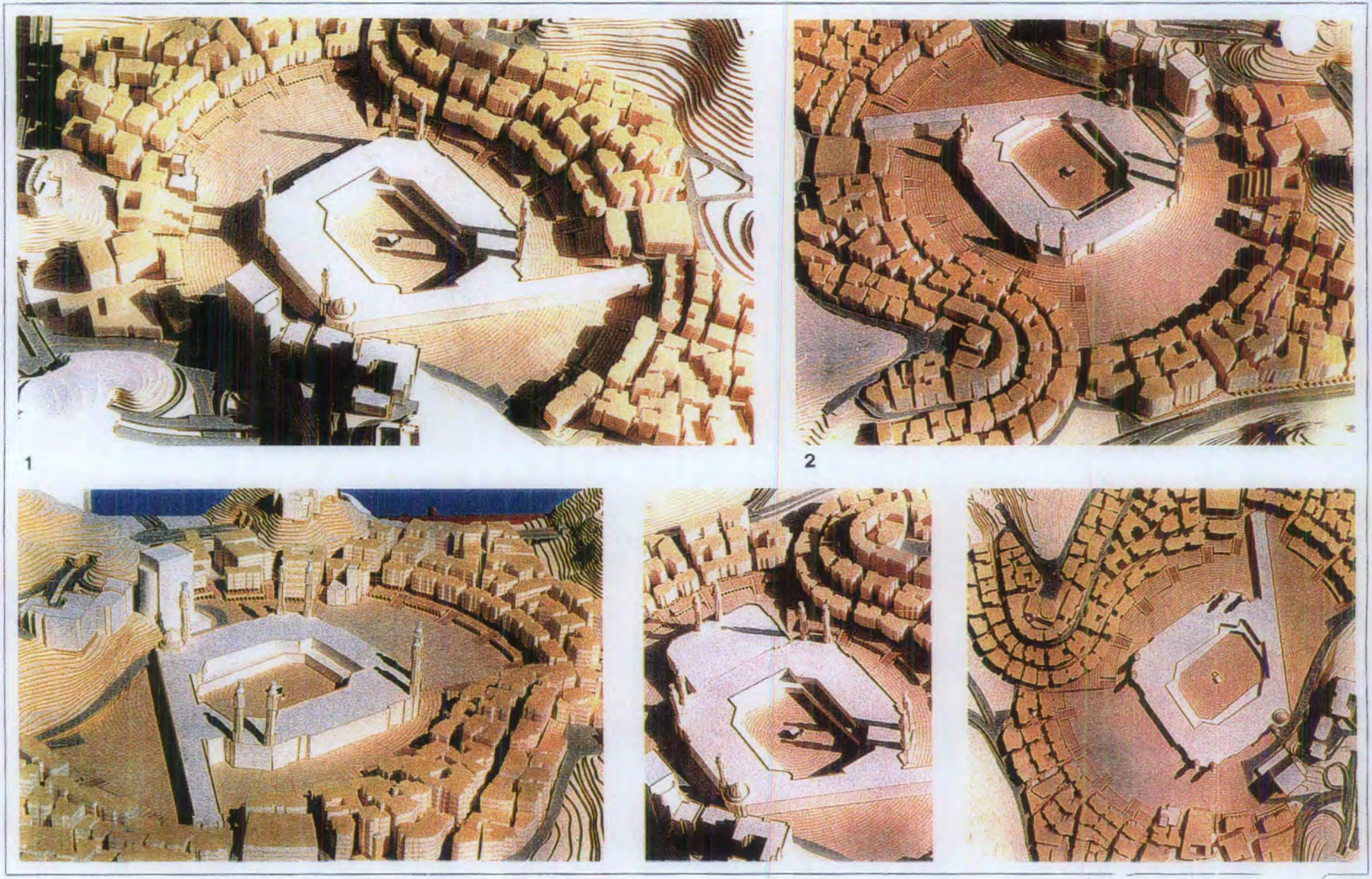


Fig. 3.50: Model of Second Urban Design Concept
(Dar Al-Handasah, 1986)

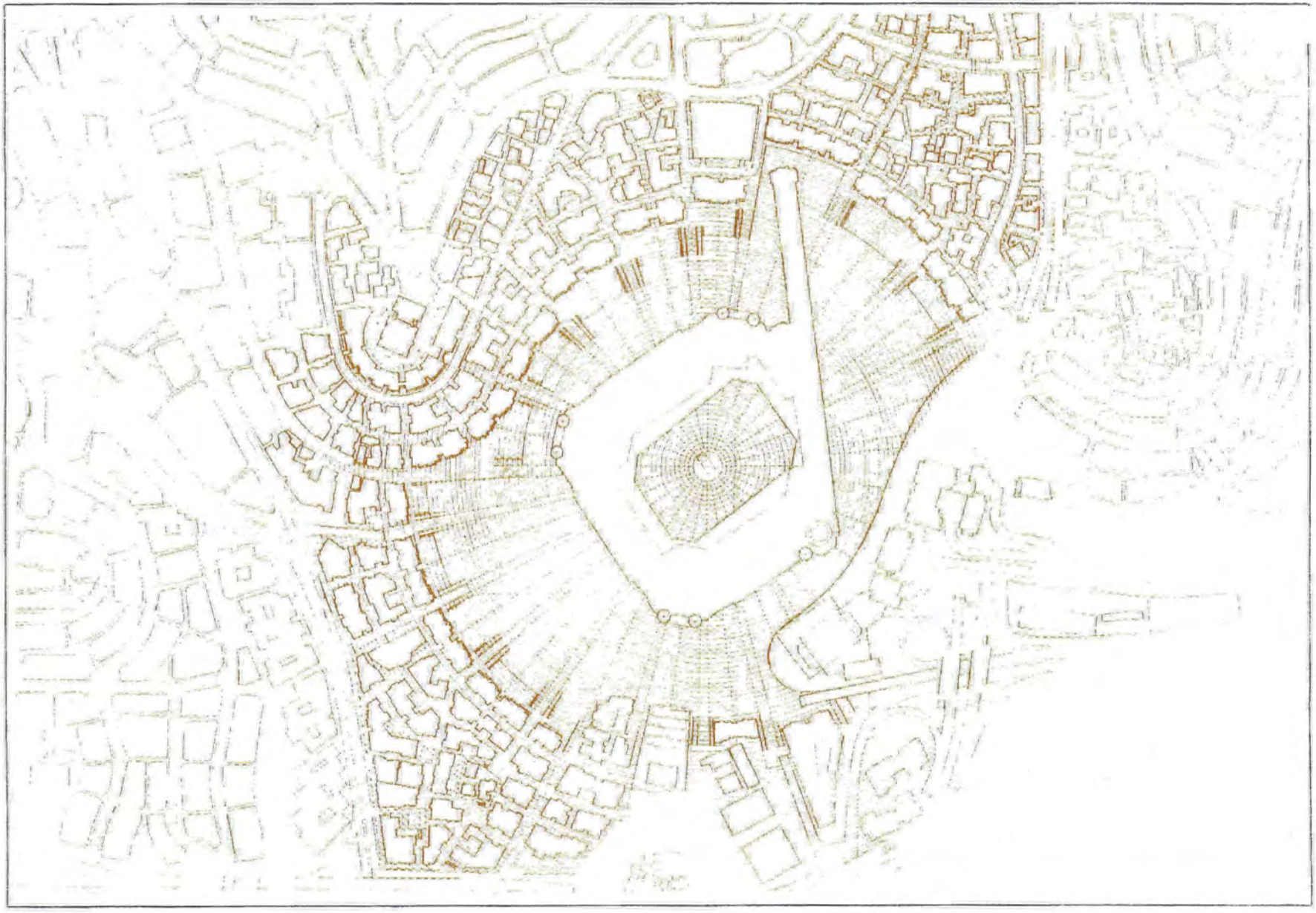


Fig. 3.51: Third Urban Design Concept
(Dar Al-Handasah, 1986)

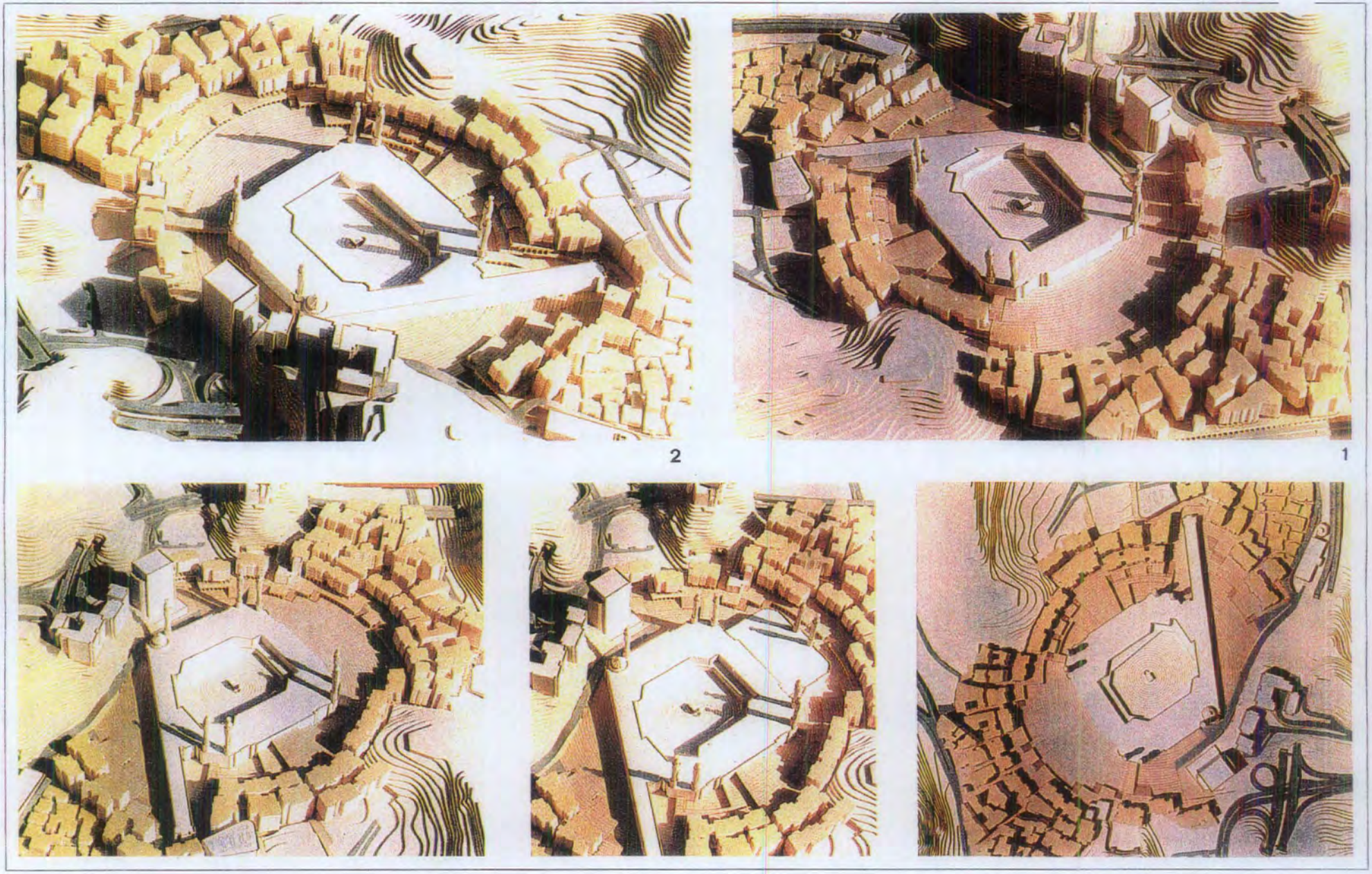


Fig. 3.52: Model of Third Urban Design Concept
(Dar Al-Handasah, 1986)

Fig. 3.53: Proposed land use in Central Makkah (Dar Al-Handasah, 1986)

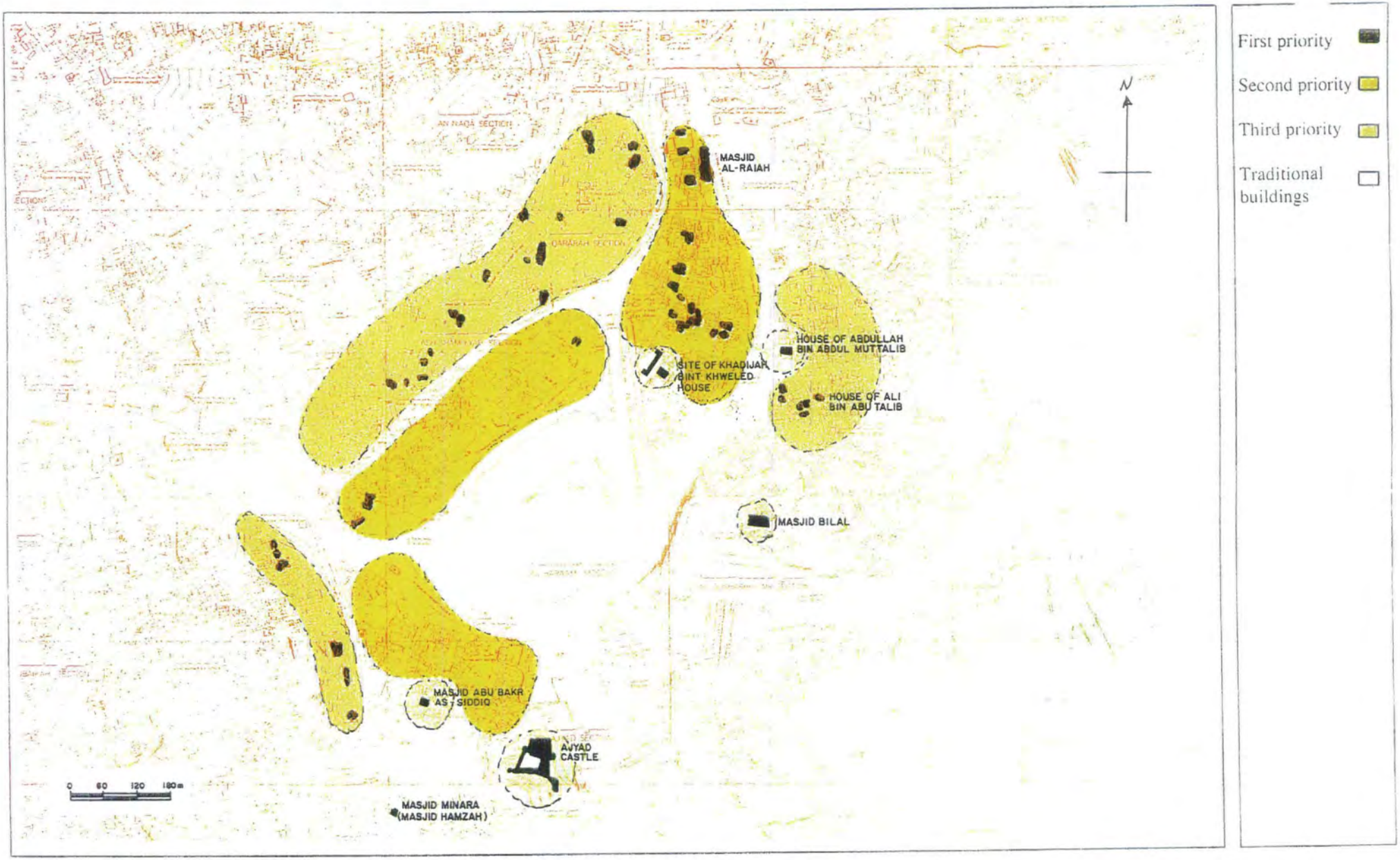


Fig. 3.54: Conservation Zones in order of priority
(Dar Al-Handasah, 1986)

area originally for pedestrians only, and so we now find low and high rise buildings on the same narrow pedestrian walkways. The high rise buildings have converted some pedestrians walkways into streets. It has created another burden on the central area and emphasised the conflict and randomness of the urban pattern and design of the central area. This kind of random and careless development in the central area is just one example of the damage done to Makkah. A more detailed account of how the city lost so much of its original identity, and perhaps ultimately its demise as a visually spiritual place of worship, will be given after brief discussion of its lateral spread in the context of the relevant recent planning concept of the urban fence (*Nitag Omrani*).

C. The Urban Fence

The "*Nitag Omrani*" project for the delineation and definition of urban growth boundaries for 100 Saudi towns and cities was established by way of Decree No. 13 issued by the Council of Ministers in 1985 and Makkah was one of the cities included in the project. Two development plans were designated. The first for the period from 1986 to 1994 and the second from 1994 to 2005. These two boundaries for Makkah are shown on Figure 3.55.

The *nitag* boundaries were established on the basis of the available infrastructure and land ownership commitments which had to be acknowledged and respected. The *nitag* boundary was therefore not imposed as a means for preventing the lateral expansion of Makkah rather than beyond the capacity for development to be sustained by economic considerations. Although the *nitag omrani* project was not a planning concept as such, it did establish the first definitive land use study for Makkah and a reasonably precise statement of existing urban form and function. The *nitag* atlas as such contained no detailed planning proposals or pronouncements on the capacity and nature of future development. The importance of the *nitag* boundary lies in the authority which it provides for the prevention of the lateral rather than the vertical expansion of Makkah. As such it is not a comprehensive planning study, but nevertheless carries authority derived from the King which is denied to other planning studies. The study was

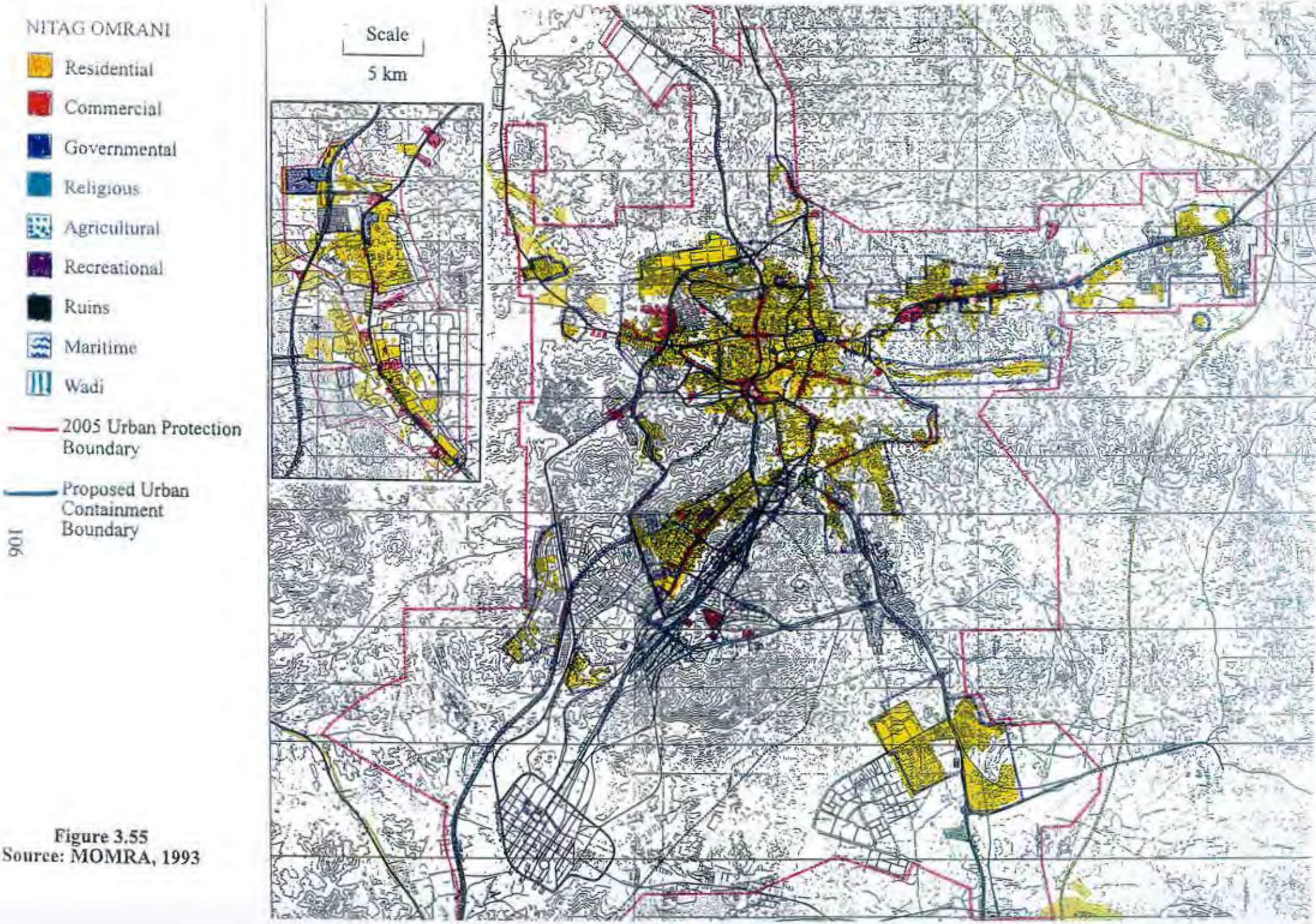


Figure 3.55
Source: MOMRA, 1993

Both Makkah and Medinah, of course, have boundaries which are not man-made. These are the boundaries of their respective dedicated areas annunciated by the Prophet himself (PBUH). The consequence of this is that there is a substantial area of land remaining between the *nitag* boundary and the Makkah *Haram* boundary

In the MOMRA National Atlas, the urban profile of Makkah contained the following background statistics for 1987 relevant to this present work. The overall area available for development was 59,000,000m² of which 30,000,000m² formed the built up area including 2,850,000 open spaces. Infrastructure services generally extended well beyond the 30,000,000m². Water supplies were available over only 20,000,000m² of the built up area, the whole of which was serviced by roads. The total number of building lots allocated was 18,610 of which 6,705 remained to be developed. There were also 125 approved sub-division plans awaiting distribution. Each lot contained an average of 1.2 residential units having an 8 person average occupancy rate. Most of the residential properties (60%) were single storey, the remaining 40% being two storey concentrated around the Haram area. 30% of the buildings were in good condition, 42% in fair condition and 28% in poor condition.

It is intended that new subdivisions of land be encouraged in the peri-urban and suburban areas of the city and that these new developments be connected by a road network to the city centre.

D. The Loss of Identity in Makkah

Many factors have led to the loss of a special identity that characterised the city for more than fourteen centuries. It is in the first zone that the architectural design and characteristic of the Makkan style is richest. Unfortunately, more than 90 percent of the beautiful homes are gone, demolished and replaced with unattractive and incongruous concrete and glass buildings. The loss of this heritage has turned Makkah from a historic sacred city, having special characteristics and harmonious architectural style, to a modern city with a blend of architectural styles lacking harmony, character, and identity in relation to its special heritage. But Makkah, the sacred land, still contains historical sites and buildings that deserve maintaining and conserving. Historical houses of religious significance in Makkah dating back to the beginning of Islam still constitute a distinctive religious environment. Their potential for becoming important landmarks reinforcing the image of this religious city must be grasped.

Traditionally, residents of Makkah, though lacking explicit knowledge of concepts such as quality of the place, serenity, fabric and pattern of a city, nevertheless, intuitively applied these terms to their buildings and to the special character of their sacred city. They respected and maintained the height and size of their buildings with regard to the height and size of the Ka'aba. They conserved and maintained the most important religious buildings throughout history without benefit of any written historic preservation laws. They maintained the design of the city along with its tranquillity without having a master plan or a consultant to guide them. In this regard, they were more sensitive to the future than we are today.

The modern planning of Makkah has ignored many basics. Thus the first aspect of basic planning which one might expect to experience when entering Makkah is its sacred boundaries. There are, however, no visual signs or demarcations representing the boundaries of the holy areas other than a check-

point located outside the city. The visitor finds a wide road leading him directly to the front of the Holy Mosque without any advance notice or preparation. These roads are surrounded by very unattractive concrete and glass buildings having no relationship to the past or traditional architecture of Makkah (Figure 3-56). The approach to historic and religious monuments should pass through a series of steps that prepare visitors gradually to reach the significant monument. Dar Al-Handasah's plan, in order to transport a larger number of people to the Holy Mosque, introduced a number of wide roads facilitating their quick movement to the Haram. The firm has also incorporated tunnels cutting through nearby mountains. These roads and tunnels have created a new and unsolved burden on the limited space of the Holy Mosque, by cramming a massive number of people into a relatively small space not originally designed to accommodate them. It therefore becomes an effort to survive in the central area during the high seasons of the Hajj and the month of Ramadan. Crowds transform the experience from a holy, spiritual and religious journey into a battle of survival.

It is a well known tenet in the basics of planning that, whenever you introduce a new road leading to one focal point, the problem of congestion is either exacerbated or at best temporarily delayed. To facilitate new roads leading to the Haram, Dar Al Handasah recommended the demolition of homes and introduced piazzas around the Holy Mosque, with no isolation between the houses and the Mosque itself. The consultant considered no alternative plan except to create these surrounding piazzas which resulted in an alien pattern for an Islamic city.

At a greater distance, the Holy Mosque is surrounded by a series of mountains and hills that were untouched throughout history. Makkan citizens respected the visual relationship between the Holy Mosque and these mountains, and when they built their houses they maintained the skyline of these mountains. Today the situation is different. The Holy Mosque is now surrounded with high rise buildings that break and block this once visual interrelationship. Unsightly towers with neon advertisements have spoiled the serenity of the space and downgraded the traditional prominence of the Ka'aba and Holy Mosque. An excessively bright lighting system designed by Dar Al-Handasah transformed the

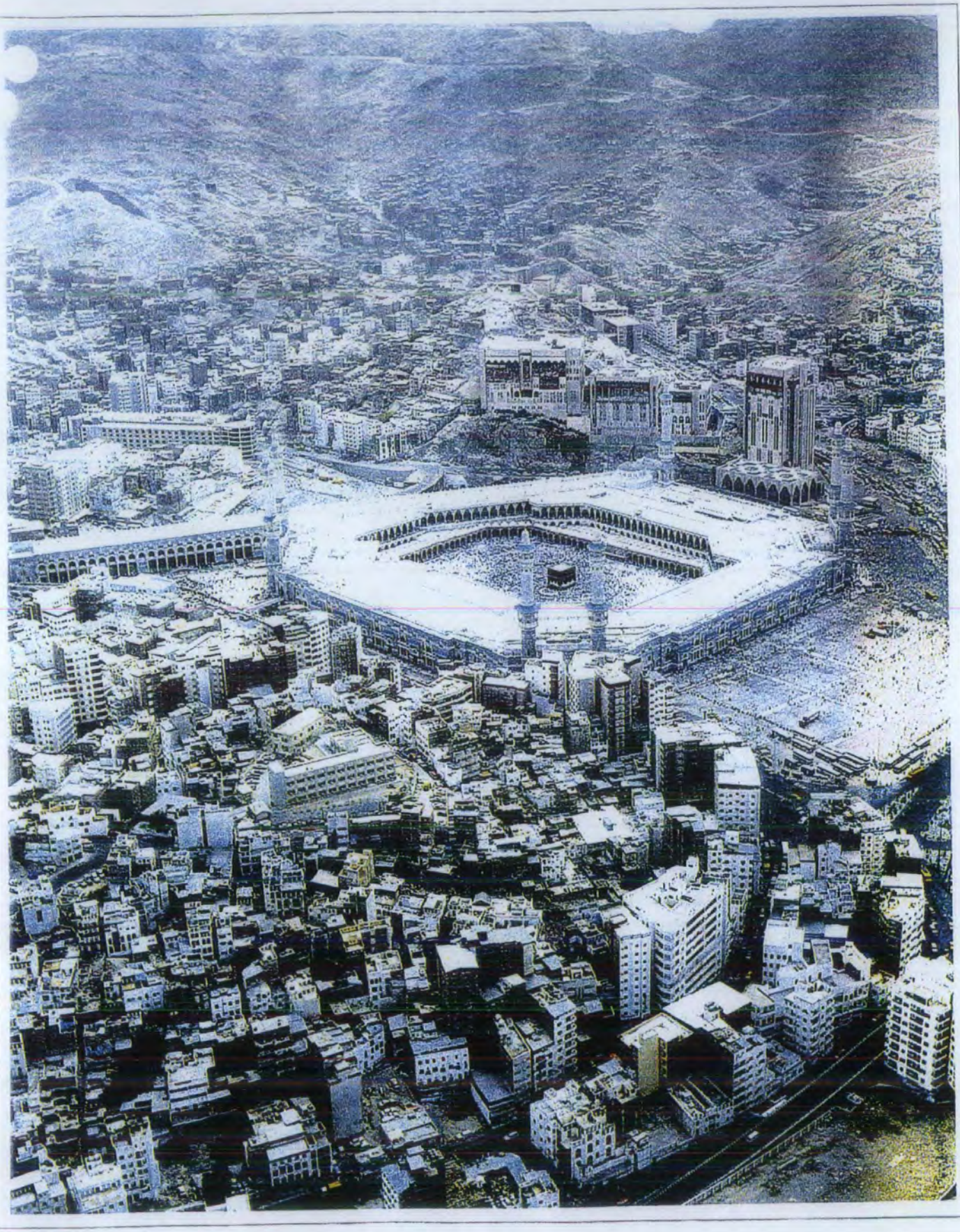


Fig. 3.56: The approach to Al-Haram looking south east
(Personal Archive)

Holy Mosque into a day-light stadium. It is as if he did not appreciate the difference between the lighting of a soccer field and the soft lighting of a religious building (Figure 3-57). Moreover, the consultant incorporated bright, smooth marble and shiny brass with gold finish, giving the impression of an atrium in a five star hotel. When selecting the lighting system or finishing materials for such a unique religious space, the consultant surely should have considered the tranquillity and spiritual environment that should accompany prayers inside the Holy Mosque. The surrounding materials should not attract attention or disturb serenity, but should provide an atmosphere to prepare people to concentrate on the holiness of the place.

A visitor to Makkah has the right to anticipate a transition from the materialistic life to the spiritual antiquity of an ancient place, and to expect to walk and tour in tranquillity in one of the most sacred spaces on earth, to visit the birth place of the Prophet, the house of Khadija, the house of Al-Arqam, the pathway to Heraa Cave and the old mosques of the Prophet's companions. The pilgrims usually visit Makkah only once in their lifetime to worship their creator and witness the birth place of the message of Islam. It is a unique spiritual journey that should strengthen their belief and faith and change their life dramatically. This journey is a continuous immersion of oneself in the presence of Allah, excluding all others but him from one's mind and heart. Here should be a fusion of spirit and environment, not a conflict. The once spiritual and timeless essence of Makkah, with its myriad of cultural influences must have at one time provided for such an immersion of the spirit. Makkah was once rich and full of significant Islamic historical sites and buildings. Sadly, this is no longer the case, with so much of the historical and cultural heritage of Makkah's buildings destroyed.

The blatant lack of concern for Makkah's heritage can be attributed to several factors, all of which are linked to the inexorable demand for more space – the planning consultants' lack of sensitivity towards Makkah's heritage, the lack of stringent laws regulating development, and the disregard of Makkah's heritage by property owners.

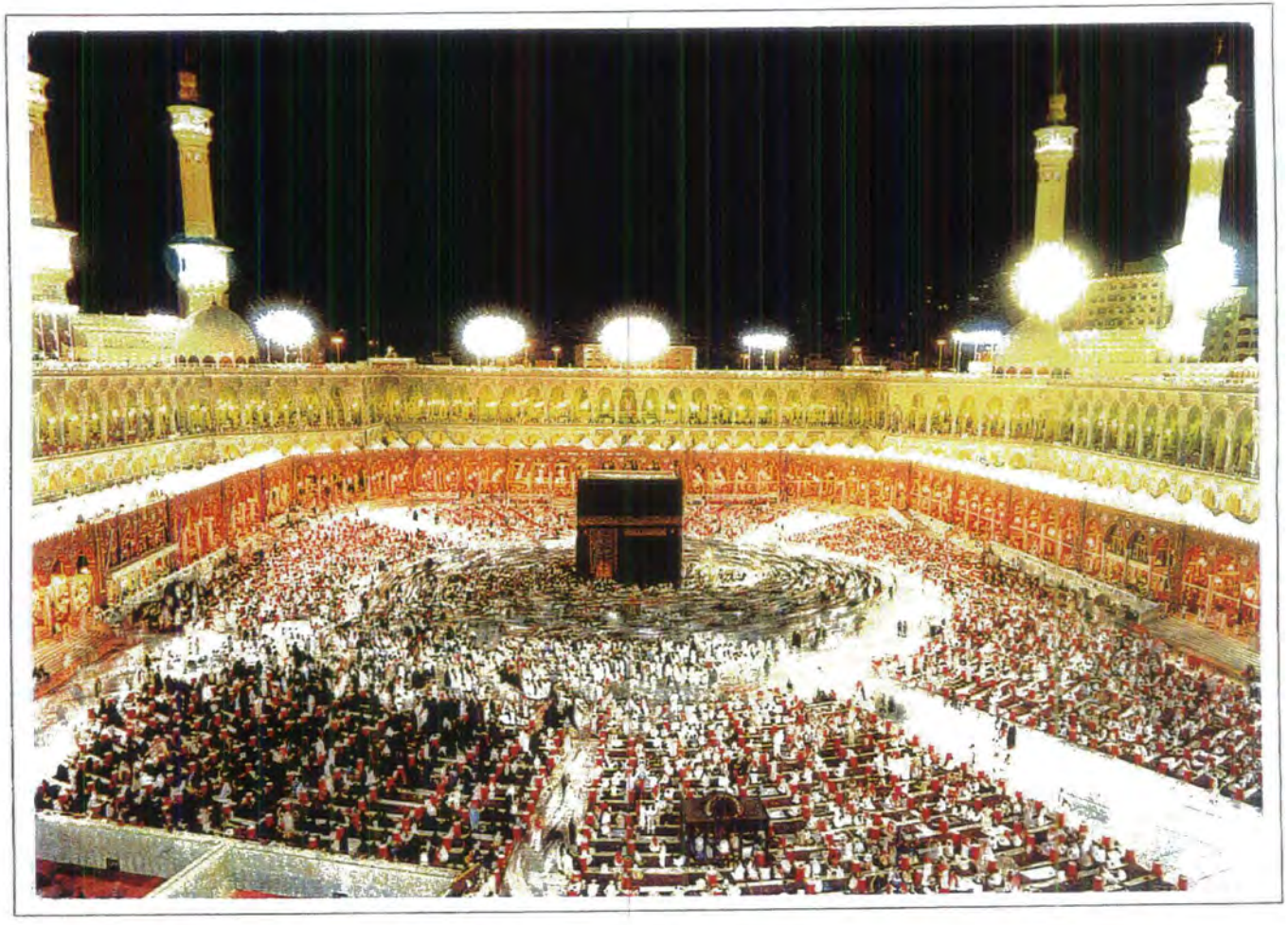


Fig. 3.57: View of the Holy Haram at night, 1990
(Personal Archive)

The three factors just summarised stem from the economic evolution of Saudi Arabia, founded on oil, which has placed more weight and prestige on its leading role among Muslim countries, increasing pressure on the government to host and accommodate more pilgrims. In order to achieve that and maintain its image, it became an important task to expand the two Holy Mosques in Makkah and Madinah. It was taken as a challenge by the Saudi Arabian authorities to compete with the accomplishments of Umer, Uthman and Al-Waleed. The organisation of Hajj was traditionally a joint effort among Muslim countries until the Saudi government took control of that organisation, resulting in increased political power for Saudis.

World wealth has also increased pressure on Makkah. Muslim African countries, such as Nigeria, Libya and Algeria, recently liberated and richer from the discovery of oil in their lands, requested to send more pilgrims to Saudi Arabia. East Asian countries such as Malaysia and Indonesia, where there has also been great economic development, enabled more Muslims to perform Hajj. Oil-rich countries such as Iran and Iraq have also requested a larger share of the number of pilgrims entering Saudi Arabia to perform Hajj. In addition to increased wealth, the collapse of the Soviet Union granted those Muslim nations, formerly prohibited from performing Hajj, the freedom to practice their religion openly and travel to Saudi Arabia.

Developments in the field of mass transportation have created more demand on the Saudi government to accept more and more pilgrims. Saudi Arabia was, however, forced to restrict the number of outside pilgrims by assigning a percentage based on the population of Muslims in each country. This regulation has met many objections, especially since this law has been waived for the Gulf states. The internal pilgrimages have increased greatly, despite regulations to limit the number by making pre-permits necessary to perform Hajj. Many internal pilgrims contravene these restrictions by moving to Makkah on the day of Arafat which is the ninth of Dhu-El-Hijra. On that day many authorities are busy with pilgrims in Arafat. Check points at the entrances of Makkah and other holy places allow any number of internal pilgrims to enter. The Saudi government in turn finds no alternatives except to execute rushed programmes to accommodate more

pilgrims in order to maintain and enhance its political image. This combination of great wealth and desire to do well has, inevitably, meant that far more change has been wrought on Makkah in the last 20-30 years than ever before in its history.

The Saudi government was thus compelled to seek outside assistance in dealing with such accelerated growth. The outside consultants commissioned by the government lacked a proper understanding and sensitivity towards Islamic heritage in general, and specifically Makkah's religious, cultural, and social heritage.

Understandably, but unfortunately, for the last 25 years, planning consultants, initially RMJM, then Dar Al-Handasah, have essentially dealt with Makkah as a city and not as a sacred place. There is a great difference between the two concepts. The meaning of a sacred area within Islam is that within a sanctified boundary no wild game may be killed or disturbed, no native trees may be cut down or uprooted and no grass may be cut. (Further explanation of this concept follows in Chapter Four). If this is the attitude of Islam towards animals and plants within a sacred area, then what should it be towards human beings and their culture?

Another important factor contributing to the problem was the lack of building codes and regulations. The few regulations that did exist were often ignored by Makkans, who could afford the minor penalties and fines of municipalities. Moreover, many of the Makkan people who are employed in private business or in the government work as Mutawwif (institutions that organise external pilgrims) during the Hajj season. They benefit from expansion and development due to the fact that many lease their houses or apartments to pilgrims during the Hajj season. This mixture of permanent and temporary employees of professional and non-professionals, in addition to the multi-national, multi-cultural makeup of the pilgrim population, further encouraged the deterioration and destruction of historical buildings. At the same time, many Makkan citizens could not refuse the appealing compensation offered by the government to demolish their old houses and include those areas in the Al Haram expansion. Some went as far as

setting fire to their old buildings in order to gain the high compensations offered by the government.

A further important factor is that there was no government encouragement for citizens to maintain historical buildings or compensation to them for preservation, therefore people neglected many structures until they eventually collapsed. Under these circumstances opportunistic and greedy developers were able to thrive. Wealthy businessmen, who established large development companies, purchased and subsequently demolished many small houses and re-established those areas with large residential, hotel and commercial complexes. These development companies have altered the whole pattern, serenity and design of the sacred city. They may call themselves 'developers', but in reality they are destroyers of a very sacred place. The desire for a quick return on investment resulted in the destruction of the heritage and essence of the most sacred place on earth for Muslims. Makkah has become more of a business centre than a sacred city. The development immediately surrounding the Holy Mosque is a sad reminder to this overzealous and insensitive development.

The expansion of the Holy Mosque required purchasing large parcels of land surrounding it and considerable compensation to pay for it. This phenomenon has changed Makkah significantly. Houses that were some distance from the Holy Mosque were suddenly in a prestigious location. Small houses and three to four storey buildings facing the Holy Mosque became virtually priceless, and the owners suddenly very wealthy. Citizens were encouraged to demolish their old, historic and beautiful houses in order to replace them with modern high-rise hotels and furnished apartments. Those who benefited from the compensation moved from the immediate adjacent area of the Holy Mosque to purchase buildings farther away. This resulted in the land values escalating. This pool of wealth also attracted non-Makkan citizens to invest in Makkah, and in particular around the Haram. Makkan individuals were also attracted to invest in and around the Haram.

The great increase in land prices encouraged the building of high-rise towers. The rush to benefit from Hajj also prompted people to utilise quick construction methods, rather than to consider what was compatible with the special quality and

sacredness of the area. Suddenly, many priceless buildings were demolished and replaced with unattractive concrete and glass buildings which have no character, style, or reference to the special essence of the sacred city. It became a challenge between quality versus quantity, greed versus common sense, and urbanisation versus antiquity.

Many Makkans themselves did not appreciate the priceless value of history that is Makkah. They have sought to maximise their wealth, even at the expense of their own heritage. In the absence of any educational campaign to create an awareness of the importance of this history, most of the monuments have been lost. Makkah became a business centre attracting non-Makkan residents to invest their money, thereby converting Makkah into a hotel city. The lack of handicrafts and the scarcity of traditional builders helped in producing the high cost of traditional construction, which, clearly, could not meet the demands of a hotel industry. Many workers had to be recruited from outside Makkah. At the same time the pre-cast factories increased their production to meet the great demand for rapid construction. All of this happened in the absence of strict building regulations. These factors certainly provided a favourable environment for unrestrained expansion.

E. Conclusion

In any given society, in any particular period, there is a central system of practices, mores and values, which are dominant factors in that society. They become the characteristics of that society and provide a set of values which, as they are experienced and practised, appear as the norm and accepted by those in that society. It thus constitutes a sense of reality and continuity for most people in the society.[20] Makkah is the centre of one such notable society. All Muslims dream of visiting Makkah to perform the fifth pillar of Islam. The history of Islam started in Makkah. Its houses, sites, walkways and mountains have witnessed events which have culturally enriched the history of the city. Makkah has changed from a sacred place to a modern city with often little apparent respect for its history and glory. Most of its historical monuments have been removed and replaced with concrete and glass towers. It is essential for any city to maintain its history in a modern

context. Makkah, as a sacred place, demands special care and treatment. The modern context should be integrated in its historical fabric with great respect, and not the reverse.

One authority has stated that each setting can be seen as a place having an order which becomes recognisable because it can be described by a set of characteristics such as: its physical location, its relationship to its landscape, having definite principles, special arrangements, particular names, using certain orientation systems, displaying certain colours, textures, sounds, smells, temperatures, air movements, people engaging in certain activities etc. [21] Makkah has experienced a distinct blend of all of these characteristics in the past and through most of its fourteen centuries of growth. Now, with great difficulty, one can identify only a few. The cultural context has been diluted forever, and traces of the past have all but vanished. Arthur Kutcher in his important work, The New Jerusalem, described such cases as illustrating the moral and stylistic bankruptcy of modern architecture, and the suicidal impulses of contemporary town planning - "trend planning" - accommodating pressures.[22] This is like a physician tending to accommodate a disease.[23] Such an approach to urbanisation is detrimental to Makkah. People have destroyed their history and adopted modern buildings and structures as a sign of modernisation and civilisation. "A town without old buildings is like a man without a memory" – nothing to say where you came from and why. History is the foundation of any modern structure. If the base is weak, then the structure will eventually collapse and the pieces will be difficult to put back together again. Although Makkah has lost 90% of its original historical and religious structures, the remaining ones deserve a better fate.

In later chapters proposals will be put forward for conserving what remains of the historic environment and preserving those sites and buildings which are still architecturally and spiritually relevant. But first the contextual setting will be elaborated, both in terms of Islam and conservation.

Sources of Figures

Figure Numbers:	3-1, 3-2, 3-3, 3-5, 3-6, 3-7, 3-10, 3-11,3-18, 3-22 , 3-26 , Sami Angawi, Makkan Architecture, Ph.D. Thesis, University of London, 1988.
Figure Number:	3-4, The National Geographic Magazine, Vol. CIV, No.1, July, 1953, p.24
Figure Number:	3-12 is taken from Burkhardt, 1985
Figure Numbers:	3-13, 3-14 are taken from Courtellemont, 1890
Figure Number:	3-44 is taken from RMJM's report of 1975.
Figure Numbers:	3-15, 3-16, 3-20, 3-21, 3-23, 3-24, 3-25, 3-28, 3-29, 3-30, 3-31 , 3-33, 3-34 , 3-36, 3-38, 3-39, 3-40 , 3-41, 3-43, 3-48, 3-49, 3-51, 3-52, 3-53, 3-54, 3-55 Dar Al-Handasah's report of 1985, vol. 1-2.
Figure Numbers:	3-8, 3-9, 3-17, 3-19, 3-51, Negro Ahmed Ashour who worked with The Hajj Research Centre and obtained a valuable set of vintage photographs of old Makkah.
Figure Numbers:	3-27, 3-32, 3-35, 3-37, 3-41, 3-47, Makkah Regional Planning, 1985
Figure Number:	3-56 From personal collection
Figure Number:	3-57 is taken from Khalid Khidr, 1990

REFERENCES

1. Angawi, Sami, Makkan Architecture, Ph.D. Thesis, University of London, 1988, p. 151.

2. Al-Azraqi, Akhbar Makkah (The News of Makkah), (1988. Vol. II p 9) (In Arabic).

3. Ibid. pp. 233-65.

4. Al-Khashshab, Yihya, Safarnamah: The Journey of Nasiri Khusraw to Lebanon, Palestine, Egypt and the Arabian Peninsula in the Fifth Century of Hijra, Beirut, 1979, p. 213. (In Arabic).

5. Ibn, Jubayr, Rihlat Ibn Jubayr, The Journey of Ibn Jubayr, Beirut, 1980, p. 91. (In Arabic).

6. Angawi, Sami, Makkan Architecture, p. 195.

7. Abu-Lughud, Janet, Contemporary Relevance of Islamic Urban Principles, Ekistic Journal, Vol. 4, No. 280, Jan. Feb. 1980, pp 6- 10.

8. Al-Sibaee, Ahmad, Tarikh Makkah, (The History of Makkah), Makkah, 1979, p. 29. (In Arabic)

9. Al-Khashshab, Yahya, op. cit., pp. 123.

10. Al-Amawi, Yagut, Mua'jam Al-Buldan, Beirut, n.d., Vol. V, p. 18.

11. Rihlat Ibn Battutah, (The Journey of Ibn Battutah), Cairo, 196, Vol. I. pp. 86.

12. Burton, Richard F. Personal Narrative of a Pilgrimage to Al-Madinah & Makkahh. Vol. 2, New York, 1964, p. 345.13.

13. Al-Abbasi, Ali Bey, Travels of Ali Bey in Morocco, Tripoli, Cyprus, Egypt Arabia, Syria and Turkey between 1803 and 1807, Vol. II. London, 190, p.310.

14. Burkhardt, Jacob. Travel in Arabia, London, Frank Cass Company Ltd., 1968, p. 78.

15. Courtellemont, Gervais, Mon Voyage a la Mecque, Desclee de Brouwer, France: September 1990. (in French). Also in Ahlan Wasalan Magazine, Jeddah, Saudi Arabian Airlines, vol.17, Issue 10, October 1993, p.p.6-12. (In Arabic).

16. Angawi, Sami, op. cit. p. 243.

17. Agnew, J. Mercer, J. Sopher, D., The City in Cultural Context, Allen & Unwin Inc., Winchester, MA. USA, p. 3.

18. RMJM, 1985.

19. Dar Al Handasah, Makkah Region, Cultural Area Plan, MOMRA, Jeddah, 1986. vol.1

20. Jacobs, Jane, The Death and Life of Great American Cities, Vintage Books, New York, 1961, p. 187.

21. Rapoport, Amos, Culture and the Urban Order, publisher, date, p. 54.

22. Kutcher, A., The New Jerusalem, Planning and Politics, The MIT Press, Cambridge, MA., 1973. p. 9.

23. Dar Al Handasah, op.cit. Vol. 1.

24. Smegelski, K., 1965 (Apocrophal).

CHAPTER FOUR

The Environment In Its Islamic Context

This chapter is an introduction to the basic values of Islam and its relationship to the environment. It will examine Islam and its philosophy in relation to the physical environment, and thus illuminate the context in which the developments in Makkah have taken place. But, first, the author must introduce the first steps towards the understanding of the basic doctrine of the Islamic religion. This chapter presents the basic Islamic institutions as well as related actions in which to preserve these values along with some highlights on the Islamic Law or the Shari'ah.

A. The Meaning of Islam

Islam besides being a religion is also a social order and a complete way of life. It is not only the message of the Prophet, but it is the divine message from the days of Adam through Noah, Abraham, Moses, Jesus and finally Mohammed.[1] Maududi claims that Islam is an Arabic word that means submission and obedience to Allah. The faith invariably leads man to a life of obedience and submission to the will of Allah and one who lives this life of submission is known as a Muslim. [2] This dedicated life is lived by means of the five pillars of Islam.

A true Muslim declares and professes that Allah is the one true God, and also accepts Allah's law without reservation, as it is being revealed to us. The meaning of Tawhid (belief in one God-Allah) should be applied throughout all religious observances, social conduct, permissions and prohibitions and administration of justice. This also includes environmental considerations, the subject of this thesis. Tawhid commits people to an ethic of action. The result of this ethic is measured by the degree of success of the moral issues acted upon. Islam places a major value on the intent to do good. Islam, therefore, demands fulfilment of the requirement of the ethic of intent as a preliminary prerequisite for entering into fulfilment of those of the ethics of action.[3]

Al Baruni (AD 973) asserted that the creation of the world is a manifestation of the power of the Creator, not to be rejected by any arguments contrived of human reason. He argued that man discovers the harmony and the beauty of nature, not by projecting his own limited perspective upon the cosmos, but by realising his weakness and submitting to the wisdom of his Creator.[4] Ibn-Sina (Avicenna, A D 1037) claimed that the study of nature depends completely upon the purposes for which nature was created. Nature is the domain where everything possesses a beginning and an end, and where the wisdom of the Creator is everywhere.[5]

In recent times, Waqar Husaini concluded that there is no conflict between Islam and science when science is defined as a rational and empirical method of studying the phenomena of nature. The Qur'ān never asks believers to pursue science for the sake of science, but for the sake of understanding the signs of Allah. In retrospect, a contemporary Muslim has, therefore, an immense task before him. He has to rethink the whole system of Islam without completely breaking with the past. He also has a duty to approach modern knowledge with a respectful, yet independent attitude.[6]

Goma, in his important work The Earth as a Mosque pointed out that man's ability to question is one of the many divine gifts that differentiates man and the cosmos. The universe has no will but to obey Allah. It cannot comprehend the signs given by Him. Man has the will and the reason to obey or disobey, to choose between right and wrong and between good and evil[7] (Qur'ān, XXXIII, 72).

The previous points lead to an important issue, namely that man was created from clay, which means that natural elements are integrated into man's physical being. There is no justifiable reason for man to conquer natural forces and to subdue them by arbitrary methods. It is illogical then to violate nature, destroy its integrity or to pollute its purity, for it ultimately means destroying man himself (Qur'ān, V.90). Allah has created man as his trustee on earth to continue his work, to build it, to diversify life on earth, to improve it, to protect it and to maintain its balance (Qur'ān, II.30.VII.74.61). Parvez Manzoor in Environment and Values: The Islamic Perspective argues that man was chosen because of his unique ability

to learn, to analyse and to apply good judgement. He is the masterpiece of creation and for that he was equipped with all the faculties essential to his special mission. As such, nature could be considered as man's testing ground.[8]

B. The Pillars of Islam

Islam is based on five pillars. A brief explanation will be given for each pillar, and how performing this worship could help in the Islamic perspective of conservation.

Allah, as explained earlier, selected man to be his trustee on earth, to worship Allah alone, not to associate any god with Him, and to maintain nature and keep its balance. A Muslim should witness the oneness of Allah and that the Prophet is his messenger. The most fundamental and important obligation after declaring the oneness of God, is the five daily prayers, to worship, think of and remember Allah often. The rationale for prayers is to strengthen the belief in the existence and goodness of Allah and transmit these beliefs into the innermost recesses of man's heart. Prayers enliven this belief and make it constructive in the practical course of life. It helps man realise his natural and instinctive aspirations to greatness and high morality and purifies the heart, develops the mind and fosters the good elements and suppresses evil inclinations.[9]

It is obligatory to perform ablution before prayer. Muslims must wash their faces, hands and legs with pure and clean water. Bearing in mind the arid climate of the Arabian Peninsula and the lack of water (as explained in Chapter Two), it becomes an obligation on every Muslim to maintain and conserve water due to its scarcity. Further explanation will come later in the chapter.

Fasting sets the principle of discipline and the ability of man to maintain and conserve food, water and nature for its great value. Without fasting, man cannot fully appreciate the value of these resources. Fasting teaches him the ethics of conserving the earth that Allah has entrusted to him. Fasting is not only refraining

from food, water and sex, but has the added deeper dimension of maintaining the blessings and kindness of Allah.

Zakat is alms giving or charity which is a social and religious duty on the rich towards the poor and needy. Some 2.5 percent of the net savings of a Muslim should be spent on the poor section of society as an absolute minimum. In addition to Zakat, as one of the pillars of Islam, charity is encouraged in Islam for its generosity and importance in society.[10] Various taxes are levied by the Muslim state on its subjects. It may be paid directly to the government for allotment or spent personally on the poor and needy. Zakat is considered in the Islamic context as the purification of wealth.[11]

Hammudah Abdulati asserted that Zakat is a vivid manifestation of the spiritual humanitarian spirit of responsive interactions between the individual and society. It is a fine illustration of the fact that though Islam does not hinder private enterprise or condemn private possessions, it does not tolerate selfish and greedy capitalism. It is an expression of the general philosophy of Islam which adopts a moderate and middle stance, but shows a positive and effective course of action between the individual, land, society, the state, capitalism, socialism, and between materialism and spirituality.[12]

The fifth pillar is Hajj, which means literally a travel towards Allah. Hajj is obligatory at least once in a lifetime for those who can perform the journey to Makkah. There are specific definitions for those who must perform the Hajj and those who are excused legitimately. Pilgrims in this particular performance should wear two pieces of unstitched cloth, minus any head covering as a symbol of equality in front of Allah.[13] Pilgrims during this journey have to stay in Makkah for a stipulated period of time.

The social aspect of Hajj is the feeling of world brotherhood of Muslims coming together in one place without any distinction of race, language, origin, colour or class. They go to mingle with each other and proclaim the Pilgrimage among men.[14] Hajj is considered to be a course of spiritual enrichment and moral

rearmament, a course of intensified devotion and disciplinary experience, a course of humanitarian interests and inspiring knowledge.

All five pillars of Islam encourage man to think often of Allah, the creator of everything, to thank Him, to maintain and conserve His blessings. Man should conserve water to perform ablution to pray and remember his creator, conserve his health to be able to fast, conserve his wealth to pay Zakat to help the poor and needy, to conserve all creatures while performing Hajj and above all else, remember the oneness of Allah. Man should be responsible for nature, animals and all that Allah has given to him, to be his vicegerent on earth to keep and maintain its balance and not to destroy it.

C. Values and Ethics in Islamic Society

There are values and ethics in Islam such as justice, equilibrium, moderation, piety and manners that are directly related to the relationship between man and his environment.

The divine purpose of Islam in man-nature relationships requires the removal of injustice and transgression on earth by seeking individual, societal and environmental harmony through perfection. It is the concept located at the heart of the Islamic doctrine.[15] To uphold the Divine Purpose of Islam in the affairs of men and nature is to be just, and to impede this purpose is to commit injustice and transgression. This divine purpose is the process of the individual, the society, and the environmental progress to perfection and that ideal harmony we call Islam. Common society manifestations of this injustice are the exploitative inequalities, suppression of freedom and thought, selfish accumulation of wealth and power and ecological rampage as exploitation of nature without concern of consequences.[16] Order, equilibrium and moderation are goals of a Muslim society. Muslims should maintain harmony and balance of the universe and ensure the protection of all that Allah has created. In Islam this is considered synonymous with order and equilibrium. Divine justice is perceived not as tyranny but as a measure to enhance the Muslim's dignity and self-esteem[17] (Qur'ān, XVII.29).

Wasteful extravagance (Israf) is forbidden in Islam because it is considered an example of corruption on earth and contradicts the Islamic ethics of equilibrium and moderation. The Prophet instructed and guided Muslims not to waste water essential for prayers, even if they have an abundantly flowing river. Prohibition of wasteful extravagance in Islam is meant to safeguard the right of every creature to enjoy its share of nature. For example, an excessive cutting of trees in a forest might destroy the wildlife, which is considered a selfish act of cheating the trust that Allah gave to mankind to maintain and protect the integrity of the universe. Allah considers the intentional waste and pollution of His resources as very serious sins[19] (Qur'ān, VII,XXVIII.58).

Social good and social evils are used as criteria for evaluating conflicting interests in society and in determining social benefits and costs. Implementing universal common good (which is the objective of the Islamic religion) means the fulfilment of justice and equity for all creatures. However, responding to all interests equally may prove to be impossible.[20] Llewellyn, in his paper, "Desert Reclamation and Islamic Law" asserted that in such cases, the principles of achieving the universal common good calls for weighing interests according to its scale to determine action in terms of the numbers benefited or injured and the degree of protection needed. Llewellyn also added that what is required is to safeguard all benefits and bring them to perfection and to eliminate all evils by minimizing them. And if they are irreconcilable, it is to safeguard the greater good by the exclusion of the lesser, and to remove the greater harm while bearing with the lesser. This is commanded by the law.[21]

Islam classifies the priorities of social benefits in which absolute necessities such as religion, morality, life, offspring and family, reason and mental health, and property are on the highest level. Secondary to those priorities are the social obligations to alleviate hardships, while refinements which incorporate ethics, aesthetics and honour follow.[22] The major objective of the universal common good requires that no desire or interest group could over rule the wider interests of the Muslim community.[23]

The Prophet of Islam described the perfection of morals (Ihsan) as the worship of Allah as if you can see Him, even though one cannot, but He can see you. This description upgrades the Muslim to the highest level of faith. The Islamic model of justice and moderation constitutes one possible answer to the ecological crises where the balance and maintenance of environmental equilibrium is a duty of every Muslim. The Islamic teaching asserts that the earth is sacred. The Prophet said "The whole of this earth is a mosque" where every Muslim should maintain and conserve the signs of Allah, and the maintenance of its ecological treasures is considered as worship of Allah.[24]

Islam starts with the concept of community by declaring that all property is owned by God. Those who study the Islamic law (Shari'ah) realise that when a certain right is described as belonging to God, what is meant is that it belongs to the community, or what is referred to legally as a public right.[25] Islam in principle vests legal title in Allah and vests the equitable beneficial title in the holder of the property. Thus, the concept of trust is created where the beneficiary can exploit and reap the fruits of the property provided that he does not violate the conditions laid out by the holder of the legal tile who is Allah, the owner of everything.[26]

Islamic law has put some restrictions on the authority of the possessor and the exercise of individual rights. Umer, the second governor (Khalifa) in the Islamic state formulated two important principles to exercise the right of ownership: 1) prevention of injury to others and 2) benefits to others if no impairment or injury is caused to the owner.[27]

The concept of abuse of right developed by many jurists is based on two concepts: 1) a right has to be exercised in accordance with the purpose for which it was formulated and 2) the possessor of the right is considered to have abused his right in the following situations: a) if he intended to cause injury to others, b) If the exercise of the right did not result in benefit to the possessor but resulted in injury to others, c) if the exercise of the right resulted in general injury to the community (such as in the case of monopoly), and d) if, as a result of the exercise of the right, an exercise injury was caused to others.[28]

D. Environmental Institutions in Islam

Islam has formulated some important institutions for environmental planning which help in establishing Islamic law with consequences. The relevant institutions will be summarised here.

The Harim (Forbidden area) deserves first mention. The Prophet of Islam declared the two cities of Makkah and Madinah as forbidden areas. Makkah was known as a forbidden area by the time of Ibrahim, but was officially declared so by the Prophet as a Harim area.[29] Within the Harim of Makkah no wild game could be killed or disturbed, no native trees cold be cut down or uprooted and no grass could be cut except for the fragrant lemon grass used for domestic and medical purposes.[30] The Prophet also declared another Harim throughout the lava mountains around Madinah where its native trees could not be trimmed or cut down, and its wild game could not be slaughtered or disturbed.

The concept of Harim was not restricted to Makkah and Madinah, for the Prophet also declared the valley of Wajj at Taif a Harim zone.[31] This established a very important principle that could be applied elsewhere, in such cases as the development of areas rich in resources and thus having great value. A balance between preservation and development is necessary in those areas. For example, private ownership of a water well is forbidden in Islam because the well could be useful to provide a watering and resting area for livestock and room for irrigation facilities.[32] This means that any water well should not be a Harim, but be available for public use. Other facilities that may not be a Harim zones are river banks, irrigation canals and roads—these areas are considered public domain.[33]

Secondly, the Prophet of Islam defined the related institution of Hema (reserve area) as a set of regulations controlling the extent and intensity of utilisation of resources.[34] The oldest known Hema was declared by the Prophet in Madinah, where it was estimated to be equivalent to six square miles in area and used for the horses of the Muslim army as a grazing ground. The Prophet climbed a mountain in the El-Baqia area in Madinah declaring such area as his Hema, forbidding hunting within four miles and destruction of woody vegetation within

twelve miles.[35] The Prophet of Islam prohibited private reserves for the exclusive use of individuals; they were to be used by all the people and not just the elite class. Umer, (the second Khalifa of Islam after the Prophet) and Abu Bakr asserted that if it were left to his own decision, he would not put any land under Hema, thus avoiding exclusive use of land by individuals.[36] However, Uthman, the third Khalifa extended the use of protected government areas for use by the public.

Harim and Hema are both important for environmental planning practices. If utilised properly, they contribute to many kinds of public benefits such as in protection of water courses, canals, springs, wells and roads. They are also of a great significance to woodland and wildlife conservation and for habitat development.[37]

Site selection is very important in establishing a Hema, for it should be strategically selected to accommodate diverse ecosystems that are able to support a variety of fauna and flora. Grazing and wood cutting should be restricted according to the nature and ecological suitability of the selected site.[38]

Islam established guarantees to animals to have free access to food and water, creating an ideal relationship between man and beasts, both domestic and wild. The Muslim should treat the creatures of Allah as he treats his fellow man. He should be fair and merciful. The Prophet of Islam gave wide guidance to all Muslims on how to deal with Allah's creatures.

Thirdly, Land Development or Land Reclamation in Islam (Ihya): Umer the second Khalifa said that whoever cultivated undeveloped land (belonging to no one) will own it. He and Ibn Auf reiterated the same from the Prophet, provided the land does not belong to any Muslim.[39] Imam Shaffie (819 AD) stated that any land that is not developed (or built) and not used as a Harim for developed land is considered dead lands or Mawat. To claim ownership of undeveloped land, man must demarcate the boundaries, water if it is dry and then reclaim it.[40] If the claimed land for Ihya is not revived (reclaimed within a specific period of time), the state has the right to take it back and give it to someone else. There are other conditions in which to acquire land through Ihya, such as obtaining permission

from the state before developing it. It should not be Hema or any land that has a value to society.

Islam formulated another type of land development during its long history, in which state-appropriated tracts of unowned or state-owned land are granted to cultivators who are in turn entrusted with reclamation by which they may benefit themselves and society. Islam also allowed for land leases, which is land owned by individuals or the state, to be granted to cultivators.

Islam and the Prophet emphasised the right of the whole community to have access to water and prohibited its monopolisation. The following traditions provide such a right. To the man who refuses his surplus water, Allah will say, "Today I refuse thee my favour, just as thou refused the surplus of something that thou hadst not made theyself." [41] No one can refuse surplus water without sinning against Allah and mankind. The Prophet declared in one of his teachings that water, pasture and fire are common elements to be shared by all people in society and he prohibited the selling of it[42] (Qur'ān, LIV.28).

Islamic Law (Shari'ah) is defined as the divine duty of man, and includes moral, pastoral theology and ethics.[43] There are four principal sources of the Islamic Law: 1) the Qur'ān or the word of God, 2) the Sunnah or the practice and sayings of the Prophet , 3) Ijma or the consensus of the scholars, and 4) Qiyas or the analogy of the religion. With these four sources the procedure is sequential, ie. first, the Qur'ān, then the Sunnah, followed by Ijma, and finally Qiyas.

In Islam there is no division between ethics and law. The ultimate consequence of man's acceptance of trusteeship is the arbitration of his conduct by divine judgement.[44] Islamic law is characterised by being stable because of it roots to the Qur'ān and Sunnah. It is dynamic because of encouraging mankind input through consensus and analogy.[45] Islamic law is not confined only to religious aspects, but it also contributes to the field of environmental planning. Llewellyn emphasised that Islamic law is value-centred. Unlike positivist law, which denies ethical or ideological content in legislation and which remains an overriding influence in the western legal system, Islamic law is unequivocally value-centred.

Ethics and law are not strictly differentiated, and all rulings of the Shari'ah concerning social transactions aim at realising certain divinely-ordained value goals. Llewellyn asserted that environmental planning is classified as one component of social transaction. For that, environmental planning in Islam is value-centred, aiming to realise the ultimate objectives of Islamic Law.[46]

The discipline of the objectives of Islamic Law is the basis of an integrative or system approach to Islamic values and involves distinguishing between universal goals and principles on one hand, and instrumental goals and specific applications on the other so as to define the hierarchy of values in Islamic Law[47] (Qur'ān, XII 107, XVIII.7).

The concern of Islamic Law for universal common good stems from the belief that all creatures have been created in perfection in order to have a support system for each other. This includes the use of water. Animals and plants which are the basic elements of a "life support system" are vital to man's existence and an integral part of the universal perfection. It is the responsibility of mankind to realise Allah's will of maintaining this perfection while utilising such gifts.[48]

E. Environmental Ethics in Islam

The Islamic word Tawhid or oneness of God, guides man to maintain the environment which is the sole property of Allah. Man has no right to destroy or cause radical disturbance to nature's flow, principle and balance. Al-Faruqi argued that all mankind possess the right to enjoy something, an individual right which God renews with every individual at his birth. It is neither vicarious nor hereditary, and hence, does not entitle man to pre-empt the future of other's pleasures of it. As a steward of the earth, indeed of creation, man at death is suppose to hand over his trust to God in a better condition than when he received it.[49]

Allah has selected man to be His trustee on earth, which means that man can either maintain the balance of nature or spoil it with his incorrect actions. Mankind has the right to explore every corner of the earth and to utilise it for his

welfare as well as for other creatures. The oneness of Allah teaches man how to act morally, and not waste what Allah has given him (Qur'ān, XVII 26,27. VI.141).

Goma, in his significant work The Earth as a Mosque claimed that Islam through the teachings of Tawhid demands that man search for and comprehend the patterns of Allah in nature that constitute its general order and beauty. Moreover, it is also mandatory for Muslim nations to incorporate such teachings into their educational and social systems where scientific knowledge should assist them in understanding the complexity of nature. He also stated that Islam is not divorced from the moral realm of man because it is rooted, directed and motivated by Tawhid. Because the objective is to seek the unity of truth, therefore environmental planning, which is related to Tawhid, becomes moral, rational and holistic.[50]

Sardar stated that knowledge in Islam is to enhance man's ability to rationalise matters in a positive dynamic and holistic manner. Such style of thinking directly alters man's behaviour so as to conform to Allah's ways as prescribed for him as vicegerent on earth. It is a concept on which the entire rationale of Islamic environmental ethics is based.[51]

In the western, non-Moslem world, Mircea Eliade has argued that for the religious man, space is not homogenous; he experiences interruptions in it. Some parts of space are qualitatively different than others. "Draw not hither" says the Lord to Moses "Put off they shoes from off they feet, for the place whereon thou standest is holy ground" (Exodus, 3,5).[52] There are, then, sacred spaces and there are spaces that have greater sacred significance, such as Makkah, Madinah, Jerusalem, churches, mosques, synagogues or other temples that provide significance to other religions and beliefs. But Islam considers the whole earth pure, clean and sacred (Qur'ān, VII.56). In Islam, the secularisation of the earth by declaring it as a mosque goes beyond being a metaphor or a mere mystical allusion. It is a reality in which Muslims all over the world must believe so they are able to transform it into physical action. The sacredness of the earth takes other forms besides that of prayer, where development and reclamation of land could be

considered as sacred and not less important than the act of prayer itself. Allah did not designate any space on earth as being profane or evil, but it is only by man's irresponsible action that part of the earth has become polluted.[53] Another aspect of Tawhid, or the oneness of Allah, could be cited when Muslims, all over the world, direct their prayers towards the Ka'aba without any restrictions on assigning a particular place as a mosque.

Unethical actions are products of unprincipled intentions, which are considered illegitimate and immoral, because the Prophet said, "Actions are only judged by intentions."[54] Therefore, Muslims must differentiate between development and injurious development before formulating any policy or decision (Qur'ān. II.11-12). Therefore, intentions should be translated to reality, otherwise, they will remain conceptual, separated from practical issues. Islam guides man by classifying actions into five categories:

1. Obligatory, which is the demand that requires men to do certain things
2. Recommended, in which the demand is not absolute
3. Permitted, or legally left indifferent
4. Prohibited, which is the command to abstain from doing certain things and
5. Reprehensible, that is to be forbidden from doing certain things. [55]

Sardar states that the intrinsic holistic character of the Shari'ah means that one or two aspects of Islamic law cannot be imposed on a society at the expense of others or at the expense of the basic ethical principles which the Shari'ah aims to promote.[56] While the Shari'ah's values and goals are valid and obligatory, when certain crises occurs in a society, such as an earthquake, famine or drought, the governor has the right to freeze or suspend some rules. However, Islamic law provides man with a holistic view of the environment and requests man to apply this view in dealing with these problems, including those of the environment.

As illustrated earlier, the Qur'ān and Sunnah contain stable guidance because they were devised by Allah, the creator of the universe who is free from space and time. As such, the principles of individual and social behaviour revealed by Allah are based on absolute reality and are eternal.[57] However, consensus and independent reasoning (Jima and Ijtihad) which are the supplementary sources of

the Shari'ah, provide people of all ages with a method to adopt and apply divine guidance to problems of their times, where the supplementary sources of the Shari'ah are problem-solving tools and provides a methodology for adjusting to change.[58] Therefore, the stability and the dynamics of the Shari'ah provides mankind with a stable vision on how to approach and deal with his environment, where such visions prevent man from changing values and ideals, but to adapt to the growth of environmental systems. Similar to the concept of dynamic equilibrium in ecology, Ijtihad provides the Shari'ah with flexibility to adjust to changes in human needs and problems through time to maintain its dynamic equilibrium as well.

Muslim jurists have classified three major levels to apply the universal common good of the Shari'ah: 1) Absolute necessities essential to establishing the aspects of religion and preserving life physically and spiritually; 2) social needs essential for elevating hardship and complexity in rituals and transactions of a society, such as the building of roads, mosques and hospitals; and 3) refinements serving some particular end such as the promotion of Islamic morals and culture.[59] This hierarchical level of the Shari'ah becomes critical when ranking the facets of environmental problems.

Odum visualised the hierarchical complexity in the structural organisation among organisms as a biological spectrum. It ranges from genes to ecosystems. He claimed that ecology is concerned with populations, communities and ecosystems within this spectrum which exists in all living things. For example, the existence of living tissue or an organ cannot be possible outside the organism, and the organism cannot be separated long from its population, which in turn cannot exist outside its community, which cannot exist outside its physical environment.[60]

Setting what is permissible and what is not permissible requires limits and boundaries. Where Allah laid down those limits, they are called divine limits. They consist of certain principles, checks and balances, and specific injunctions in different aspects of life and activities. They have been prescribed in order that all Muslims can be trained to lead a balanced life.[61] Sardar explained the wide area between the two limits of permissible and impermissible, saying that the Shari'ah is

like a spiral, confined by its limits, but moving through time with a normal progression requiring a fresh effort to be understood by Muslims in every epoch. It limits the maxima and minima of human behaviour by erecting a clear cut boundary. The Hudud is the limit, outside of which all actions are categorically unIslamic.[62] Allocations that are Halal, or permissible, benefit man and his environment, while Haram, the impermissible, destroy man and his environment.[63]

Another important concept in Islamic law which the Prophet mentioned is Darar or Dirar, which means neither harm nor reciprocating harm. Akbar explained this important concept, saying that one may alter the created environment as long as the alterations cause no harm to others and they are applied consistently by Muslim authorities to evaluate the legality of individual actions in the physical environment.[64] Applying this concept to environmental ethics, man must be careful when formulating any decisions related to the balance of nature, weighing benefits against potential harm to the environment.

F. Conservation and Preservation Ethics in Islam

Allah, by specific reference to specific buildings, sites and location of sacred areas, emphasised their importance. The Prophet of Islam designated Makkah and Madinah as a Harim or protected sacred place, as well as the valley near Taif. The designation of sacred areas by the Lord is also evident in the other major religions such as Christianity and Judaism. There is evidence, therefore, not spelled out specifically in the Qur'ā n, but by implications, that care should be taken to preserve and maintain sacred areas and buildings.

In all religions, including Islam, there is both form and substance. The preservation and special emphasis of places of worship by mankind is directly related to form and is an integral part of the religion. Places of worship, where believers gather on their designated day of worship, give special significance to the structures and areas where they practice their religious belief. Islam is no exception.

Allah instructed Muslims to maintain his house in Makkah (Qur'ān IX.19). Further more, he gave his house significant importance for the continuity of a known and familiar symbol for all Muslims. It was a place for worship, tranquillity, mercy, love and education. It was a place where Muslims met from all corners of the earth with common interests to affirm their faith in Allah. This provides an undisputed importance for preservation to both the simple but significant structure of the Ka'aba to its location within Makkah.

Historically, Muslim leaders encouraged preservation and harmonious city planning. Umer, the second Khalifa in Islam, was a good example of a practitioner of preservation. He not only practised preservation of Islam's important structures, but was keenly aware of the symbolic importance of other religious structures as well. When Muslims fought around Jerusalem, and almost captured it, the Cardinal of the Christian Church insisted on handing over the city's key to Umer personally because of Umer's reputation of being fair with Muslims and non-Muslims. Umer accepted the cardinal's invitation and travelled from Madinah to Jerusalem, met with the cardinal and signed a famous treaty in Islamic history. In that treaty, Umer secured for the Christians their lives, monies, churches, buildings and their religious ceremonies. Another interesting event occurred during the visit of Umer to the church. When the noon prayer took place Umer insisted on praying alone outside on the steps of the church. When the Cardinal asked him to pray inside the church, Umer refused and explained the reason behind it. He was afraid that Muslims might construct a Mosque where he prayed and thus convert the church into a mosque. This treaty and the event of the prayer shows how Umer was wise not to disturb or harm the Christian's beliefs, as well as the respect he showed to other nation's religions and dignity.

By the time of Umer, the Islamic state had witnessed its greatest expansion. Muslims had conquered Egypt, the Byzantine Empire in Syria, and the Persian Empires in Iraq and Iran. All of these nations had witnessed great civilisations and built huge temples and palaces. However, Umer never asked for demolition of a single monument, which supports the claim that Islam is not against preservation of buildings. Moreover, Umer also instructed the Muslim soldiers, upon their return from conquering Syria, to build their houses outside Madinah. When he noticed the

influence of the Byzantine style on the new buildings, Umer tried to maintain the architectural style of Madinah. It is recorded also that Umer, while performing Omra, on a visit to Makkah, noticed that one of the buildings near the Holy Mosque was raised to a height above that of the Ka'aba. He ordered the removal of the extra floor of that house in order to maintain respect for the Ka'aba.

In early Islam, the focal point for the community was the Friday Mosque, the Grand Mosque. Usually around the main mosque the major commercial and municipal buildings were erected. In smaller neighbourhoods, a mosque was the centre of the residential areas. The logic behind this was to enable people to walk a reasonable distance to the mosque. The Prophet placed great emphasis on the upkeep and maintenance of the mosques. The Prophet's example was closely followed by all the people in preserving and maintaining their own buildings. Therefore, we conclude that preservation was encouraged by example, and extended to the total community.

Faith, like all other strong emotions, often translates itself into symbolic forms. The translation of the love of Allah has produced some of the most beautiful and architecturally significant structures. Some of the most magnificent structures in the world today are examples of the glorifying of faith. Furthermore, throughout history, religions have motivated people to do a great deal of good in many areas touching their lives. The arts in general had great support by religious institutions. Music, for example, owes a great deal to religion. Again, religion often was an extension of political power, therefore, a great number of places of worship symbolised this relationship. It is logical and important to preserve these areas, as they have a significant role to play in the everyday life of most people. By this extension, the preservation of these historical monuments provides not only continuity but perpetual glory to the religion.

G. The Islamic Context and Makkah

The teachings of Islam and the Prophet provides for the basic principle of respect towards other religions, cultures and nations. Such respect towards others extends to the natural environment to include animals, forests, water, and other

natural resources. Islam, as previously mentioned, encouraged people to maintain their natural environment. Notably, the concepts of Harim and Hema, applied to Makkah, provide protection of natural resources. The attitude of Islamic doctrine for such protection is not merely a viewpoint, but a fundamental concept of Islam towards the natural environment. The ideal is that nature and all its beauty is awarded to mankind by Allah and that it is the responsibility of people to maintain and preserve its balance.

Extending this ideal, one can see how the importance of preservation and conservation in that most sacred of places for Muslims, Makkah, must be considered important. Muslims believe that Makkah was designated by Allah as the most sacred of places on earth. The Prophet declared Makkah as a prohibited place and had been so since the creation of the earth. Ibrahim then asked Allah to make it a secured area after the foundation of the Ka'aba was raised. Indeed, all prayers for Muslims take place in the direction of Makkah. Makkah contains various places and structures significant in the history of Islam, including the Zamzam well, the Prophet's birthplace, the house of Khadijah, and the Hera cave where the message of Islam was revealed to the Prophet. Certainly such a holy location merits special attention. The destruction of many of these holy sites for economical and expedient development is certainly not the special attention envisaged.

Maintaining and conserving specific buildings or sites is solid proof of previous existence and civilisations. For example, maintaining the historic buildings and sites of Makkah provides all Muslims who visit during Hajj with strong pride in the historical significance of the Muslim civilisation and Islam. To do otherwise diminishes the significance and importance of both. The preservation and conservation of historical buildings and sites should always remind people of historical events and their physical settings. Preservation and conservation also opens a wide field of knowledge for scholars to study, learn, analyse and interrelate specific events with locations. Further discussion is offered in Chapter 6.

REFERENCES

1. Goma, Hesam, The Earth as a Mosque, Ph.D. Thesis, University of Pennsylvania, 1991, p. 31.

2. Maududi, Abul A"la, Towards Understanding Islam London,

   The Islamic Foundation, 1988.

3. Al-Faruqi, Ismail, Tawhid: Its Implication for Thought and Life,

   Washington, D. C.: The International Institute of Islamic Thought, 1982, p. 40.

4. Nasr, Seyyed, An Introduction to Islamic Cosmological Doctrines,

   Cambridge, MA., Harvard University Press, 1964, p. 116.

5. Ibid, p. 231.

6. Husani, Waqar, Islamic Environmental Systems Engineering, 1980, p.40.

7. Goma, Hesam, op. cit., p.50

8. Manazoor, Parves, "Environment and Values: The Islamic Perspective",

   in Sardar, Z. (ed) The Touch of Midas, p. 157.

9. Abdulati, Hammudah, Islam in Focus, Indianapolis, Indiana,

   Amer Trust Publications, 1975, p. 56.

10. Maududi, Abu'A'la, Introduction to Understanding Islam, London, The Islamic Foundation, 1980. p. 92.

11. Hamidullah, Muhammad, Introduction to Islam, p. 67-68

12. Abdulati, Hammudah, Islam in Focus, p. 96.

13. Hamidullah, Muhammad, Introduction to Islam, p. 64.

14. Abudlati, Hammudah , Islam in focus, p. 99.

15. Goma, Hesam, op. cit., p. 57.

16. Haider, Gulzar, Habitate and Values in Islam: A Conception Formulation of an Islamic, p. 177.

17. Manzoor, Pervez, "Environment and Values: The Islamic Perspective, in "Ziauddin", Sardar (ed) The Touch of Midas, 1984, p. 159

18. Ibid,p.159.

19. Goma, Hesam, op. cit., p. 60.

20. Ibid, p. 61.

21. Llewellyn, Othman. "Desert Reclamation and Islamic Law", in The Muslim Scientist, Volume II, No. 1 (Jan-March 1982), p. 13.

22. Llewellyn, Othman. "Sariah Values Pertaining to Landscape Planning and Design", in Ayden Germany, Islamic Architecture and Urbanism: A Symposium, King Faisal University,Saudi Arabia,1983,pp.31-42

23. Goma, Hesam, op. cit., p. 62.

24. Ibid, p. 64.

25. Yamani, A. Zaki, Islamic Law is the Answer to the Contemporary Issues of the World, 1967, p. 11.

26. Musnadu, Ahmed, Vol. 3, part 5, p. 228. Edited by Ahmed Shakir, 3rd ed. (Misir 1368-1372) Quoted in Safak, Ali, Urbanism and Family Residence in Islamic Law, 1980, p. 22.

27. Yamani, Zaki, Islamic Law. p. 12.

28. Goma, Hesam, op. cit., p. 78.

29. Al-Bahuti, Mansour Ibn Yuniss, (1046 Hijira), Kashf al-kena'hann Mattan el-lqtima, Riyadh, Saudi Arabia: Maktabt el-Nasel-Hadithah, (u.d.) p. 468.

30. Llewellyn, Othman, op. cit., 1982, p.17.

31. Al-Bahuti, M. p. 471.

32. Llewellyn, Othman, op. cit., 1982, p.16.

33. Ibid, p. 74.

34. Eighmy, J. and Ghanem, Y., The Hema System: Prospects for Traditional Subsistence Systems in the Arabian Peninsula, 1980, p. 1. Also quoted in Goma, Hesam, op. cit., p. 85.

35. Al-Mawardi, Ali, Al-Akham as Sultanyyah, The Islamic Rules, 1983, p.160.

36. Ibid.

37. Goma, Hesam, op. cit., p. 89.

38. Llewellyn, Othman, op. cit.,1982, p. 18.

39 Al-Mawardi, Ali, al-Akham al-Sultaniyyah, The Sultanic Rules, 1984, p. 153.

40. Ibid.

41. Norvell, M., "The Development of Water Law in the Arid Lands of the Middle East and the U. S.: A Comparative Study"; in E. Whitehead (et all), Arid Lands: Today and Tomorrow, Proceedings of an International Research and Development Conference, Oct. 20-25, 1988 at Tucson, Arizona, p. 292. Also quoted in Goma, Hesam, op. cit.

42. Llewellyn, Othman, op. cit., 1982, p. 12.

43. Vesey, Fitzgerald S., "Nature and Sources of the Shari'ah", in Majid Khadduri and H. Liebesny (eds), Law in the Middle East, NY, AMS Press, Vol. 1, 1984, pp. 85-112.

44. Manzoor, Pervez, "Environment and Values: The Islamic Perspective", in Ziauddin, Sardar (ed),The Touch of Midas,1984,p.157.

45. Goma, Hesam, op. cit., p.135.

46. Llewellyn, Othman, Islamic Jurisprudence and Environment Planning, 1984, p. 25.

47. Ibid. p. 27. Also quoted in Goma, op. cit., p.136.

48. Goma, Hesam, op. cit., p.138.

49. Al-Faruqi, Ismail, "Tawhid: Its Implications for Thought and Life", Washington, D. C. The International Institute of Islamic Thoughts, 1982, p. 68.

50. Goma, Hesam, op. cit., pp. 150-151.

51. Sardar, A. Islamic Futures: The Shape of Ideas to Come, New York: Mansell Publishing Ltd., 1985.

52. Eliade, Mercia, The Sacred and the Profane: The Nature of Religion, translated from the French by Willard R. Trask, New York: Harcourt Brace, and Jovanich Publishers, 1959, p. 116.

53. Goma, Hesam, op. cit., pp. 155-156.

54. Fazl, Mirza, Selections from Mishkat al-Masabih, Lahore, Pakistan: Sind Sagar Academy, 1977, p. 79.

55. Muslehuddin, Mohammed, Islamic Jurisprudence and The Rule of Necessity and Need, Islamabad, Islamic Research Institute, 1975, p.23.

56. Sardar, Z. Islamic Futures: The Shape of Ideas to Come, p. 116.

57. Khorshid, Ahmed, Islam: Its Meaning & Message, London, The Islamic Foundation, 1975, p. 43.

58. Sardar, Z., op. cit., p. 115.

59. Gerasha, Ali, al Mashroeiah al Islamiah al Olia, p. 188, also in Sardar, Z., op. cit., p. 117.

60. Gopal, Brig and Bhardwaj, N. ,Elements of Ecology, New Delhi: Vikas Publishing House Ltd., 1979, pp. 3-4.

61. Maududi, Abu a'la, "Political Theory of Islam", in Khorshed Ahmed (ed.), Islam - Its Meaning and Message, London, The Islamic Foundation, 1975, pp. 147-171.

62. Sardar, A., op. cit., p. 119.

63. Goma, Hesam, op. cit., p. 181.

64. Akbar, Jamil, Crisis in the Built Environment, Singapore: Concept Media, 1988, p. 93.

CHAPTER FIVE

Comparative Conservation Solutions from the Western World and the Arab World

This chapter will examine other selected countries of the world and their viewpoints and solutions for conservation and preservation of cities and historic buildings. The rationale behind this exercise is to learn from the experience of both developing and developed nations and to highlight policies that might suit the local needs, culture, existing regulations and attitudes of the Arab World in general and Saudi Arabia and Makkah in particular. The author will try to show that the basic elements of conservation are the same regardless of culture or scale.

The first section examines Western ideology and ethics toward conservation. Although the importance of preserving heritage and identity is not limited to the Western world, much can be learned from the West and applied to the scene under discussion. In the second, larger part of this chapter, the author presents three comparative case studies of successful preservation efforts in the Arab world in Jerusalem, Jeddah, and Abu Simbel. In each of these efforts, again, lies a lesson for city planners, architects, and the governments and peoples of the Islamic world, and Makkah in particular.

A. Conservation and Preservation Ethics in the Western World

Countries in the West have recognised and engaged in various concepts of conservation and preservation for a considerable period of time. The foundations and principles for defining rules and regulations therefore are not new ideas. Generations have simply refined those rules and regulations, adapting to changing needs while still preserving important cultural and historical monuments.

In 1933, Leopold was perhaps the first individual to propose the idea of ethical land use, while Beatley in his valuable book, Ethical Land Use concluded that such land use includes major efforts to protect the natural environment. Ethical land use policy acknowledges both the instrumental values served by and inherently worthy of the natural environment. He added that land use ethics must acknowledge human beings as creatures of the earth who do not possess the right to be destructive of their environment. They must have a basic respect for all forms of life and provide a concerted effort to minimise the impact of human action on the other animals of the biotic community. These obligations must extend to individual organisms, species and that of the larger ecosystem which sustains them.[1] In this respect, these ideas are in keeping with the tradition of ethical land use and respect for all forms of life as defined in Islamic doctrine.

Scholars in the West have argued that land use decisions have had an impact on the social structure and quality of lives for individuals, as well as the environment. All decisions about land use are inherently ethical judgements, and those choices raise questions of right and wrong, good and bad. The American Institute of Certified Planners (AICP) has had a professional code of conduct for many years that states clearly, "A planner must strive to explain choice and opportunity for all persons, recognising a special responsibility to plan for the needs of disadvantaged groups and persons, and must argue the alteration of policies and decisions which oppose such needs." [2] The American Planning Association (APA) calls for the expansion of "Choice and Opportunity" and the protection of the "integrity of the natural environment and the heritage of the environment." [3] The American Society of Landscape Architects (ASLA) urges the exertion of every effort toward presentation and protection of natural resources and an understanding of the interaction between natural resources and economic and social systems. It calls for more responsibility to reconcile the public's needs and the natural environment with minimal disruption to the natural system.[4] Certainly such a concept could be adapted for use in Makkah, where public needs are often in conflict with the natural environment.

Leopold in his pioneering study, A Sand County Almanac in 1949, stated that "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community, but is wrong when it tends otherwise."[5] Leopold's vision was a strong one, suggesting the need to consider the ecological characteristics of the land when using or managing it, and to consider human beings as one member of a larger ecological community.

Western thinkers consider ethical land use and actions as human rights. Donnelly notes that the source of human rights is man's moral nature which is only loosely linked to the human nature, defined scientifically as having certain needs. He argued that human rights are needed for dignity, quality of life, good health and cohesion. These help in the enjoyment of a good life [6]. Defining civilisation as a "sense of performance", Lord Clark [7] suggests that civilised man must feel that he belongs somewhere in space and time; that he consciously looks forward and looks backward. People acquire this important awareness of the evolution of society as they realise the birth and death of succeeding generations and learn about the past. Old buildings consolidate this awareness; indeed, they are symbolic of the permanence of human society.

Roy Gazzard, an urban designer living in Durham, speaking at a training seminar for engineers at Jeddah in 1984 expressed the difference between preservation and conservation in the following manner: "Whenever I return from the Hijaz, I always try to bring with me a kilo or so of dates from Madinah. Immediately I arrive at my home I put the dates in the 'freezer'. In doing so I know that their original taste and texture will be *preserved* but also that the dates will be *conserved* for future consumption by myself and my guests. In this way it is possible to appreciate the original taste and quality of Madinah. Dates as a product of the natural environment of Madinah thereby conveys to Durham something of what is essentially Madinah and its unique quality. This is the concept of sustainability which has yet to be comprehended by most Middle Eastern countries." [8]

Prince recognised differences between revival, restoration and preservation, stating that new buildings may be designed to look old by reproducing period styles of architecture or decoration, which he labelled revival. In his view, restoration includes old buildings redesigned to serve new uses. Replacing obsolete or unsightly portions to improve appearances falls within Prince's definition of restoration as well. Prince defined preservation as that of protecting and maintaining structures by keeping them in good repair.[9]

A majority of scholars agree on the rights of, and obligations to, future generations. Robin Attfield notes that we cannot speak for future generations as we can for the present generation, but that does not lessen our obligation to preserve for the future.[10] Kavka has argued that we have an obligation to future generations based on the Lockean theory that the present generation has an obligation when making decisions about land resources. He warned that a generation may use the earth's resources provided they do not waste them and be sure to leave enough in good condition for future generations. He also argued that the present generation needs to ensure that the future be as well off. We should respect the usable resources as left by our ancestors. [11]

The West has developed comprehensive historic preservation laws caring for and preserving its heritage. The main concept of preservation is the retention of buildings, sites and other remains of the past. The past has always exerted powerful pressures on the present. Lowenthal asserted that present day preservation stems from a three-fold awareness of the past: 1) it is unlike the present; 2) its tangible remains are rapidly disappearing; and 3) it is crucial to our sense of identity.[12]

Conservation undoubtedly saves natural resources. If an existing building is replaced by another, then a range of materials must be produced and at various stages quantities of energy consumed. If an existing building is rehabilitated, then materials and energy are consumed but in smaller quantities. It is now commonplace to emphasise the importance of conservation in both materials and energy through concepts of recycling and sustainability. Many contend that while

the earth's resources are finite, the demand for them is rising exponentially, therefore it is incumbent that we search for all possible conservation courses of action, indeed , even altering our way of life to reduce our impact on the world and its resources.

One of the most important means to overcome the basic financial obstacles of historical preservation and competing interests was introduced by Costonis in the United States and is called "The Development Right Transfer." The crux of the problem lies in the economics of old buildings because private developers cannot pay the ever increasing costs of maintenance and restoration, and the government will not assist in restoration projects of non-national landmark sites. With this plan, the owners of important buildings unable to full take advantage of sites as zoned, can sell or transfer these rights to owners of nearby sites. As an example, if the owner of a ten story building is not realising the full value of his investment and he wishes to demolish the building and replace it with a twenty story building, he has the alternative of selling the development rights to the ten stories above his building at fair market value. The air space above the historic building would be sold to developers who want to build more than current zoning permits on their own lots. In this manner, the owner of the historic structure is compensated and motivated to retain and restore his building. [13] This process could be extended to include neighbouring sites, as well as other locations within the city. It could also be used to limit a structure's height as well as to include open spaces in or near the site. The planners of Makkah have dealt with the financial problems of conservation by simply ignoring preservation of the majority of buildings, and opting instead for development and progress. This progress included demolishing historical buildings simply to provide for more valuable space. Due to the lack of financial incentives to do otherwise, owners of old and historic buildings became part of that progress by selling their land to developers or developing the area themselves, without regard to historical structures. Consideration of Costonis' idea of "The Development Right Transfer" could well be given in Makkah now to overcome some of the financial burdens of conservation and preservation.

Any legislative approach to historic preservation must be based on a prior designation of areas, sites or buildings considered to be of historic value. The National Register for Historic Places in the United States of America is one such organisation that sets guidelines for such matters. Nominations can be made by government agencies, the National Register for Historic Places or by private groups such as a neighbourhood or local appeals of its citizens. The final decision is based on certain guidelines. [14] The general criteria for inclusion in the National Register relates to the quality of significance in American history, architecture, and objects of State and local importance that posses integrity of location, design, materials, workmanship, emotions and associations. These criteria should be associated with events that have made a significant contribution to the history of an area. They should embody the distinctive characteristics of a type, period, method of construction or represent the workmanship of a master. Also distinctive should be the high artistic value and the representation of a significant and distinguishable entity whose components may have that unique characteristic of individuality. They should also have yielded, or maybe likely to produce, information of the past. [15]

Harenen and Lagenback discussed how the importance of buildings provide absolute historical significance, not only because of their creation in a particular period or its architectural value but from the social context in which they were used and the historical experiences that were associated with them. The challenge of conservation is to preserve the meaning of the way of life which buildings represent to those who have worked and lived in them as well as the more abstract and formal qualities based on knowledge of architectural and technological history. Preservation is in a sense a community act of responsibility. It is important as a process in its results, contributing to the mutual education of people who see beauty and value in terms of architecture or of a building's place in the history of engineering, technology or town planning.[16] (There remain in Makkah many buildings which through public initiative and education, could be maintained so that visitors and pilgrims could enjoy the glorious past of the city.)

Below the national level of legislation and policy, the US gives possibly a clear example of how local and private initiatives can lead in conservation. (It is worth noting that this nation does not have a long history of existence.) The technique of preserving the historic Fairmount Hotel, a 79-year-old historic building in San Antonio, Texas, was an outstanding and unique attempt (Figure 5.1). Not only was the hotel preserved, but it was moved from its original location to another location.[17] If one nation has the technique and wealth to save historical building, then other nations, such as Saudi Arabia, can learn such a lesson and apply the same techniques to the historical structures in the holy city of Makkah. It requires concern, awareness, knowledge and effort from those of influence and power to carry out such endeavours for the good of all.

One of the most comprehensive conservation and preservation movements is to be found in England. Gordon Cherry in his important 1974 paper, "The Conservation Movement" emphasised that old buildings express the continuity of human society. One of the more disturbing realisations in life is that the human lifespan is very short and it is some comfort to know that human society is less ephemeral than we are. [18]

Roy Worskett's The Character of Towns (1969), another excellent contemporary British approach to conservation planning, went further:

"It is possible to judge the quality of an age or society by the way in which it cares for its elderly people. It is also increasingly true to say that one can judge a society by the degree to which it allows the qualities of its urban and rural environment to be destroyed, either inadvertently or by purposeful vandalism. The archaeological, architectural, and visual qualities of our many historic towns can make a considerable contribution to the quality of our environment if we realise their value and urgently take action to conserve them. This involves everyone—not only the architects and town planners, but everyone with eyes to use and the will to make a fuss."[19]

Fig. 5.1: The Fairmount Hotel,
(San Antonio Conservation Society, 1986)

The conservation movement this century, came in fits and starts, with an uneasy alliance between the lobbying initiatives of a few with professional and/or community interests, and the often belated responses of the government. The first organised attempts to preserve Britain's historic buildings came from the number of voluntary bodies from the latter part of the nineteenth century onwards. The Society for the Protection of Ancient Buildings was founded in 1877 and the National Trust for Places of Historic Interest or Natural Beauty in 1895. The Ancient Monument Act dates from 1882 but for many years the interests of the state were only met by the goodwill and co-operation of private owners of the land concerned. Only in 1913 were powers provided compulsory to prevent the damage and destruction of monuments.

The planning acts themselves gradually formed the statutory framework to the development of the conservation movement, beginning with a permissive clause in the Housing, Town Planning Act of 1909. The Town and Country Planning Act of 1932 considerably extended the geographical scope of statutory planning. Section 17 of the act allowed for a system of preservation orders for buildings of architectural or historic interest. The first orders were submitted in 1936, but the initiative still lay with advisory bodies such as the Royal Fine Art Commission which was set up in 1924; a panel system instituted by the Council for the Preservation of Rural England; RIBA; and the Institute of Builders—all of these gave skilled advice to local authorities on the external appearance of buildings.

During World War II, the interventionist role of government increased markedly. The Town and Country Planning Act of 1944 contained the provisions for the designation and preservation of buildings of special architectural or historic interest. The 1947 Town and Country Planning Act broadly re-enacted these provisions, and also those relating to the preservation of tree and woodlands. Above all, relative to conservation, it introduced the comprehensive development plan system and brought virtually all development under local authority control.

From 1947, the list (MHLG-DOE) of buildings of special architectural or historic interest and the obligation to secure local authorisation to materially alter or demolish buildings, plus the opportunity to serve a building preservation order, has lain at the heart of British conservation planning. This was not however enough. The focus then moved from individual buildings to the larger environment of which they were a part. The Civic Amenities Act, 1967, gave statutory recognition to conservation areas. It became the duty of local planning authorities "to determine which parts of their areas are areas of special architectural or historic interest, the character of which it is desirable to preserve or enhance." By the 1990s, some 8,000 had been designated. The UK is not unique in this respect. France, for instance had evolved a not dissimilar concept of the "protected sector" (secteure sauvegarde) in 1962 covering entire neighbourhoods and medieval districts of city centres. Once "listed" in legislation, owners must conform to a plan if they wish to demolish, transform, restore or rebuild new structures.

B. Conservation Efforts in the Arab World:

The preservation of Islamic architectural heritage and identity forms an important element in the definition of the historic and religious inheritance of the community. Islamic civilisation, influence and achievement left its mark over a very broad area, from Spain in the west to China in the east, from southern Russia to Africa. Islamic architectural monuments are treasures of artistic beauty and harmony, as well as engineering marvels. The Al Hamra in Spain is said to have the most beautiful relationships between its elements and the most pleasing proportions in its dimensions on all axes. Such monuments have become major tourist attractions, be they in Spain, Turkey, North Africa, Iran or the subcontinent.

i) Jerusalem

Jerusalem, unique as it is, shares characteristics with Makkah. It is a city where Judaism, Islam and Christianity existed in harmony for centuries. Although Makkah is strictly Islamic in nature, the religious dimension of both cities provides similar significance. The topography of Jerusalem is also similar to that in the

Makkah area. The major monuments in both cities are in valleys surrounded by hills. Jerusalem has a very important religious significance to Muslims because the first Qibla (direction of prayer) in Islam was towards Al Aqsa Mosque in Jerusalem. The house of Khadijah, the wife of the prophet, had two Qiblas—one towards Al Aqsa and one towards the Ka'aba. As mentioned in the Qur'ān, the holy trip of the prophet to meet his creator began in the Holy Mosque in Makkah then onto Al Aqsa Mosque, where he led prayer for all other prophets there. The Al Aqsa Mosque is considered the third holiest mosque after the two in Makkah and Madinah.

An important study of Jerusalem was made by Arthur Kutcher in 1973[20] — a study which had a major impact on the development plan and resulted in very strict applications of the building regulations. The application of these regulations was sufficient to maintain the historic character of the city without halting required development or expansion. The study had both public and official support in preventing the alteration of character and harmony of the fabric and history existing within the city boundaries. This study is a good example of how to address a situation requiring both action and compromise in reaching agreeable solutions to a pressing problem, one which certainly parallels Makkah in that respect. Unfortunately, this kind of compromise and action is increasingly ignored today. Instead, a new way of thinking about Jerusalem has emerged. The city is a resource to be exploited. Its spiritual and visual qualities are commodities to be bought and sold. The authorities, in order to raise ready cash, have been selling the city's visual and symbolic heritage. Architects, members of the third generation of modern architecture, finding this way of thinking not at all uncongenial, have eagerly joined in the reconstruction of Jerusalem, ignoring the fact that it is a sacred city of all religions. It is an example of the same thought process that has occurred in the expansion of Makkah. As in Makkah, commercial concerns are now undermining the sacredness of the area. But we must go back to the earlier interpretations of Jerusalem town planning to find a pattern of successful preservation and conservation attitudes that can be applied to Makkah.

Jerusalem has been dominated and influenced by powers both East and West throughout history. A thousand years domination by the West from Hellenistic times ended with the Islamic conquest in the year 638 AD. Except for the brief interlude of the Crusades in the twelfth century, Jerusalem remained under the influence of the Orient for nearly thirteen hundred years. In 1917, the British, under General Allenby, captured the city from the Turks. Although the British Mandatory government nominally brought Jerusalem under Western influence, the city maintained its own cultural and economic identity.

Jerusalem is one of the most extreme examples of what modern Western technology and values have done to influence a city whose history and culture are so essentially pre-technological. It is a city that has been relatively uncorrupted by contemporary urban change. It is a city built according to principles and priorities so contrary to those of contemporary Western civilisation. It appears that people from many different cultures have always somehow known how and where to build and where not to build. The regional means of building in Jerusalem is, or was until recently, a territorial one which took into account the climate and utilisation of local materials. This reinforced the provision of a strong sense of uniqueness and of belonging to the area .

The original buildings might seem modest and even humble, but that is immaterial. It is not the individual buildings that count, but rather the ensemble and the relation of these to the location. Examples of these are found throughout Jerusalem in various nuclear groupings reflecting the lives of the various groups that inhabit them. The greatest and most compact collection of these is the Old City itself (Figure 5.2).

The dense structure of buildings in the Old City, composed of introverted residential clusters roughly following a 70m x 70m grid, has its origins to a great extent in Crusader times with occasional traces of Byzantine and even Roman constructions still discernible. The two monumental features of Jerusalem's scene

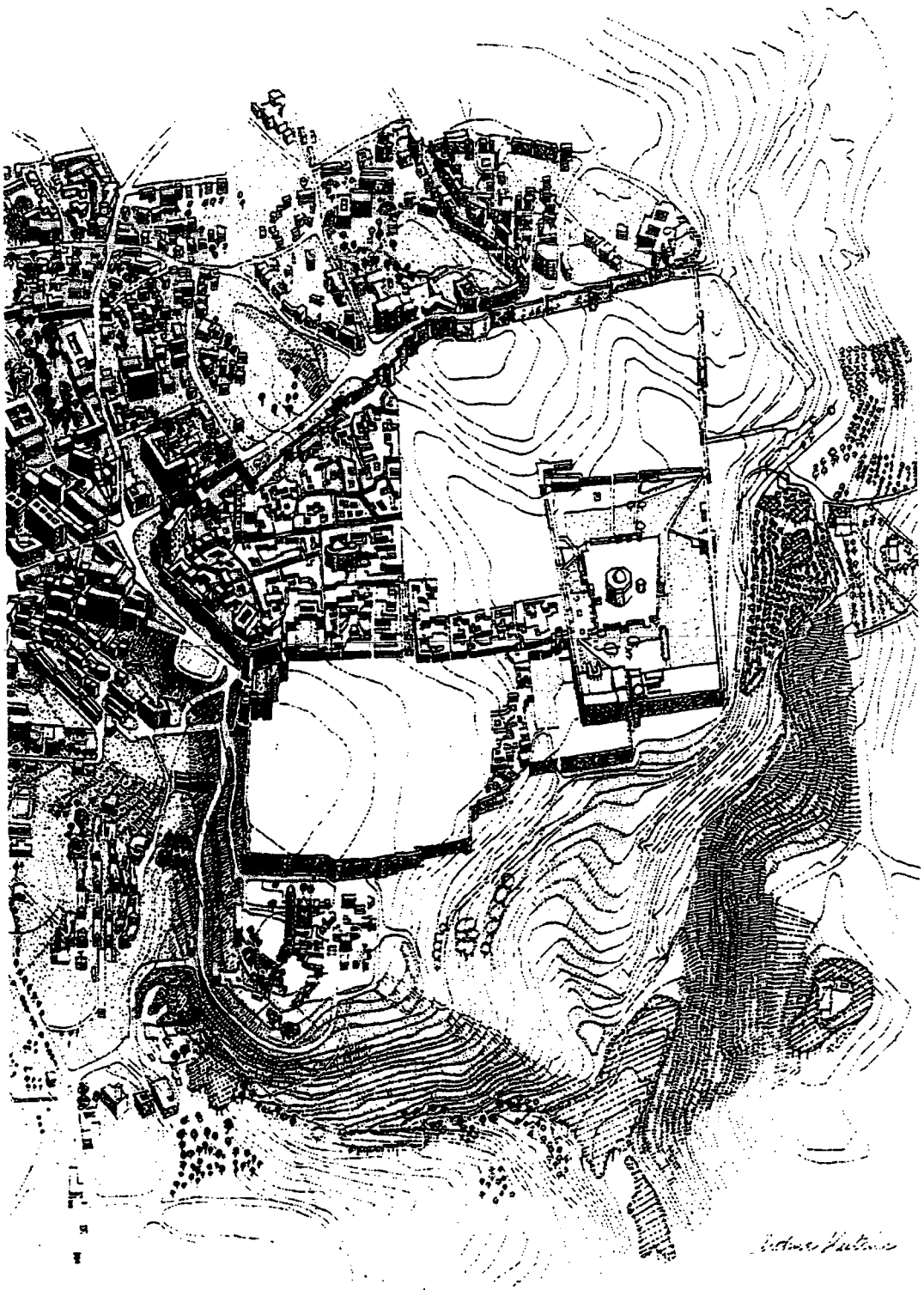


Fig. 5.2: The Old City of Jerusalem
(Kutcher, 1973)

are the Turkish Old City wall and the Temple Mount. Built on Herodian foundations, they relate their position, their dimensions and details to the environment. The wall surrounding the Old City was built in its present design by Solomon the Magnificent in the sixteenth century. It is an excellent work of military engineering, and is also surely an architectural masterpiece. Exemplary by any standards, it is an accomplishment that knows not only what it was designed for, but also with an eye for topography. The principles of organisation which have formed the Temple Mount are totally interlocked with the structure and rhythms of the landscape which enclose it.

The most important point, however is not that this relationship was always consciously recognised, but that it grew out of the inherent pattern of the location, and that the Temple Mount, as the focal point, is the place where all the visual lines of landscape come to and end. This equilibrium is seen and felt not only when viewing the Temple Mount from its hill top axes, but also as the cumulative impression is gained by moving around and through the visual space around the Old City, seeing and recalling the changing scenery with the display of minarets, spires and domes.

The scenic area of the Old City is in fact quite limited. It is only about two by three miles from horizon to horizon. Its dominant buildings, compared to Western architecture, are quite small (Figure 5.3). The exquisiteness of its landscape and its buildings would be crushed by the presence of ordinary, medium sized contemporary buildings and roads: the ambiguity and impressiveness of its scale would be diminished.

It has been pointed out that the siting of the Temple Mount is based upon the principle of the equilibrium of the total landscape at a single point. Its finely balanced position, together with its relatively low level and small size, makes the dominance of the Dome of the Rock within its visual space extremely delicate and much more susceptible to the threat of high-rise buildings.

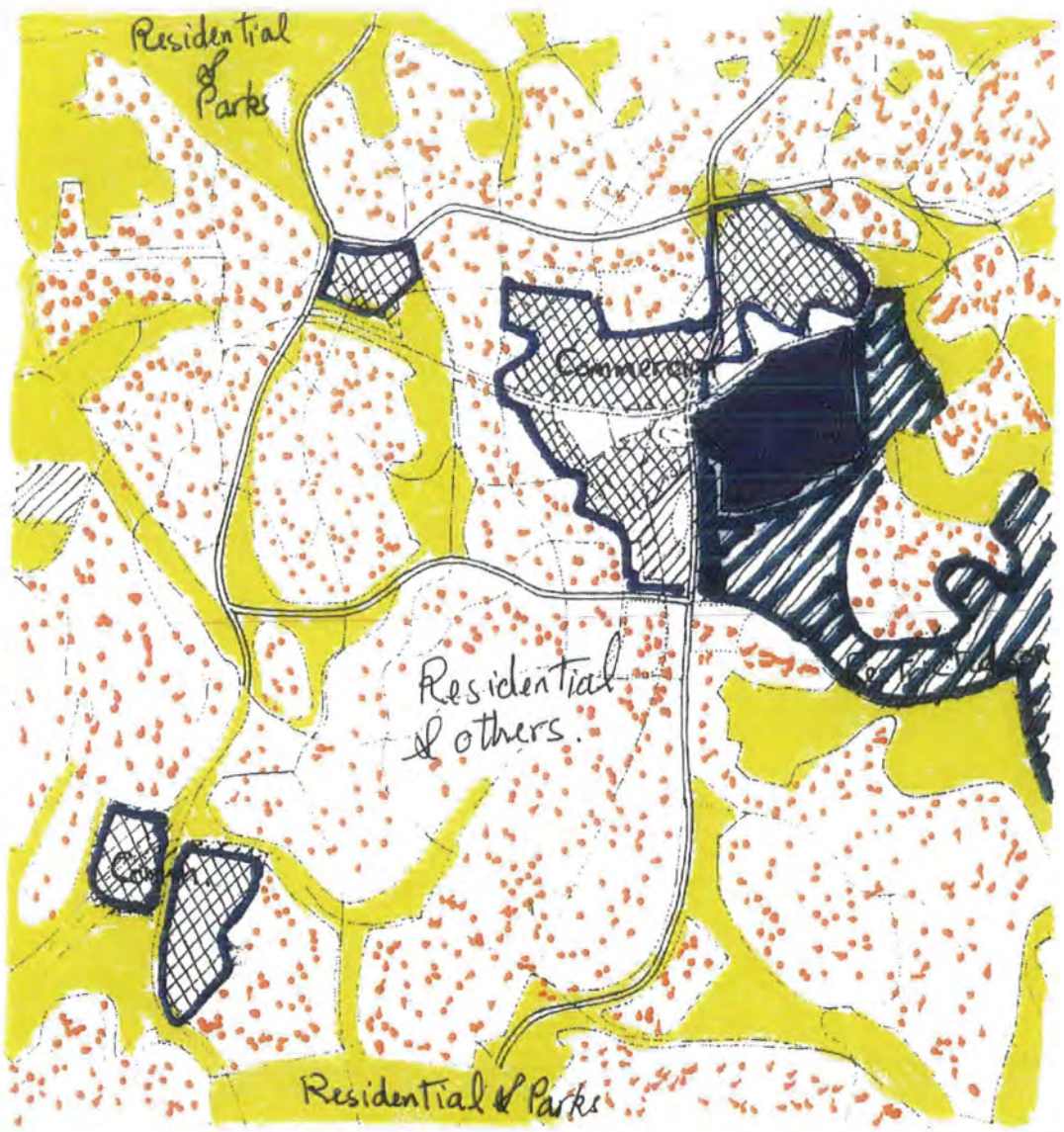
Fig. 5.3: Jerusalem Townscape: The Dominant Architectural Elements
(Kutcher, 1973)

The representation of Jerusalem in drawings and plans from the past have one feature in common: they treat the city as an organic whole and as part of a larger perceptual unity. The relation between the city and the landscape is usually as important as the internal structure of the city itself. The common themes which had guided the ancient, medieval and 19th Century builders of Jerusalem, and which have inspired those who depicted the city through its history, were also themes on which planners of the British Mandatory government recognised as valid and viable and became the basis of the mandatory plans for the city of Jerusalem.

The first mandatory town plans were based upon the premise that the old city and its surrounding landscape constituted an organic whole and within the Holy City itself the union was considered to be the spiritual ideal. For this reason the area was to be protected from the encroachment of urbanisation by marking off a large open area and creating a green belt around the Old City. The major portion of the new urban development was to take place to the west of the Old City on Jerusalem's Mediterranean plateau.

Several plans were devised later but all recognised and, as far as possible, tried to implement the concepts which were basic to the first mandatory plans. The failure of some plans to maintain these concepts in the face of pressure for development does not indicate that any new planning ideology has replaced the original principles, but only that the plan had lost the battle to the politicians. The most recent plan for the city was the Master Plan of 1968 by Hashimshoni Schweid (Figure 5.4). This plan demonstrates the same shared awareness of Jerusalem's special distinction which is common to the plans of the past. This plan's basic physical premise, that the city should have a clearly defined rim surrounded by a green belt of open space, is solidly within the tradition of previous plans. The manner in which this premise is developed in the master plan would give the Old City visual and functional coherence: Jerusalem would fill out the city space of its mountain top plateau and the city's edge would therefore be clearly defined by the steep slopes surrounding the plateau. In the area of the Old City, particularly, the master plan illustrates an awareness of and understanding for the principles of the

Fig. 5.4: Jerusalem: The historic core area enclosed by commercial development and green suburban extensions
(Hashimshoni Schweid Plan, 1968)



past. The open space proposed around the Old City is more generous than in most of the previous plans.

The master plan, while producing some positive concepts also demonstrated new and strange ideas. The fundamental and commonly shared awareness is that Jerusalem's spiritual existence is inextricably bound up with its visual and tangible qualities. This is an awareness evidenced by four thousand years of building in the city.

More recently, an important study by Kutcher paved the way for conservation and preservation that was in danger of being replaced with uncontrolled development. This important study helped in raising an awareness in people to an extent that planning authorities and politicians were forced to rethink some of their attitudes towards redevelopment of Jerusalem. These pressures ultimately led to the adoption of conservative and strict building regulations that limited the height and colour of buildings to the extent that the unique character of Jerusalem was not compromised.

Issues involved in the Jerusalem planning are of interest and share important elements with issues for Makkah. The following extracts from Kutcher's study The New Jerusalem Planning and Politics may be considered particularly relevant.

1. Strategies

There were conflicting strategies between the Jerusalem Municipality, with their interest in preserving Jerusalem's historical areas, and the necessity of new housing developments in the surrounding hills away from the City. On the other hand, the Ministry of Housing advocated a compact City with a dense nucleus so as not to change the beauty of the surrounding hills. These differences have yet to be resolved. Makkah has faced a similar dilemma of conflicting interests.

2. Attitudes and Priorities

A great deal of the official and business attitude about growth is based upon how to exploit for financial gain Jerusalem's religious and historic heritage. Furthermore, the beauty of its surrounding landscape is also to be exploited to boost the economy. The financial aspects are not unlike those of Makkah.

3. Housing Policy

The promoters of high rise housing in Jerusalem includes the private developers, Ministry of Housing and the Ministry of Finance. They believe that such development will attract wealthy immigrants that ultimately will improve the overall economic wealth of the city through trickle-down economics. This approach will deny the general public, the majority of the people and visitors the beautiful views now enjoyed by everyone. Jerusalem has less than half of the park land and open space required for a city of its population, based on generally recognised international standards. This situation is getting worse as the authorities are allowing luxury hotels and apartments to be built on public land and even within the Municipal park.

4. High Rise Building Policy

The authorities have allowed high density buildings to provide a reasonable return on investment for the developers. The permits provided additional revenue to the authorities in the form of new towns. It is a very short-sighted policy, as the additional dense population cannot be handled by the existing road system. The new roads will go through the existing fabric of the city and will be extremely expensive to build. The cost will be much greater than the revenues collected from the developers.

5. Aesthetic Policies

In terms of planning priorities, aesthetic values are considered by the planning authorities to be merely a sentimental and expensive luxury which must give way to what are considered to be realities of economics and politics. The authorities threw away a plan linking 5,000 buildings in the city which merited

preservation for historical, religious or architectural reasons. The reason given by the Jerusalem authorities was that it would be impossible to regenerate the city if so much of it had to be preserved. Preservation and conservation have met with similar opposition in Makkah where some have argued that conservation on this scale is a waste of the wealth of Saudi Arabia.

6. The Central Business District Plan

The authorities commissioned professionals to come up with a plan for the city core. The planners recommendations included building height limits, pedestrian areas, parks and concerns about preservation. The plan addressed the problem of ad hoc high density areas and stressed the need for parks and open spaces. These suggestions, in effect, killed this study, as it contradicted the intentions of what the authorities had in mind. Ultimately, the authorities who commissioned the study totally ignored it.*

ii) Jeddah

The last fourteen hundred years of Jeddah's history has been closely tied to the historical development of Islam as a whole. Jeddah became the port of Makkah, being chosen by the Caliph Uthman less than half a century after the death of the Prophet in 632 AD. Jeddah flourished both as the gateway to the holy cities of Makkah and Madinah, and as an entry port for the shipment of gold, cotton and other goods. A sense of mystery pervaded "Old Jeddah" until recently, having been well captured by T. E. Lawrence, the renowned "Lawrence of Arabia" in his book Seven Pillars of Wisdom.

Jeddah today is one of the most modern and sophisticated cities in the Middle East. During the earliest days of the oil boom, in the decade after the Second World War, the sea port experienced a period of rapid growth and expansion. In 1947 the walls and gateways of "Old Jeddah" were finally demolished to improve vehicular access (Figure 5.5).

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* Jerusalem remained under the Jordanian rule until 1967, when Israel occupied the city after the Arab-Israeli war of 1967. Jordan succeeded to list Jerusalem in the World Heritage.

Fig. 5.5: Aerial View of the north west sector of the walled city of Jeddah, 1940 (RMJM, 1980)

A period of economic restraint followed the closing of the Suez Canal in 1956, but with the accession to the throne of King Faisal eight years later, national development became a matter of concern for the government. Today, Jeddah, beyond the concrete, glass and steel facades of the great trading houses that identify the city's central business district, "Old Jeddah" continues to flourish. It is a city-within-a-city and an enduring link with the past (Figure 5.6).

Among the historic buildings that survive within the "Old Jeddah Historic Area", the oldest are the mosques, among which the Minaret of the Masjid Ash-Shafi, is said to date from the 13th century AD. However, a plaque above the door states that the mosque's main body dates from almost 300 years later, being built by an Indian merchant who imported much of its building materials from Yemen. The Masjid Al-Hanafi dates from more recent times. It has a plaque identifying it as being built in 1732. Other buildings, comprising traditional town houses, palaces and commercial buildings are generally less than 200 years old. Wealth and influence at that time was in the control of the Ottomans. The early structures are naturally built in the "Turkish" style (Figure 5.7). Later, the opening of the Suez Canal, led to European influence and the development of the "Egyptian" style (Figure 5.8). It would be wrong to suppose that there is a clear break between the two styles; there is not as both were built simultaneously until recent times. Many structures combine features from each style.

In the mid 1970s a remarkable and unique experiment took place. The mayor of Jeddah during that time was Mohammed Said Farsi. He was a hard working and dedicated man with a clear vision of what he thought Jeddah should be. His influence on Jeddah will be forever felt. In particular, he used the power of his office, against considerable opposition, to conserve the old part of Jeddah. He designated an area of old Jeddah as a historic district to be preserved for all time. This area is in the centre of Jeddah and in the most expensive commercial and business location. It took all his energy, influence and the power of his office to fight for and ultimately succeed in his effort. Said Farsi's efforts in preservation were a pioneering milestone in modern attempts for preservation in the Kingdom

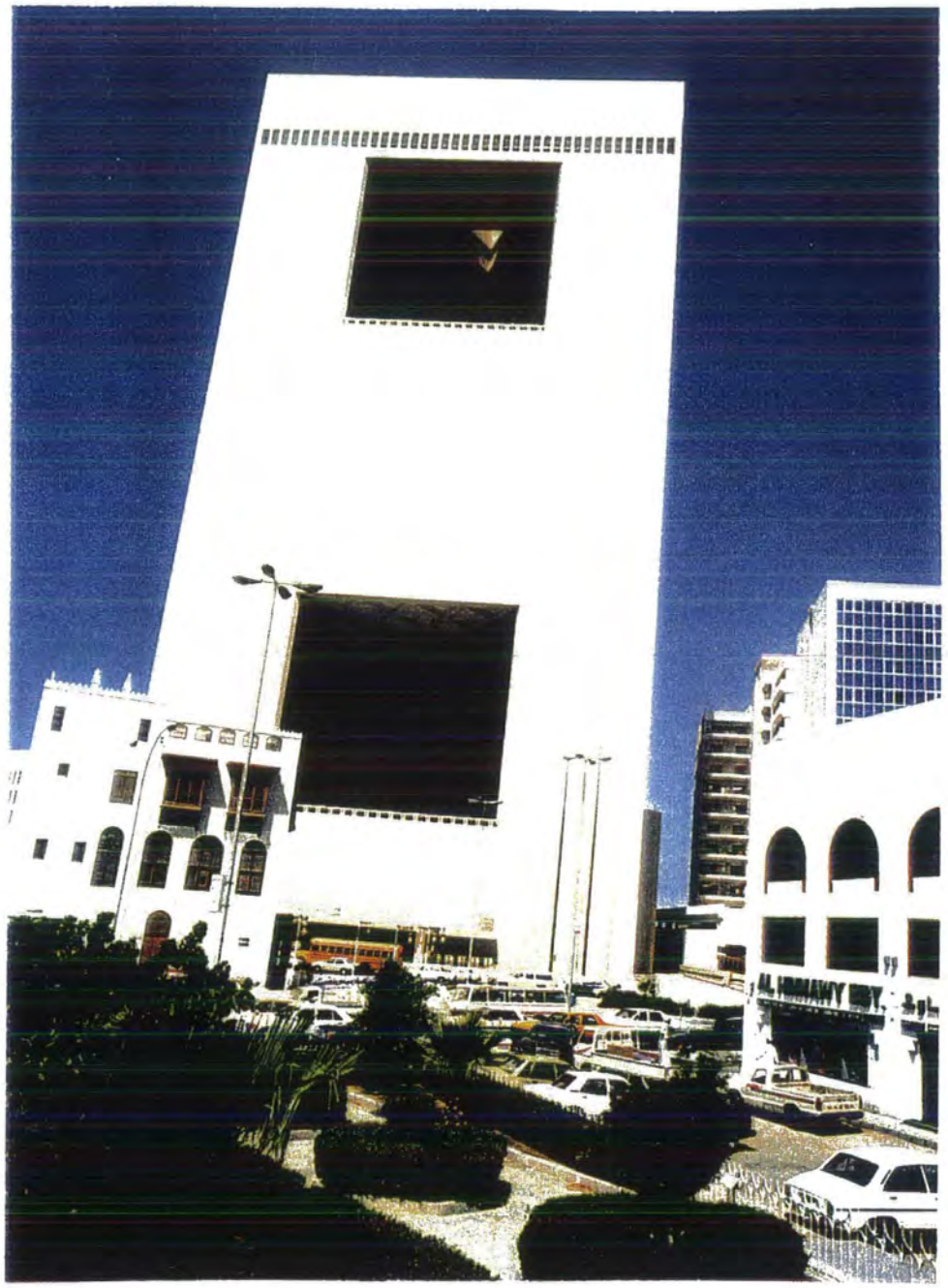

Fig. 5.6: National Commercial Bank in juxtaposition with historic buildings in Jeddah
(Touba, 1988)

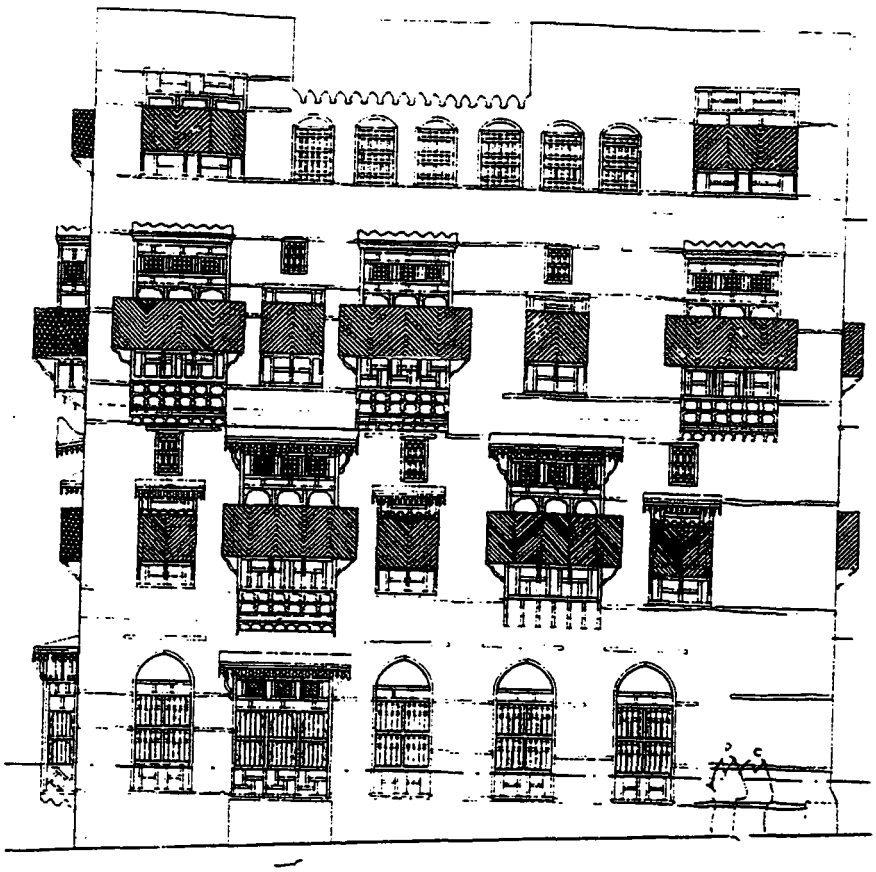

Fig. 5.7: The Turkish Architectural Style

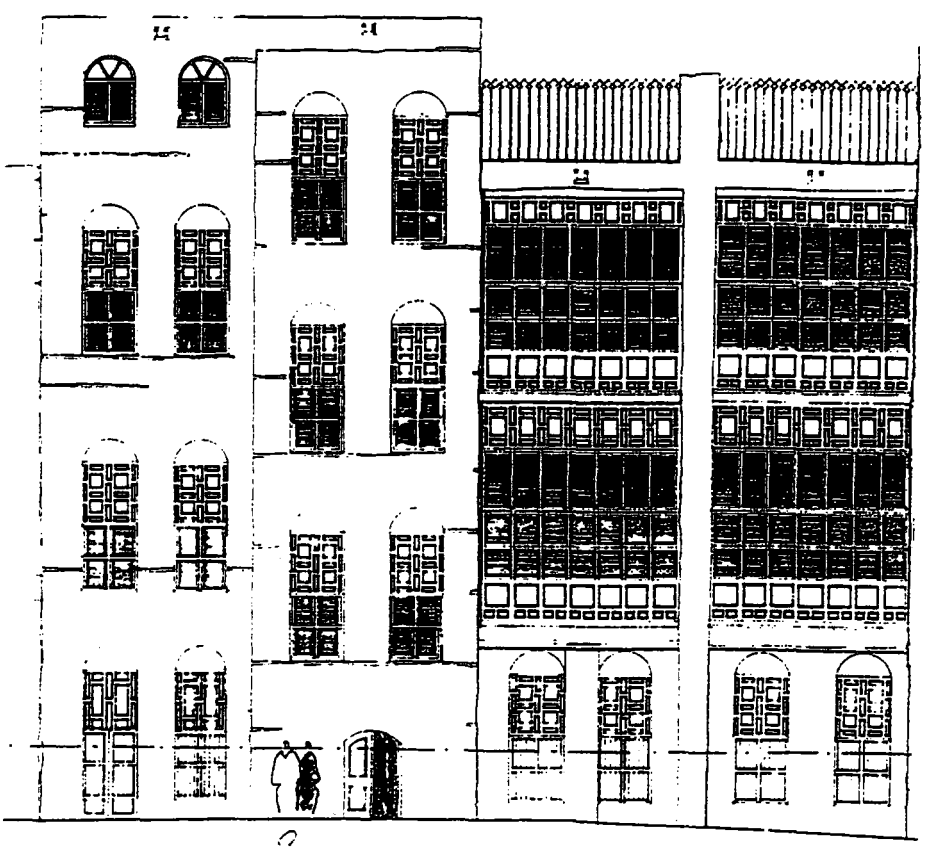

Fig. 5.8: The Egyptian Architectural Style
(RMJM, 1980)

of Saudi Arabia. Regrettably, when Farsi retired from office in 1985, the drive he initiated for preservation lost momentum, showing that it is essential that preservation should be carried out as a sustained policy by the authorities, rather than be left an individual effort and individual initiative. Nevertheless, as a result of this initiative, the area attracts both scholars and tourists and merits a brief discussion here.

A resolution to restore the "Old Jeddah Historic Area" and to preserve its original historical quarters was adopted by the central technical committee of the Municipality of Jeddah in 1980. The plan was to restore all buildings of architectural historical significance. In 1979 the consultants Robert Mathew, Johnson-Marshal and Partners were appointed to conduct the research. A year later, all the needed data and recommendations to preserve and regain the beauty of the "Old Jeddah Historic Area" were completed.[21] The consultants developed detailed profiles of each listed building for restoration involving a conservation expert with extensive practical experience in conservation of Islamic monuments.

The findings of the consultants Robert Matthew, Johnson-Marshall and Partners initially identified more than 1,000 standing historic structures in varying states of repair. However, by the time that the final "Descriptive Inventory" had been approved, it was reduced to a total of 537 listed buildings. This data was compiled after 1972, and the number has continued to decline even farther for various reasons: the collapse of many structures in poor condition; demolition of hazardous structures for public safety; severe damage and destruction of buildings caused by fire; unauthorised alterations and extensions of buildings; poor workmanship in repairs and restoration which diminished the historical character and architectural integrity of the structures.

The consultants categorised 53 structures as "good"; 175 as "moderate" and the rest as "poor" and "dilapidated"(Figure 5.9). The consultants found general causes for the deterioration of the physical fabric of the "Old Jeddah Historic Area" to be a combination of location and the use of indigenous materials, e.g., the

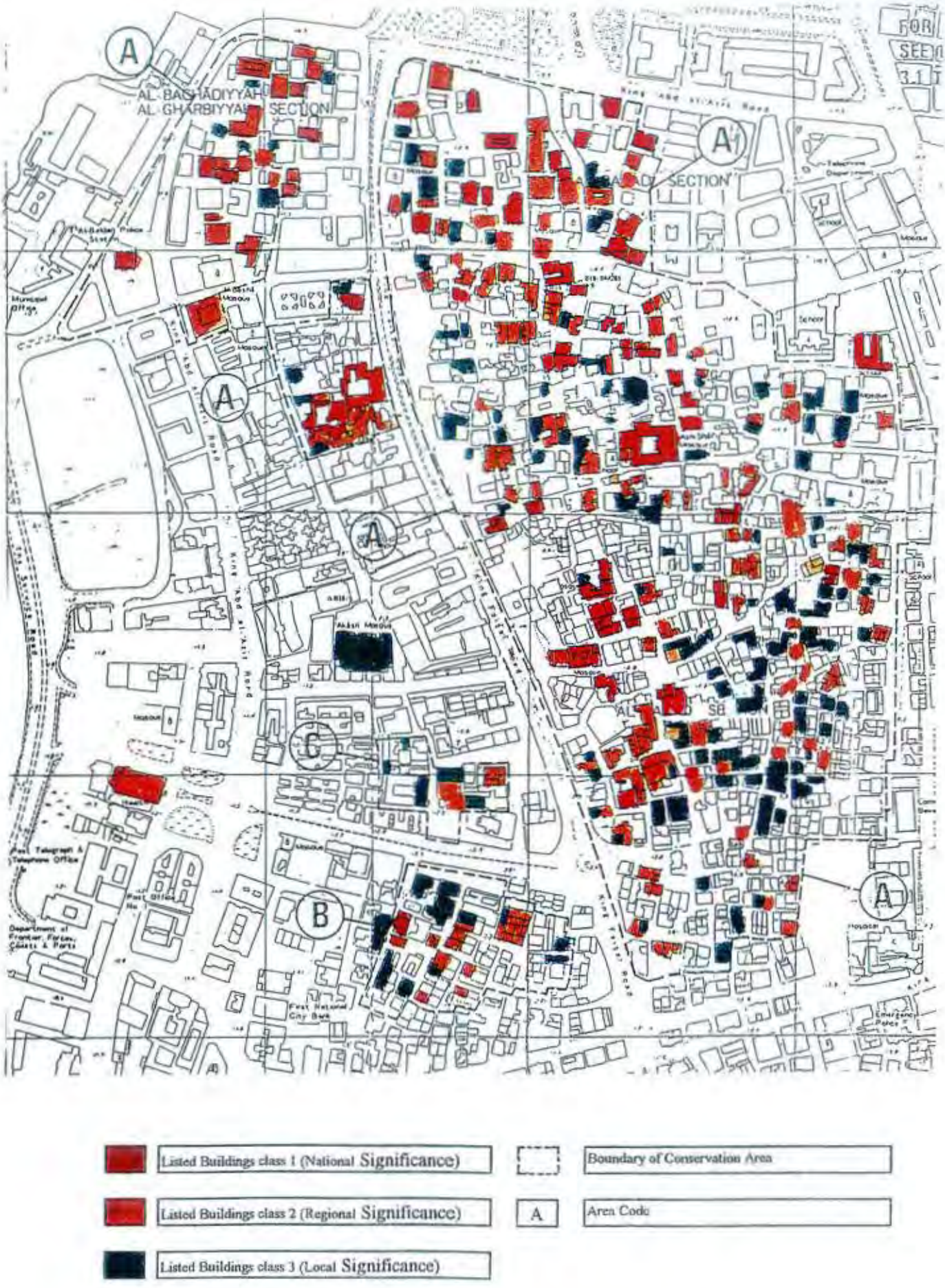

Fig. 5.9: Classification of historical buildings in Old Jeddah (RMJM, 1980)

lack of definable foundations, water resistant materials, inadequate bonding of narrow cross sections of masonry walls, the use of organic matter such as mud and the use of rush matting, palm fronds and twigs .

The second cause of decay was the climate. The variation of temperatures between summer and winter, the rare, but sometimes heavy rainfall, the high level of relative humidity and the prevailing winds from the north and northwest, all contribute to the deterioration of limestone buildings. Also, due to the climatic conditions, various species of wood-boring beetles and termites had flourished and embedded themselves into softwood timbers, masonry walls, and organic matter used to bind materials. Structural collapse could result. Further, the lack of maintenance was a problem. Failure to protect buildings from the effects of the sun helped in reducing the durability of the old historical buildings. Also heavy traffic and the attempt to manoeuvre vehicles often resulted in collision with the buildings (Figure 5.10). Moreover, residential townhouses and mansions converted into shops and store houses particularly in the commercial section of the "Old Jeddah Historic Area" resulted in stress on the buildings due to superimposed loads and alterations.

There was also a tendency to use inexpensive materials and labour to repair the "Old Jeddah Historic Area". The result has been the erosion of the character and historical value and visual sights of the area. For example, the repairing of damaged and decayed lime plaster work with Portland cement has had disastrous effects since the cement is incompatible with traditional construction materials (Figure 5.11).

The consultants concluded the reasons for faulty restoration of the "Old Jeddah Historic Area" previously, has been due to such things as the lack of preliminary study and analysis of the problem, the lack of recording or documentation of the structures prior to the beginning of restoration along with the shortage of original building materials and skilled workmanship and professional

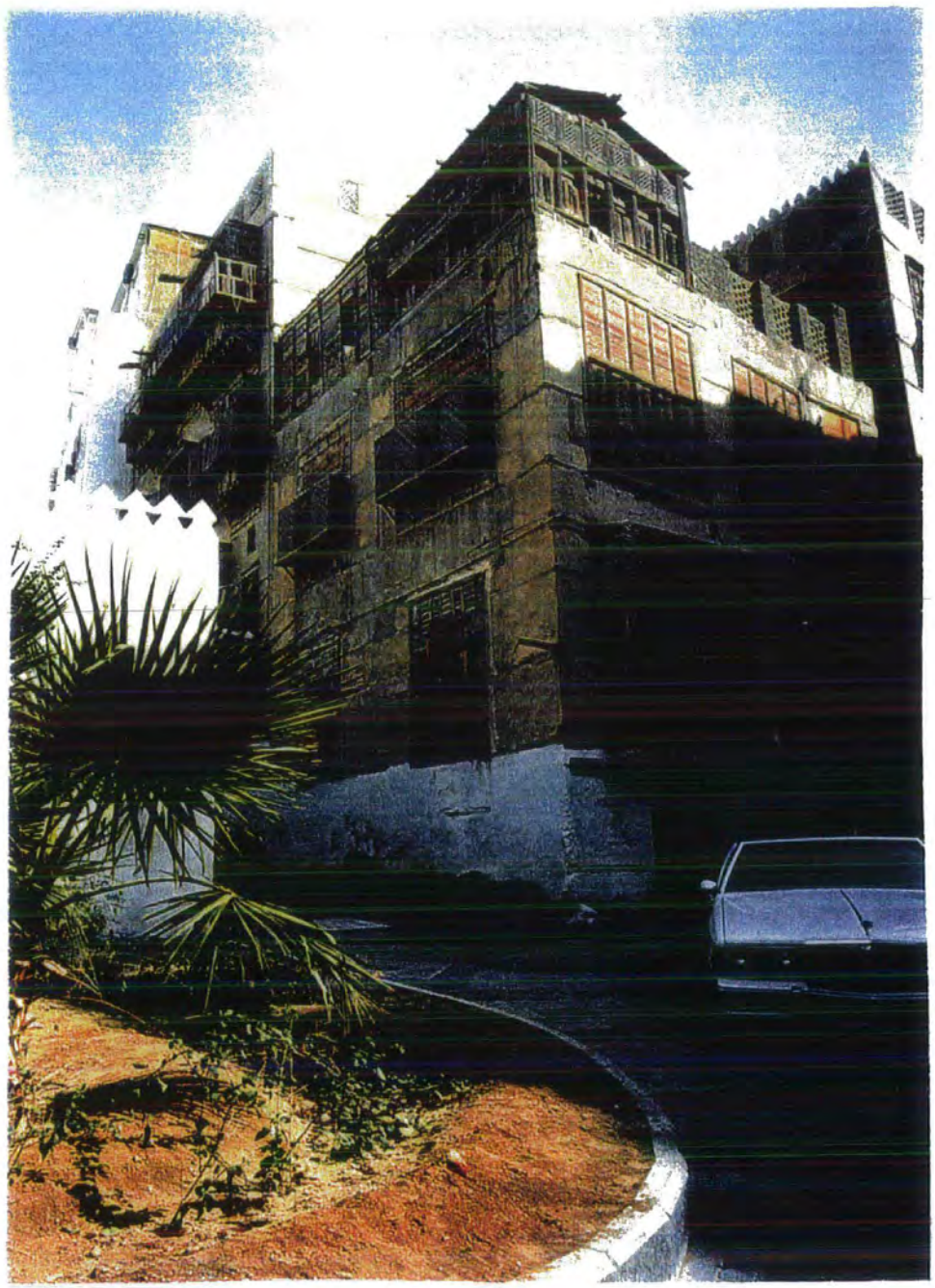

Fig. 10: Vehicular penetration of pedestrianised conservation area in Old Jeddah
(Personal Archive)

Fig. 5.11: Deteriorating plaster work in Jeddah Old City redevelopment area
(Personal Archive, 1988)

training. In addition there has been a lack of awareness which has led many residents to build unauthorised extensions or faulty alterations (Figure 5-12).

The consultants concluded reported that many of the old families of the area had relocated to neighbouring areas developed over the last twenty years. This has been done mainly because of increased living standard and expectations. As a result, many historic structures have been rented and subdivided and/or converted into shops and store houses. Like many cities throughout the world, this encouraged people from the lower economic class to migrate to the area as the rent was inexpensive. Many of these people are non-Saudis who have no link to the traditions of Jeddah's past. The change of the "Old Jeddah Historic Area" has been a result of neglect and subsequent deterioration of some selected buildings and alterations, expansions and demolitions. As a result, the essence of the character and integrity of the structures as a historical site has been greatly affected.

The "Old Jeddah Historic Area" is now a part of the new commercial district or metropolitan city of Jeddah. The value of the land has increased greatly and it is near many of the city's main thoroughfares. It is natural that property owners have taken advantage of being able to capitalise on the development of this area. This, again, has resulted in the erosion of the old. This has not been an asset in maintaining harmony with the past in preserving that architecture. What has resulted has been a capital venture in profitability with little or no thought in the heritage of Jeddah and the importance of it all. The construction of the high rise buildings, shops, restaurants, banks etc. has transformed old Jeddah from a traditional setting of Middle Eastern souqs to that of a modern commercial city. This has produced an environment analogous to many cities throughout the world.

On the more positive side, many of the old buildings have been purchased by the municipality of Jeddah on the instructions of the former mayor for repair and restoration, so at least some aspects of the past will be preserved. Two of these buildings have been designated for use as local museums and the other has been opened to the public by the ministry of education. The former mayor took the

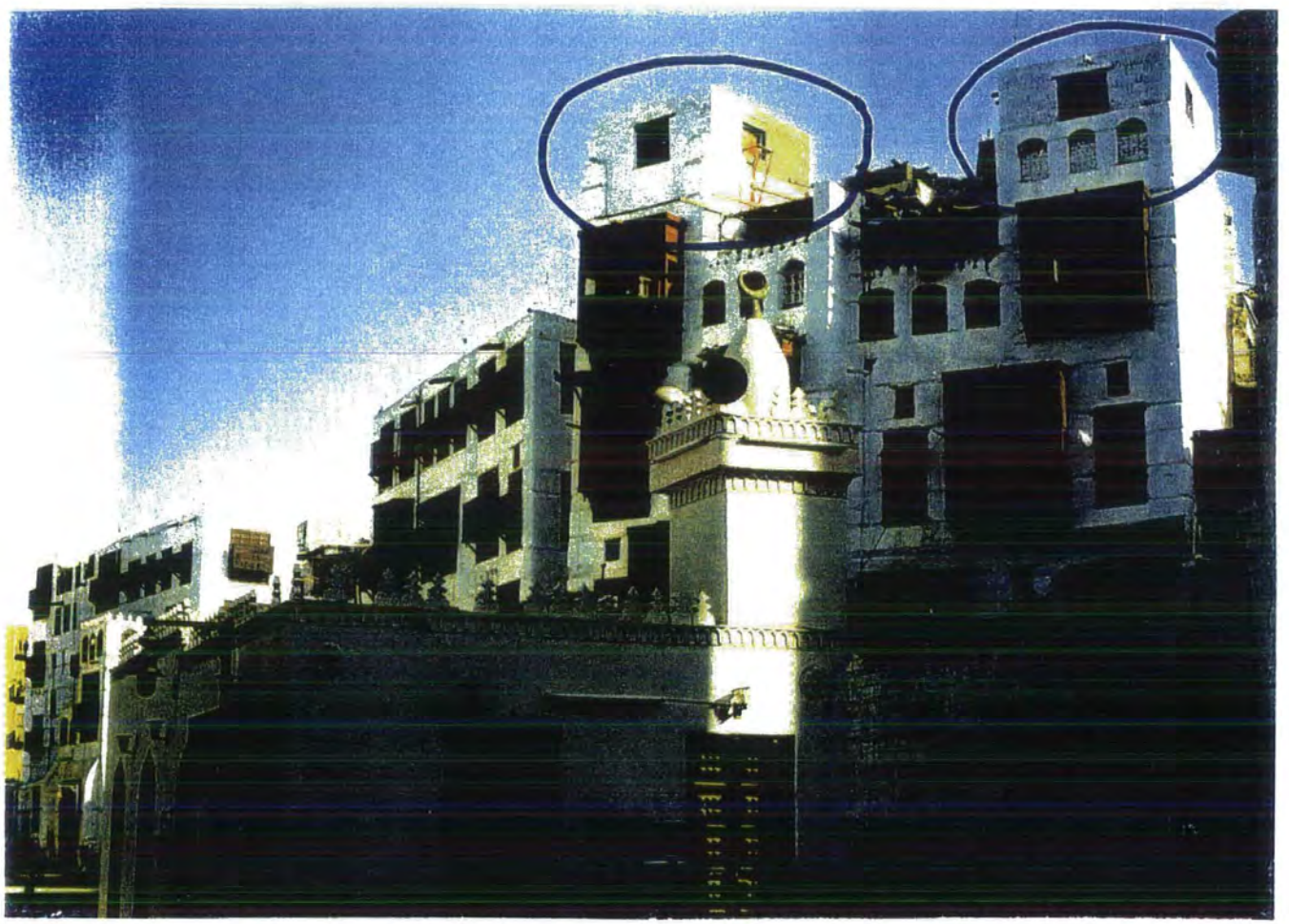

Fig. 5.12: Incongruous unauthorised skyline development in Jeddah conservation area
(Personal Archive, 1988)

lead, purchased some of the old historic houses, renovated them, and then donated them to public and private institutions.

The interest that has been generated however, has had some unfortunate side effects. Many property owners and tenants wanted rapid facelift by replacing decayed or damaged features, particularly the rawashin windows with modern reproduction that lacks the construction of the original ones. This practice presents a major threat to the historical integrity of many of the chosen buildings and steps need to be taken to control this without delay. Many disasters, such as structural collapse and fire damage, have already taken their toll over the last five years—underscoring the need for regular inspections, and more regulations and enforcement to be effective.

The harsh environment, an attitude contrary to conservation and preservation on the part of both the government and population, an unrestrained and largely unregulated development in lieu of financial gains have all contributed to the deterioration of historical sites and buildings in Jeddah. Certainly the parallels with Makkah in those respects are evident.*

iii) Abu Simbel

Abu Simbel in Egypt, now a Muslim country also containing ancient and historical monuments, deserves a brief comment. Some monuments date back to a great civilisation that existed more than 7000 years ago. The construction of the High Dam in the south of Egypt placed many historical temples in danger. The rationale behind the international efforts to save the great temples was that they represent a great civilisation. The internal and external efforts to save the temples in such a poor country prove the awareness of how important the saving of the history of one's country can be. People travel from all over the world to view and study the antiquities of the ancient Egyptians. They were so important to the beginning of civilisation that the United Nations Educational, Scientific, and Cultural Organization (UNESCO) took the initiative in saving the monuments.

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* Dr George Duncan, a partner of RMJM, headed the research team that produced the valuable study of "Old Jeddah Historic Area".

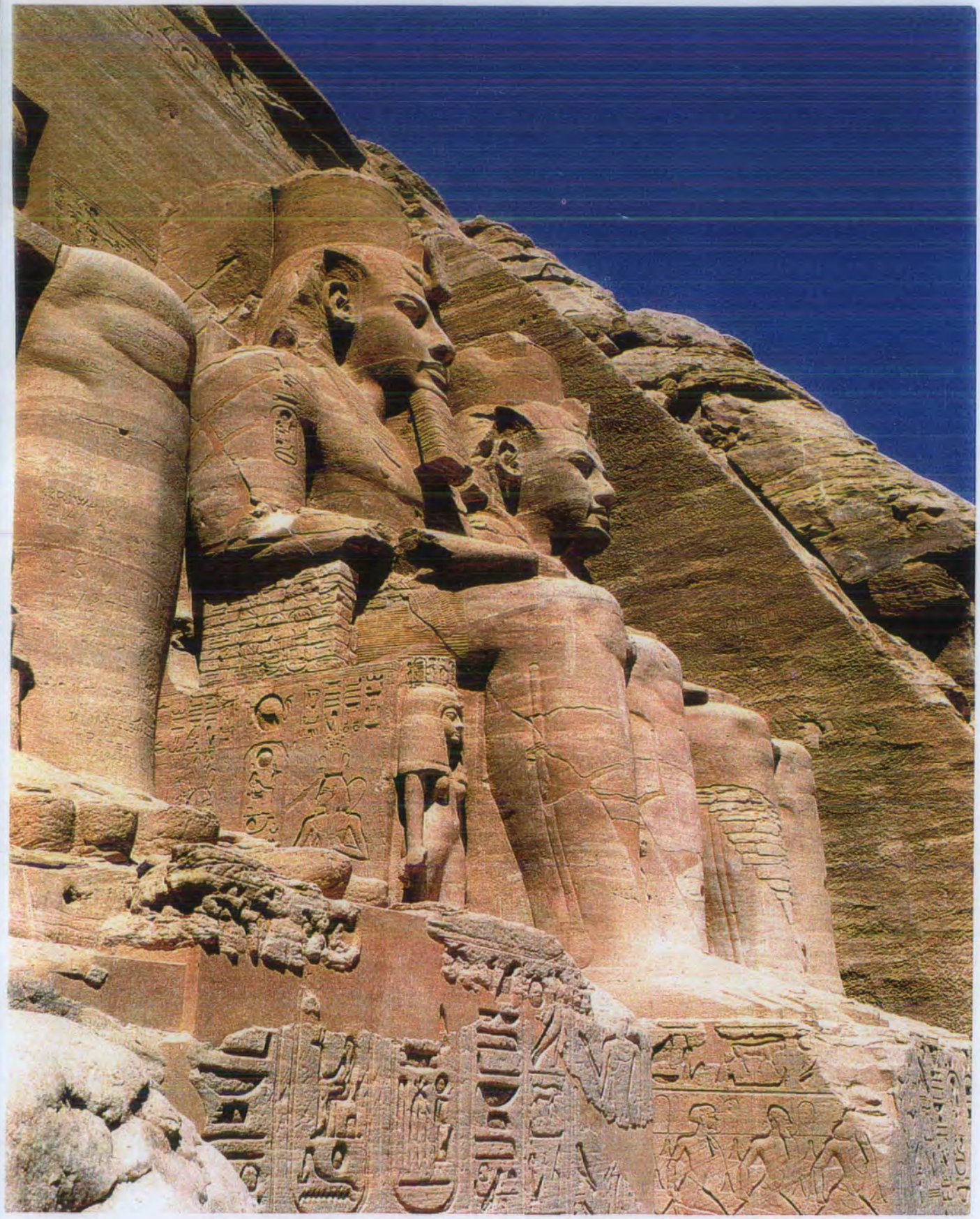
While Abu Simbel was the most beautiful and the most imposing of the temples of Nubia, it was also the most difficult to save on account of the material in which it had been sculpted, along with the site and the structure in which it had been conceived. Despite all of this, man coupled within the wonders of technology succeeded in saving the temple of one of the most unbelievable works of dismantlement and reconstruction that archaeology had ever been involved with, to preserve its memory and importance throughout the centuries.[22] It is a marvel to behold (Figure 5.14). The technology and international effort used is a lesson for Makkah. A similar campaign on the part of Muslims world wide to conserve and preserve one of the most sacred areas on earth is conceivable given governmental backing, international awareness and a call to all Muslims to join in the effort.

C. Possible Lessons for Makkah

Western countries have long recognised the concept and necessity of conservation and preservation. Western thinkers have discussed the right of future generations to inherit and enjoy precious environmental and physical monuments. It is important to learn from these experiences and policies that were successfully adopted by the developed nations. Arabs should learn and select proven policies, modifying them to meet their local needs and cultural differences. The basic elements of preservation are the same to a great extent, regardless of boundaries.

The concept and application of conservation, including appropriate legislation for historic cities and buildings, is now standard practice for most countries in the Western World. This conservation movement is indicative of a growing awareness of their heritage by governments and people in general. UNESCO has also played a key role in the preservation and conservation movement on the world stage. Similar initiatives would be a positive step forward if applied to Makkah.

Fig. 5.13: The Great Temple of Abu Simbel (Magi, 1989)



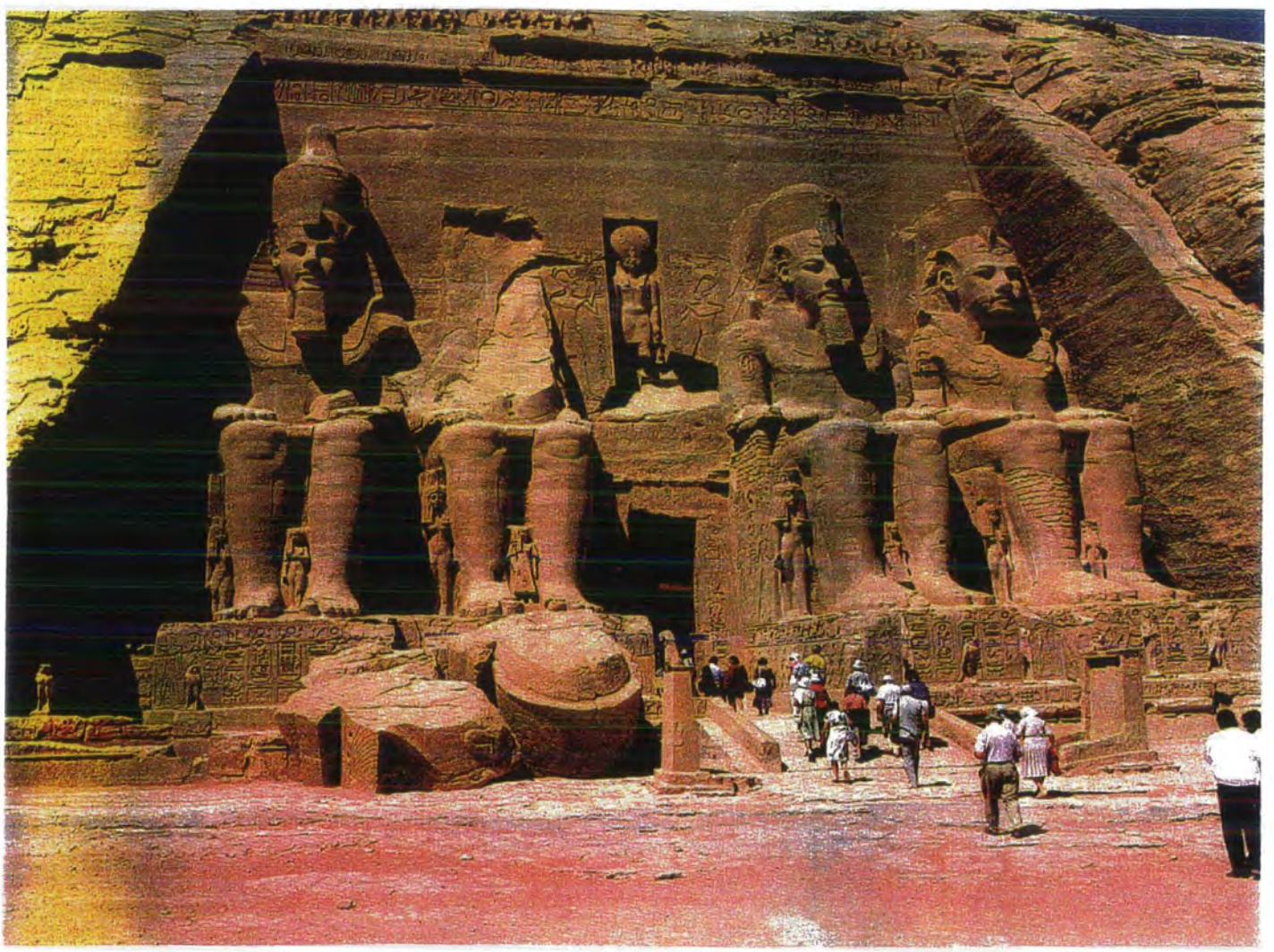


Fig. 5.14: Facade of Abu Simbel
(Magi, 1989)

The author has attempted to express this general viewpoint from the different case studies from Muslim countries as well as from the West. Each study has a special significance and a unique approach to conservation and preservation of historical features.

The cases studies of Jerusalem and Jeddah highlight the importance of personal influence and recognition of international importance. Both Jerusalem and Jeddah today enjoy international importance as historic areas. Scholars from around the world visit and study these two cities as vast resources embodying a rich cultural and religious heritage.

The case study of Jerusalem emphasised both official and private interests in saving the heritage of a sacred city for all religions. Without the collaboration of both official and private sectors, the identity of such a holy city would have been lost forever. Planning, even within the context of a market-driven economy, must not follow the greed of developers to the extent that irreplaceable treasures and heritage are lost. Jerusalem illustrates that cost-benefit analysis and other quantitative techniques should not dominate the planning for such a city, but should be used to enhance the planning. While the combined efforts in Jerusalem met with success until most recently, the influence of developers has been allowed to take precedence over all other concerns in Makkah. The serenity of Makkah has been diluted, aided by a lack of interest in conservation by both the government and developers. Jerusalem provides an example of how those two groups co-operated in efforts to achieve a the tranquil heritage of a religious city. We could learn from such example.

In the case of Jeddah, the conservation of the old historic area was initiated and undertaken by the former mayor who had no legal support to back his personal interest in preservation, but he succeeded anyway. Unfortunately, since his retirement, the situation has deteriorated and once again, economic interests are taking precedence over preservation attempts, especially in the light of no preservation laws. There are lessons to be learnt concerning the quality and extent of personal intervention in the implementation of the development process.

The wonder of Abu Simbel is a perfect example of the international interests presented by UNESCO. Experts from various developed nations contributed in the movement and reconstruction of such a great historical monument. Unfortunately, for Makkah, no such movement to establish an Islamic campaign for its preservation has been attempted. Most of the sites and buildings not only disappeared under the eyes and silence of the Muslim world, but with a cheering appreciation for what replaced its sacredness--the shiny new marble and glass towers. What does remain deserves better treatment. Each case study has shown that if we have the will to maintain history, then nothing is impossible.

Spiritual, as well as secular aspects and values endow Makkah with a uniqueness among world cities. A way must be found to balance the economic pressures for growth with the historic and religious character of this centuries-old city. The restoration and preservation of Makkah's special ambiance should be kept uppermost in the minds of governmental leaders, architects and planners as strategies are devised for future development. Had Makkah enjoyed the same kind of visionary leadership today that orchestrated the successful preservation of Jeddah's historic sites, much heritage would have been saved. With cohesive leadership and well-defined goals, the future direction for Makkah could become a melding of progress and protection for the hallowed and venerated sites.

Perhaps a group of Muslim countries could analyze the case of Makkah with a view to its being submitted as a World Heritage Site. If Makkah were to receive such recognition, it would have to address a variety of guidelines for that special designation. It would also be obliged to draw up a management plan for the Site, acceptable to the World Heritage Committee. Unfortunately, one of the major requirements would likely be that Makkah would have to be an open city. Present Saudi law prohibits access for non-Muslims.

The author has examined papers produced by the Department of Antiquities in Saudi Arabia. Their scholars and archeologists have extensively researched the remains of the Darb Zubaidah (the pilgrim way from Baghdad to Makkah), but, surprisingly, none of the department's research has dealt with

Makkah, where the remaining buildings could certainly be classified as the first step towards preservation. If the Islamic world with its considerable resources would unite behind the preservation of Makkah, it would demonstrate to the world, on the grandest scale, the positive contributions to humankind that can be accomplished through cooperation in a traditional Muslim Arab society. Other bodies that could play key roles in this preservation effort would be the many Islamic capitals, social and philanthropic organizations, banks, businesses, media, Chambers of Commerce, and the private sector. By accepting the responsibility today of caring and preserving Islam's most sacred location, we would be taking steps to ensure that the Muslim heritage continues as a legacy to future generations.

Sources Of Figures

Figure Number: 5-1, The San Antonio Conservation Society, 1986.

Figure Numbers: 5-2,5-3,5-4, Kutcher, 1973.

Figure Numbers: 5-5, 5-7, 5-8, 5-9, RMJM, 1980.

Figure Numbers: 5-10, 5-11, 5-12, Elsayed Touba, Old Jeddah Historic Area, Cornell University, 1988.

Figure Numbers: 5-13, 5-14, 5-15, Magi, 1989.

REFERENCES

1. Beatley, Timothy, Ethical Land Use, the John Hopkins University Press, 1994, p. 133.
2. AICP, 1989, p. 1
3. APA, 1992, P. 1
4. ASLA, P. 1
5. Leopold, Aldo, A Sand County Almanac, London: Oxford University Press, 1949, pp. 224-25
6. Donnelly, Jack, 1989, p. 17
7. Clark, Kenneth, Civilization – A Personal View, London, BBC, 1969.
8. Gazzard, Roy, Training Seminar for Engineers, Municipality of Jeddah, 13-15 February 1984. CMEIS, Durham University, 1984.
9. Prince, Hugh, Revival, Restoration, Preservation: Changing Views About Antique Landscape Features, London, Temple Smith, 1981, p. 33.
10. Attfield, Robin, 1983, p. 95
11. Kavka, Gregory, 1978, p. 20
12. Lowenthal, David, Our Path Before Us, Why Do We Save It ? London, Temple Smith, 1981, p. 17
13. Costonis. The Development Rights Transfer.

14. Farhahat, A., Needed Legislation for Historic Preservation in Saudi Arabian Cities, Published paper by King Saud University Press, 1408 A.H. p. 149.

15. Rau, J.D. Wooten, D., Environmental Impact Analysis Handbook, New York: Mcgraw Hill, 1980, p. 1-16

16. Harenen, T. and Lagenback, R., Living Places, Work Places and Historical Identity, London, Temple Smith, 1981, p. 122

17. All information provided by the San Antonio Conservation Society Foundation.

18. Cherry, Gordon, The Conservation Movement, The Planner, vol. 69, No.5, May, 1974,p.p.3-5.

19. Worskett, Ray, The Character of Towns, London: Architectural Press.

20. Kutcher, Author, The New Jerusalem Planning and Politics, Thomas and Hudson Ltd. 1973.

21. Robert Mathew, Johnson-Marshal and Partners, Old Jeddah Historic Area, MOMRA, 1980.

22. Magi, Giovan, Aswan, Philae, Abu Simbel, Bonechi, Firenzi, Italy: 1989.

CHAPTER SIX

Opinions, Opportunities and Suggestions for Conservation in Makkah

A. A Diversity of Opinions

In Islam, preservation and conservation are not alien or contrary to its teachings. Indeed, the value of these ideas were clearly established in its history when the Prophet instructed followers on the wisdom and virtue of such an approach towards the earth and its precious monuments. The value of conservation and preservation has long been established in the West and supported world-wide by the efforts of UNESCO. But as the author will illustrate below, the arguments and interpretations between religious scholars and others vary on the subject. The issue of conserving the quality of central Makkah is controversial because it requires maintaining both some very significant religious and historic buildings and sites and, overall, a unique living cultural and religious entity. It becomes a sensitive issue because of a conflict between religious scholars and conservationists. In order to clarify both opinions and their justifications, the author conducted several interviews with prominent town planners, architects, scholars and former planning decision makers. In addition to the interviews, the author sent a questionnaire to many scholars to elucidate the attitude of Islam towards conserving buildings and sites that have religious and/or historical significance. Unfortunately, in this respect, the author received few responses, which is a measure of the sensitivity of the issue. The interviews revolved around our topic on four basic themes. In short, the fundamental queries were:

1. What could be done to restore the lost identity of Makkah?
2. Do we need to save our past in Makkah to support and enrich the holiness of the city? Does maintaining and conserving these very important memorials contribute to the glorifying and worshipping of God?

3. How do we conserve buildings while at the same time provide more space for pilgrims? Should we maintain some sites and buildings as museums and should the remaining structures and monuments be altered or removed for financial consideration?

4. Should we reconstruct the lost historic sites and buildings and re-establish the fabric and quality of the holy city of Makkah as it once stood?

Among those who stressed the need to save the past are Baqader, Llewellyn, Farahat, Goma, and Angawi. They basically accept the idea of conserving the holiness of Makkah by conserving historic and religiously significant sites, but differ in the details of conservation, such as whether to save all old buildings or just selected ones, and whether to put some to commercial uses or as museums. The author is among those who believes that it is important to maintain a certain aura in Makkah to enhance the religious experience, rather than demolishing all buildings that stand in the way of development, thereby detracting from such a holy place. Makkah belongs to Muslims from all over the world. Pilgrims consider their visit as the most important journey in their entire life. To remove the soul of the city and wipe out the history associated with its physical monuments clearly denies all Muslims elements of their religious, historical and cultural past.

One of the main arguments against conserving religious buildings, one shared by Akbar, was the belief that a true Muslim would not require any special place to pray and therefore did not need the ambience of historic and religious monuments to add to the event. There is a fear that maintaining historic and religious sites might lead to polytheism and the glorifying of graves. This was echoed by the Wahhabi doctrine and followers of that movement, including the Higher Committee of Religious Affairs in Saudi Arabia. The point requires elaboration, for it is important in understanding the opposing views.

Mohammed Ibn Abdul Wahab (1115-1205) is considered one of the prominent figures in the history of the Saudi dynasty. Abdul Wahab, the religious

scholar, supported the Al-Saud family in their struggle to unify the Arabian Peninsula into the Kingdom that was finally established by King Abdul Aziz in 1932. Abdul Wahab had a unique personality, a widespread popularity and religious thoughts that established his own doctrine in central Arabia. One of his recorded thoughts and actions was the demolishing of grave monuments, signs and domes that were built on graves. This was done in order to make all Muslims upon their death equal in the eyes of the Creator. His viewpoint was the possible deep concern of some Muslims to glorify these graves and to seek blessings from these places. This would lead, in his viewpoint, to polytheism. This line of thought was carried forward and adopted by the local religious leaders and became a strong theme in directing and influencing the religious direction of the Saudi government. The same government appointed religious scholars, in turn, to appoint all mosque leaders throughout Saudi Arabia, including the two Holy Mosques in Makkah and Madinah.

It was in this context that the author sent a question to the Higher Committee of Religious Affairs in Saudi Arabia, inquiring about the attitude of Islam towards conserving physical remnants. He also asked about the possibility of conserving and maintaining a site or a place that was witness to historic or religious events, and the question of whether or not to turn those sites into museums and landmarks. The Committee clearly denied the requirement to conserve or maintain any historic physical element. The reason, from their view point, was the worry that Muslims might glorify these places and seek blessings from them. The Committee referred to the teachings of the Prophet of Islam, not to glorify graves. A copy of the reply is shown in Figure 6.1 in Arabic.

This viewpoint leads the author to reflect. First, the reply of the Committee was not a direct answer to the question submitted. While the author asked about conserving and maintaining historic sites and buildings, especially those that witnessed important events in the history of Islam, the answer referred to the prohibition of glorifying graves. People live in homes and the dead are buried underground. The difference between the living and the dead is very clear. The received answer, deriving mainly from the Wahhabi school of thought, does not

Fig. 6.1: The dismissive reply to the enquiry to the High Committee of Religious Affairs
(Personal Archive, 1990)

differentiate between maintaining buildings and maintaining graves. The possibility of glorifying graves might happen in this case, but glorifying sites or buildings is illogical. People visit historic sites and buildings for remembrance, to link with the past, to study, and to learn.

Secondly, in the author's opinion, the reply was intentionally vague to avoid problems that might occur based on a section in the Islamic law that prevents the introduction of any issues that may cause suspicion and disharmony. This section, simply, calls to avoid issues that might cause conflict between Muslims. However, referring to this section of Islamic law was inappropriate for the conservation issue. If the Committee is concerned that people might glorify the birth place of the Prophet of Islam, or the house of Khadijah, his first wife, where he lived for twenty-three years, for example, why were they allowed to stand so long, and was it appropriate to demolish these two extremely important places and build offensive structures in their stead just to avoid the remote possibility that a small number of people might incorrectly glorify these places? In the case of the birth place of Mohammed, today the site is buried under a public building in an unmarked area whose location is known only to a few people. The site of Khadijah's house, now public toilets, is surely an example of gross insensitivity.

We must not deny the historic importance of places because a few people might mistakenly glorify them. The proper action is to guide and teach people and to raise their awareness about the importance of conservation. The alternative action is illogical. The progress in air travel did not stop, for instance, simply because a few planes crashed. Following the same logic, should we prevent people from swimming in the sea or in rivers to avoid drowning and prohibit people from driving cars in order to escape the possibility of accidents? The benefits of using these facilities for the good of the majority is greater than the remote chance of harm that might occur to the few.

Although an attempt was made to obtain written answers from other religious scholars, verbal answers only were given. No one wished to commit himself in writing. Akbar discouraged the author from discussing sensitive

concepts which might blemish the spirituality of Islam. Although these areas are sensitive, Islam, as is written in the first verse in the Qur'ān, encouraged learning and discussion. Good solutions, progress and technology are a result of good education and learning. Learning is not an option in Islam. It is mandatory. It is only through discussion between the two groups can we find understanding. Logic would dictate that all available solutions stemming from an educated analysis and thought should have been employed to preserve the City of Makkah.

The process of enlightenment and understanding is an incricate one, as the following incident recounted by Roy Gazzard illustrates. "A Muslim student brought to my home as a gift a plastic container of water from the holy well of Zam Zam. We shared it together as we discussed the eternal truths of our respective religions. The water had a unique taste which I had not discovered before or indeed since. I asked my student 'Where does the taste of this water reside? Is it in the well? Is it in the water itself? Is it on the tip of my tongue or is it in my mind?' He answered 'It is in your mind but the flavour remains in Holy Makkah.' I told him, 'You are right – everything is in the mind but body, mind and spirit combine making us aware of our environment but our perception of our surroundings is the extent of our understanding of the process by which it came into being as we see it. The awareness is gained from environmental education, the resonance of history and the individual's spiritual endowment. It is in fact a sixth sense of perception'." [1]

While interviewing religious scholars, one very important issue became evident. Maintaining the historic and architectural identity of a place or a city could well be very difficult for religious scholars to understand and appreciate. Formulating opinions in such sensitive and technical matters requires a particular background based on the study of art and architecture. Such disciplines are not part of the religious curriculum, which makes it impossible for them to feel, recognise, or appreciate these expressions. Religious scholars, unfortunately, focus on religious aspects only, without any attempt to learn from any other sciences, especially ones which may complicate issues and cause conflicts. This became apparent very clearly when discussing the subject of conservation with some

scholars. Some of them, for example, proposed some astonishing solutions to the growing number of pilgrims. One of the leading scholars, simply suggested constructing skyscrapers around the Holy Mosque to accommodate a greater number of pilgrims. He suggested also connecting these towers with a modern rapid transit systems, monorails, and other modern means of transportation. This prominent scholar did not recognise the great damage such a plan would do to the serenity, holiness, and tranquillity of Makkah. He simply regarded the functionality of Makkah more important to maintaining any of its special quality and beauty. Such a proposal will turn Makkah, the holy city, into a semblance of downtown Tokyo, or Manhattan. This blinkered thinking from a religious scholar could damage or destroy the historical patterns of cities like Makkah and Madinah. The different perspectives between the two groups explain to some degree why the thinking of religious scholars and artists or planners diverge. Each party looks suspiciously on the thoughts and approaches of the opposing side. It will take generations for both parties to meet on common ground. However, without good intentions, they will never have a common ground.

Through discussions with both scholars and religious leaders, a great deal of suspicion was discovered between the two groups. Some religious teachers proposed rules (Fatwa) without scientific, social and sometimes not even religious roots. On the other side, the scientific scholars view as invalid forbidden areas of discussion in Islam. The author, while deeply committed to free thinking and expression, believes that often these conflicts are based on suspicion between the two groups and not on intellectual foundations. Clearly, right is right even if none is right, but to dismiss each group's arguments without presenting reasonable evidence to the contrary, and especially because it came from one camp or another is unreasonable. The gap must be narrowed between the two sides through dialogue and constructive thought. A dialogue must continue between conservationists and religious scholars. It is unfortunate, but true, that Muslims have been left behind in education and scientific achievement in this broader context. It is therefore extremely important for Muslims to study the progress achieved by the more developed nations of the world and to implement the successful experiences that are both sympathetic and adaptable to their own needs.

On the question of conservation and the desire to provide greater services and facilities for a greater number of pilgrims, the author sees no inherent contradiction. In addressing this question, Angawi, one of the important conservationists and former head of the Hajj Research Centre, remarked that we could expand the area of the Holy Mosque to accommodate a larger number of pilgrims and at the same time maintain the important historical buildings that are irreplaceable. The author agrees with Angawi on the point of maintaining important historical sites, but believes that there must be a further limit set on the number of pilgrims entering Makkah at one time, otherwise there is no choice but to destroy some of the remaining historic and religious sites. An ever increasing and unlimited pilgrim population allowed to enter Makkah at one time puts entirely too much pressure for demolition on the remaining historical sites.

Other alternatives have been suggested to deal with the increasing pilgrim population, such as Llewellyn's recommendation of using adjustable tents and hand-constructed terraces on the mountain slopes. This may not prove to be an optimum solution but is certainly better than a total development of the area. These recommendations were suggested to maintain the permanent structure of Makkah and the other holy places. The author's opinion of limiting the number of pilgrims in order to maintain the serenity of Makkah is shared by Goma. His suggestion was to set a limit on the number of trips one may make to Makkah. This may meet with fervent opposition so this is probably not the most optimum solution either. However, one of Goma's ideas which the author supports is the requirement that one should be physically fit to perform the various rituals during Hajj. The older population and the sick who try to perform Hajj are contradicting the conditions that Allah set forth. How best to determine who is too sick and/or old can be dealt with by one of the ministries in charge of Hajj. The intention to limit the number of pilgrims is not meant to harm or deny anyone, but to provide the best solution to a variety of problems, one of which is the burden of this ever increasing number on the fabric and identity of Makkah.

At the other end of the spectrum, and one which the author disagrees with entirely, is Shakir's belief that it is enough just to record the historic buildings and

sites, but maintaining or restoring them is considered a waste of the Muslim's wealth. He believes that the issue of conservation becomes an expensive burden. Shakir thinks that the government, for example, should remove and demolish the Old Jeddah Historic Area which has become an obstacle in developing the central core of the city of Jeddah. The owners of this historic area lose out because they will not be compensated properly. Shakir has a valid point only for this last statement, because there are no historic preservation laws in the Kingdom to compensate or provide incentives to the owners of the historic buildings to maintain and/or preserve them. It seems that the surrounding lands escalate in value and provide a great deal of income to those able to purchase them. Newer structures provide better income while the old buildings stand empty. There are other ways of dealing with loss of financial incentives than simply tearing down and starting again. Many structures could be altered to provide more space without demolishing them.

B. Towards a Solution

Any consideration of the future urban environment must begin with the numbers expected to visit Makkah. While the pilgrimage is mandatory to perform once in a lifetime by those who can truly afford it, we see a very large number of repeat performances by the wealthy. This practice has added to the congestion and the problem. The Saudi government began a campaign of asking those who have already performed the pilgrimage, to limit additional trips to once every five years. It is important not to differentiate between Saudis, Gulf States, expatriates and non-Saudis. Islam does not recognise any segregation between Muslims when performing the pillars of Islam.

Increasingly a solution to this problem must rest with Muslim countries beyond Saudi Arabia who if united in a concordat could each accept an allocation of permits to travel consistent with the accommodation and facilities which the Kingdom is able to provide. Pressure for space resources beyond this level will only add to the physical danger which has resulted in a series of catastrophes during recent years when thousands of lives have been lost. Within the Kingdom it

should be possible to control unnecessary access by Saudi nationals who have already performed Hajj – some of them more than once. Similarly passports of expatriates should be stamped certifying that the bearer has performed Hajj or Umrah and at what date. The requirement is that if possible, without detriment to other responsibilities and assuming available resources to do so, the pilgrimage should be performed once in a lifetime.

No fruitful solutions can come from making exceptions. Needless to say, all Muslims are welcome to visit during the year to perform the Omra. Also many Muslims seek to spend Ramadan, as part of this holy month of fasting, in and around the Haram. These are steps in the right direction for regulating the flow in an orderly manner. It gives other pilgrims the opportunity to visit with less congestion. It also gives first time pilgrims the space to perform the requirements of Hajj in more comfort.

Makkah is rich in areas of landscape having religious and historical significance, mainly related to the Hajj. Some of these sites are inside the holy environment and others are outside. Some sites have profound importance because they witnessed very important events in Islamic history, such as places associated with the life of the Prophet. Most of these sites are outside Makkah in suburban zones where development is proceeding. These sites could be incorporated within the new development, and still maintain respect for a visual relationship with the surrounding growth. The rugged topography and the number of mountains contribute their own features that could be maintained or conserved within any new development. It is, however, one effort to maintain the remaining sites but quite another to reconstruct historic and religious sites. The latter, however, as will be sugggested, is not impossible.

Makkah will, and must, develop further. Time and technological progress, particularly in the area of transportation, will obviously make it possible for increasingly larger numbers of pilgrims to travel to Makkah. Alternative solutions must be found to accommodate these numbers. Makkah, because of its topography, is a difficult city to expand. It would be a terrible mistake to deface

the gentle hills surrounding Makkah, simply to provide for more space. I mention this specifically because it is the most expedient solution. Makkah is an integrated ecological entity. Thoughtless changes will upset its balance. The author does not advocate further physical damage to either the inner city or the immediate surrounding areas. The author, even though he has heard opposing views to his solutions, clearly favours not only limiting the number of pilgrims to match the existing space available for the performance of Hajj, but to also explore inner city rapid transit systems, from various collection points outside the city. Such collection points can be self-contained developments, for both local people and visitors. These new suburbs can become satellite points for pilgrims, with well planned communities providing the required municipal services. The initial grouping of pilgrims in new suburbs, together with limiting the overall number of pilgrims, would be for everyone's comfort – not least the elderly – and for the good of the Makkan townscape which might be made available for a series of compact, high density, fully composite, self sustaining settlements linked by a rapid transit system to the *Haram* area. The significance, if settlements were to be created here, is that they would provide a breathing space and time slot for the re-development of the area immediately surrounding the *Haram*. The advantage of this proposal by the author is that pilgrims would be accommodated within the consecrated area of Makkah and at the same time be within a reasonable commuting distance from the Holy Mosque.

The design of the settlements would, of course, have to be sensitively hand led with regard to landscaping and residential capacity, which would have to be developed by the Municipality or a similar government agency rather than awarded to private speculators. The author's indication of possible locations for these settlements is shown at Figure 6.2. It is emphasised that settlements of the kind proposed would contain no industrial or commercial uses other than required to meet the immediate needs of pilgrims. A prototype settlement would be that already constructed at the Haj terminal at Jeddah international airport.

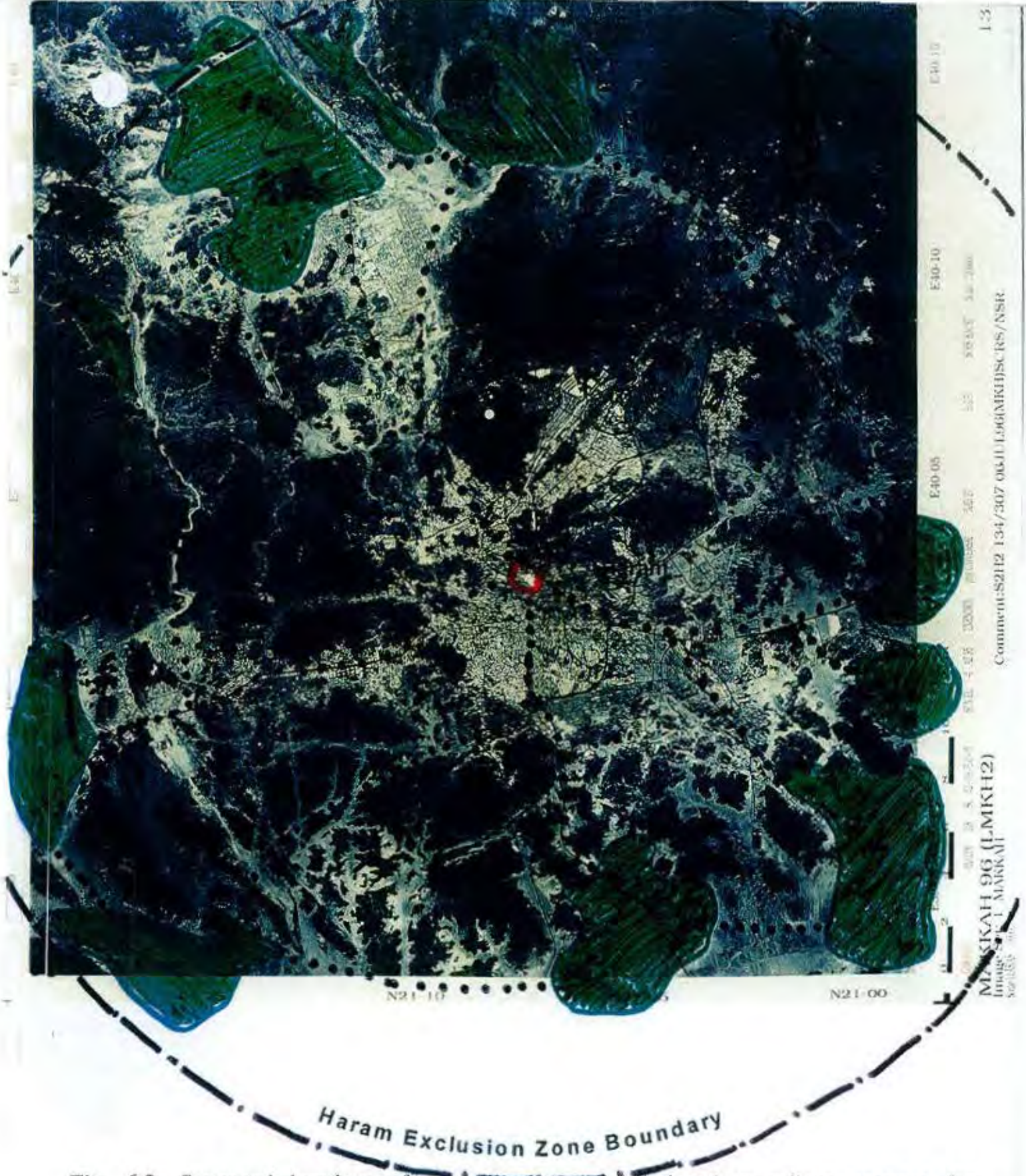


Fig. 6.2: Suggested locations of overspill settlement designed to relieve pressure for development within Nitag Omrani urban containment boundary. The proposed sites are beyond the urban protection boundary but inside the Haram exclusion zone for which pilgrims in over-flying aircraft are required to be in a state of *irhām*.

By grouping specific numbers from the suburbs, the flow of pilgrims in both directions can be controlled for everyone's comfort. The alternative of enlarging the Holy Mosque further, is not a well thought-out solution. The practice of going around an enlarged point, seven times, as part of the obligatory form of the pilgrimage, will create an impossible situation. The larger the circle, the more distance is covered by the outer circle in comparison to the inner circle. Either the people in the outer circle have to move at an uncomfortable speed in comparison to the inner circle, or the reverse must occur. I cannot see this option as a viable solution. What I visualise instead is total chaos. Again, this is no solution. God help an older person in the long outer circle. He will never be able to keep up with the pace. This is a serious example of a very real problem.

By limiting the number of pilgrims annually to match existing services, the authorities could reasonably cope with the expected required services, such as health, housing, transportation, entry point processing, and all other requirements. Let us keep in mind, the pilgrimage is one month out of the year, culminating in a three-day ceremony. To provide services based on peak loads is unreasonably prohibitive in costs, facilities and the use of resources.

There is no question but that every proposed solution will have some negative impact in some area. I can clearly foresee the reaction of some rich Muslim countries able to afford sending unlimited numbers of pilgrims to Makkah annually. Makkah belongs equally to all Muslims the world over. Who has the right to limit access? This is another issue that needs resolution. Saudi Arabia has already established limiting the number of expatriates performing Hajj to once in five years. Extending limitations further could help decrease the burden of providing services for peak periods.

The author believes that preserving the Holy City of Makkah should be accepted and take precedence over all other objections. Muslim countries can unite to form a standing committee to address the problems associated with the Hajj and Makkah. This committee, composed of the best scholars from each country could look at solutions on a continuous basis and provide for an in-depth analysis and

discussion. Religious leaders, planners, architects, doctors, social scientists, transportation experts, environmental experts, preservation specialists, financial experts, engineers, etc., could provide a firm foundation for such a committee. Together they could propose regular suggestions for improvements. This is not to suggest a creation of a new bureaucratic group that feeds on itself and produces nothing but talk, the intent is to have a pragmatic approach with professionals having task orientation as their goal. This would be a useful approach.

We turn now to the question of reconstruction of the demolished historic sites and buildings. Some scholars support this idea, while others view the concept as a false attempt to regain the lost identity. The author supports the first group and although every demolished building may not be reconstructed, at the very least there should be an acknowledged marker of the location of the lost historic sites. It is impossible to regain the lost identity of Makkah as it once existed, but it may be possible to reconstruct some of the most important sites, although this would require not only government intervention but community support as well. This view is shared by Goma, who supports the concept that we do not simply rebuild historic buildings for the sake of restoring lost history but to learn from history. Goma claims that the existence of any historic or religious building would never influence the faith of a good Muslim but sees the value of such preservation, nevertheless.

On the question of regaining the lost identity of Makkah, Goma's opinion is that, although it would be very difficult to restore the lost true identity of Makkah, it is not totally impossible. He suggests three plans in doing so. A short term plan would require immediate conservation of the remaining historic sites and buildings and a recording on maps of the demolished buildings and lost sites. Also vital is the recording of those historic buildings that are deteriorating or are near destruction. This would help in achieving the medium term plan which requires either purchasing these sites and buildings or offering incentives to the owners of the buildings to restore them. Reconstructing the demolished historic buildings in their original location could be achieved in a long term plan. The location of historic

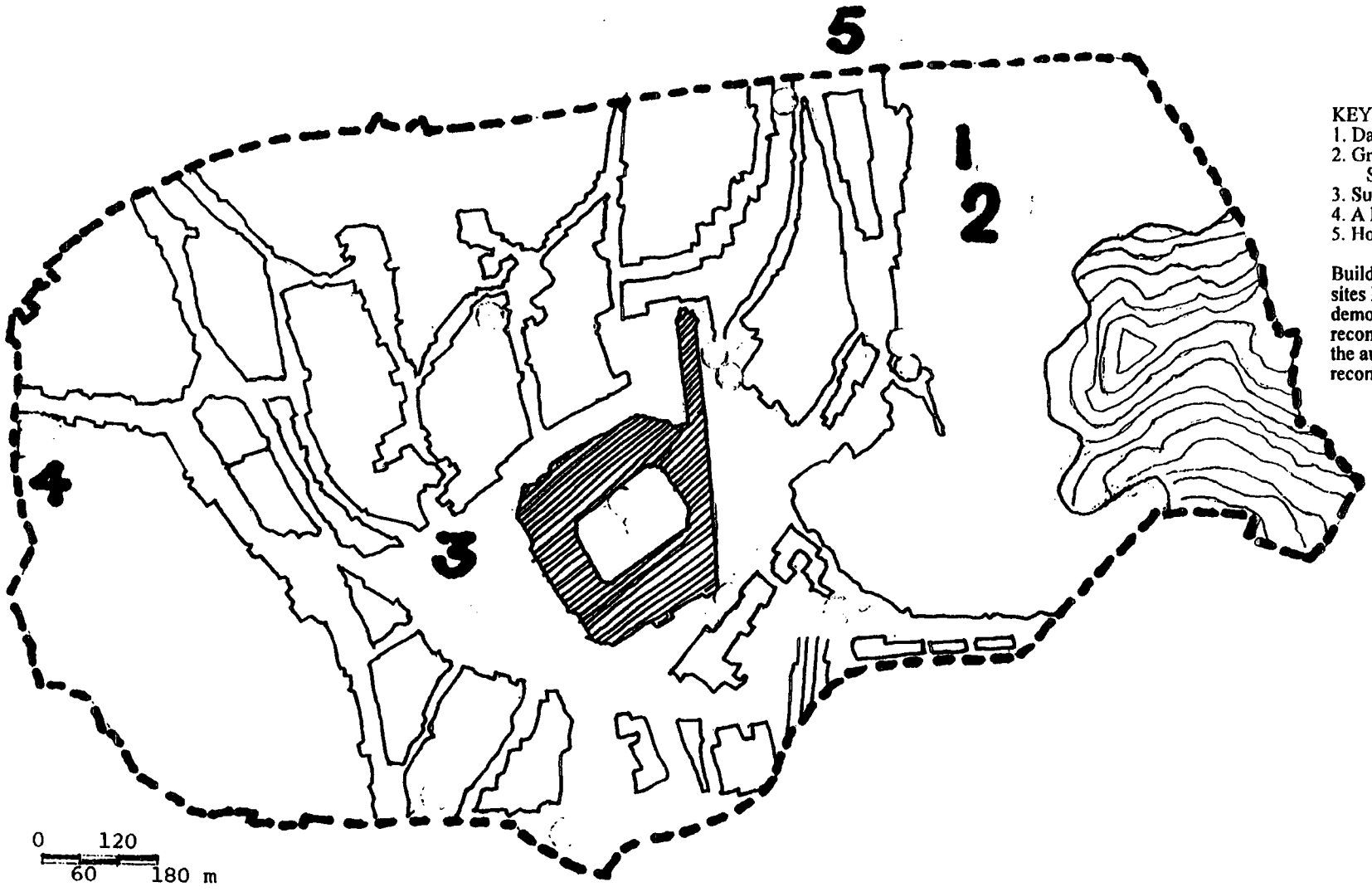


Fig. 6.3: Demolished buildings suggested for reconstruction

sites and buildings which might be considered for inclusion in such a plan is shown at Figure 6.3.

The author contends that only the most important sites are candidates to be completely rebuilt. Much of the detail of the rebuilding could be accomplished from old records and photographs that remain in Makkah and with private citizens. Designating which are the most important sites obviously requires some discussion, but the controversy could be addressed by the panel of representatives from various areas of expertise as well as from all Muslim nations. It is important that all Muslim nations are included in this panel and that consensus is reached before proceeding further. Any plans that meet the approval of all Muslim representatives stand a much better chance of success. The fact that preservation was a part of the Prophet's intentions when he designated both Madinah and Makkah as sacred areas, illustrates that this concept is not foreign to Islam as some seem to believe.

In Islam, preservation is a very important tenet. It is clearly mentioned in the Holy Book, the Qur'ān. The Prophet declared that no man will be abused, no animal hunted, no plant uprooted thoughtlessly, that all life and the environment was totally protected in the cities of Makkah and Madinah. The Prophet further laid the basis for preservation, when by example he and his followers practised this doctrine. Humankind represents God on earth and man is the guardian of its beauty, the environment and the shared resources of all living things. However, humankind has not proven to be the best inheritor of this earth. Humankind has thoughtlessly destroyed beautiful natural resources, wiped out numerous plant and animal species and left scars where beauty once existed. Humankind has not been the best keeper.

Makkah, the focal point for Muslims wherever they are, had a clear and established identity for almost 13 centuries. This character was established by generations of Muslim rulers based upon the relationships to the Ka'aba, the most important monument for Muslims. When Muslims perform their daily prayers, they turn towards the Ka'aba wherever they may be in the world. The surrounding hills

and the relative terrain and building heights surrounding the Ka'aba were in total harmony.

Toulan has recently summarised the situation.

"It is clear that proximity to Al-Haram is the keystone and the one single variable around which the planning process must be designed. In fact, there is no way to devise a planning approach that does not emanate from a thorough understanding of the religious nature of the Al-Haram area and a concern for its future form... It is an ancient city with old traditions and unique urban character that should be protected."

Unfortunately Toulan's idea has not been realised in Makkah. Makkah, like Madinah is now criss-crossed with four lane roads and tunnels. The sun that used to give a wonderful tranquil image, is now reflected harshly from glass covered high-rise buildings. These changes, while they provided a – probably short lived – solution to the congestion, left a bitter taste in the mouths of scholars and intellectuals with an appreciation for history and heritage. Recently a positive move has begun by these concerned people to protect what remains of the heritage and to stop the thoughtless and expedient solutions provided simply to increase the facilities for serving ever more numbers of pilgrims.

Although it is understandable that Muslims would want unlimited access to their holiest place of worship, it is not a requirement to visit Makkah more than once in a lifetime. The Qur'ān, the word of Allah, and the teachings of the Prophet clearly showed that prayers in mosques with other worshippers are preferred to prayers at home by oneself. Naturally, however, many Muslims place a greater preference towards prayers in Makkah. There is of course, the view held by some Islamic scholars who accord no special link between place and spirituality. Such a viewpoint certainly provides a great deal of freedom to perform prayers at their proper times wherever a Muslim may be, on the principal that God is everywhere and the whole world is a temple of God. However, to extend this ideology to preservation and conservation violates other principles that have value for structured worship in designated places by large groups of worshippers. A Muslim

will do what he can in worship, but confirms his belief by dealing honourably with others. Of course, Muslims who pray in Makkah every day, the most important place of worship for Muslims, cannot be any better than Muslims praying elsewhere.

The main purpose of this study is to awaken those concerned about the serious preservation issues facing Makkah. It is important to recognise the damage that has already occurred and to avoid repeating costly mistakes in the future. Several scholars share this view but do not relish the controversy or the consequences that may result through perceived unintended blame or misunderstood goals. The author has one concern only—to stop further physical damage to the City of Makkah. Such damage may be the result of the best of intentions, but has it occured primarily because of the lack of thoughtful or integrated studies for optimal solutions.

The author further hopes that others will be more vocal in their support for preserving Makkah. The problems are not easy and extend beyond simplistic suggestions and recommendations. This issue definitely involves political, social, economic and technological dimensions beyond the scope of this study or the expertise of the author.

In the author's opinion recent planning for Makkah was inadequate and did not consider thoughtful alternatives to providing services for a greater number of pilgrims. There were options that could have solved the problems without destroying the character and the tranquil harmony of the city. To visit the house where the Prophet lived, the roads he travelled, the home of the first converts to Islam, the places the Prophet used for shelter when threatened, are all important sites that add to the visit of a once-in-a-lifetime journey and magnify that journey. Unfortunately, much of this heritage is lost forever.

The author is not looking for blame or assignment of responsibility. What has been done was done with good intentions and at a great deal of cost. In many ways, commercial interests and an over-reliance on movement by private vehicles

has dominated the planning of Makkah. The point is, while this provided much good, it also resulted in a great deal of irreparable damage.

The Western world is considerably more advanced in both the techniques and socio-political regulations (including financial aid) required to secure the protection of the environment and preservation of important historical monuments. The author does not advocate blind copying of everything that has proven successful in the West, but there is no sense in ignoring obvious and successful preservation efforts by others (see Chapter 5).

Practical and workable solutions must be found to solve these difficult problems for Makkah. We must look beyond the present and plan for long term solutions for future generations. All Muslims have a shared responsibility in this issue. No one country has the privilege, the responsibility or the ability to undertake the funding of this enterprise. To restore the lost identity of Makkah would be a great undertaking and would require much support in and outside of Saudi Arabia. The author suggests a committee of groups of experts from all Muslim countries to consider several distinctive, but inter-related tasks:

1. Study Group: To research all major Hajj issues through special sub-groups, covering areas such as transportation, health, shelters, housing, hygiene, etc., and making appropriate recommendations.

2. City Planning Group: This group would undertake a major study of Makkah. They should have executive powers to stop the issue of building permits, road construction or any other undertaking that does not conform to orderly long term growth.

3. Preservation Group: This group would develop the appropriate rules and regulations for the preservation, restoration, upkeep and protection of all important landmarks. This group should have the political and financial support to implement their recommendations and to carry out their resolutions.

4. Restoration Group: This group would research all the important landmarks, homes, buildings of importance and all the other monuments that were destroyed. It would be their task to re-create new structures, faithfully reconstructed where possible, in the original location. When such reconstruction is not possible, then it should build models for future generations to see. Their task would include designating the location of these places on a map and to provide all the details required for these buildings with a history of the events and historic significance. This work should be co-ordinated with other groups such as Planning and Preservation. The sites where original historical buildings were destroyed would be purchased at some future date when the function of the new structure on such a site is no longer of value to the community.

5. Education Group: This group would make the public aware of the importance of environmental protection and the necessity of preservation. This group should include such subjects in both religious and secular schools. Future generations should be taught now of the importance of saving our earth and heritage.

6. Finance Group: The task of this group would be to collect donations from all Muslim nations for the specific expenditures, where required, for Makkah. Donor nations can staff and audit this fund on a rotating basis similar to all other groups.

The above suggested groups are only examples of the required basic steps. There is very good reason and logic for protection. Western historic cities in the last 50 years have implemented steps for protection and restoration. A number of recent examples are available for study. Many cities devastated during the Second World War have been completely rebuilt or restored, such that it is almost impossible to tell the difference between what was destroyed and rebuilt. The reconstruction, based on photographs and records has been a great achievement. London is another outstanding example of what can be done in the care of heritage and history. Many buildings are used today after costly reconstruction of the facades and with attention to compatibility of adjacent structures. The costs of such restorations are often offset by new and functional uses of the structures.

If the above were accepted, and the study groups formed, immediate regulations should be passed for Makkah to protect the character of the city until such a time that major studies are completed. Actions would:

a. Declare Makkah as a protected historical area.
b. Zone the immediate areas around the mosque as a pedestrian zone.
c. Restrict and regulate all vehicle traffic.
d. Create major parking zones outside the city.
e. Regulate a transportation system to the pedestrian zones.
f. Provide access and procedures for emergency services within the city, including access to the pedestrian areas.
g. Restrict entry permits to previous pilgrims to ease congestion. This can be accomplished through high level governmental consultation.
h. Provide a system of signs and lighting appropriate to the needs of the environmental quality.
i. Limit future building heights to intensify the appropriate environmental standards.

The list of suggestions and recommendations can become lengthy, therefore a dedicated group of experts in related fields clearly can and must develop a more comprehensive list to address the needs of Makkah.

The author maintains that the identity and civilisation of nations is measured, apart from other major achievements, by how proud the people are of their history and by how well they care about their environment. This care extends to the importance given to their physical heritage, the preservation of what the former populations built, antiquities, books, folklore, monuments, stately homes, gardens, and protected forests. Although it is impossible to return Makkah to its former glory now that so many of its religious and historic monuments are gone, the remaining sites deserve a better fate. While expressing regret in several areas for past steps taken that resulted in terrible consequences in regards to changing the identity, the heart and harmony, even dignity of Makkah, the author is still optimistic that the situation can and must be corrected. Islam, as a complete set of

teachings for the salvation of mankind, specifically advocates preservation. In most of the interviews, the author felt that there is concern. This leads to hope because it indicates recognition of the problem. And that is the first step in any long journey.

The main objective of this thesis is to raise the awareness of the authorities concerning the importance of conserving the history of Makkah which represents the history of Islam. If the authorities are convinced of the principle, it will encourage all Makkah residents and those who are interested in the history of Makkah and keep records for the historical sites to co-operate with the authorities. No doubt not all of the historical sites that lie in the central area of Makkah, and are shown in Fig. 6.3, are there any more. In order to specify which site or building should be reconstructed, surveying and locating all historical sites and buildings that are shown in Dar Al-Handasah maps, as well as the other locations that are recognised by old Makkah people, are required. Thereafter using the new technology of aerial survey, satellite images as well as ultra sound instruments can be used to scan and fix the remaining traces of these buildings and sites. Individual Makkah people confirmed that the foundations and walls of some historical sites are buried underground under new structures. The archaeological survey should clarify this, and then based on the results of the survey as well as on the available records and drawings of these sites and buildings, we could determine which could be reconstructed, and which could only be recorded. It is beyond the scope of this thesis to decide whether or not a particular site should be reconstructed or not. It requires the collective and co-operative efforts of many agencies. All historical sites and buildings in Makkah are important because they address and represent the era of the Prophet of Islam when he was born, lived, married, spread the teachings of Islam for more than fifty years in Makkah before he migrated to Madinah. Any traces that are related to that history, are worthy of investigation and recording.

Those traces that are buried under the large open courtyards and piazzas which could be easily recorded and reconstructed in a short or medium plan. However, the location of historical sites and buildings that are under existing new structures must fall into the long term plan. A comprehensive new re-planning of Makkah that respects and accommodates these historical sites and buildings should

start immediately. Not only historical sites and buildings should be respected, but also the character of the old city in order to restore the lost identity of Islam's most important city.

It becomes obvious that the ongoing planning of central Makkah has created a series of serious problems. The pressure of businessmen and developers has succeeded in forcing the town planning office from following the recommendations of either RMJM or Dar Al-Handasah. The Makkah Municipality has allowed his-rise buildings around the Holy Mosque and Central Makkah which has created more congestion for pedestrians as well as traffic jams. This easement of law has also encouraged more developers to introduce more projects on top of the remaining mountains to obscure and neutralise the natural environment.

The author's approach introduces the concept of developing satellite settlements away from central Makkah for 15-20 kilometres, as shown in Fig. 6.2. The basic idea is to create fully integrated and competent residential settlements to release the pressure from Central Makkah. These settlements should be designed to contain all the required facilities for pilgrims and visitors for Omra including dwellings, clinics, markets, information and communication centres, as well as subway stations. When providing such facilities, at a good and affordable cost for pilgrims, it will assist and encourage groups of pilgrims and visitors to rent these places regularly, which is achieving the planning objectives for central Makkah. It is most important to establish a rapid transit system, which will be able to move the great number of pilgrims within 10 to 15 minutes to the central area and the Holy Haram. Most pilgrims, who cannot afford the increasing escalation of prices of houses around the Holy Haram, and live further away, spend more than 10 to 15 minutes walking in miserable conditions and weather. Such satellite settlements can easily accommodate the number of pilgrims in a healthy environment away from the pollution and congestion of the central area. The arrival and departure of the group of pilgrims could easily be handled from the ring roads without the need to enter the central area.

Concurrently with this concept, the town planning office must enforce the law, and prohibit new high-rise buildings around the Holy Haram. The height of any new residential towers around the Holy Mosque should not exceed four stories. This will automatically decrease the increasing prices of land around the Holy Haram. It will also encourage developers to invest in the new satellite settlements. Accordingly, the long term planning suggested by the present author might be possible to implement which will help in restoring the lost identity of the historical city of Makkah. All that is needed is the courage to take the first step.

REFERENCES

1. Gazzard, Roy, Omrani Society evening coloquium on the roof top of the house of Dr Sarni Angawi, Al Balad, Jeddaj, February 1991.

2. Toulan, Planning and Development in Makkah, 1993, pp. 37-71.

CHAPTER SEVEN

Conclusions

A. Makkah and Islam

The Islamic approach to the environment of Makkah – as indeed other urban areas – is materialistic rather than spiritual. The spiritual qualities of Islam are held in the Muslim's heart and mind rather than a sensory response induced by his surroundings. He can be accustomed to worshipping in an alien, even hostile, environment. This is particularly true of the nomad and the pilgrim who can be completely indifferent to their transitory surroundings. The Hajj is a journey towards Allah and it is at the final stage of that journey when the Muslim expects to be closest to his earthly perception of his God. For this reason a Muslim is doubly blessed if he dies in Makkah and his mortal remains can be allowed to rest there. The Hajj should therefore be a climax rather than an anti-climax of a sacrificial journey. The ritual requirements of a clean place to pray and correct orientation are important, as are the sequence and content of prayer. While observing this communion with Allah the Muslim is oblivious of his surroundings. This is not a sanctimonious situation but a time slot charged with spiritual reality. The Muslim must therefore have the capacity to "switch off", rather as occurs in a television appearance when those appearing are completely unaware of the thousands – perhaps millions – of people watching them. An awareness of the unseen audience makes the performance impossible.

That said, the environment is important to the pilgrimage as the terminus of a sacrificial journey towards God. It is in effect Allah's gateway to Paradise expressed in a physical environment. Every Muslim carries in his mind the concept of Paradise promised to him by Allah. He also carries a mental awareness or image of the gateway to Paradise. This varies according to the sophistication or otherwise of the pilgrim and the range of his accumulated earthly environmental experiences. Many educated and sophisticated Muslims are known to express great

disappointment on arrival at Makkah which appears to them to be little more than any other contemporary city. Makkah does not radiate holiness, it speaks of exploitation, materialism and over-development. The devout Muslim can of course erase these considerations from his mind but he would be better prepared for prayer and the ritual of the Hajj if his surrounding built environment and the network of remaining holy places were helping to bring him into the presence of Allah, rather than reinforcing his remembrance of an exploitative and materialistic world.

The value of conservation is that it gives expression to what Vico's comment that "the essential nature of things is that they come into being at a certain time and in a certain way".[1] This is not to suggest that the built environment is to be, as it were, frozen in its existing form or for that matter returned to the form in which it existed within living memory or even to its imagined existence of several centuries past. If so, which point on the time scale should we return to? The original House of Allah or that which followed it some five centuries later? Conversely, the existing built environment of Makkah today will appear as an historical environment some two centuries hence. Conservation implies the control of the built environment in time with the evolution of man's intellect. This capacity for understanding may be compared to the operation of the gears rather than the brakes on a motor vehicle – it slows down or accelerates. A conservative policy must begin with surveying and thereafter analysing the existing indicators of environmental quality. It has to be decided which of the existing buildings on sacred sites – and some which are not – should be preserved and maintained in their existing form and condition. If they are beyond preservation it has to be decided whether they should be demolished and rebuilt in either their existing or previously existing form where this is known from documentary evidence or oral traditions. Rebuilding in accordance with local custom or aspirations although always reflecting a scholarly or academic stance, is often a reflection of what is in the hearts and minds of those sincere and committed Muslims who would seek a self-sustaining spirituality for the place and a unique spiritual experience for millions of Muslim pilgrims.

Inevitably, many of the most recently constructed buildings will need to be viewed from the standpoint of re-development. Many will not conform to contemporary building regulations as far as structural stability, public health requirements, space and air around buildings, accommodation of public services etc. Rapidly advancing technology render many of the buildings obsolete in terms of user requirements – particularly the accommodation of computer facilities and temperature and humidity controlled environments. It will probably prove more economic to demolish buildings in this category and finance rebuilding on a more modest scale from the products of enhance site values. Elsewhere the baladya will be faced with problems of compensating existing owners in order to provide open spaces for sacred sites of particular significance in order that they may be left void or developed on a sub-economic basis.

It is stated in the *Concise Encyclopaedia of Islam* that Makkah is "in outward appearance an ordinary Middle Eastern city".[2] This is not, or should not be true. The Kabah is the only visible monument that dates back to ancient times and even this has been rebuilt several times, but it is surrounded by a continuum of buildings reflecting the architectural styles of the whole Muslim world. Unfortunately, many of the examples are not of the best design quality. Often the most important consideration was the money spent rather than the aesthetic quality of the building itself. Above all, it was the commercial return that could be guaranteed by the site values of a unique site of international significance. Makkah today is an expression of conspicuous consumption made possible by the exploitation of the land values of the world's most concentrated religious affinity. If Muslims wish to re-create Makkah in a different form to that which it is at present, they must return to the basic spiritual guidance of the Holy Qur'ān rather than the present emphasis on exploiting the sanctity and sacred land of Makkah.

The alternative to no conservation is a placeless place without visible roots or historical associations. Makkah should be a special place rather than have the appearance of any other Middle Eastern city. If this special quality is lost, Islam will be diminished and the spiritual life of its pilgrims will be impaired.

Conservation, the control of new development, and the replacement of the existing urban fabric will entail considerable expenditure over a long period of time. There is no time to lose if Makkah is not to be lost.

Conservation, and hopefully accompanying changes in the Muslim attitude to the built environment, will not be achieved without a greater emphasis on environmental education against the background of the great artistic achievements of Muslim architects, engineers, craftsmen and artists of the heroic periods of the culture of Islam in the past. Before then the Kingdom has to address the problem of the pressure for space during the month of Hajj when almost two million pilgrims enter Saudi Arabia and ultimately Makkah. A movement of people on this scale presents enormous logistical problems which the Kingdom in various ways has done its best to solve. Increasingly a solution to this problem must rest with Muslim countries beyond Arabia who if united in a concordat could each accept an allocation of permits to travel consistent with the accommodation and facilities which the Kingdom is able to provide. Pressure for space resources beyond this level will only add to the physical danger which has resulted in a series of catastrophes during recent years when thousands of lives have been lost. Within the Kingdom it should be possible to control unnecessary access by Saudi nationals who have already performed Hajj – some of them more than once. Similarly passports of expatriates should be stamped certifying that the bearer has performed either hajj or umrah and at what date. The requirement is that if possible, without detriment to other responsibilities and assuming available resources to do so, the pilgrimage should be performed once in a lifetime. No greater grace is gained by undertaking this increasingly hazardous experience more than once or under conditions that detract from its spiritual significance.

Makkah has always been a commercial city and the Prophet Mohammed himself was a trader. This aspect of the function of the city must of course be maintained and planned for as a quite separate entity. This may require that some of the commercial functions crowding around the haram should be relocated away from the city itself but within its immediate sphere of influence. The relief of

pressure and activity and the control of pedestrian and various forms of vehicular movement in and around Makkah calls for a wider distribution of function, possibly in self-sustaining multi-purpose peri-urban settlements. The voids thereby created could be used to establish green open spaces, waterscapes and other amenities conducive to prayer and contemplation in a less boisterous and confused environment.

B. Islam and Makkah

The Arabs both before and since Islam have a great and proud history. The fertile crescent and the civilisation of the Babylonians, Caledonians, Phoenicians and the Pharaohs ruling Egypt made major strides in defining the basis for civilisation in general. Major social reforms and issues, laws, governments, and agrarian practices were refined in the area before many other parts of the world. Science, mathematics, medicine, astronomy and arts were encouraged and had support from the leaders of these communities. During the golden age of Islam, no other community in the world could match the progress and contributions of such a civilised and comprehensive society. This history left behind valuable heritage, monuments, artworks, documents and major contributions and various historical notable achievements. It is with sadness and regret that many of these physical reminders have disappeared because of neglect and careless regard to their value.

Makkah enjoys having the original places where the Prophet and his companions witnessed the birth of Islam as well as other great events in Islamic history. It is with regret that many Muslims do not enjoy their past and heritage.

One of the most dominant roles in Saudi Arabia is the influence of religious scholars in all aspects of life. Unfortunately, these scholars tend to complicate issues, not simplify them, whereas the Prophet of Islam directed his followers to simplify issues, not complicate them. The issue of maintaining the identity of Islam may be obvious to the scholars, but the conservation and preservation of Islam's heritage is apparently not so obvious, as they prohibit such a stand on the issue.

Muslim scholars should study architecture, the arts and crafts, and music in order to feel, sense, and recognise the beauty of maintaining such great monuments.

Islam calls for a consultancy of scholars (Shoura) and this is what is required now. The Prophet was a fine example of one who consulted his companions in all aspects of life and war. There were times when his opinion was denied and the support went to Umer, one of his companions.

Scholars may refer to the ancient buildings of the Prophet's time that have disappeared, pointing out that Islam has endured without those monuments. The same buildings often disappeared because much of the construction and materials used was impermanent, and to refer to the early time of Islam as a basis for all future action is an irrational approach. The conservation of historical sites and buildings is however an artistic and civilised concept, and moreover an approach that is logical and fully in keeping with the code of Islam.

The present situation and the attitude of communities throughout the Middle East and the Muslim world regarding preservation is disappointing, even alarming. During my research, I found that neither government nor the scholars had a serious appreciation for preservation. Educationalists and the educational curriculum do not seriously address conservation of historical monuments, buildings or important sites. Conservation requires awareness and the political will to ensure that a nation's history is important enough to preserve. Society is focused on material issues and not on enacting laws to preserve monuments or historical sites, especially if they stand in the way of financial gains. The sudden wealth obtained from oil resources throughout the region, created wealth without the time for education. Education and awareness of conservation issues requires time and planning. The economic boom, while creating great financial opportunities, did not provide the time for such an education.

With this sudden wealth, the scale of building activity that followed was not organised to protect valuable historic monuments and buildings. In fact, at

that particular period, clear building zoning laws did not exist and only a few people cared. The price of land multiplied at a most unusual rate. Historic buildings were quickly demolished as developers, wishing to utilise the land for more lucrative uses, offered very attractive sums to uneducated landowners. Historic buildings, regardless of their importance, were demolished swiftly before anybody had a chance to save them.

Yet Islam and its attitude towards conservation is very clear, as discussed in previous chapters. The author believes, with a great deal of concern, that unless serious awareness of the value for conservation is given by the authorities, coupled by an effort to educate the population through the school system and the media, the outlook for Makkah will be very bleak. Time, unfortunately, could well see further damage to this valuable heritage and history. Continuous lack of concern would certainly deny future generations an irreplaceable part of their past. That indeed would be a great loss to all.

REFERENCE

1. Vico, G.M., *The Theory of Knowledge*. Manson, 1969.
2. Glassé, C., *The Concise Encyclopaedia of Islam*. Stacey International, London.

BIBLIOGRAPHY

Abdalati, Hammudah, Islam in Focus, Indianapolis: American Trust Publication, p. 195.

Abdul Hamid, Nizam ed-Din, Mafhuum el-Fiqh al-Islami (The Meaning of Islamic Fiqh), Beirut: Moussaht el-Risalah, 1984. (in Arabic)

Abdul Razzak, M. and Khan, M., "Domestic Water Conservation Potential in Saudi Arabia," Environment Management, Vol. 14, No. 2, Mar/April 1990. pp. 167-178.

Abdulati, Hammudah, Islam in Focus, Indianapolis, Indiana, Amer Trust Publications, 1975.

Abu Lughud, Janet, Contemporary Relevance of Islamic Urban Principles. Ekistic Jounal, Vol. 4, No. 280, Jan. Feb. 1980.

Abu'l Fazl, Mirza, Selections from Mishkat ul-Masabih, Lahore, Pakistan: Sind Sagar Academy, 1977.

Abu-Lughod, J. "Preserving the Living Heritage of Islamic Cities", Toward an Architecture in the Spirit of Islam, Proceedings of Seminar One, edited by Holod R. Aiglemont, Gouvieux, France: The Aga Khan Award for Architecture, 198. p. 65

Adams, R. (et. al.), Dry Lands: Man and Plants, London: The Architectural Press Ltd., 1978.

Adriaanse, A. (et. al.), "Information Requirements of Integrated Environmental Policy Experiences in the Netherlands," Environmental Management, Vol. 13, No. 3, May/June 1989. pp. 309-315

Agnew, J. Mercer, J. Sopher, D. The City in Cultural Context,Allen Unwin Inc., Winchester, MA. USA.

Ahktar, Shameem, "An Inquiry Into the Nature, Origin and Source of Islamic Law of Nations, " in Islamic Studies, Journal of the Islamic Research Institute, Pakistan, Vol. X, No. 1, March 191, pp. 23-27.

Ahmad, Khurshid (ed.), Islam: Basic Principles and Characteristics, The Islamic Foundation, London., 1975, pp. 27-44.

Ahmad, Ysuf, Environmental Guidelines for Watershed Development, United Nations Environment Programme Publications, Series No. 3, Nairobi, kenya, 1982.

Akbar, Jamil, "Crisis in the Built Environment", Singapore: Concept Media, 1988

Al-Abbasi, Ali Bey, Travels of Ali Bey in Morocco, Tripoli, Cyprus, Egypt, Arabia, Syria and Turkey between 1803 and 1807, Vol. II, London, 190.

Al-Akkad, Abbas "The Geniuses of Mohammed", Cairo, Dar Al-Sherouk, 1960 (in Arabic).

Al-Amawi, Yagut, Mua'jam Al-Buldan, Beirut, n.d., Vol. V.

Al-Ankary, K.M. and el-Bushra, el-S. (eds) Urban and Rural Profiles in Saudi Arabia, Berlin: Gebruder Borntraeger, 1989.

Al-Awaji, Ibrahim, Bureaucracy and Society in Saudi Arabia, PhD. Thesis, University of Virginia, 1971.

Al-Bahuti, Mansour ibn-Yonis (1046 H.), Kashaf al-Ken'ah, an-Matan el-Iqti'na, Riyadh, Saudi Arabia: Maktabaht el-Nasr el-Hadith, (n.d.), (in Arabic).

Al-Braith, Muhammad, "A Study of Water in the Arabian Peninsula," in Al-Mubta'as, Vol. 106, Oct. 1988. pp. 40-4. (in Arabic).

Al-Buraey, Muhammad, Administrative Development: An Islamic Perspective, London: Routledge and Kegan Paul Inc., 1985.

Al-Farudi, I. and al-Faruqi, L. The Cultural Atlas of Islam, New York: MacMillan Publishing Co., 1986.

Al-Faruqi, I. and Nasseef, Abdullah. (eds.) Social and Natural Sciences: The Islamic Perspective, Hordder and Stoughton, 1981.

Al-Faruqi, Ismail, "Science and Traditional Values in Islamic Society," in Science and the Human Condition in India and Pakistan, The Rockefeller University Press, 1968. pp. 12-28.

Al-Faruqi, Ismail, "Tawhid: Its Implication for Thought and Life: Washington, D.C.: The International Institute of Islamic Thought, 1982, p. 40.

Al-Faruqi, Lamya, Islam and Art, Islamabad, Pakistan: National Hijra Council, 1985.

Al-Hashimy, Abid, An Introduction to the Islamic Perspective on Man and Life, Amman, Jordan: Dar el-Furkan, 1982. (in Arabic)

Al-Husayni, Musa, "The Institution of the Hisbah in Early Islam," in The Islamic Review and Arab Affairs, Vol. 57, No. 2, Feb. 1969, pp. 30-36.

Al-Jaza'eri, Abu-Baker, Menhaj al-Muslim, The Path of Muslim). Cairo: al-Maktab al-Thaqaphi, 1964. (in Arabic).

Al-Jisr, Nadim, "The Pillars of Islamic Thought," in The Islamic Review and Arab Affairs, Vol. 56, No. 8-9, Aug./Aept. 1968, pp. 5-9.

Al-Kettani, Muhammad (1346-1927), At-Tratib al-Idariyyah, Lebanon: Dar al-Kitab al-Arabi.

Al-Khashshab, Yihya, Safarnamah: The Journey of Nasiri Khusraw to Lebanon, Palestine, Egypt and the Arabian Peninsula in the Fifth Century of Hijra, Beirut. 1979, p.213. (In Arabic).

Al-Mawardi, Abul A'la, "Political Theory of Islam," in Khurshid Ahmed (ed.), Islam: Its Meaning and Message, London: The Islamic Foundation, 1975, pp. 147-171.

Al-Sayyad, N. et al., "Islamic Architecture and Urbanism", in Built Environment, Vol. 22, No. 2, Alexandrine Press, Oxford, 1996.

Al-Siba'ee, Ahmed "History of Makkah", Vol. 1, 2 Makkah, Koreish Publications, 1960.

Al-Sibaee, Ahmad, Tarikh Makkah, (The History of Makkah), Makkah, 1979, (In Arabic).

Alexander, C. (et. al.), The Oregon Experiment, N.Y., U.S.A., Oxford University Press, 1975, p.67

Alford, Duncan. (et. al.), "Feng Shui" Unpublished paper, Harvard University, 1979.

Ali, A. Yusuf, The Holy Qur'an: Text, Translation and Commentary, Indiana: American Trust Publication, 1977.

Ali, Muhammad, A Manual of Hadith, Lahore: Ripon Printing Press, (n.d.)

Alier, Juan M., Ecological Economics: Energy, Environment and Society, New York: Basil Blackwell Inc., 1987.

Allan, J., "Renewable Natural Resources in the Middle East," in J. Clarke and H. Bowen-Jones (eds.), Change and Development in the Middle East, London: Methuen and Co. Ltd., 1981. pp. 25-39

Allen, L. Durward, "Man and the Environmental Ethic," in R. Tybout, Environmental Quality & Society, Ohio State University Press, 1975, pp. 26-43.

Allsopp, Bruce, Ecological Morality, London: Frederick Muller Ltd., 1972.

Amin, Sayed Hassan, Marine Pollution in International and Middle Eastern Law, Glasgow: Royston Limited Co., Inc., 1986.

Anderson, M. "The Federal Bulldozer", in Urban Renewal: The Record and Controversy, Cambridge, MA., MIT Press, edited by J. Wilson, 1967

Andreson, Walt. (ed.) Politics and Environment, Pacific Palisades, California: Goodyear Publishing Co., Inc. 1970

Anees, M. and Athar, A. Guide to Sira and Hadith Literature in Western Languages, New York: Mansell Publishing Ltd., 1989.

Angawi, Sami, Makkan Architecture, Ph.D. Thesis, University of London, 1988.

Ansari, Abd' Al-Haq, "The Qur'anic View of the Right", The Islamic Review and Arab Affairs, Vol. 56, No. 4, April 1968, pp. 18-19.

Arrfield, Robin, The Ethics of Environmental Concern, Oxford, england: Basil Blackwell Publishers Ltd., 1983.
Attfield, Robin, 1983.

Austroy, Jacques, "A Non-Muslim Scholar's Approach to Islam's Key Problem Economic Development," in The Islamic Review and Arab Affairs, Vol. 56, No. 2-3, Feb/March 1968, pp. 30-33.

Azze, Baha, Shipping and Development in Saudi Arabia, Ph.D. Dissertation, University of Wales, Jeddah: Saudi Arabia, Tihama Publishers. 1981.

Baden, John and Stroup, R. (eds.), Bureaucracy vs. Environment, Ann Arabor: The University of Michigan Press, 1981.

Bakader, Abou Bakr (et. al.), Islamic Principles for the Conservation of the Natural Environment, Jeddah: Saudi Arabia, Meteorology and Environmental Protection Administration (MEPA), 1983.

Bakashab, Omar A. "Islamic Law and the Environment: Some Basic Principles," in A. Dahlan (ed.), Politics, Administration and Development in Saudi Arabia, Brentwood, MD.: Amana Corporation, 1990. pp. 29-45.

Ballard, C. Preservation of Man-Made Resources, Athens, Georgia School of Environmental Design, University of Georgia, 1976, Unpublished Masters Thesis in Landscape Architecture.

Barnett, Jonathan, An Introduction to Urban Design, New York: Harper and Row Publishers, 1982.

Bartlett, R. (ed.), Policy Through Impact Assessment, New York: Greenwood Press, 1989.

Batanouny, K. H., Natural History of Saudi Arabia: A Bibliography, Jeddah, Saudi Arabia: King Abdul Aziz University, 1978.

Beatley, Timothy, Ethical Land Use, the John Hopkins University Press, 1994.

Beaumont, Peter, "Water and Development in Saudi Arabia," The Geographical Journal, Vol. 143, (Part 1), 1977, pp. 42-60.

Bennett, John, The Ecological Transition: Cultural Anthropology and Human Adaptation, New York: Pergamon Press Inc., 1976.

Berger, J. (ed.), Environmental Restoration, Washington D.C., Island Press, 1990.

Berkofsky, L. (et. al.), Settling the Desert, New York: Gordon and Breach, 1981.

Berry, Brian and Horton, Frank, Urban Environmental Management Planning for Pollution Control, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1974.

Bindagji, Hussein, Geography of Saudi Arabia, Cairo: Maktabbat el-Anglo al-Misriyah, 1977. (in Arabic)

Bird, Elizabeth, "The Social Construction of Nature: Theoretical Approaches to the History of environmental Problems,: in Environmental Review, Vol. 11, No. 4, Winter 198. pp. 255-264

Birks, Stace, "The Impact of Economic Development on Pastoral Nomadism in the Middle East: An Inevitable Eclipse?" in J. Clarke and H. Bowen-Jones (eds.), Change and Development in the Middle East, London: Methuen and Co., Ltd., 1981. pp. 82-94.

Bishay, Adli and McGinnies, W. (eds.) Advances in Desert and Arid Land Technology and Development, (Vol. 1). Papers presented at the International Conference on the Applications of Science and Technology for Desert Development. The American University, Cairo, Egypt, September 9-15, 1978. New York: Harwood Academic Publishers, 1979.

Black, John, The Dominion of Man: The Search for Ecological Responsibility, Edinburgh: University Press, 1970.

Bratton, Susan, "The Original Desert Solitaire: Early Christian Monasticism and Wilderness," in Environmental Ethics, Vol. 10, No. 1, Spring 1988, pp. 31-53.
Briassoulis, Helen, "Theoretical Orientations in Environmental Planning: An Inquiry into Alternative Approaches," Environmental Management, Vol. 13, No. 4, July/Aug., 1989, pp. 381-392.

Brice, William (ed.), The Environmental History of the Near and Middle East Since the Last Ice Age, New York: Academic Press, 1978.

Brown, Jennifer (ed.), Environmental Threats: Perception, Analysis and Management, London: Belhaven Press. 1989.

Brown, Lester, "Break Through on Soil Erosion," World Watch, Vol. 1, No. 3, May/June, 1988. pp. 19-25.

Bucaille, Maurice, The Bible, The Qur'an and Science, Indianapolis, Indiana: American Trust Publications, 190.

Burchard, John, "Notes on Endagered Habitats," in Journal of the Saudi Arabian Natural History Society, Vol. 2, No. 3, December 1983, pp.3-10.

Burkhardt, Jacob, Travel in Arabia, London, Frank Cass Company Ltd., 1968.

Burton Richard F. Personal Narrative of a Pilgrimage to Al-Madinah & Makkah. Vol. 2, New York, 1964.

Callicott, Baird, In Defense of the Land Ethic, New York: State University of New York Press, 1989.

Caponera, Dante, Water Laws in Moslem Countries, FAO Research Paper, 1954.

Carpenter, R. and Dixon, J., "Ecology Meets Economics: A Guide to Sustainable Development," in Environment, Vol. 27, No. 5, June 1985, pp. 6-11.

Carpenter, Richard (ed.) Natural Systems for Development: What Planners Need to Know, New York: Mac Millan Publishing Co., 1983.

Cartwright, John, "Conserving Nature, Decreasing Debt," The Third World Quarterly, Vol. 11, No. 2, April 1989. pp. 114-127.

Cattan, Henry, "The Law of Waqf," in M. Khadduri and H. Liebesny (eds), Law in the Middle East, New York: AMS Press Inc., 1984, pp. 203-222.

Cherry, Gordon, "The Conservation Movement", The Planner, vol. 69, No. 5, May 1974.

Cladwell, Lynton, Environment: A Challenge for Modern Society, Garden City, New York: The Natural History Press, 1975.

Clark, Bill, "The Range of the Mountains is His Pasture: Environmental Ethics in Israel," in J. Engel and Joan Engel (eds.), Ethics of Environment and Development, Tucson: The University of Arizona Press, 1990. pp. 183-188.

Clarke, J. and Bowen-Jones, H. (eds.) Change and Development in the Middle East, London: Methuen and Co., Ltd., 1981.

Coleman, D. and Nixson, F., Economics of Change in Less Developed Countries, New York: P. Allan Publishers, 1978.

Committee on the Application of ecological Theory to Environmental Problems, Ecological Knowledge and Environmental Problem-Solving: Concepts and Case Studies, Washington D.C.: National Academy Press, 1986.

Commoner, Barry, "The Environmental Costs of Economic Growth," in R. Dorfman and N. Dorfman (eds.) Economics of the Environment, New York: W.W. Norton and Co., Inc., 1972, pp. 261-283.

Costonis, J., "The Development Right Transfer", in Cutter, L.S. and Cutter, S.S., Recycling Cities for People, The Urban Design Process, Boston, 1976, pp. 229-235.

Cotgrove, Stephen F., Catastrophe or Cornucopia: The Environment, Politics and the Future, Chichester, New York: John Wiley. 1982.

Counelis, James, S., "Knowledge, Values and World Views: A Framework for Synthesis," in Ziauddin Sardar (ed.), The Touch of Midas; Science, Values and Environment in Islam and the West, Oxford: Manchester University Press, 1984. pp. 211-231.

Courtellemont, Gervais, Mon Voyage à la Mecque, Desclee de Brouwer, France: September 1990. (In French).

Cutter, L.S. and Cutter, S.S., Recycling Cities for People, The Urban Design Process, Boston: Cahners Books International, Inc., 1976. pp. 16-17.

Dahlan, Ahmed Hassan (ed.) Politics, Administration and Development in Saudi Arabia, Brentwood, md.: Amana Corporation, 1990.

Dar Al-Handasah, Makkah Region, Cultural Area Plan, MOMRA, Jeddah, 1986 Vol. 1 & 2.

Darling, F., "A Wider Environment of Ecology and Conservation," in R. Revelle and H. Landsberg (eds.), America's Changing Environment, Boston: Houghton Mifflin Co., 1967. pp. 3-19.

De Groot, W., "Environmental Research in the Environmental Policy Cycle," Environment Management, Vol. 13, No. 6, Nov./Dec. 1989. pp. 659-662.

DeQuin, H., The Challenge of Saudi Arabia, Singapore: Eurasia Press. 1976.

Dorfman, R. and Dorfman, N. (eds.) Economics of the Environment, New York: W.W. Norton and Co., Inc., 1972.

Dregne, H., "Soil Erosion: Cause and Effect," Land Use Policy, Vol. 4, No. 4, October, 1987.

Eaton, Charles La Gai, Islam and the Destiny of Man, New York: State University of New York Press, 1985.

Eighmy, J. and Ghanem, Y., "The Hema System: Prospects for Traditional Subsistence Systems in The Arabian Peninsula," (Unpublished), Working Paper Series, KAU, Jeddah, Saudi Arabia, 1980.

EIU (The Economist Intelligence Unit), Country Profile: Saudi Arabia, 1986-1987, London: The Economist Publications Limited., 1986.

El-Ashmawi, Muhammad Saaied, Usul el-Shari'ah (Fundamentals of the Shari'ah), Cairo: Makktabat Madboli, 1983. (in Arabic)

El-Azhary, M.S. (ed.), The Impact of Oil Revenues on Arab Gulf Development, London: Croom Helm, 1984.

El-Ghonemy, Mohamed Riad (ed), Land Policy in the Near East., Proceedings of the Development Center on Land Policy and Settlement for the Near East, held in Tripoli, Libya, 16-18 October 1965, Rome: FAO, 1967.

El-Mallakh, Ragaei, Saudi Arabia Rush to Development, London: Croom Helm, 1982.

Elder, Frederick, Crisis in Eden: A Religious Study of Man and Environment, New York: Abingdon Press, 1970.

Eliade, Mercia, "The Sacred and the Profane: The Nature of Religion", translated from the French by Williard R. Trask, New York: Harcourt Brace, and Jovanich Publishers, 1959.

Engel, J. and Engel, J. (eds.) Ethics of Environment and Development, Tuscon: The University of Arizona Press, 1990.

Evenari, Michael (et. al.), Ecosystems of the World: Hot Deserts and Arid Shrublands, Vol. 12B, New York: Elsevier, 1986.

Everett, S. (et.al.), The State of the Environment: Kingdom of Saudi Arabia, Jeddah, Saudi Arabia: SRI International, 1984.

Fadan, Y., "Traditional House of Makkah: The Influence of Socio-Cultural Themes Upon Arab Muslim Dwellings," Islamic Architecture and Urbanism Proceedings, Dammam: King Faizal University, 1980.

Farahat, A. (et. al.) Evaluation and Development of Building Codes and Land Use Regulation in Saudi Arabia, Unpublished report submitted to King Abdul Aziz City for Science and Technology. Jeddah, Saudi Arabia, 1989.

Farhahat, A., Nedded Legislation for Historic Preservation in Saudi Arabian Cities, Published paper by King Saud University Press, 1987.

Farzi, Zaki M. National Guide & Atlas of the Kingdom of Saudi Arabia, Jeddah, Zaki Farsi, 1989.

Fazl, Mirza, Selections from Mishkat al-Masabih, Lahore, Pakistan: Sind Sagar Academy, 1977.

Fielden, B. M., Conservation of Historic Buildings, London, Butterworth Scientific, 1982.

Forman, Richard and Gordon, M., "Ecological Consequences of Centralization of Nomads," in M. Taghi Farvar and J. Milton (eds.), The Careless Technology: Ecology and International Development, Garden City, New York: The Natural History Press, 1972. pp. 671-681.

Forman, Richard, "The Ethics of Isolation, The Spread of Disturbance and Landscape Ecology," in Monica Turner (ed.), Landscape Heterogeneity and Disturbance, New York: Springer - Verlag. 1987. pp. 213-229.

Fowler, Peter, Archeology: The Public and the Sense of the Past, London, Temple Smith.

Gallopin, Gilberto, Planning Methods and the Human Environment, UNESCO, 1981.

Garth, Jones, The Conservation of Ecosystems and Species, London: Croom, Helm, 1987.

Gelany, Gideon (ed.), Arid Zone Settlement Planning: The Israeli Experience, New York: Pergamon Press, 1979.

Gereasha, Ali, al-Mashro'eiah al-Islamih al-Ulia, Cairo: al-Wafa, 1986. (in Arabic)

Ghoniamy, Zain, "Oil and the Dimension of Environmental Pollution in the Arabian Gulf Area," in Journal of the Studies of the Gulf and the Arabian Penninsula, Vol. 11, July 1977, pp. 11-49. (in Arabic)

Glacken, Clarence, "Man Against Nature: An Outmoded Concept," in Robert Roelofs (et. al.) Environment and Society, New Jersey: Prentice Hall, Inc. 1974, pp. 17-28.

Glasse, Cyril, The Concise Encyclopedia of Islam, San Francisco: Harper and Row Publishers, Inc., 1989.

Glick, Thomas, "Muhtasib and Mustasaf: A Case Study of Institutional Diffusion," in Viator, Vol. 2, 1971, pp.59-81.

Goma, Hesam, "The Earth as a Mosque", Ph.D. Thesis, University of Pennsylvania, 1991.

Gopal, Brig and Bhardwaj, N., Elements of Ecology, New Delhi: Vikas Publishing House Ltd., 1979.

Goudie, Andrew, The Human Impact on the Natural Environment, 2nd edition, Cambridge: Mass., 1986.

Gradus, Yehuda (ed.), Desert Development: Man and Technology in Space Lands, Boston: D, Reidel Publishing Cp., 1985.

Grainger and Ganadilly, A., "Hemas: An Investigation into a Traditional Conservation Ethics in Saudi Arabia," in Journal of the Saudi Arabian History Society, Vol. 2, No. 6, July 1986, pp. 28-32.

Griswpld, Smith, "Can The Environment be Protected Under Current Social and Ethical Codes?," in R. Tybout (ed.) Environmental Quality and Society, Ohio State University Press, 1975. pp. 277-286.

Gupta, Avijit, Ecology and Development in the Third World, New York: Routledge, 1988.

Hahn, Robert, A Primer on Environmental Policy Design, New York: Harwood Academic Publishers, 1989.

Haider, Gulzar, "Habitat and Values in Islam: A Conceptual Formulation of an Islamic City," in Ziauddin Sardar (ed.) The Touch of Midas: Science, Values and Environment in Islam and the West, Manchester University Press, 1984. pp. 171-208.

Hajj Research Centre, Vol. 1, King Abdul Aziz University Press, Jeddah, 1975 and Croom Helm, London, 1975.

Hajj Statistics, Ministry of Interior, Riyadh, 1991.

Hakim, Besim (editor), Sidi Bou Said, Tunisia, A Study in Structure and Form, Halifax, Nova Scotia, Canada: School of Architecture, Nova Scotia Technical College, 1978, pp. 164-165.

Hakim, Besim, The Arab-Islamic Cities, New York: Kegan Paul Inc., 1986

Hamadani, Daood, "Concepts of Land, urbanization and Islamic Ethics," in Ekistics, no. 280, Jan./Feb. 1980, pp. 18-21.

Hamed, Safei el-Deen, "Earthly Paradise Revisited: Islamic Law and Muslim Culture of Man and Nature,: Unpublished paper, University of Maryland, 1986.

Hamidullal, Muhammad, Introduction to Islam, Centre Cultural Islamique, Paris, 1969.

Hardin, Garret, "To Trouble a Star: The Cost of Investigation in nature," in Robert, Roelofs (ed.), Environment and Society, Englewood Cliffs: New Jersey, Prentice Hall, Inc., 1974, pp. 118-126.

Harenen, T. and Lagenback, R., Living Places, Work Places and Historic Identity, London, Temple Smith, 1981.

Hariri, Majdi, "Housing in Central Mecca", Ph.D. Thesis, University of Newcastle-upon-Tyne.

Harris, Nigel, The End of the Third World, London: Penguin Books, 1986.

Harvey, Brian and Hallet, John (eds.), Environment and Society: An Introduction Analysis, Cambridge, Mass: The MIT Press, 1977.

Haywood, Ian, "Environmental Education in the Islamic World: A Tri-Partite Approach," in Ekistics, Vol. 47, No. 285, Nov. 1980. pp. 432-435.

Hufshmidt, Maynard and Hyman, Eric (eds.), Economic Approaches to Natural Resources and Environmental Quality Analysis, Proceedings and papers of a Conference on Extended Benefit Cost Analysis. Dublin, Tycooly International Publishing Ltd., 1979.

Hughes, Donald and Swan, Jim, "How Much of the Earth is Sacred Space?," in Environmental Review, Vol. 10, No. 4, Winter 1986, pp. 247-259.

Hughes, Donald, Ecology in Ancient Civilizations, Albuqueque: University of New Mexico Press, 1975.

Husain, Ibrahim, Tawhid and Shirk, Indianapolis, Indiana: The Islamic Teaching Center, 1978.

Husain, Waqar, Islamic Environment System Engineering, London: MacMillan Press, Ltd., 1980.

Hussain, Muhammed, Development Planning in an Islamic State, Karachi, Pakistan, Royal Book Co., 1987.

Ibn Qudamah, Muwaffaq ad-Din (d. A.H. 720/A.D. 1320), al-Mughni, edited by Muhammad Rashid Rida, Dar al-Manar, 1949. (in Arabic)

Ibn, Jubayr, Rihlat Ibn Jubayr, The Journey of Ibn Jubayr, Beirut, 1980. (In Arabic).

Ibold, Klaus M., Ecological Conerns in Urban and Regional Planning, unpublished paper. Dhahran, Saudi Arabia: King Fahd University of Petroleum and Minerals, 1989.

Ibold, Klaus Mueller, "Planned Cities and Communities," in-Al-Ankary, K.M. and el-Bushra, el-S. (eds.), Urban and Rural Profiles in Saudi Arabia, Berlin: Gebruder Borntraeger, 1989. pp. 77-90.

Ibrahim, A., Towards Genuine Cultural Values in the Construction of the Contemporary Islamic City, Cairo: The Center for Planning and Architectural Studies, 1982. (in Arabic)

Ibrahim, Fouad, "Successes and Failures of Land Reclamation Measures on the Sinai Peninsula and the Eastern Mediterranean Coast of Egypt," Applied Geography and Development, Vol. 32, 1988. pp. 95-109.

Ibrahim, Ibrahim (ed.) Arab Resources: The Transformation of a Society, London:Croom Helm, 1983.

Iitis, Hugh, Loucks, Orie and Andrews, Peters, "Criteria for an Optimum Human Environment," in R.Roelofs (et. al.) Environment and Society, Englewood Cliffs: New Jersey, Prentice-Hall, Inc., 1974. pp. 88-98.

Iqbal, Muhammad, The Reconstruction of religious Thought in Islam, Lahore, Shaik Muhammad Ashraf, 1944.

Isaac, Erich, "Religion, Landscape and Space," Landscape, Vol. 9, No. 2, Winter 1959-1960, pp. 14-18.

Jacobs, Jane, The Death and Life of Great American Cities, Vintage Books, New York, 1961.

Jacobs, Peter, "The Gulf at a Glance," Landscape Architecture, Vol. 79, No. 4, 1989, p. 34-35.

Jones, Gareth, The Conservation of Ecosystems and Species, new York: Croom Helm, 1987.

Kaleemur, Rahman, Mohd., "Environmental Awareness in Islam," in MAAS Journal of Islamic Science, Vol. 2, No. 1, Jan. 1986. pp. 99-105.

Kassas, M., "Drought and Desertification," Land Use Policy, Vol. 4, No. 4, October 1987, pp. 389-400.

Kates, R. and Burton, I. (eds.), Geography, Resources and Environment, Vol. 1, Chicago: The University of Chicago Press, 1986.
Kavka, Gregory, 1978.

Kearney, M., World View, Navato, California: Chandler and Sharp Publishers, Inc., 1984.

Kedourie, Elie and Haim, Sylvia (eds.), Essays on the Economic History of the Middle East, London: Frank Cass and Co., Ltd., 1988.

Kelly, Kathleen and Schandelbach, R.T., Landscaping the Saudi Arabia Desert, Philadelphia, Pa.: Falcon Press, 1976.

Khan, M.M., The Translation of the Meaning of Sahih al-Bukhari, Vol. 3, Chicago: Kazi Publications, 1976.

Khan, Majid, Islam on Origin and Evolution of Life, India: Idarah-i-Adabiyat-I Delli, 1979.

Khorshid, Ahmed, "Islam: Its Meaning & Message:, London, The Islamic Foundation, 1975.

King, R., "The pilgrimage to Mecca: some geographical and historical aspects", in Erkande, Vol. 26, 1972, pp. 61-73.

Klosterman, Richard, "A Public Interest Criterion," in Journal of American Planning Association, Vol. 46, No. 3, 1980, pp. 323-333.

Knaverhase, Ramon, "Saudi Arabia Faces the Future," Current History, Vol. 85, No. 508, Feb. 1986, pp. 75-8, 87-88.

Kristensen, T. and Paludan, J. (eds.), The Earth's fragile Systems: Perspectives on Global Change, London: Westview Press, 1988.

Kutcher, Author, The New Jerusalem Planning and Politics, Thomas and Hudson Ltd. 1973.

Lemons, John, "Cooperation and Stability as a Basis for Environmental Ethics," in Environmental Ethics, Vol. 3, No. 3, Fall 1981. pp. 219-230.

Leopoldo, Aldo, A Sand County Almanac, London: Oxford University Press, 1949.

Lerner, D., The Passing of Traditional Society: Modernizing the Middle East, New York: The Free Press, 1958.

Lester, James, (ed.), Environmental Politics and Policy, Duke University Press, 1989.

Llewellyn, Othman, Pilgrim Accommodation on the Mountain Slopes of Mina, Makkah: Hajj Research Center, Ummulqura University, 1975, Unpublished. p. 6.

Llewellyn, Othman, "Desert Reclamation and Islamic Law," in The Muslim Scientist, Vol. 11, No. 1, Jan./March 1982, pp. 9-29.

Llewellyn, Othman, "Islamic Jurisprudence and Environment Planning", in Journal of Research in Islamic Economics, Vol. 1, No. 2, Jeddah, 1984.

Llewellyn, Othman. Sariah Values Pertaining to Landscape Planning and Design, in Ayden Germany, Islamic Architecture and Urbanism: A Symposium, King Faisal University, Saudi Arabia, 1983.

Lottman, How Cities are Saved, New York: Universe Books, 1976, p. 48.

Lowenthal, David, Our Path Before Us, Why Do We Save It ? London, Temple Smith, 1981.

Magi, Giovan, Aswan, Philae, Abu Simbel, Casa Editrice Bornechi, Firenzi, Italy: 1989.

Mahmasani, Subhi, "Transaction in the Sharia," in Khadduri and Liebsny (eds.) Law in the Middle East, New York: AMS Press, Inc. 1984, pp. 179-202.

Mann, D. (ed.) Environmental Policy Implementation, Lexington, Massachusetts: Lexington Books, 1982.

Manzoor, Parvez, "Environment and Values: The Islamic Perspective," in Ziauddin Sardar (ed.), The Touch of Midas: Science, Values and Environment in Islam and the West, Manchester University Press, 1984, pp. 150-169.

March, William, "Environmental Planning," in Catanese, A. and Snyder, James (eds.), Urban Planning, 2nd ed., new York: McGraw-Hill co., 1988, pp. 281-305.

Marcus, Alfred, Promise and Performance: Choosing and Implementing an Environmental Policy, West point, Connecticut: Greenwood Press, 1980.

Marzouk, M. and Kaboudan, M., "A Retrospective Evaluation of Environmental Protection Projects in Kuwait," The Journal of Developing Areas, Vol. 23, July 1989, pp. 567-582.

Masud, Muhammad K., Islamic Legal Philosophy, Islamabad: Islamic Research Institute, 1977.

Maududi, Abu a'la, "Political Theory of Islam", in "Khorshed Ahmed (ed.), Islam-Its Meaning and Message, London, The Islamic Foundation, 1975, pp.147-171.

Maududi, Abu'Ala, Introduction to Understanding Islam, London, The Islamic Foundation, 1980.

Maududi, Abul A'la, Towards Understanding Islam London, The Islamic Foundation, 1988.

May, Robert, "Stability in ecosystems: Some Comments," in W. Van Dobben and R. McConnell (eds.), Unifying Concepts in Ecology, Wageningen: Dr. W. Junk B. V. Publishers, 1975. pp. 161-168.

McAllister, Donald, Evolution in Environmental Planning, Cambridge, Mass.: The MIT Press, 1980.

McHarg, Ian, "Man: Planetary Disease," in Robert Roelofs (et. al.), Environment and Society, Englewood Cliffs, New Jersey: Prentice Hall, Inc. 1974, pp. 303-313.

McHarg, Ian, Design with Nature, New York: Natural History Press, 1969.

McLachlan, Keith, "The Agricultural Potential of the Arab Gulf States," in M.S. el-Azhary (ed.), The Impact of Oil Revenues on Arab Gulf Development, London: Croom Helms, 1984. pp. 107-137.

Merza, Meraj N. The Impact of Selected Physical Factors on Settlement Development in Makkah, MS Thesis, Eastern Michigan University, 1979.

Munton, P., "Arabian Landscapes and Islam", in Landscape Research, Vol. 13, No. 2, 1988, pp. 3-6.

Muslehuddin, Mohammed, Islamic Jurisprudence and the Rule of Necessity and Need, Islamabad, Islamic Research Institute, 1975.

Musnadu, Ahmed, Vol. 3, part 5, p. 228. Edited by Ahmed Shakir, 3rd ed. (Misir 1368-1372).

Nasr, Seyyed, An Introduction to Islamic Cosmological Doctrines, Cambridge, MA., Harvard University Press, 1964, p. 116.

Norveli, M., "The development of Water Law in the Arid Lands of the Middle East and the U.S. : A Comparative Study"; in E. Whitehead (et all), "Arid Lands: Today and Tomorrow", Proceedings of an International Resarch and Development Conference, Oct. 20-25, 1988 at Tucson, Arizona.

Park, C.C., Sacred Worlds: An Introduction to the Geography of Religion, Routledge, London, 1994.

Prince, Hugh, Revival, Restoration, Preservation: Changing Views About Antique Landscape Features, London, Temple Smith, 1981.

Rapoport, Amos, "An Approach to Designing Third World Environments", Third World Planning Review, Vol. 1, No. 1, Spring, 1979.

Rau, J.D. Wooten, D., Environmental Impact Analysis Handbook, New York: Macgraw Hill, 1980.

Rowley, G., "The Centrality of Islam: Space, Form and Process", in Geo Journal, Vol. 18, 1989, pp. 351-9.

Rowley, G. and El-Hamdan, S.A., "The Pilgrimage to Mecca: an explanatory and predictive model", Environment and Planning, A 10, 1970, p. 1053-71.

Rowley, G. and El-Hamdan, S.A., "Once a year in Mecca", Geographical Magazine, Vol. 49, 1977, pp. 753-9.

Review of the Past Decade, Land Use Policy" Vol. 4, No. 4, October, 1987. pp. 401-411

Rihlat Ibn Battutah, (The Journey of Ibn Battutah), Cairo, 196, Vol. I.

Robert Matthew, Johnson-Marshal and Partners, Old Jeddah Historic Area, MOMRA, 1980.

San Antonio Conservation Society Foundation, Fairmont Hotel Relocation, 1993.

Sardar, A. Islamic Features: The Shape of Ideas to Come, New York Mansell Publishing Ltd. 1985.

Shair, I.M. and Karan, P.P., "Geography of the Islamic Pilgrimage", Geo Journal, Vol. 3, 1979, pp. 599-608.

Talib, Kaiser, Shelter in Saudi Arabia.

Toulan, Nohad A., Planning and Development in Makkah, Urban Development in the Muslim World, Rutgers, The State University of New Jersey, 1993, pp. 37-41.

Vesey, Fitzgerald S., "Nature and Sources of the Sha'riah", in Majid Khadduri and H. Liebesny (eds), Law in the Middle East, NY, AMS Press, Vol. 1, 1984.

Worskett, Ray, The Character of Towns, London: Architectural Press.

Yamani, A. Zaki, Islamic Law is the Answer to the Contemporary Issues of the World, 1967.