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Aspects of the Urban Geography of Makkah and Al-Madinah, Saudi Arabia

HASSAN M. ILAM, B.A., M.A.

Thesis submitted to the Faculty of Social Sciences for the Degree of Doctor of Philosophy, University of Durham, November, 1979

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TO MY FATHER AND SON

ZUHAIR

ABSTRACT

This study of aspects of the urban geography of Makkah and Al-Madinah is the first effort to trace growth and development of the two cities. The recent rapid growth has been made possible by the great wealth generated from oil in the Eastern Province of the Kingdon of Saudi Arabia, although the driving force behind urban growth is the religious significance to all Muslims of the two cities. The recent rapid increases in the numbers of overseas pilgrims, together with the resident population, have encouraged the expansion of the two cities' built up areas and have necessitated the provision of further services. By highlighting the problems and difficulties, those variables which have helped to shape the present situation and establish current trends can be identified.

The thesis is divided into nine chapters, taking into consideration those factors which tend to support or inhibit their existing and future development. In the Introduction, a general background survey is given of the changing roles of the two settlements in pre-Islamic and Islamic times, this followed by a more detailed study of historical change in Chapter One. The question asked at the commencement - to what extent have the religious functions of the two cities affected their urbanism - leads to the study in Chapter Two of the holy pilgrimage itself, the provision of associated services and facilities and the effect of these on the internal characteristics and external relationships of the two cities. The regional resource base for normal and

special urban activities is then considered in Chapter Three.

Population and demographic characteristics are examined in relation to process and morphology and urban land use in Chapters four to six, the fundamental importance of the holy status of the city appearing very clearly. Even in the examination, in Chapters seven and eight, of industrial, administrative and social services etc., the internal and external spatial and hierarchical characteristics of Makkah and Al-Madinah are seen to be only understandable in terms of the Hajj and religious status.

Finally, the question of how to maintain viable urban systems and meet all the requirements imposed by the unique status of the two cities is examined, and in the conclusion an overview is made of processes and trends leading up to the situation today.

ACKNOWLEDGEMENTS

I should like to thank the many officials, relatives and friends in Saudi Arabia for the kind assistance given to me during the preparation of this thesis. My gratitude extends to the authorities in King Abdulaziz University for giving me the chance to carry out this study. Special thanks must also go to the ex-Dean of the College of Education in Makkah, Dr. Abdulaziz Khojah, his ex-Deputy Dean of the College of Education, Dr. Muhammad Ismail Zafir, Dr. Mahmoud Asadallah, ex-Head of the Department of Geography at the College of Education in Makkah, and to the present Head of the Department of Geography, Dr. Zaki Munshi, for their help in carrying out the interviews. I am grateful to the students of the Department of Geography at the College of Education and the students of the two Secondary Schools in Al-Madinah for the valuable assistance they gave me in the distribution of the questionnaires in the two cities as the work could not have been completed by the writer's endeavours alone.

I am also grateful to the staff of the Town Planning Office in Jeddah for assistance in obtaining invaluable materials and maps on Makkah and Al-Madinah, and to the staff in the Municipalities of Makkah and Al-Madinah. Special thanks go to Mr. Abdulaziz Al-Turki, the Saudi Cultural Attache in London for his kind concern during my stay in Britain, and to the help received from Dr. Nabil Adawi, the Educational Advisor, in London.

I wish to acknowledge, particularly, Professor H. Bowen-Jones of the Department of Geography, University of

Durham, for his assistance, valuable guidance, patience, time and for suggestions which he has offered to improve the contents and form of early drafts of the thesis. Special thanks are due to Professor J.I.Clarke, of the Department of Geography, University of Durham. I am grateful to many members of staff in the Department of Geography in Durham, particularly Mr. David Fielden and Mr. David Imrie, Dr. G.H. Blake and my ex-supervisor, Mr. Roy Gazzard. I am also grateful to the staff of the Drawing Office, namely Mr. George Brown, Mr. Arthur Corner and Mr. J. Donnini for helping with the drawing of many of the maps, and to Mr. Derek Hudspeth and Mr. Ian Middlemass for the photographs. Many thanks go also to the staff in the libraries of Durham University, and to my fellow research students in the Department of Geography. My gratitude is also due to Mrs. M.L.Bell for her patience and time in typing the final draft of the thesis. I should also like to thank Professor W.B. Fisher for accepting me as a Postgraduate student in the Department of Geography in Durham.

But first and foremost I give my sincere thanks to Almighty God, who has provided me with patience and strength to accomplish this work.

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INTRODUCTION

Makkah and Al-Madinah are large and ancient urban settlements in the region of Al-Hijaz, the Western Province in the contemporary Kingdom of Saudi Arabia. As such, their forms and functions and spatial relationships are susceptible to normal study by the urban geographer. However, as the two most holy places of the Islamic religion, which has hundreds of million of followers worldwide, they provide a special case for study.

Makkah and Al-Madinah have a special status which has very strongly affected their urban characteristics. Since Islam requires, as one of the five pillars of the faith, that all Muslims should attempt a pilgrimage once in their lifetime to Makkah and the three holy places in the neighbourhood, both Makkah and, by close association, Al-Madinah, have a unique status. The forces and processes influencing the morphology, functions and spatial context of the two cities are, therefore, in turn unique in their type, scale and periodicity combination.

The aim of this thesis is to examine the most significant aspects of the urban geography of Makkah and Al-Madinah in order to show how their unique status has influenced urban development, morphology and functions. For example, whilst in every Islamic city one finds both neighbourhood mosques and the larger mosques, the latter usually are located in the centre of the city; such large mosques in addition to serving for the five-daily prayers,

also serve as the Friday mosques where the majority of the inhabitants are able to make the noon prayer. Massjid Al-Dira (the large mosque) in Al-Riyadh, the capital city of Saudi Arabia, (Al-Dira here may be translated as being "Inner" or "Central") serves such purpose and presently with the expansion of the city there are other large mosques in various parts of the city which serve for the five-daily prayers and those on Fridays. In Makkah and Al-Madinah we find Al-Haram, which in both cases are not only the large and holy mosques of the cities, but are the great religious centres of the Islamic World. The two Harams which dominated the central areas seriously influenced land use in the surrounding areas in that residential and commercial uses became central on these religious centres. The morphology of both Makkah and Al-Madinah, therefore, were similarly affected by the repercussions on land use by the demands made on the city centres by all that is implied by the special status and characteristics of Al-Harams. Their global functions, together with their urban locations, as will be seen, affect not only the land use pattern and the scale of development but also other urban phenomena such as communications, economic and socio-cultural facets.

On a totally different place, the holy status of the two cities has made entry to them prohibited to all non-Muslims; this in turn must discourage the growth of some urban activities (such as banking) in which the employment of international staff is common and also makes the direct participation of non-Muslims in planning and construction etc., an impossibility.

The unique phenomenon of the pilgrimage (Al-Hajj) to Makkah and the visit, Ziarah, to Al-Madinah, have given an impetus to a particular set of socio-economic and, indeed, political circumstances in the region. These aspects together with the impact of ever-increasing numbers of pilgrims, annually, from all over the world, have led in recent years to extreme population pressure and its associated problems of the provision of services in the cities and their regions. It is in this context, therefore, that the present study is set. Several factors over the past fifteen centuries have shaped and moulded the destiny of Makkah and Al-Madinah, to produce a number of problems which, since the early 1950's, have become particularly acute, and are now more than ever in need of a solution. The recent development of transport has made it possible for hundreds of thousands of pilgrims to attend the Hajj and has shortened the period of stay of individual pilgrims in the region. These factors must have had a tremendous impact on the two cities and have influenced their physical structure and roles as major administrative and commercial centres.

In this introduction we need to make a preliminary identification of the factors which have had an over-riding influence on the present situation in Makkah and Al-Madinah and indeed on the whole of Saudi Arabia's Western Province. Firstly, there is the physical setting; Makkah and Al-Madinah lie in the arid zone and thus they and their hinterlands are poorly endowed with agricultural and hydrological resources, in addition to which the physical site of Makkah has severe topographical constraints on spatial growth.

It is evident that Makkah existed as an urban centre long before the rise of Islam where the establishment of trade and commerce in the region allowed the city to become a major trading market. The establishment of a central government in Makkah at that time assisted the development of the functions of the city as a pre-Islamic centre of religious significance centred around Al-K'abah (House of God) and which did much to develop trade as well as expanding its urban area. The development of trade in Makkah compensated for its unfavourable environment, a barren land, and through the efforts of its inhabitants cultural and economic life flourished in the city which encouraged the arrival and continued presence of merchants from neighbouring countries.

Despite Al-Madinah's location on the ancient caravan trade-routes, trading did not dominate the city's activity as water resources and availability of cultivable land took precedence; thus agriculture was of prime importance and the inhabitants in Al-Madinah concentrated their efforts on agriculture rather than trade, unlike the inhabitants in Makkah. The absence of a religious shrine in Al-Madinah equivalent to Al-K'abah in Makkah may be another factor which can be added. Under these conditions Al-Madinah remained a rural area up to the rise of Islam, after which the area was transformed into an urban centre by making it the first capital city in Islam. Hence Makkah became the birthplace of Islam and both cities were given a role of religious function which has shaped and moulded the destiny of Makkah and Al-Madinah over the past fifteen centuries.

Islam has placed emphasis on private property rights rather than on public rights, so that the concept of Fina or Haram (legitimacy of ownership over open land encircling private property) gave rise to intensive urban competition which has resulted in the predominance of narrow alleys and streets in the central areas of Middle Eastern cities, and a marked absence of public squares, with the exception of the mosque itself and the Palace of the Governor. The harsh climate and the desire for privacy in the home has had an equally evident result, in that building styles have responded to the need for low temperatures; thus buildings in the same street face away from each other, and life is enacted almost totally in the cool interior passages and courtyards of the buildings, away from the eyes of neighbours.[1]

Other detailed features have been imposed on this basic infrastructure over the centuries, particularly during the period of the Mamluks and Ottomans (1258-1917), for example the Mashrabiyah or trellis which is fixed over the few exterior windows, allowing the occupants to see out, but at the same time ensuring further privacy, and of course it prevented the searing heat and frequent dust from penetrating. Such features have merged together, through time, to produce what can be termed "the Islamic city".

In Makkah and Al-Madinah Al-Haram occupies a central site; around it residential and commercial area, government buildings, the palace of the ruler and the premises of aristocrats competed for land around it as well. Because from early Islamic time the inhabitants of Makkah and Al-Madinah were necessarily religiously homogeneous, there had

not been segregation on the basis of nationality or religion; minorities such as Jews and Christians were not present, so that unlike many other Middle Eastern cities separate residential quarters did not exist.[2]

By the period of the decline of the Abbasids and beyond into the period of Mamluks and Ottomans rule, many more individuals began to settle in Makkah and Al-Madinah, sometimes as a result of making the religious pilgrimage, or becoming involved in the growing centres of Islamic Study, or as a result of the flourishing pattern of trade and commerce in Al-Hijaz. This process inevitably resulted in the commencement of segregation of the various population groups, and the establishment of distinct quarters, or sub-quarters, usually known by the name of the place of origin of their residents. Thus the residential pattern of Makkah and Al-Madinah evolved, with different groups living side by side under Islam and governed by that law and authority which created social solidarity, thus distinguishing this "urban culture" from that of the rural, nomadic population in the outlying areas.[3]

More recently, intermarriage and assimilation which has taken place, especially since the establishment of the State of Saudi Arabia, has begun to weaken and erode the former ethnic and social distinctions and thus distinctions between the various quarters themselves have begun to disappear. Simultaneously, increased wealth and improved living standards, the expansion of Al-Haram and the creation of new residential suburbs has meant that the former spatial social stratification has also been significantly weakened with a variety of social groups now being found in each of

the old and new quarters. More recently, in a regional context, a change in the role of the two cities' functions administratively and commercially has taken place in favour of other urban centres which are connected together in a regional hierarchy.

The former political instability that prevailed in the region for most of the historical past, limited expansion of the cities. Makkah and Al-Madinah relied on trade and commerce and on the small income traditionally derived from the provision of services to pilgrims during the period of Al-Hajj. The twentieth century, however, has witnessed change in the region with the creation of the Kingdom of Saudi Arabia, and the two cities have been affected by changes experienced by the new nation-State. Change has been particularly rapid in Saudi Arabia with the discovery and exploitation of oil since the late 1940's. The changes oil brought to the economy of the State have contributed to the rapid increase in urbanization as a result of growth in national wealth, as well as those other factors associated with urbanization such as rural-urban migration and an increase in expatriate workforce, both Muslim and non-Muslim. Although Makkah and Al-Madinah have experienced neither industrialization nor the discovery of oil in their immediate vicinity, the exploitation of the new source of wealth in the Eastern Province of the country has had its impact on their urban growth. Further, the vast wealth derived from oil has made it possible for the national government not only to introduce normal development projects to the cities but to indulge in vast expenditure, as

custodian of the holy places, on the requirements of religious functions. The problems which have to be overcome are large and diverse. There has been widespread movement into the cities from the surrounding rural and nomadic population as a result of the inadequacies in the hinterland region of agricultural land, the poor water resources, lack of health care provision and the absence of educational amenities. The availability of work and high wages in the cities have added another motivating force for the drifting of people from these areas.

Therefore, Makkah and Al-Madinah started to witness a tremendous modernisation and as a result both have undergone drastic physical changes. The two cities came to occupy far larger areas than at any time in their previous history. In addition to the traditional quarters are now added the modern residential areas and thus several fresh elements to the urban landscape with the introduction of modern apartment buildings and villa-type structures. By the beginning of the 1950's the "Scheme of Expansion of the two Harams" came into being and this necessitated a drastic physical change in the centres of Makkah and Al-Madinah. As a consequence a conflict of interest began between the preservation of some historic elements in the cities and the implementation of the necessary improvements and modernization of urban amenities. A range of public and administrative buildings, and a new network of both internal and external road communications have been built. As a result, compound problems became apparent with a lack of housing and increased strain on the already overtaxed social services, water supply system and employment situation,which became unable to cope

with the ever-increasing demands of both resident and pilgrim populations.

One of the major aims in development plans since the early 1950's has been to improve overall living standards, encourage the construction of housing and industrial establishments, expand the transportation system in keeping with the explosion in private vehicle ownership, and enlarging the areas of the Harams so that they can accommodate the ever-increasing number of pilgrims. It is a combination of these functional diversities that resulted in the unique situation of the two urban forms.

The population of Makkah and Al-Madinah in 1974 was 366,801 and 198,186 respectively, according to the population census.[4] The cities serve as administrative and commercial centres for their large provincial areas (see Figures 7.4 and 7.5), providing a variety of services, facilities and commodities to the inhabitants of surrounding settlements and the remaining nomadic population. Their religious significance, however, extends throughout the world and through Islam, influences some 800,000 million people. Visiting pilgrims from overseas totalled 739,319 in 1977,[5] and 830,236 in 1978[6] (an increase of 3%) and thus it has been necessary to contemplate the expansion of the facilities at the major points of entry to the country. The total number of pilgrims, both overseas and from throughout the country, was 1,627,589 in 1977[7] and 1,899,421 in 1978[8] (an increase of 271,832).

Although the visit to Al-Madinah is not specifically required, pilgrims do make the journey while they are making

the pilgrimage to Makkah; in 1974, 99% of the overseas pilgrims and 83% of pilgrims from Saudi Arabia.[9] By combining both cities together in this study through the link of the pilgrimage, similarities and distinctions can be made between the problems encountered in each city. The pilgrimage is the one main factor which, above any other, contributes to the seriousness of the situation in Makkah and Al-Madinah at the present time. By highlighting such problems it may be possible to suggest methods of avoiding similar problems in the future and what can be done to solve problems of controlling number of pilgrimage which has been increasing considerably every year.

This thesis aims to examine such problems, tracing their growth and isolating those factors which have played an important part in shaping current patterns. Chapter one examines in detail the way in which the inhabitants of the region adapted to their environment, and how trade and commerce became the main economic pillar of the area. Following the rise of Islam, however, it was the existence of the holy K'abah or house of God and the Haram in Makkah and the Haram of Al-Madinah which dominated the central areas and seriously influenced land use in the surrounding areas in that residential and commercial uses became centred on the two Harams. The enlargement of the Harams of Makkah and Al-Madinah over the centuries, and the role of the two cities which together with their region played throughout the historical past up to the foundation of the Kingdom of Saudi Arabia are discussed. Expansion of the cities' built-up area under this period and factors which played an important

part in shaping and moulding them are also examined.

The two cities' religious functions, development of the pilgrimage routes, problems of porivison of services needed by the pilgrims, are all examined in Chapter two. The development of the Mutawifeen services, hotels and traditional pilgrims and visitors accommodation, together with the highlighting of the role both cities play in terms of pilgrims' services and the effects of these on the forming of regional inter-urban relationships, all are studied in this chapter. Chapter three is devoted to the study of Makkah and Al-Madinah's regional resource setting, emphasizing water and agriculture in order to illustrate how the region can support both cities in normal times and during the pilgrimage period.

Chapter four examines in detail the population of the two cities, as estimated pre-1950 and thereafter, recent changes in population size and ranking of urban centres. Population structure and origin and factors that have influenced growth are also discussed. In Chapter five and six the evolution of the morphology of the cities is examined, and in particular the consequences of the improvement and expansion of the two Harams since the two cities became part of the Kingdom of Saudi Arabia. Characteristics of recent rapid urban growth, street patterns and preliminary consideration of urban land use together with housing development, the Master Plan and future housing requirements and development control are included in these two chapters in order to understand factors that have influenced Makkah and Al-Madinah's expansion and the problems which have

arisen over time.

Commerce, industry and administrative functions are studied in Chapter seven to show the difficulties involved in establishing these activities in the region. In Chapter eight social and public services, together with leisure activities, are examined to show the rapid progress of economic development and the result in rise of living standards in general which have all created extra demand for the provision of services. Chapter nine is devoted to problems which have arisen in recent years in connection with the pilgrimage itself of which the overwhelming increase in the number of pilgrims is perhaps the most pressing at the present time - a number of recommendations can be made which will, if implemented, be able to contribute to the solution of the problems which prevail in Makkah, Al-Madinah and the Western Province of Saudi Arabia at present, and in the future. It is hoped that through the nine Chapters of this thesis, together with the conclusion, we will be able to identify and explain problems that have emerged as a result of the aforementioned factors.

This work is not conducted on a religious base, however, the constitution of Islam has directly affected the growth and economic life of Makkah and Al-Madinah as a result of the pilgrimage to Makkah and the visit to Al-Madinah. Islam has had a profound influence, particularly by way of the pilgrimage, on almost every aspect of both cities and the study of its influence constitutes a large part of this thesis. Someparticularly salient quotations from the holy Quran are cited therefore, both in the text and in the appendix.

Data Collection

The present study involved extensive work in the libraries of Durham University in an effort to collect as much relevant material on the study area as possible. Because of the obvious limitations of available data, however, extensive fieldwork was necessary, and this was carried out during 1974 and 1975. The fieldwork, in addition to the collection of further material, also involved the design of questionnaires (a copy of which appears in the appendix) which were distributed throughout the population of Makkah and Al-Madinah. The questionnaire was designed with several aims in mind, notably to determine whether there were differences between Makkah and Al-Madinah with regard to the types of housing available, the occupancy rate per dwelling unit, the age structure of the populations, family composition and social and economic status.

The questionnaires, prepared in Arabic, were designed to be brief and precise so that a respondent need spend not more than ten minutes to answer. Also, responses were designed to be simple, requiring only a tick or cross, a name or number. The questionnaires were distributed in Makkah and Al-Madinah on the basis of the 1974 population census which gave the total population of Makkah as 366,801 comprising 67,947 families. Al-Madinah was credited with a population of 198,186 comprising 35,390 families. The writer attempted to divide quarters of the city into units, taking into account both density of population and housing. Then within each unit the questionnaires were distributed at random to three households in every hundred. Therefore, the total number of questionnaires distributed was 2038

in Makkah and 1062 in Al-Madinah.

It was found that many respondents were apprehensive about completing the questionnaires as they were unfamiliar with them. In general, however, it was evident that those in the lower income groups proved to be more helpful in completing the questionnaires than those in the higher groups, even though the purpose of the questionnaires was explained to each respondent. It was deduced from this situation that, broadly speaking, those who fully co-operated were hopeful that on completion of the questionnaire the government was prepared to take steps to improve the situation in the cities, whereas on the other hand people who were reluctant to complete the questionnaires viewed such an action as an intrusion into their private affairs and felt that such research would prove fruitless. In some cases, the illiteracy of the people interviewed, and reluctance to allow the interviewers access to the home as a result of the absence of the head of the family, meant that the questionnaires were not completed.

At the end of the day, of the total number distributed in Makkah, 1376 or 67.5% were completed and returned, the corresponding figure for Al-Madinah being 745 (70%). The remainder were either not returned at all or not completed in the correct manner. The results of the questionnaires are included at the appropriate places in the text.

Most of the statistics included in this study do not extend beyond 1975, which was when the final fieldwork was carried out, however, in some cases, notably pilgrims' statistics, where the figures have been published, the data are more up-to-date.

Definition of Terms (see Glossary in the appendix)

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CHAPTER ONE

The History of Makkah and Al-Madinah up to the Creation of Saudi Arabia

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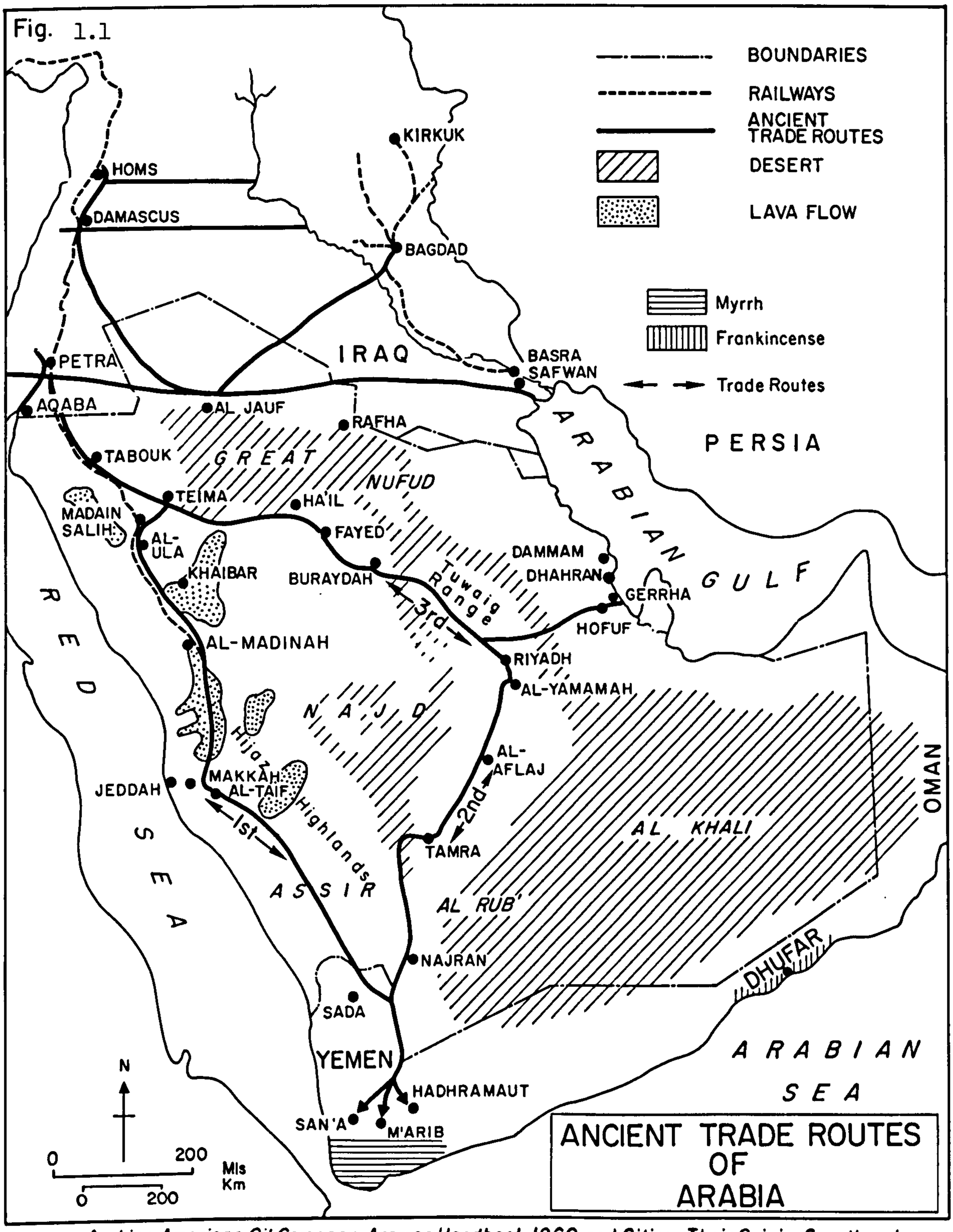
I. Pre-Islamic Urban Developments

Before examining the urban characteristics of Makkah and Al-Madina, the history of their role as major trade route centres is first summarised. Long before Islam, overland routes were developed through the Arabian Peninsula. Given its geographical position between Monsoon Asia, East Africa and the Mediterranean, Arabia was an important historical link in the communication systems operating in the Old World.

The demand in Egypt and the Mediterranean for the products of Africa and southern Asia stimulated the foundation of the ancient trans-Arabian trade routes transporting goods such as coffee from Yemen, frankincense and myrrh from Hadhramaut, Dhufar and East Africa, and spices from India. In order to facilitate the collection and reloading of such goods, some inland stations and seaports were developed, especially where caravans came from Dhufar in South Arabia, leading north crossing Yemen, through the highlands of Al-Hijaz to the Gulf of Aqaba and Petra. Three major trade routes regularly crossed the Arabian Peninsula and are illustrated in Fig. 1.1.

The first, from Dhufar heading north to M'arib, Najran, then to Macoraba (Makkah) and Lathrippa (Al-Madinah), Al-Ula, Negra (Mada'in Salih) and from there to Teima, before continuing to Petra. Secondly, from Gerrha - M'arib : this route ran from the port of Gerrha on the Arabian Gulf to the oasis of Al-Hofuf eastwards; then to Al-Yamamah, Al-Aflaj, and

Fig. 1.1



Source:- Arabian American Oil Company, Aramco Handbook 1960 and Cities- Their Origin, Growth and Human Impact. Scientific American 1973

Wadi Al-Dawasir down to Najran and M'arib. Finally, the Gerrha - Petra route, beginning in Gerrha, and following the second route, where it extended from Al-Yamamah towards the northwest parallel to the Tuwaiq Range of Southern Najd, then to the west to Buraydah, Fayed, Ha'il, Teima, and finally to Petra.

The tradesmen of Makkah, the Quraysh, gained control of most of the trade routes and overcame their rivals in Al-Ta'if and Al-Madinah, which were also situated on the main land routes between Yemen and Syria. The inhabitants of Makkah (Quraysh) originally acted as middlemen traders in Western Arabia but, by the fifth century A.D. they were able to take over the Saba'in's monopoly trade between Syria and Yemen. Thus, the Quraysh played an important role in becoming traders themselves first and in centralizing the economy,through the Arabian Peninsula,which turned Makkah into a "town" to which supplies came from the aforementioned places. In this connection the following verses from the Holy Quran illustrates how Makkah became "the mother town or city" in Arabia through crowding and movement of people in Makkah as a result of development of such economy :

> "And this is a blessed Scripture which We have revealed, confirming that which (was revealed) before it, that thou mayst warn the Mother of Villages (Makkah) and those around her. Those who believe in the Hereafter believe herein, and they are careful of their worship".
>
> (Quran, Surah or Chapter VI, verse 93, p.115)

The establishment of this important route, whereby the Byzantines could obtain their luxury goods, encouraged the growth and greatly benefitted the inhabitants of Makkah.

According to certain verses in the Quran, the history of the foundation of Makkah can be traced back to the time of Ibrahim (Abraham) who was commanded by God to migrate from Palestine to this spot :

> "Get thee out of th y country and from thy Kindred and from thy father's house, unto a land that I will show thee".
>
> (Quran, Surah or Chapter X, verse 24, p. 157)

In order to confirm that Makkah was settled at the time of the presence of Ibrahim in the area the following verse is stated :

> "Our Lord! Lo! I have settled some of my posterity in an uncultivable valley (The valley of Makkah) near unto Thy Holy House, our Lord! that they may establish proper worship; so incline some hearts of men that they may yearn toward them, and provide Thou them with fruits in order that they may be thankful".
>
> (Quran, Surah or Chapter XIV, verse 37, p. 189)

In obeying God's command, Ibrahim built the Sacred House of God (Al-K'abah) and was instructed by the Angel Gabriel to perform seven circuits around Al-K'abah and seven other walks between the two nearby hills of Al-Safa and Al-Marwah, in commemoration of the anguish of Ismail (Ishmael) and Hagir (Hagar) when they had almost died of thirst in the waterless valley of Makkah. In order to make Makkah a centre for pilgrimage, Ibrahim was commanded by the Angel Gabriel to visit the Plain of Arafat (about 20 km. from the city of Makkah), Muzdalifah (about 9 km. from Makkah) and Muna (about 6 km. from Makkah). These practices have since constituted the rules of the pilgrimage to Makkah.

However, the history of early settlers of Makkah

presents a rather confusing picture.* The first evidence of Makkah as a city can be traced back only to the time of Qussay (an ancestor of the Prophet Muhammed), around the 5th Century A.D. Qussay was the first ruler of Makkah to change the old settlement pattern, which had been distinguished by mobile tent camps. The tents were pitched alongside the water course of the valley of Ibrahim (Abraham); each tribe of the several various stocks of Arabs chose a specific area in the site which later made up the area of Makkah. By giving permission to build homes (by its ruler Qussay), a permanent settlement around the shrine (Al-K'abah), the House of God was created. [1] The intention of these permanent structures was to protect Al-K'abah from outside intruders from those various disputing Arab tribes who lived nearby and throughout the whole of Arabia.[2] During the reign of Qussay and his descendents up to the rise of Islam early in the 7th century A.D., the city passed through a stage in which it functioned as a pre-Islamic centre of religious significance and which did much to develop trade as well as expanding its built up area (See pp. 18-25).

The location of Makkah on the main ancient caravan trade-routes, trade along which was encouraged by the tribe of Quraysh, compensated for its unfavourable environment - a barren valley. Through these efforts, cultural and economic life flourished in Makkah with the arrival and continued presence of merchants from Syria, Yemen, Persia and Abyssinia. The city became a major trading market and banking centre where it was possible to insure goods for the long journey

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* Arab historians have filled hundreds of volumes dealing with Makkah's history which contains many legends connected with the building of Al-K'abah.

ahead. Prominent citizens of the Quraysh in Makkah thus became financiers, "skilled in financial matters". [3]

The situation in Al-Madinah was different. The city occupied an area of fertile soils and had a regular supply of water, which made it primarily an agricultural area, most of the population being engaged in farming. The area was settled by various Arab tribes, the most important being Al-Aws and Al-Khazraj, together with some Jewish tribes of which the most important were the Banu Quraydhah, Banu Al-Nadhir and Banu Qaynuqa'a. Long dispute between the Arab tribes, the lack of leadership within them, and the lack of coherence between these different groups did not foster a sense of unity which would have allowed them to become interested in trading :

> "In Makkah, commercial interest tended to draw different groups together and fostered a sense of unity of Quraysh; there was no comparable factor in Madinah (Al-Madinah) where the population was less homogeneous". [4]

Therefore,lack of water in the area of Makkah together with the existence of the Holy K'abah (House of God) which gave security for people entering Makkah and kept them free from attack, route-location and human response in Makkah were associated with a growth in trade whilst the absence of any pre-Islamic religious eminence and the availability of water in the area of Al-Madina led it to concentrate on agriculture.

II. The Period of the Rise of Islam

The rise of Islam in Makkah early in the 7th Century A.D. was the most important event in the history of Makkah and Al-Madinah. The foundation of an urban community in Al-Madinah

can be traced back to the commencement of Islam although, like Makkah, as a rural settlement its existence dates back many centuries before this. When the citizens of Makkah rejected Muhammad's prophecy, (in 622 A.D.) he left Makkah for the nearest community of Al-Ta'if where he had a similar reception and finally had to migrate to Al-Mádinah where he was welcomed and was able to establish an Islamic community in Al-Madinah. Thus, the first capital city of Islam was created, transforming Al-Madinahfrom a simple farming community to a city-state, and the first administrative machinery to organise the city and the emerging Muslim territories was established.

However, in the eighth year of Al-Hijrah (beginning from the time of the migration of Muhammad to Al-Madinah), Makkah reverted to Islam, and occupied its position as the birth place of Islam,and Muhammad, in the knowledge that Makkah was once again united to Islam, returned to Al-Madinah.* The five pillars of faith, which all Muslims must observe, have maintained the sanctity of Makkah since it was founded by Ibrahim. To profess that "There is no God but Allah (God)"; to pray five times daily with all eyes turned toward Al-K'abah; to give Zakat (Almsgiving); to fast during Ramadhan the ninth month of the Muslim lunar year; and to make a pilgrimage to Makkah, an act of piety required by all Muslims who can afford to do so, once in their lifetime. These are the five pillars of faith.

As a result of the second and fifth pillars, all Muslims have a central point (Makkah) to which all eyes turn, and a place where they should congregate during the annual pilgrimage.

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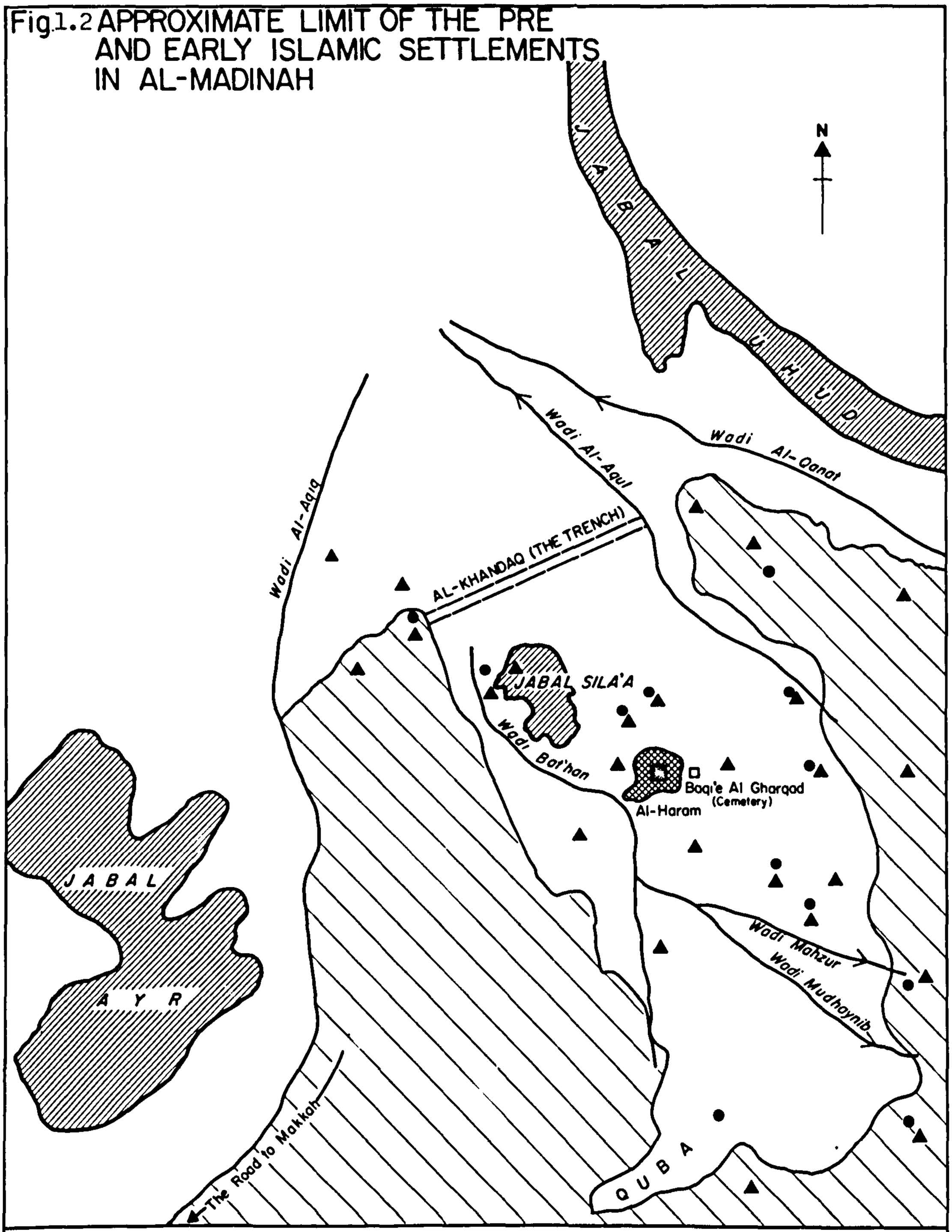
* He is reported as saying:

> "By Allah you are the best of all places on Allah's land, and dearest to me. Had I not been forced out, I would never have left thee ".

The religious duties demanded of pilgrims to Al-Madinah are less strict than those required in Makkah. Reverting to the second and fifth pillars of Islam, it will be obviously seen that all Muslims are commanded to turn their eyes at the time of the five daily prayers to Al-K'abah in Makkah, not Al-Madinah. The pilgrimage to Makkah is compulsory for all once in a lifetime, whilst a pilgrimage to Al-Madinah is not obligatory and is performed as a kind of veneration to the Prophet Muhammad who was buried there, and as the place where Islam had its first victory.

Although the knowledge of the pilgrimage to Makkah was known since the time of Ibrahim (see pp.19-20), it did not spread to a large area outside the Arabian Peninsula; only the people of Arabia kept in contact with Makkah. The rise of Islam resulted from both cities being visited by various numbers of pilgrims and although the visit to Al-Madinah is not fixed to a certain time of year, (unlike Makkah) many pilgrims since then have tended to combine their visit to Al-Madinah whilst making their pilgrimage to Makkah, saving both time and money. The presence of many pilgrims in Makkah and Al-Madinah necessitated the provision of accommodation and other services. It also became necessary for a number of permanent residents to settle in the two holy cities to provide such services. This period then marked the first major phase of urban growth of Al-Madinah, which was characterized by its evolution from an agricultural settlement to an urban centre (Fig. 1.2). The figure also shows the trench or the ditch which was dug by the inhabitants of Al-Madinah to protect themselves from repeated attacks by the people of Makkah at the early time of Islam when the Prophet Muhammad mig-

Fig.1.2 APPROXIMATE LIMIT OF THE PRE AND EARLY ISLAMIC SETTLEMENTS IN AL-MADINAH



Source Based on the discription of al-Samhudi, Ali bin Ahmed Wafa-al-Wafa 1971. Al-Ansari, Abdul Quddus, A'thar al-Madinah al-Monawareh 1953.

rated to Al-Madinah.

The annual pilgrimage to Makkah diminished the importance of trading in favour of the religious function, attracting many pilgrims from the nations embraced within Islam and this has made the two holy cities a focus of human movement within Islamic culture. This marked the second phase of expansion of the built up area of Makkah as by this time the demand for more accommodation by many numbers of pilgrims caused the area of Makkah to be expanded once more (Fig. 1.3).

It appears that as a result of the advent of Islam the urban hierarchy of Arabia had begun to form, centred around the city of Makkah, with Al-Madinah next in order; both surrounded by a number of small rural settlement and a scattering of nomadic tribes which together make the region of Al-Hijaz. Because the region was poorly endowed in natural resources there had been no encouragement for other settlements to become urban centres. Makkah and Al-Madina occupied the lead and provided nearby settlements with the various required services until the beginning of this century.

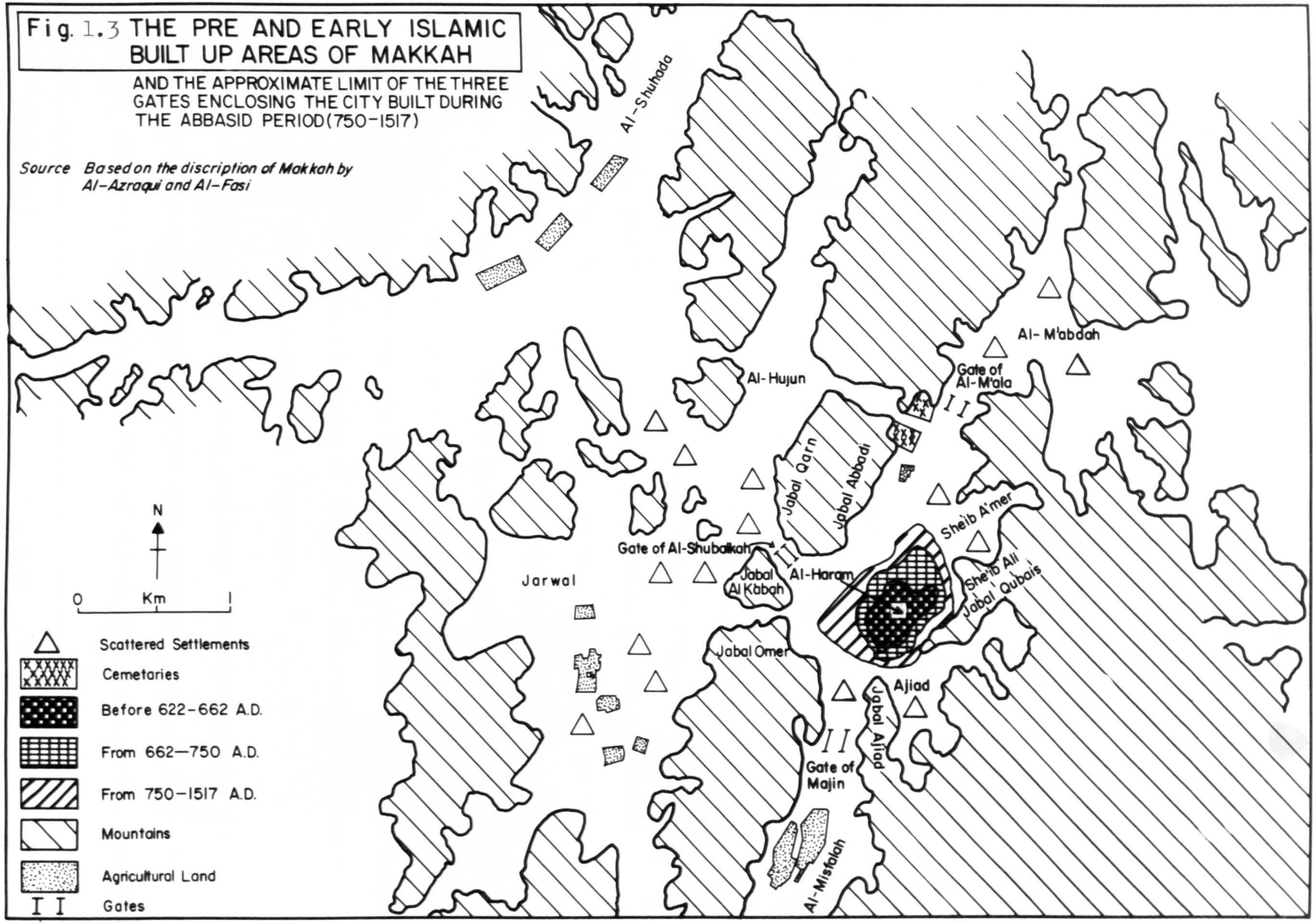
III. Post Islamic Developments

When the Umayyad Dynasty came to power (662-750 A.D), the seat of government (which lasted for about 40 years of the age of Islam) was moved from Al-Madinah to Damascus nearer the centre of the emerging Muslim nations which by this period spread beyond the Arabian Peninsula. Both Makkah and Al-Madinah were ruled directly from the new capital by various Amirs (governor), appointed by the Umayyads to keep both cities and their region (Al-Hijaz) connected to the

Fig. 1.3 THE PRE AND EARLY ISLAMIC BUILT UP AREAS OF MAKKAH

AND THE APPROXIMATE LIMIT OF THE THREE GATES ENCLOSING THE CITY BUILT DURING THE ABBASID PERIOD(750-1517)

Source *Based on the discription of Makkah by Al-Azraqui and Al-Fasi*



centre of government. The same policy was followed by both the Abbasids and the Mamluks when they gained control of the Muslim World (750-1517 A.D.), and transferred the centre of government to Baghdad and Cairo. During both periods the religious importance of Makkah enhanced its position as the most important city of the region and it became the capital of Al-Hijaz. The Ottomans who came to power later (1517-1916 A.D.) followed the policy of treating Al-Hijaz as one region.

At the fall of the Ottomans, the last Amirs of Makkah, King Hussein of the Sharif family who had retained hereditary rule of Makkah since the decay of the Abbasids* established the Kingdom of Al-Hijaz for a short time (1916 - 1925) and this region was united. In 1925 with the establishment of the State of Saudi Arabia, the former status of the region as a Kingdom was retained, along with its own separate administrative organization.** The former links of the region of Al-Hijaz benefitted from the measures of reform done by the Ottomans during the last years of their rule in order to maintain their authority over the provinces which constituted their Empire. The administrative bodies which were established by the Ottomans in Makkah were the Directorate of Health, Education, Municipality, Awqaf (Endowments) and Justice. [5]

Although in 1932 all the regions comprising the State of Saudi Arabia were united into one country called the Kingdom of Saudi Arabia, the Viceroyalty of Al-Hijaz remained a separate

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* For detailed discussion see Al-Tabari, (1956) Tarikh Al-Tabari (History of Al-Tabari). Nine volumes, Cairo, Egypt and: Al-Siba'e, A. (1967) Tarikh Makkah, two volumes.

** For more discussion see Fu'ad Hamzah, Al- Blad Al-Arabiyah Al-Saudiyah (the State of Saudi Arabia), Al-Nasr Press, Al-Riyadh, Saudi Arabia 1936.

administrative unit within the context of the Saudi State, until the Council of Ministers was formed in 1953, which united the country under one administrative body.

As already noted, both Makkah and Al-Madinah had their urban layout centred around their Harams, (the first dating from pre-Islamic days, the second established by the Prophet Muhammad). As we shall see in Chapter Two, the Harams, as centres of Islamic pilgrimage, exerted a very special influence on the growth of the two settlements throughout history. Other factors such as changes in political control, both of the growing cities and of the region and surrounding land, also played an important part in determining the nature and speed of this growth and here we briefly summarise those developments which took place before the creation of the Kingdom of Saudi Arabia.

The Al-K'abah of Makkah was built by Ibrahim (Appendix B.1.1) and slowly settlement grew around it. In this initial period of building in Makkah the houses clustered around Al-K'abah, and left only a small open path surrounding it for making Al-Tawaf (the ritual circuit around Al-K'abah).

As the five daily prayers were not observed in the pre-Islamic period, and the annual pilgrimage to Makkah was made by only a small number of people from within Arabia, there was no need to enlarge the area encircling Al-K'abah. With the rise of Islam with Makkah as its centre, it became necessary to enclose the path around Al-K'abah and separate it from the residential and commercial areas, and in so doing, demarcating the sacred area of Al-Haram. Several gates were built leading to the many quarters which had

grown up around Al-Haram. The second Caliph of the orthodox line, Omer Ibn Al-Khattab was the first to enclose Al-Haram in 638 (17 A.H.) by buying and demolishing nearby houses to add to its area.[6]

As the numbers of inhabitants of Makkah increased quickly during this period, the existing area of Al-Haram became too small. With the spread of Islam throughout and then beyond Arabia, the number of pilgrims to Makkah increased dramatically (there are no available figures but, their growth can be shown from the need to enlarge the area of Al-Haram) and it became necessary for there to be further expansion of the area of Al-Haram. This was undertaken in 646 (26 A.H) by the Third Caliph, Othman, who extended the area of Al-Haram to 21,600 sq. metres, and provided arcades to shelter the pilgrims from the heat of the sun, especially during noon time prayers.[7]

Al-Haram of Al-Madinah was founded by the Prophet Muhammad when it had an area of 2,475 sq. metres. Around it grew the first permanent dwellings, which formed the nucleus of the city. The initial area was small, and during the reign of the Caliph Omer, the area of Al-Haram of Al-Madinah was extended by 1,100 sq. metres, a further addition of 496 sq. metres being done by the Caliph Othman, bringing its total area to 4,071 sq. metres.[8] The Al-Haram of Makkah and Al-Madinah remained at these respective sizes during the early Islamic era, as the population of the two cities and the number of annual pilgrims were still small.

During the Umayyad period, which spanned nearly eighty-nine years from 662 to 750 (40 - 132 A.D), the Muslim Empire reached its peak in both size and population and

this resulted in an increasing number of pilgrims. The resident populations in the two cities also increased. Combined, these factors gave rise to the need for the enlargement of both Harams once again, and the need to build more houses to accommodate the rapidly expanding resident population and number of the annual pilgrims. In 706 (88 A.H) Al-Walid Ibn Abd Al-Malik, the fifth ruler of the Umayyad dynasty, expanded and improved Al-Haram of Al-Madinah to the west and east, annexed the rooms for the prophet's tomb, his daughter Fatimah and his companions (Abu-Bakr, Omer and Othman),* he added a further 2,369 sq. metres bringing the total area of Al-Haram of Al-Madinah to 6,440 sq. metres. The Al-Haram of Makkah was already thought to be large enough, (instead the buildings were reconstructed in stone materials).[9] After these restorations and renovations, the two Harams stood untouched during the remaining period of the Umayyad dynasty, until the Abbasids gained power.

The Abbasid dynasty ruled over the Muslim world for over five hundred years, from 750 to 1258 (132 - 657 A.H) and in this period also witnessed some extensions and improvements. The most important extension was carried out by Al-Mahdy in 776 (160 A.H) who added an extra 7,527 sq. metres to Al-Haram of Makkah bringing its total area to 19,127 sq. metres, whilst Al-Madinah's Haram was extended by 2,450 sq. metres, bringing its total area to 8,890 sq. metres.[10] Apart from some subsequent repairs the two Harams remained at this size during the rest of the Abbasids period.

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* To preserve the tombs from the reach by any intruders to remove their bodies from their tombs.

Under the Turkish Mamluks and the Ottoman rule of the Muslim world, which lasted for more than six hundred and fifty years, (about two and a half centuries, 1258 - 1517 (657-923 A.H) for the former and four hundred years from 1517 - 1916 (923-1336 A.H) for the latter), both Harams underwent repairs and improvements. Al-Sultan Al-Zahiry renovated some of the ruined sections of Al-Haram of Makkah in 1400 (803 A.H) and Qa'it-By, built a school and a "Rubatt" (a building to house the aged, poor and homeless) in 1477 (882 A.H) (both of them Mamluks).The Ottoman Sultan Abd Al-Majeed added a further 1,293 sq. metres to its area, to the Haram in Al-Madinah bringing the total area to 10,303 sq. metres.[11]

IV. The Effect of Conflict on the Two Cities and Their Region

The establishment and continued existence of the two Harams gave special status to both Makkah and Al-Madinah and subsequently the religious obligation has been extended to include the surrounding areas of both cities. The lands of the two holy cities extended to include the region of Al-Hijaz and for 1100 years the areas of both cities were called Ardh Al-Haramain (the land of the two holy places).[12] The religious obligation towards Al-Haramain and the concept of legitimacy of the Caliphate, encouraged all the ruling dynasties of the Muslim world as mentioned previously to link Ardh Al-Haramain to the prevailing centre of government. This connection did not really benefit the two cities greatly, because of the remoteness of the region from the Caliphate on the one hand, and absence of a national responsibility on the other. Thus, the aims were rather the

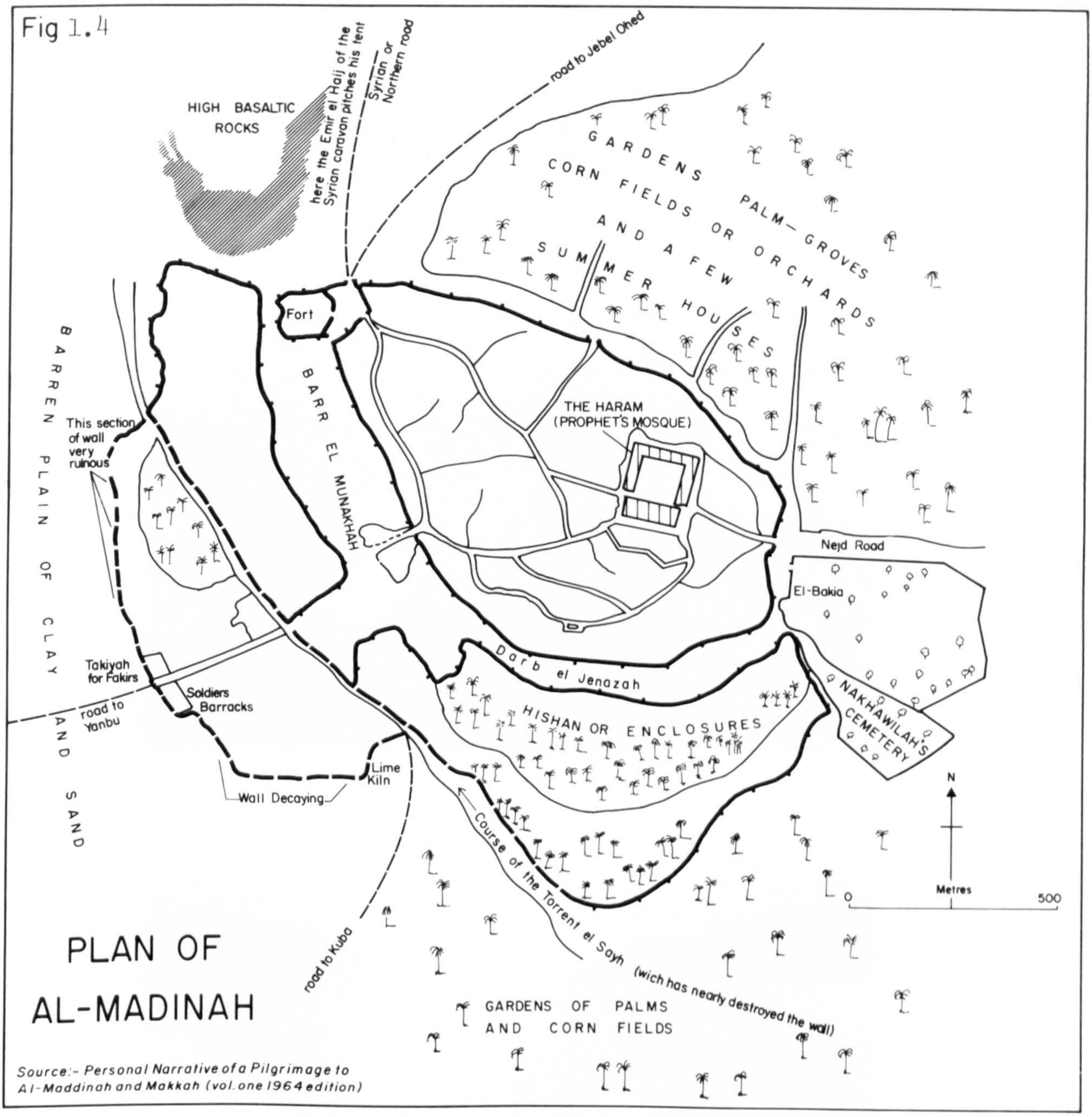
fulfilment of religious obligations and a legalised ruling of the Muslim world. In other words, in order to make rule of the Muslim world by the Caliphs and Sultans legitimate in the eyes of all the faithful, the annexation of Makkah and Al-Madinah to the seat of government was the focal point of their policies and each of these rulers exerted all the means at their disposal to this end. As a result Makkah and Al-Madinah were constantly at the centre of disputes, which consequently affected the economic and social life of the region. This situation was made worse by the prolonged conflict between members of the Sharif's family* who claimed control of Makkah (capital of the region) simultaneously, and which resulted in prolonged wars between the claimants.

Any Amir (governor) holding the office from the Sharifs became occupied by fighting, and had to concentrate all his attention and effort to protecting his seat in the government, rather than on the administration and improvement of the city. Although Makkah is protected on all sides by high and impregnable mountains,three gates (see Fig. 1.3) in its narrowest approaches were built during the Abbasids reign and served as walls for the city. In the case of Al-Madina, as its physical features differ from that of Makkah, it was surrounded completely by a wall Fig. 1.4. During the Ottoman period, fort construction in the surrounding mountains of Makkah (Plate 1.1) and the continuation of wall constructions around Al-Madinah(Plate 1.2)

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* This dynasty who claimed descendant of Al-Hassan and Al-Hussein sons of Fatimah, daughter of the Propet, ruled Makkah and Al-Madinah from the second Abbasids period right up to the foundation of the State of Saudi Arabia.

Fig 1.4

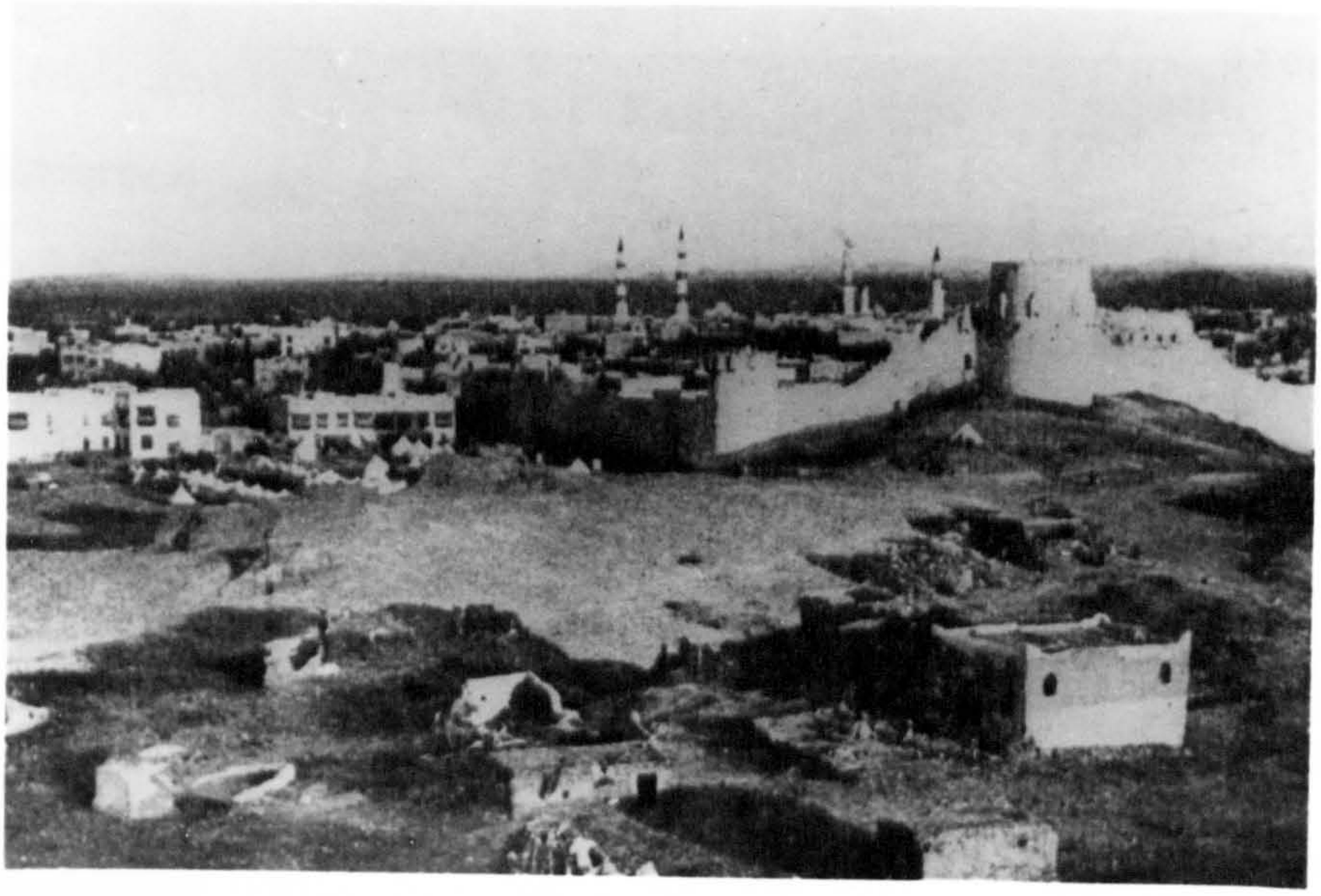


PLAN OF AL-MADINAH

Source:- Personal Narrative of a Pilgrimage to Al-Maddinah and Makkah (vol. one 1964 edition)



1.1 Castles of Ajiad and L'ala built in Makkah during the period of Ottoman rule.



1.2 A part of the wall of Al-Madinah showing one of its castles.



1.4 A view showing the pedestrian roads between Arafat and Muna.

became the main concern of subsequent governors to protect both cities from aggression by other rivals of the Sharifs line.[13] Water and food supplies had frequently been interrupted in the case of both cities and the instability of the situation in the region as a whole and the lack of power of the Amirs who had ruled Makkah and Al-Madinah prevented the growth of the two cities. The religious function came to be the only remaining one of any importance over this period, (although farming in the outlying areas of Al-Madinah thrived because of the fertile soil and the availability of water). By 1050 (442 A.H) for example it was found that about 35,000 of Makkah's estimated total population had emigrated and about 2,000 people were remaining in the city.[14] Such a small population was not enough to encourage further expansion of the two Harams or of the cities' built up areas.

V.. The Expansion of the Built up Areas of Makkah and Al-Madinah

It has been previously shown that the weakness at the centre of power (the Caliphate) in Baghdad by the second period of the Abbasids and the establishment of ruling dynasties in various provinces of the Muslim Empire caused both cities to become centres of a struggle for power concerning the connection of Makkah and Al-Madinah to such seceded rulers in order to legitimise their authority to govern the Muslim world. Under the Umayyad rule (662 - 750) the Islamic Empire attained its highest size. This period was characterised by relative stability, and the number of permanent inhabitants of the cities increased as well as the numbers of annual pilgrims. These two factors, together with

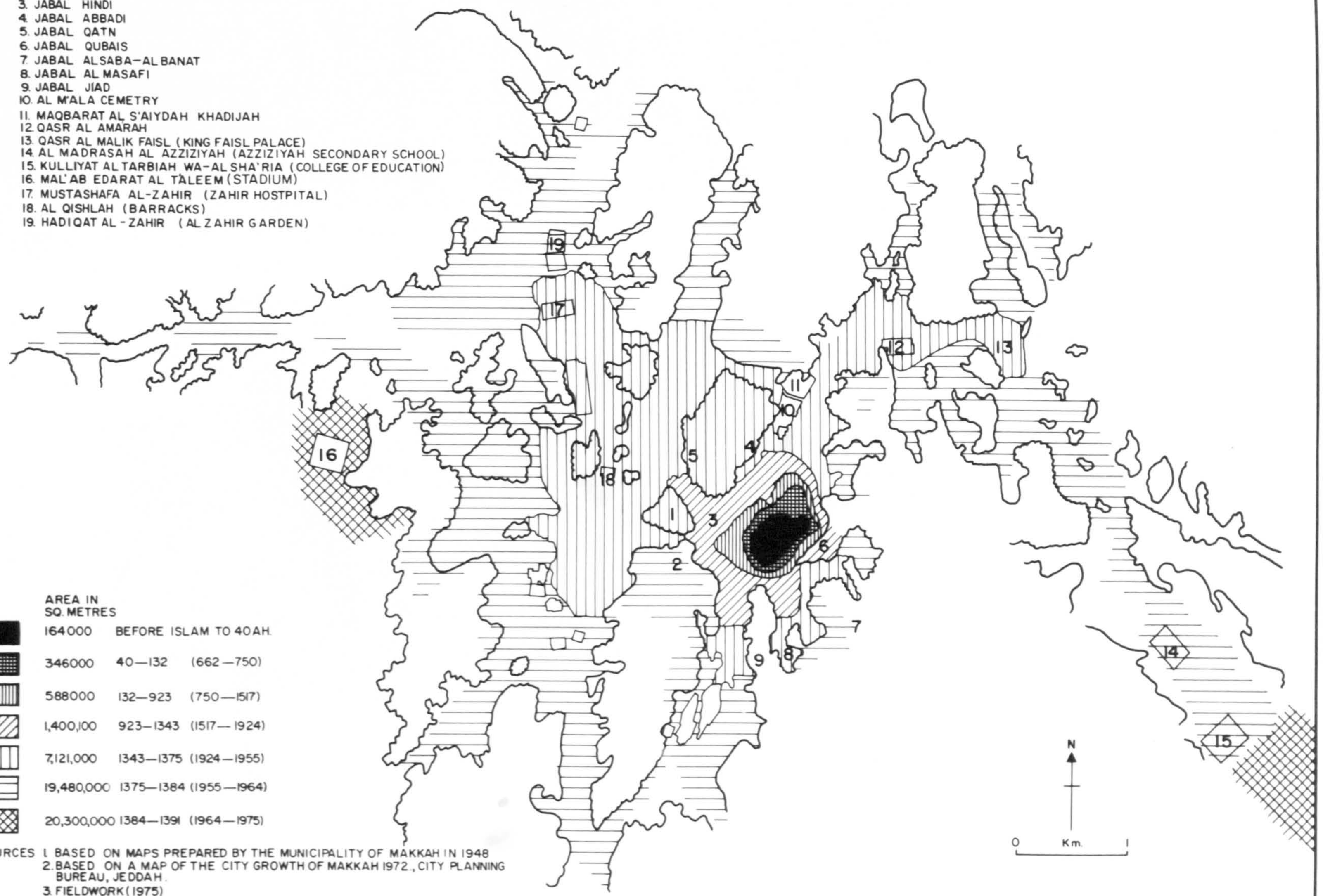
improvements in social and economic conditions, and the periodic donation of money to the prominent men of both cities (given as compensation for shifting the centre of authority to Syria) created a favourable atmosphere in the area and the need for more housing. This resulted in an expansion of the physical size of Makkah and Al-Madinah.

The actual extent of the urban growth which took place is unknown; an approximate idea of the expansion of their respective built up areas during the Umayyad period can be obtained by reference to the history of both cities. According to Al-FaKihy (624 A.H.) the urban extent of Makkah under the Umayyad reign did not go beyond the mosque of Al-R'iah which is now located between Al-Ghazzah and Al-Judariyyah streets.[15] Other historians of Makkah confirm this, and if a line is drawn from the north of the city, the closely packed houses are seen to be all confined between Al-R'iah mosque and Al-Haram. To the south, the city did not extend beyond the Majin Pool and to the west the built up area ended at Harat Al-Shubaikah, as the neighbouring Harah, Harat Al-Bab, was not established at this time.[16]

The total built up area between these limits would have been approximately 346,000 sq. metres, which shows that the physical area of Makkah had only grown about 182,000 sq. metres since the early era of Islam at the time of the four orthodox Caliphs, when the built up area was 164,000 sq. metres (Fig. 1.5). The figure illustrates the continuous growth of the tightly packed houses within these limits, but does not include scattered, sparsely populated areas such as Al-Hujun, Al-M'abdah, Sheib Amer, Jarwal and Al-Misfalah,

Fig.1.5 URBAN GROWTH OF MAKKAH BEFORE ISLAM TO THE PRESENT CENTURY

1. JABAL AL K'ABA
2. JABAL OMAR
3. JABAL HINDI
4. JABAL ABBADI
5. JABAL QATN
6. JABAL QUBAIS
7. JABAL ALSABA–AL BANAT
8. JABAL AL MASAFI
9. JABAL JIAD
10. AL M'ALA CEMETRY
11. MAQBARAT AL S'AIYDAH KHADIJAH
12. QASR AL AMARAH
13. QASR AL MALIK FAISL (KING FAISL PALACE)
14. AL MADRASAH AL AZZIZIYAH (AZZIZIYAH SECONDARY SCHOOL)
15. KULLIYAT AL TARBIAH WA-AL SHA'RIA (COLLEGE OF EDUCATION)
16. MAL'AB EDARAT AL TALEEM (STADIUM)
17. MUSTASHAFA AL-ZAHIR (ZAHIR HOSTPITAL)
18. AL QISHLAH (BARRACKS)
19. HADIQAT AL-ZAHIR (AL ZAHIR GARDEN)



AREA IN SQ. METRES		
164000	BEFORE ISLAM TO 40 AH.	
346000	40—132	(662—750)
588000	132—923	(750—1517)
1,400,100	923—1343	(1517—1924)
7,121,000	1343—1375	(1924—1955)
19,480,000	1375—1384	(1955—1964)
20,300,000	1384—1391	(1964—1975)

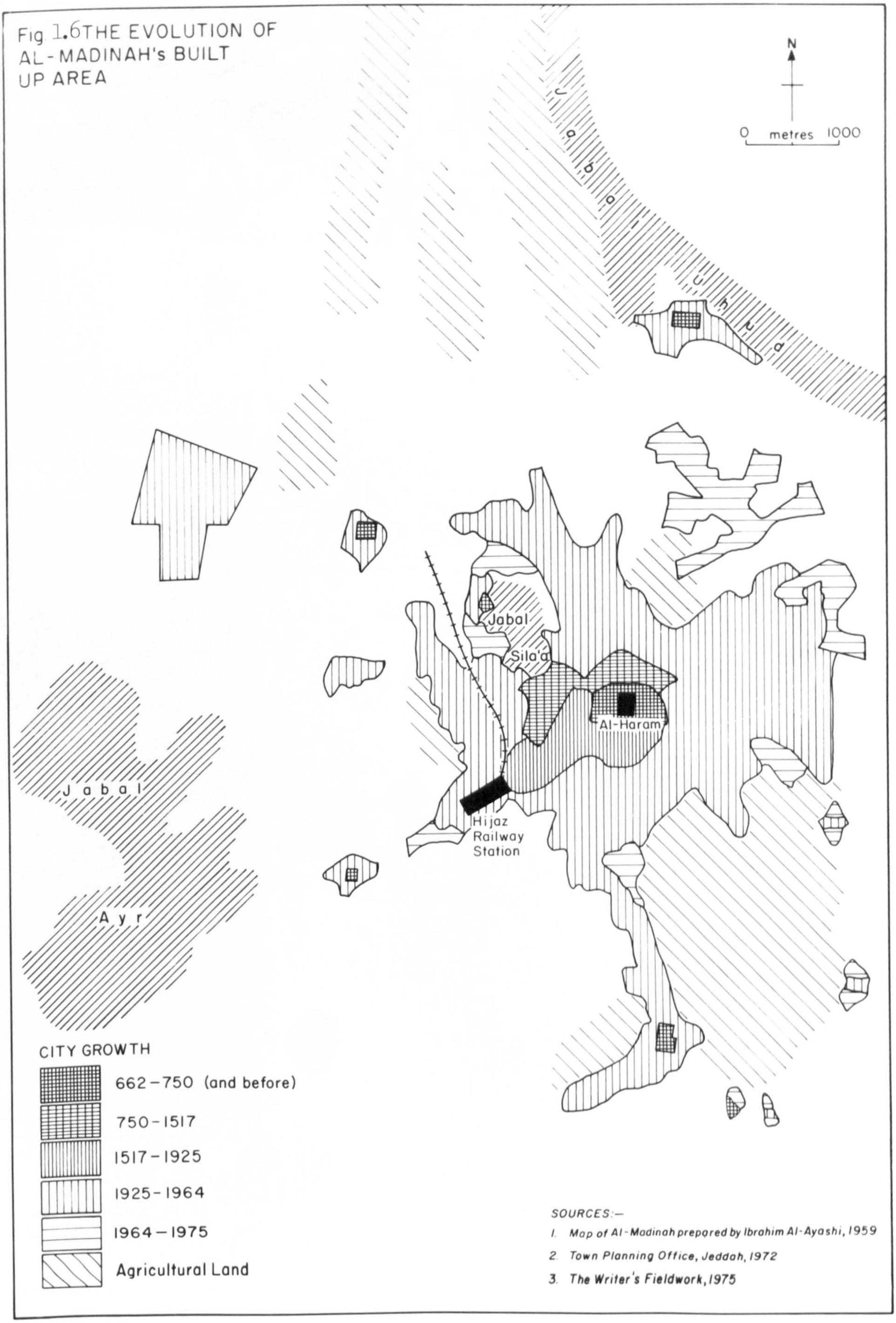
SOURCES 1. BASED ON MAPS PREPARED BY THE MUNICIPALITY OF MAKKAH IN 1948
2. BASED ON A MAP OF THE CITY GROWTH OF MAKKAH 1972., CITY PLANNING BUREAU, JEDDAH.
3. FIELDWORK (1975)

which constituted the outer area of Makkah (see Fig. 1.3). With regard to Al-Madinah, the first physical growth of the city began as has been shown, with the construction of Al-Haram, where all houses clustered around it creating the centre of the city, which first became "egg-shaped" as areas to the south and north east had good soil and adequate water (see Fig. 1.4), and encouraged farmers to settle. To the north the city's built up area halted at Sagifat Bani S'edah, about 500 metres away from Al-Haram, which was a meeting place for Al-Madinah's important citizens in the early Islamic era.[17]

This building was demolished during the first phase of the modernisation project of Al-Madinah (began in the early 1950's with the enlargement of Al-Haram), and the area is to become a public garden inside the city. To the west, Al-Manakhah Street constituted the end of the built up area. Beyond this the land was reserved for keeping camels and other animals used by visitors travelling to Al-Madinah. The eastern and southern side of the city did not extend beyond the cemetery, about 250 metres away from Al-Haram.[18] The total built up area of Al-Madinah within these limits was approximately 112,500 sq. metres, slightly less than half that of Makkah during the same period (Fig. 1.6).

The political instability during the long period of the Abbasids and the Turkish Mamluks, about 767 years from 750 to 1517 (132 - 923 A.H), severely restricted urban expansion. These rulers felt no obligation to Makkah and Al-Madinah other than as caretakers and for reaping financial rewards during the pilgrimage season.[19] Money went to the

Fig 1.6 THE EVOLUTION OF AL-MADINAH's BUILT UP AREA



SOURCES:–

1. *Map of Al-Madinah prepared by Ibrahim Al-Ayashi, 1959*
2. *Town Planning Office, Jeddah, 1972*
3. *The Writer's Fieldwork, 1975*

rulers of the two cities to maintain their loyalty to the centre of government. Periodic repair and enlargements to the two holy Harams was undertaken.

The total urban area of Makkah expanded by about 242,000 sq. metres to 588,000 sq. metres and that of Al-Madinah amounted to nearly one-third of that achieved in Makkah over the same period (see Fig. 1.4 and Fig. 1.5). Although the succeeding rulers, the Ottomans, retained control of the Muslim world for almost four hundred years, from 1517 to 1916, their continuation of the preceding policy effectively meant that the two holy cities received few improvements.

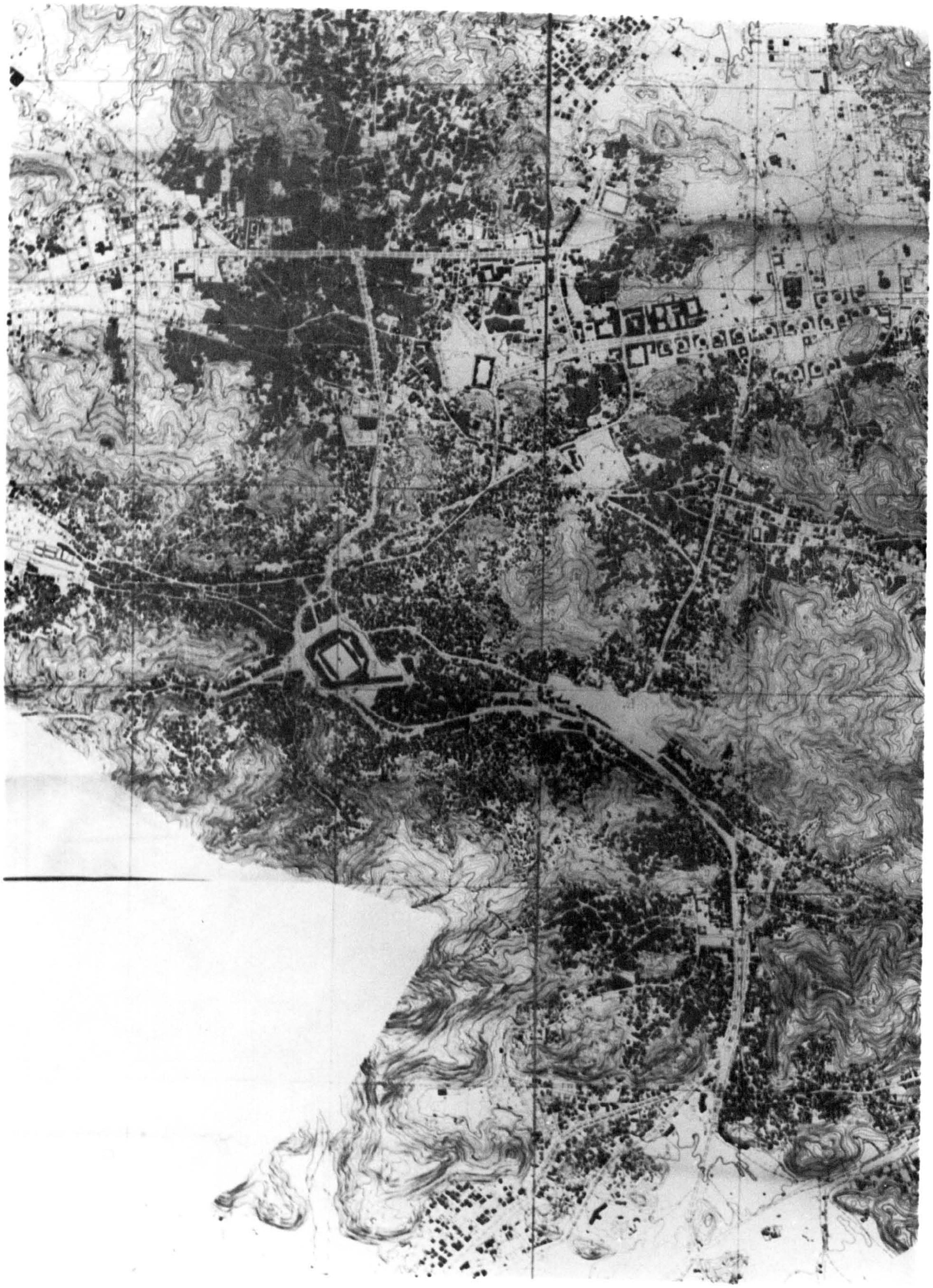
The constant internal struggle which had gone on in the Sharif's family ever since they had become rulers of Makkah and indeed of the region of Al-Hijaz as a whole (until the formation of the Saudi Arabian State), was reflected in variations of the built up area of both cities. These endless disputes left the region unsettled which created the existence of a mutual dependence between the Ottoman Sultans and the Amirs of Makkah; the Sultan needed the Amir in order to ensure security in the region, whilst the Amir needed the Sultan to guarantee him sovereignty over Al-Hijaz. Meanwhile, the Sultan guaranteed the continued annual shipments of wheat and rice from Egypt from the Ghilal Al-Haramain (religious endowments for the two holy cities) and the annual Surrah (a bag full of money) from Egypt. [20] Several attempts had been made by some Amirs of Makkah to achieve political independence from the Ottoman Sultan, but had all failed, because the region was poor and heavily dependent on external support.

The total urban area of Makkah during this period nearly doubled to become approximately 1,400,100 sq. metres, and that of Al-Madinah almost doubled (see Fig. 1.5 and 1.6). The physical expansion of Makkah encircled Al-Haram and the former built up area generally followed the topographical features of the area; expansion to the south-east was hindered because of the existence of massive mountains (Plate 1.3 and Fig. 1.7). Al-Madinah's physical expansion was directed towards the south west and north west, in areas which were not suitable for farming (see Fig. 1.4).

As the number of inhabitants in, and annual pilgrims to Makkah remained low for many centuries the two Harams were able to acquire somewhat larger areas of land. The previous extensions to Al-Haram of Makkah probably proved adequate, however, as no further extensions were made from 781 to 1950 (164 - 1370 A.H) except for the annexation of the Gate of Ziadah by Al-Mu'atadhed in 898 (281 A.H) and the Gate of Ibrahim by Al-Muqtadir in 923 (306 A.H). In the case of Al-Haram of Al-Madinah, the picture was somewhat different, as the main enlargement was carried out during the period of Ottoman rule, and since then its area has remained constant until the Saudi government came into power.

It is clear from the foregoing that whilst site and location factors are of importance in controlling certain elements of the morphology of both cities, and that whilst administrative and economic functions were significant throughout history, ultimately the main force behind growth and determining the main elements of morphology and function was

1.3



The topographical features of Makkah

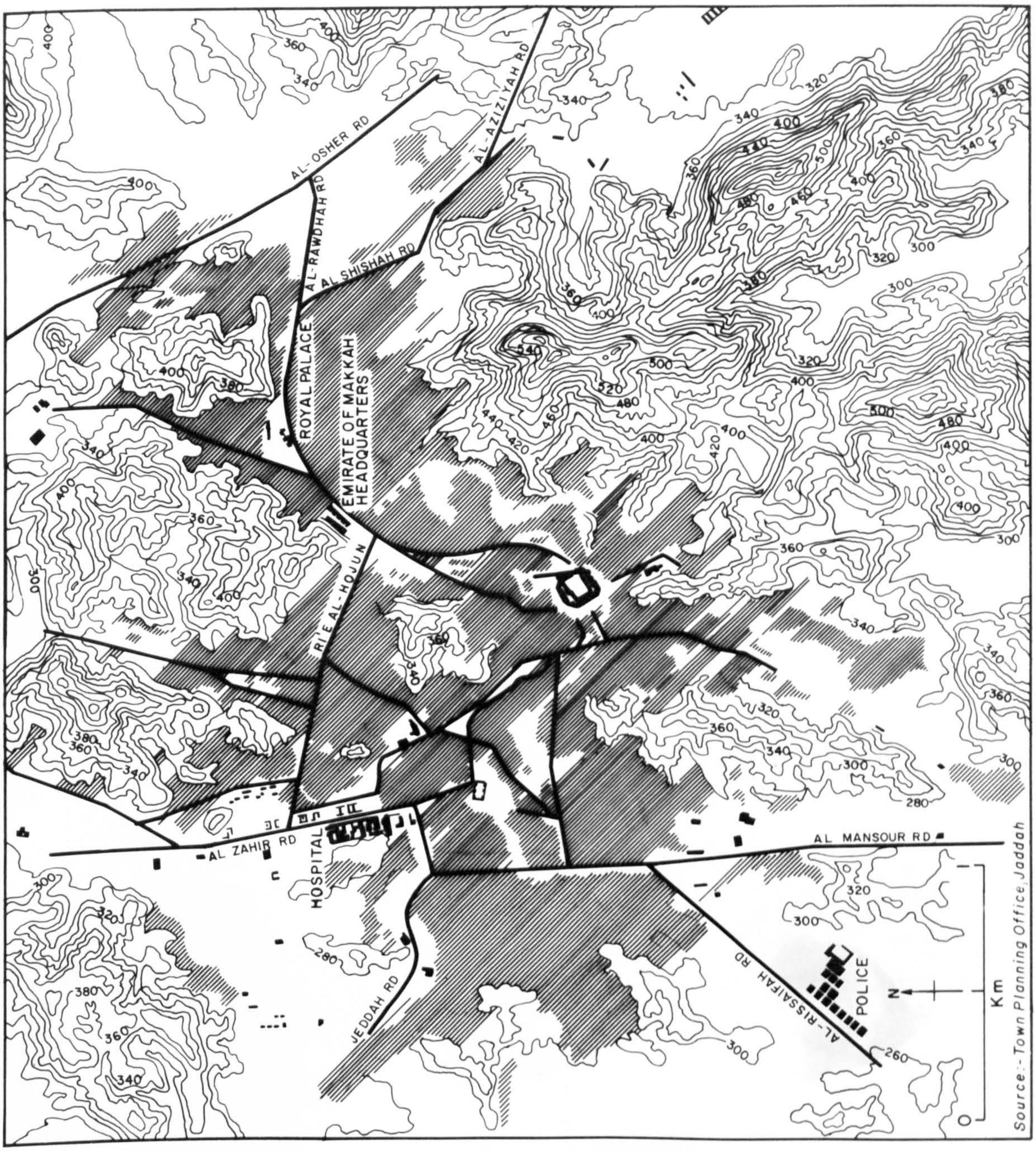


Fig 1.7 THE PHYSICAL CONSTRAINT OF THE BUILT UP AREA OF THE CITY OF MAKKAH

that of religion and particularly religion as manifested in the pilgrimage and it is this amazing phenomenon of Islam which we must now examine.

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CHAPTER TWO

The Two Cities as Pilgrimage Centres

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The Two Cities as Pilgrimage Centres

In Chapter One we have sketched highlights of the history of the two cities and it became clear that the special religious significance of the world of Islam to Makkah and Al-Madinah had profound effects upon their evolution. In this chapter we therefore examine, in particular, the pilgrimage itself; the spatial flow of pilgrims to the Holy Places with consequent effects on communications; and the impact as measured by the numbers of pilgrims visiting the two cities. We also examine the demand for particular services created by the pilgrimage, a demand which in some cases is of primary importance in that it has had major consequences on the nature of urban development in Makkah and Al-Madinah, which has indirectly affected the spatial and hierarchical relationship between the two cities, other regions and urban centres.

I. Makkah. The First Pilgrimage Centre of Islam

The religious pilgrimage to Makkah existed long before the rise of Islam. The inhabitants of the Arabian Peninsula kept contact with the centre, (since the construction of Al-K'abah) in obeying Ibrahim's instruction according to God's command (see Appendix B. 1.2). The rise of Islam confirmed this duty of Al-Hajj by making it one of its five pillars. In this connection the following verse from the holy Quran explains God's command upon all people, wherever they are, to travel to Makkah to make it:

"Call mankind to the pilgrimage and they will come

> on foot and every fast mount from every remote corner, to seek that in which their good lies, and praise God during certain days, for all the blessings He has given them, including the cattle (to be sacrificed during the pilgrimage) and from which let them eat, and feed the distressed and needy".
>
> (Quran, Ch. 22, verse 27)

Thus Makkah grew in importance as a place of pilgrimage. In fact, Islam gave its followers a firm base of authority which made them conscious of belonging to a world-wide community through the institution of prayers and the pilgrimage to Makkah. For nearly fourteen centuries now, in ever-increasing numbers, pilgrims have been observing this obligation to visit the city, despite where they come from, as long as they hold the same goals and expectation. The total number of Muslims throughout the world was estimated to be in excess of six hundred millions in 1976.[1] Figure 2.1 shows the total number of pilgrims to Makkah according to the 1976 Pilgrimage Census, and indicates the diversity of country of origin.

II. Al-Madinah. The Second Pilgrimage Centre

Al-Madinah's importance as a religious centre stems from the fact that the area was the first to embrace Islam, (this gained many blessings similar to those of Makkah in that the revelations made to the prophet Muhammad at Al-Madinah are reflected in a number of Suwar, (sing. Surah), chapters in the holy Quran). The "visit", or Al-Ziarah denotes the non-obligatory pilgrimage to Al-Madinah and is an act which may be made as a reverence to the memory of the Prophet who was buried there. Muslims may make this visit to Al-Madinah at any time of the year, although most combine their visit with the obligatory pilgrimage to Makkah.(see Appendices B 1.6/1.7/1.8)

Fig2.1 CONVERGENCE OF PILGRIMS FROM ALL OVER THE WORLD ON MAKKAH AND AL-MADINAH IN SAUDI ARABIA IN THE PILGRIMAGE SEASON, 1976

EUROPE 14,000,000

4 SPAIN
8 PORTUGAL
757 U.K.
563 FRANCE
855 YUGOSLAVIA
144 GREECE
7538 TUNISIA
34851 ALGERIA
80 U.S.A
15044 MOROCCO
18057 LIBYA
1654 MAURITANIA
392 CHAD
4148 SENEGAL
2702 MALI
1359 NIGER
1334 GUINEA
1809 UPPER VOLTA
319 SIERRA LEONE
98 LIBERIA
3167 GHANA
95 TOGO
916 IVORY COAST
545 DAHOMEY
66873 NIGERIA
779 CAMEROON
411652 SUDAN
20 CONGO
361 CENTRAL AFRICA
2491 UGANDA
544 TANZANIA
500 KENYA
667 ZAMBIA
13 MALAGASY
1265 SOUTH AFRICA
SOMALIA 7508
YEMEN 61110
ETHIOPIA 2246
SOUTH ARABIA 7796
MAURITIUS 315
901 PALESTINE
28045 EGYPT
23427 JORDAN
1069 LEBANON
SYRIA 24446
TURKEY 137291
IRAQ 49703
IRAN 30299

KUWAIT 4908
AJMAN 47
BAHREIN 1989
AL SHARGA 44
RAS AL KHAIMA 40
QATAR 847
DUBAI 180
ABU DHABI 721
OMAN 2251

MAKKAH and AL-MADINAH

Asia
389,000,000

AFGHANISTAN 8308
PAKISTAN 48327
NEPAL
NAT. CHINA 11
CAMBODIA 4
PHILIPINES 357
SOUTH VIETNAM 27
THAILAND 2448
INDIA 17510
CEYLON 40
MALAYSIA 3373
INDONESIA 25624

Africa
109,000,000

Oceania
123,000

N. AMERICA
169,000

S. AMERICA
416,000

100,000 Indicates Total Muslim Population

Source: STATISTICAL YEARBOOK, Kingdom of Saudi Arabia, Ministry of Finance and National Economy, Central Department of Statistics, Twelfth Issue, Pilgrimage Statistics, 1976

Through the prayers of the Prophet, who besought God to grant the city the same blessings bestowed on Makkah (see Appendix B.1.3) Al-Madinah was made a holy ground similar to that of Makkah. Thus, since the advent of Islam, Al-Madinah and Makkah have been designated the two holy cities of Islam (the third being Jerusalem), entry to them being forbidden to those who are not of the Islamic faith.

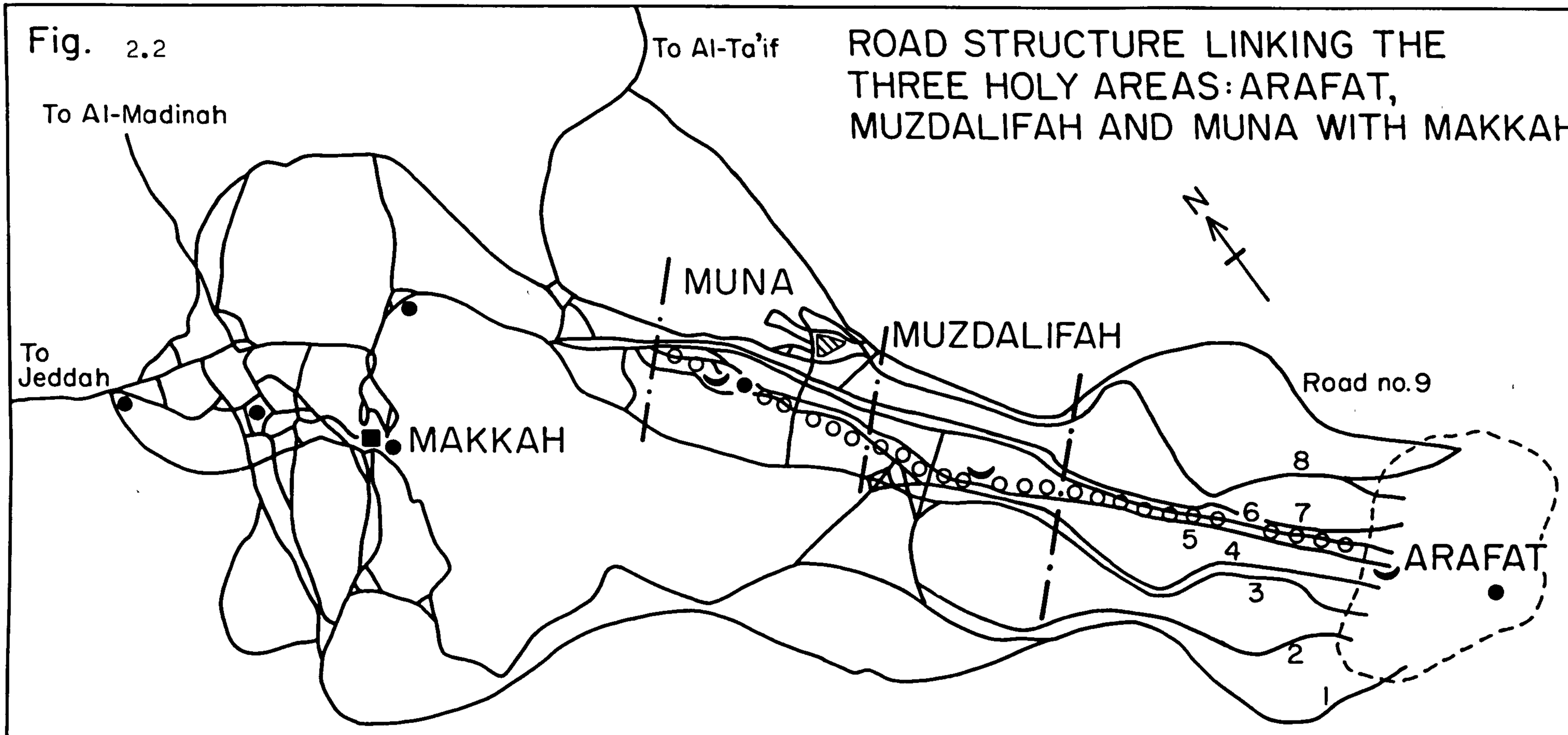
III. The Three Pilgrimage Areas within Makkah

The pilgrimage to Makkah is not focussed only on the city alone, but extends further to the south-east of Makkah to incorporate three areas; Arafat (20 km from the centre of Makkah), Muzdalifah (10 km distant) and Muna (6 km from Makkah), and are connected to the city of Makkah via a system of asphalted roads (Fig. 2.2). The importance of these areas, and their role in connection with the pilgrimage, is worthy of note. A brief description of the facilities available and the function they serve is given below.

The pilgrimage ceremony commences with the gathering in Arafat of all pilgrims for one day from sunrise to sunset of the 9th day of the month of Dhul-Hijjah. The legally defined area of Arafat is 1795 hectares, of which 46 hectares are used for government purposes while 1361 hectares is flat land available for pitching tents; the remaining area is taken up by the mountains, very difficult to be used.[2] For religious purposes, and because of the short period of stay, only a day, by pilgrims, Arafat is kept as an open area, the only permanent structure in addition to Namirah mosque being several concrete sheds built recently by the government to provide shelter for poor pilgrims and public services buildings.

Fig. 2.2

ROAD STRUCTURE LINKING THE THREE HOLY AREAS: ARAFAT, MUZDALIFAH AND MUNA WITH MAKKAH



Source: R.M.J.M. The Hajj, Special Action Area Study 1975

Muzdalifah is similar to Arafat and has few permanent buildings, Al-Mash'ar Al-Haraam (Great Mosuqe), the Royal Palace and some public services are the only permanent structures. Muzdalifah covers a total area of 963 hectares (much smaller than Arafat) of which 281 hectares are mountainous and inaccessible for use by pilgrims.[3] The period of stay required in Muzdalifah during Al-Hajj is short in duration (only the evening of the 9th day of Dhul Hijjah - after leaving Arafat in the same day by the sunset) and thus no overnight camping takes place, although some pilgrims may rest there for the rest of the night and leave at dawn for Muna. Muna is the third centre of pilgrimage and has the smallest area of the three centres, the total recognised area being only 635 hectares: Al-Mijzarah (the slaughter enclosure) which consists of 17 hectares; 29 hectares are for government utilisation, 43 hectares are built up area, and the remaining 246 hectares remain vacant for pitching the pilgrims tents.[4] In Muna, the pilgrims' activities and movements are of greater intensity. They are required to stay for approximately three days to carry out certain rites, when after completing the pilgrim is free to leave Makkah, to return home. Muna, unlike Arafat and Muzdalifah, has many public services and government buildings. These include the Royal Palace, a hospital, police headquarters, fire stations, post offices, shops, cafes, restaurants, public toilets, hotels, a school and the Khaif Mosque. In relation to Arafat and Muzdalifah, Muna resembles a small town. Due to its proximity to Makkah, Muna is currently being incorporated into the major quarters of Makkah.

The population census of 1962 gave Muna a total of 260

permanent residents. If the rate of Makkah's urban expansion continues beyond Muna, the area of Muzdalifah will be changed by residential expansion, especially from the direction of Al-Aziziyah quarter whose boundary has already reached the outskirts of Muzdalifah. As yet there are no plans for urban expansion in Muzdalifah; it would appear that it will remain an open area or valley, void of permanent structure except for those which already exist. Regarding the location and characteristics of the holy places - Makkah together with Arafat, Muzdalifah and Muna form a pilgrimage micro-region, as opposed to a single centre, of particular seasonal attraction. Al-Madinah on the other hand is a single centre of pilgrimage attended throughout the whole year.

IV. The Development of the Pilgrimage Routes

A. Overland Route

By the time of the rise of Islam, Makkah and Al-Madinah had become the focus of human movement. The trade caravans were replaced by caravans carrying pilgrims from throughout the Arabian Peninsula and the neighbouring Islamic nations. The old trade routes thus became pilgrimage routes and this marked the second stage of the development of the overland routes.[5] The routes followed the most accessible areas of land, and attempted to avoid the dangers of the vast desert and high mountains. The pilgrimage routes followed the same desert trade routes but the new pattern of caravans, which transported passengers rather than goods, led to the development of more halting places for rest, food and water. In general, the direction of the ancient routes was governed by the position of the deserts, mountains and water supply

throughout the Arabian Peninsula.

During the first and second centuries of the Islamic era, two major pilgrimage routes developed : the first came from Baghdad to Makkah and was called the Eastern Hajj road or Darb Zubaydah, the second began in Oman and was known as the Omani Hajj Road. Along these routes two important centres won fame because of their location halfway along the Oman/Makkah and Baghdad/Makkah routes. The Oasis of Fayed was one, located along the Eastern Hajj road (Darb Zubaydah) beyond Al-Nufud desert, and Al-Yamamah, which is located beyond the Dahna desert on the Omani Hajj road, was the other.[6]

There were several separate halting places on the routes from Syria, Palestine and Egypt leading to Al-Madinah and Makkah, but all had peripheral positions on the route to avoid crossing the Great Nufud desert of Northern Arabia. The same can be said about the road from the south and south-west of the Arabian Peninsula, through the highlands of Yemen and Al-Hijaz - none of the halting places on this road became central stations as the area was already dotted with a number of settlements.

When the capital of Islam moved to Damascus in Syria during the Umayyad reign (662-750 A.D.), Damascus became the gathering place for the Western Hajj, and from there the caravan followed the Syrian Hajj road to Al-Madinah and Makkah. During this period when the centre of Muslim power was located in Syria, the pilgrimage road between Syria and Makkah was improved. It was reported that Caliph Al-Walid, the sixth Umayyad Caliph, built reservoirs at the various halting places

of this pilgrimage route and established infirmaries at some of the halts to treat pilgrims that fell ill during their journey.[7]

During the Abbasid reign, the Eastern Hajj route from Baghdad to Makkah benefitted from improvements by Queen Zubaydah, wife of Harun Al-Rashid, the fifth Abbasid Caliph, who ruled the Muslim world from Baghdad. This road was used by travellers from Iraq, Persia and as far afield as Central Asia, and became a convergence point for the caravans from these regions. In 800 A.D., Queen Zubaydah improved the Baghdad or Eastern Hajj road by building reservoirs and fortifying stations at each day's stopping point.

The importance of the Eastern Hajj road as a means of passage for thousands of pilgrims and their animals later led Queen Zubaydah to investigate the possibility of digging stone-lined wells as well as reservoirs, which could be filled with rain water to provide the pilgrims with sufficient water. The road was named after her - Dar Zubaydah - and has been in use ever since by pilgrims' caravans, until 1935 when it was opened to motor traffic.[8] After the advent of motor vehicles, camels and other traditional forms of transport were gradually replaced as a means of human transport. The Syrian Hajj road which was improved during the Umayyad rule, fell into disrepair, although the road remained in use until the early 1900's, when Damascus was connected by rail to Al-Madinah.

B. <u>The Railway of Al-Hijaz</u>

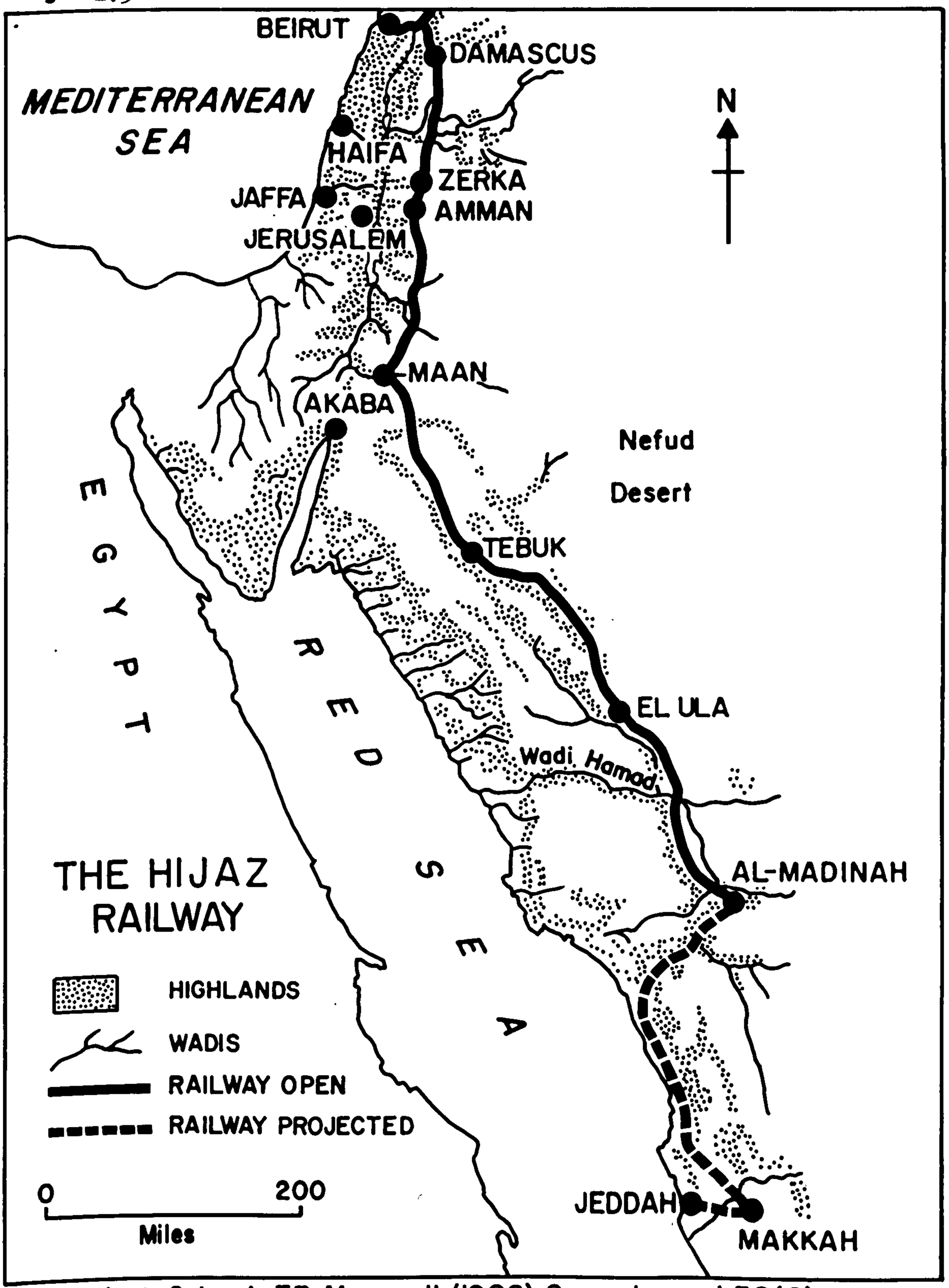
In 1900 Sultan Abd Al-Hamid II of the Ottoman Empire (1876-1909) authorised the commencement of work on the Railway of Al-Hijaz to link Damascus with Al-Madinah and Makkah; this railway was ultimately to be connected with the

main arteries of the Turkish railways in Anatolia. The reasons behind these projects were both military and political, to strengthen the Sultan's power in the Arabian Peninsula, particularly in the Al-Hijaz and Red Sea areas.[9] To gain the support of the Muslim world, the Sultan and his government stressed the religious value of the Railway of Al-Hijaz, and urged all Muslim countries to donate funds to put the scheme into operation. They received considerable sums of money from India, Iran and Burma, as well as donations from Muslims within the Ottoman Empire.

The unskilled jobs on the construction of the railway were largely carried out by Turkish soldiers. Because of financial difficulties, the deposing of the Sultan and opposition from local Bedouin tribes, the proposed line was not extended to Makkah and Jeddah (Fig. 2.3).[10]

Although the railway of Al-Hijaz virtually followed the pilgrimage route, it passed mainly through arid and hence sparsely populated land. The line proved uneconomical, particularly as its use was limited to the pilgrimage season. The possibility of developing the region, especially between Ma'an in Jordan and Al-Madinah was investigated; the area was unproductive and this, coupled with a lack of surplus produce from the interior of Arabia, made it difficult to sustain the project for longer periods. However, the railway of Al-Hijaz was of great benefit, particularly to pilgrims from Turkey, Syria and even Egypt whose travel to the holy places of Makkah and Al-Madinah became much safer, faster and more comfortable. The following Table shows the number of passengers carried on the railway of Al-Hijaz between

Fig. 2.3



After: Lieut-Colonel F.R. Maunsell, (1908), Geog. Journal 32(6)

1908 and 1913. [11]

Table 2.1 Total Number of Passengers carried on the Railway of Al-Hijaz 1908 - 1913

Year	Civilian	Military	Total
1908-1909	168,448	77,661	246,109
1909-1910	171,101	27,390	198,491
1910-1911	182,662	47,941	230,603
1911-1912	232,563	43,484	276,047
1912-1913	213,071	147,586	360,657

Source : Landau, J.M. (1971) The Hijaz Railway and the Muslim Pilgrimage, Wayne State University Press Detroit, U.S.A. p. 69.

The railway of Al-Hijaz between Damascus and Al-Madinah encouraged commercial exchanges, which were of great benefit to Al-Madinah and encouraged the movement of people between Syria, Turkey and Al-Madinah. The total population of Al-Madinah before the construction of the railway was estimated at 15,000 and during the eight year period of the railway's operation, this figure reached 70,000. [12] With the destruction of the railway during the revolt of the Amir of Makkah (Sharif Hussein) against the Turks in 1916, the population of Al-Madinah dropped sharply to less than 20,000, as most of the people who had settled during the period of the railway's operation left the city.

Al-Madinah developed quickly and the population increased in a very short period to nearly four times its former size. However, this total included a number of Turkish troops brought to the city to keep order and protect the railway from possible attack by Bedouins. The main objection of the Bedouins to the continued running of the railway of Al-Hijaz was that the scheme prevented them from hiring their

camels out to the pilgrims from Turkey and Syria, as well as to travellers within and between the regions. The cameleers earned their livelihood transporting passengers from Syria to the Holy Cities of Makkah and Al-Madinah, but with the coming of the railway of Al-Hijaz pilgrims only hired the Bedouin camels to travel the relatively short distance between Makkah and Al-Madinah. The railroad connected Damascus (the starting point for the pilgrims) and Al-Madinah for nearly eight years 1908 - 1916 and since its destruction in 1916, the damaged line between Ma'an in Jordan and Al-Madinah, a length of almost 535 miles, has not yet been restored.

The inability of the Saudi Arabian government to come to an agreement on the repair has meant that the link between Damascus and Al-Madinah has remained unused, although the line between Ma'an and Damascus is still in operation. At the present time negotiations are taking place between the governments concerned in an attempt to rebuild the railway through this region.

C. Road Transport

By 1936, when the motor car was becoming more widely used in Arabia, the Eastern track road (Darb Zubaydah) was opened to motor traffic between Iran, Iraq, Afghanistan and the two holy cities of Makkah and Al-Madinah. Other routes from Syria, Oman and Yemen opened to motor traffic, and soon a large proportion of these routes were asphalted, making car journeys much easier and more comfortable. Since the 1930's the number of pilgrims making the journey to Makkah by car, lorry and bus has increased, especially from neighbouring countries which have a continuous overland route. The con-

struction of modern roads (which began in 1951) throughout Saudi Arabia has had a more direct effect on the shift to land travel and this is seen clearly in the following statistics: the numbers transported by road rose rapidly in 19 years, from 9.56% of the total in 1950 (1349 A.H) to 41.92% in 1969, indicating that overland travel was more popular than either air or sea. This swing to land travel has been mostly at the expense of the sea routes, which served a total of 77.70% of all pilgrims in 1950, decreasing to only 8% in 1978. However, air transport is rapidly overtaking all other forms, and in 1977 accounted for a total of 62.42% of all pilgrims as opposed to only 12.74% in 1950 (Table 2.2).

The widespread use of the motor car gradually replaced other forms of transport for pilgrims travelling between Makkah and Al-Madinah. By 1935 there were thirty companies operating locally eighty-nine cars and 448 lorries and converted lorries, but camel transport still held a strong position.[13] The following years saw some improvement, but poor road conditions and insufficient motor vehicles still favoured travel by camel train. Financial difficulties encountered in the early days of the Saudi Arabian State restricted road programmes linking Makkah, Jeddah, Al-Madinah and the other three holy areas with the rest of the country.

The first paved road completed was the 73 Km stretch between Makkah and Jeddah built in 1936 by Egyptian engineers and paid for out of the Waqf (religious endowment) granted to the holy cities of Makkah and Al-Madinah. At this time overseas pilgrims travelled by sea and arrived at Jeddah; the road was therefore an essential link needed to complete the journey by motor vehicles overland to Makkah. It remained the only

TABLE 2.2 Number of Pilgrims by Mode of Travel and Percentage of Total over the last 29 Years (1950 - 1979)

Year	By Air		By Land		By Sea		Total
	No.	%	No.	%	No.	%	
1950	13,757	12.74	10,321	9.56	83,897	77.70	107,981
1951	13,523	13.45	2,425	2.41	84,583	84.14	100,531
1952	27,049	18.32	9,131	6.18	111,470	75.50	147,650
1953	18,349	12.28	14,724	9.85	116,377	77.87	149,450
1954	20,869	12.85	27,785	17.11	113,707	70.04	162,361
1955	33,801	14.55	62,716	27.00	135,754	58.45	232,271
1956	30,716	13.93	65,894	29.88	123,903	56.19	220,513
1957	54,513	23.21	58,227	24.79	122,169	52.00	234,909
1958	32,027	15.80	56,227	27.74	114,452	56.46	202,706
1959	50,825	19.10	86,392	32.47	128,883	48.43	266,100
1960	51,030	17.85	85,084	29.75	149,834	52.40	285,948
1961	54,480	25.17	69,032	31.89	92,943	42.94	216,455
1962	59,302	30.10	56,040	28.44	81,697	41.46	197,039
1963	89,382	33.53	61,863	23.21	115,310	43.26	266,555
1964	83,478	29.46	71,343	25.18	128,498	45.36	283,319
1965	90,980	30.93	101,732	34.59	101,406	34.48	294,118
1966	107,078	33.86	95,757	30.28	113,391	35.86	316,226
1967	119,184	37.42	115,339	36.21	83,984	26.37	318,507
1968	129,744	34.62	150,792	20.23	94,284	25.15	374,784
1969	144,972	35.68	170,331	41.92	90,992	22.39	406,295
1970	208,663	40.38	138,060	32.01	84,547	19.60	431,270
1971	238,658	49.79	141,658	29.55	99,023	20.66	479,339
1972	328,478	50.91	179,517	27.82	137,187	21.26	645,182
1973	356,953	53.73	120,236	19.78	130,566	21.48	607,755
1974	463,639	50.46	277,748	30.23	177,390	19.31	918,777
1975	496,239	55.47	284,960	31.82	113,374	12.67	894,573
1976	374,751	52.12	263,383	36.63	80,906	11.25	719,040
1977	461,450	62.42	214,206	28.97	63,663	8.61	739,319
1978*	505,808	61	255,637	31	68,791	8	830,236
1979*	513,695	59.56	282,177	32.71	66,648	7.73	862,520

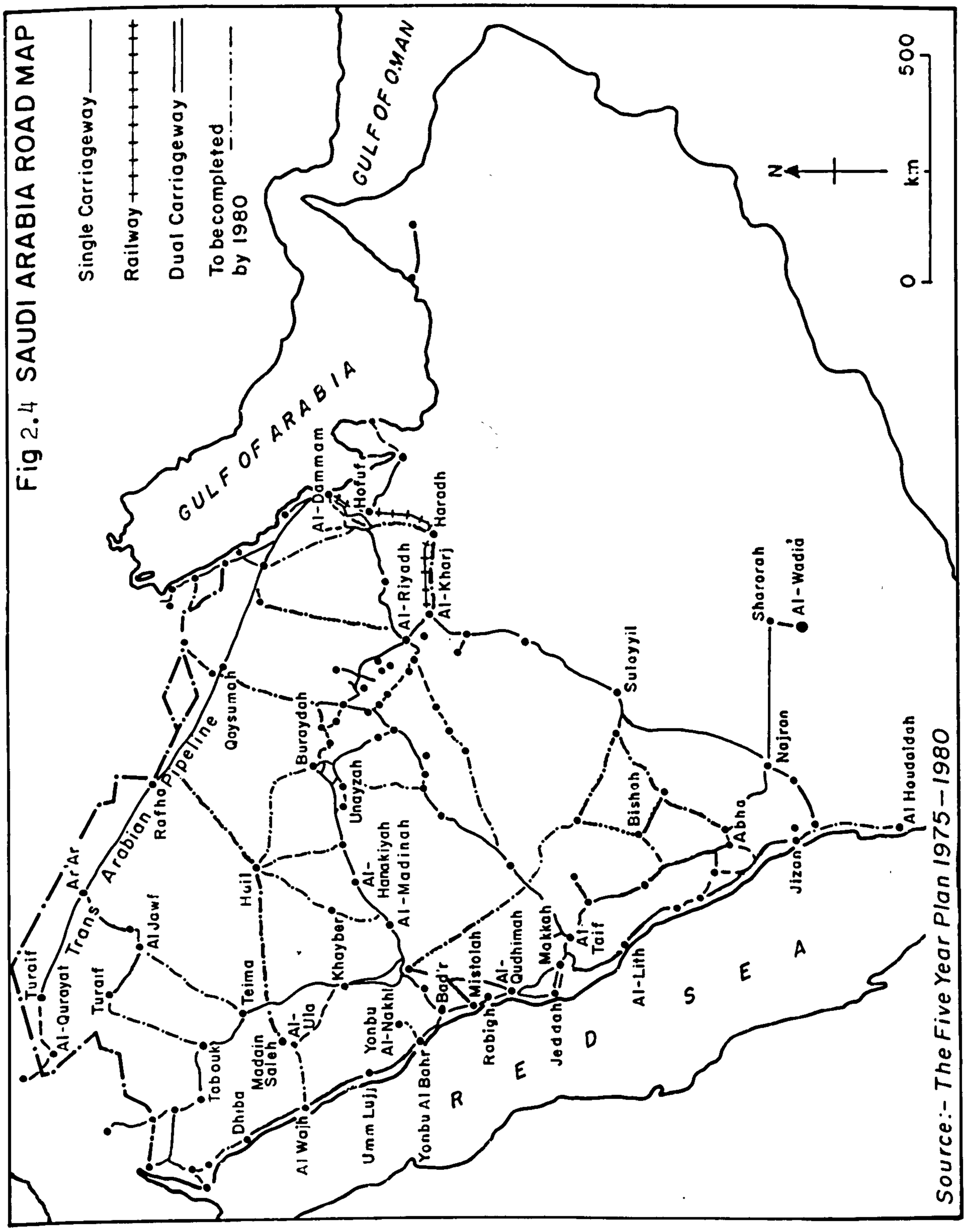
Source : Compiled from:

(1) Naqabat Al-Sayyarat Office (the Automobile Association), Makkah (1950-65)
(2) Annual Report 1976 (1396) Saudi Arabian Monetary Agency.
(3) Pilgrims Statistics 1975 and 1976 (1395, 1396) Agency Ministry of Interior For Passport and Civil Service Statistical Section.
(4) Statistical Yearbook Issues 1 - 12, 1965 - 1976 (1385 1396)
The Central Department of Statistics, Ministry of Finance and National Economy.
(5) The Monthly Publication issues from the Office of the Saudi Arabian Cultural Attache in Beirut No.4 March 1971.
(6)* Al-Madinah, Daily Newspaper No.4438 Wednesday November 15, 1978 p.16.
(7)* Al-Madinah Daily Newspaper No. 4752 Saturday November 10, 1979, p.16.

paved road in the country for 18 years, until 1954 when the 424 Km road between Jeddah and Al-Madinah was completed.

Figure 2.4 shows the asphalted roads and railroads throughout the country completed during the past 25 years (1950-1975). These roads linked most parts of the country extended to reach the nine points of pilgrims' entry into Saudi Arabia, and also illustrates roads to be completed by the end of the Second Development Plan period in 1980. The increase in asphalted roads throughout the country since 1950 has encouraged the simultaneous movement of people from the various parts of Saudi Arabia and has facilitated larger numbers of the indigenous population to make Al-Hajj an annual event. At the same time this network of roads had a direct effect on the number of pilgrims using the land routes to the holy cities. However the proportion of pilgrims arriving by land fell from its peak in 1969 after which the figures decreased by 28.9% in 1977 (Table 2.2).

The religious significance of the two cities, therefore, has developed inter-regional connections beyond that which their non-religious urban status would demand. At the local scale, road networks have been constructed almost solely for use by pilgrims to facilitate movement between Arafat, Muzdalifah and Muna. In some cases diversionary roads have been created to enable non-pilgrimage traffic to avoid the Holy Places. Any cost-benefit analysis regarding road construction in Saudi Arabia thus adopts a rather unique approach in regarding these religious activities.


ROAD MAP
Single Carriageway
Railway
Dual Carriageway
To be completed by 1980
GULF OF ARABIA
GULF OF OMAN
Al-Dammam
Hofuf
Haradh
Al-Riyadh
Al-Kharj
Qaysumah
Buraydah
Unayzah
Rafha
Arabian Pipeline
Trans
Ar'Ar
Turaif
Al-Qurayat
Al Jawf
Huil
Al-Hanakiyah
Al-Madinah
Khayber
Teima
Tabouk
Dhiba
Al-Ula
Yonbu Al-Nakhl
Bad'r
Mistolah
Al-Qudhimah
Makkah
Al-Taif
Rabigh
Jeddah
Al-Lith
Al Wajh
Umm Lujj
Yonbu Al Bahr
Suloyyil
Bishah
Abha
Jizan
Najran
Al Houdaidah
Shararah
Al-Wadiâ
N
0
km
500
RED SEA
Fig 2.4 SAUDI ARABIA ROAD MAP
Source:- The Five Year Plan 1975–1980

D. Sea and Air Routes

In the 19th century steamship travel made pilgrimage to Makkah easier for pilgrims from the Far East, East and North Africa and the Mediterranean countries. Travel across Arabia was dangerous compared to the relative safety and comfort of the sea journey. Thus travellers from Mediterranean countries journeyed direct from the Mediterranean to the Red Sea (via the Gulf of Aqaba and Suez Canal) to reach the sea port of Jeddah, the gateway to Makkah. The destruction of Al-Hijaz railway in 1916 further exaggerated the importance of sea transport to the region.

Although the sea routes had developed in the first century A.D. a high element of risk was associated with sea travel as frequent wars between the Old Empires often interrupted journeys. This means of transport became increasingly popular, however, and Dutch and British Steamship companies profited from pilgrims routes between South East Asia and Makkah. Since the 17th century A.D. contemporary shipping services are conducted by various companies from a variety of countries.

No record for the number of pilgrims arriving by sea from these countries was available until the late 19th century when the Dutch Government began counting travellers to the holy cities from her Colonies in the East Indies (now Indonesia). During the pilgrimage season of 1877-1878, the number of pilgrims coming by sea, who disembarked at Jeddah was 42,718, an increase of almost 4,000 over the previous year.[14]

The total number of pilgrims who gathered at Arafat

that year was estimated to have exceeded 180,000, one quarter of whom had travelled by sea and the remainder overland by camel. In subsequent years, the number of pilgrims arriving by sea far outnumbered those travelling by camel caravan, and in the pilgrimage season of 1926-27 the number of pilgrims arriving by sea was 123,052, almost half of whom came from the Dutch East Indies. The following Table shows the total number of pilgrims from overseas and the proportion of the total who came from Indonesia:

Table 2.3 Total Number of Pilgrims arriving by Sea between 1923-37 and Number from Indonesia

Year	Total number of overseas Pilgrims	Total number of Pilgrims from Indonesia
1923	68,786	29,957
1924	-	36,488
1925-26	57,057	3,474
1926-27	123,052	52,410
1927-28	98,735	42,937
1928-29	86,016	31,360
1929-30	84,810	33,000
1930-31	-	16,917
1931-32	-	4,245
1933-34	22,717	2,854
1934-35	30,387	3,671
1935-36	33,730	4,012
1936-37	49,864	5,403

Source : Van Der Meulen D., "The Mecca Pilgrimage and its importance to the Netherlands East Indies", Asiatic Review 1940 p.592.

It can be seen from the above Table that the number of pilgrims fluctuated every year; the highest total of 123,052 was recorded in the 1925-27 season and the lowest, 22,717, in 1933-34. The reason underlying the high total in 1925-27

was the annexation of the region of Al-Hijaz into the Kingdom of Saudi Arabia, thereby ensuring a safe journey for travellers. The reduced numbers in 1933-1934 can be attributed to the economic depression relating to the drought, and the resulting poverty throughout the Muslim world.

Vast improvements were made in sea travel in subsequent years and three new seaports were established (Yonbu, Al-Lith and Al-Qunfudah) to cater for the improved vessels carrying pilgrims to Makkah and Al-Madinah. The rising number of pilgrims arriving by sea affected not only the holy areas, but also the Port of Jeddah. Its harbour was improved and fitted with modern equipment to cope with the increasing number of pilgrims. A pilgrims centre was built near the harbour of Jeddah, which is normally filled with pilgrims of all nationalities for nearly one month before and one month after Al-Hajj, but remains empty for the rest of the year; a special quarantine and isolation hospital has also been built. Pilgrims arriving by sea rest at the centre before Al-Hajj until the various formalities, such as the checking of health certificates, are completed, and the allocation of pilgrims to their Mutawifeen (pilgrims guide) in Makkah has been made. When the authorities have checked the pilgrims' papers and made sure they carry no epidemic diseases, they are sent by coach to Makkah where they are met by their Mutawifeen, who finds them accommodation and directs them in their religious duties. After Al-Hajj, the pilgrims return to the accommodation centre to await their ship for the homeward journey.

Prior to the annexation of Makkah and Al-Madinah into the Kingdom of Saudi Arabia, the greatest number of pilgrims

arriving by sea disembarked at Jeddah and the smallest number at Yonbu. The port of Jeddah was unsuitable for large vessels, which were forced to berth well out at sea, their passengers being ferried to the shore by Sanbuks (small boats) providing employment for many boatmen and sea licensed* guides.[15] The Jeddah boatmen developed a monopoly in this industry; they bought their licences from the Amirs of Makkah and charged pilgrims heavily for the short journey to the shore. The agents responsible for looking after the pilgrims, and lodging them for the first night in Jeddah until arrangements could be made for their journey on to Makkah by camel, also had a monopoloy and, like the boatmen, earned very high fees. These methods of exploiting pilgrims were totally unsatisfactory and also incapable of coping with the huge numbers of pilgrims arriving by sea.

When the Saudi government took over the rule of the Holy Areas from the Hashimite regime they brought many improvements.[16] However, the closure of the Suez Canal in 1967 (as a result of the war between the Arabs and Israel) brought about a swing to air travel, particularly for pilgrims arriving from Mediterranean countries. The seaways were therefore left almost totally for pilgrims arriving from South East Asia, who were unaffected by the closure of the Suez Canal.

Recent social and economic changes in Saudi Arabia have all helped this swing to air travel, aided by the founding of the new national and international airports at Jeddah, Al-Riyadh, Al-Madinah and Al-Dhahran. Founded in 1945, Saudi Arabia

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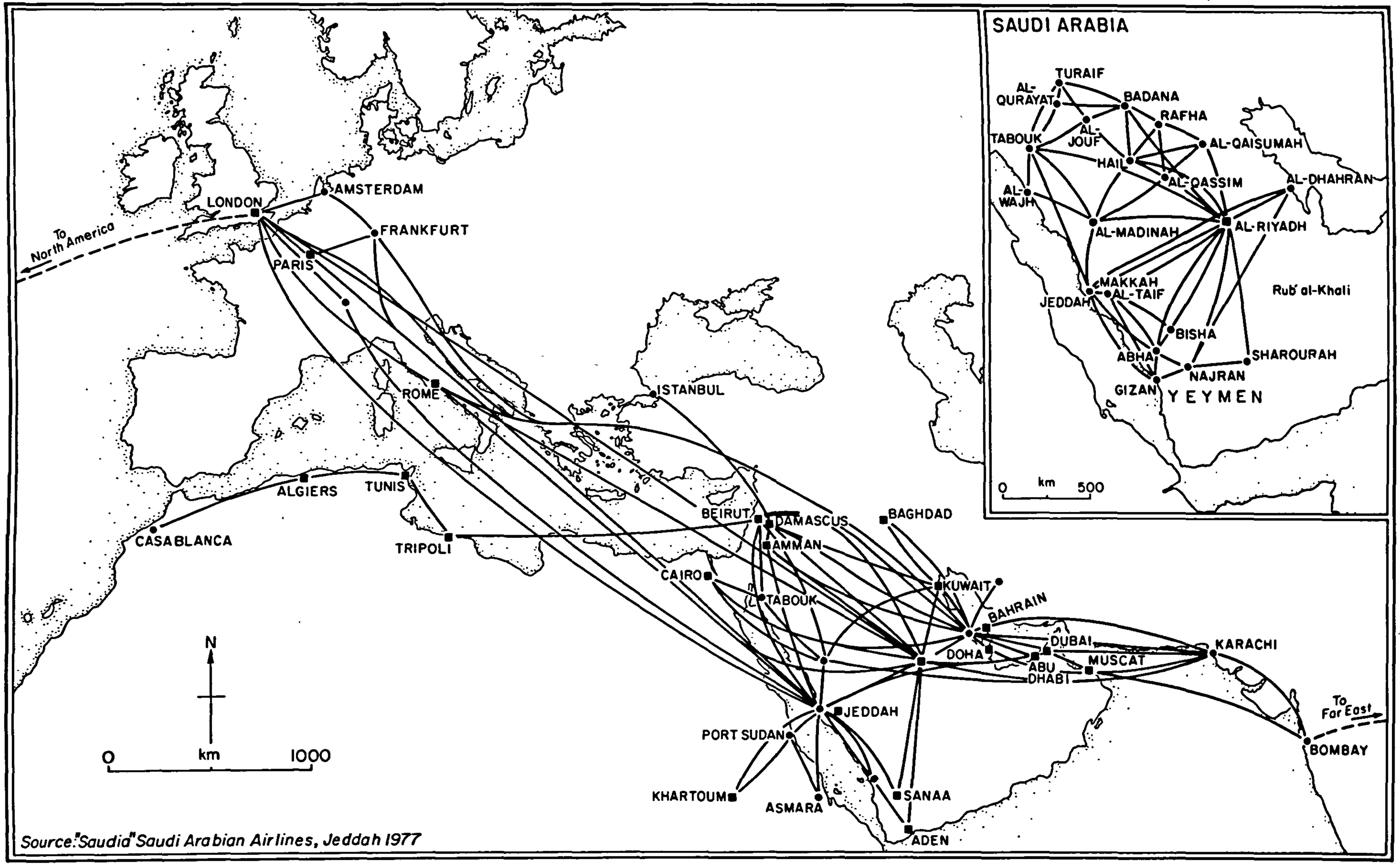
* The guides were skilled in knowledge of the coral reefs, which were plentiful on the Red Sea coast, especially near Jeddah, and very hazardous for ships to the nearest safe area close to the shore.

Airlines began operating with only three DC-3 aircraft.[17] Because of the mountainous morphology of Makkah, the construction of an airport was not possible, thus Jeddah was favoured to have the first airport in the country. In a short time the air network has expanded rapidly and now comprises seventeen regional airports for domestic use as well as the three international airports (Jeddah, Al-Riyadh and Al-Dhahran).

At present, "Saudia" (Saudi Arabian Airlines) makes regular flights to more than forty countries in Asia, and Europe (Fig. 2.5), but the maximum utilization of "Saudia" occurs in only about two months of the year. During the two-month pilgrimage season, "Saudia" planes fly out almost empty to several countries and return full of pilgrims, and the reverse is true at the end of the pilgrimage, when "Saudia" planes fly out full and return almost empty. In an attempt to fill the empty seats, "Saudia" has offered them at half-price on these journeys. Since 1948 Misr and other Middle Eastern Airways have commenced regular flights to Jeddah during the Hajj season, operating between several Middle Eastern and North African countries; and many other international airlines now fly the pilgrimage routes to Jeddah. The percentage of all pilgrims travelling by air has risen from about 12.74% in 1950 (1369 A.H) to 62.42% in 1977 (see Table 2.2). Jeddah receives the bulk of them, in 1976 catering for 96.57% of all pilgrims arriving by air. The remainder, 2.55%, 0.77% and 0.11% respectively - travelled through Al-Madinah, Al-Dhahran and Al-Riyadh.

The increasing number of pilgrims arriving by air resulted in expansion and improved facilities at Jeddah airport.

Fig 2.5 THE REGIONAL AND INTERNATIONAL AIRPORTS IN SAUDI ARABIA LINKING THE COUNTRY WITH AFRICA, ASIA AND EUROPE



Source: "Saudia" Saudi Arabian Airlines, Jeddah 1977

These improvements included the aforementioned accommodation centre. Unfortunately, the improvements could not keep pace with the rapidly rising numbers arriving by air, and a study was recently undertaken to relocate Jeddah Airport, as urban development had completely encircled the existing airport. At the time of writing in late 1979, the project was almost complete. In addition to the necessary airport buildings, a model pilgrim city for the temporary accommodation of pilgrims, and various supplementary facilities are planned.[18] At the same time, under the current development programmes to meet both increased domestic flights and the annual pilgrims, urgent improvements are being carried out at Al-Riyadh airport, including the building of a large reception hall to cater for the rapidly increasing numbers of incoming and outgoing passengers. These temporary measures are to relieve pressure until investigations are completed regarding the site for a new airport.

It can be concluded from Table 2.2 that pilgrims arriving by air have steadily increased during the past 28 years (1950-1978) from about 13% in 1950 to more than 62% of the total travelling by air in 1977. This recent swing to air traffic has resulted in expansion of the "Saudia" carrying capacity by the acquisition of larger aircraft. Increasing numbers of pilgrims and changes in their mode of travel have not only affected the sea and air points of arrival, but also the functional relationship between, and the networks connecting the Holy Places and other cities particularly in Al-Hijaz. Jeddah, for example serves as a major point of arrival and departure by pilgrims travelling by both sea and air and also for many pilgrimage services which are

not supplied in Makkah and Al-Madinah.

Changes in number of pilgrims by mode of travel and percentage of total over the last 28 years (1950-1978) can be seen more clearly in Fig. 2.6, where the number of pilgrims arriving by sea reaching a peak in 1950, after which time the numbers fluctuated until reaching an all time low in 1978. Pilgrims arriving by air started from its lowest, some 12.7% in 1950 to 61% in 1978 while pilgrims arriving by land accounted for some 10% in 1950 to gain about 42% of the total in 1969 and to maintain about one third of the total during the intervening period.

The lack of data relating to the numbers of pilgrims making Al-Hajj during the past make it difficult to show whether there was uniformity in their numbers from one year to another or whether fluctuations occurred. The only figure available is that for the pilgrimage season of 1877-1878 which gave the total number of pilgrims who gathered at Arafat that year as exceeding 180,000.[19] The recorded figure for the pilgrimage season of 1926-27 gave the number of pilgrims arriving by sea as 123,052, (see Table 2.3) but did not include the number arriving by land. From Table 2.4, it is noted that the total number of External pilgrims (those from outside Saudi Arabia) in 1926 was 90,662, after which time the number fluctuated until 1948 when the total exceeded 95,033. From that season onwards there was a steady rise until they attained their highest number of 918,777 in 1974. The total numbers declined to 894,573 in 1975 and 719,040 in 1976; however, in 1977 the numbers increased to 739,319, and increased again to 830,236 in 1978.

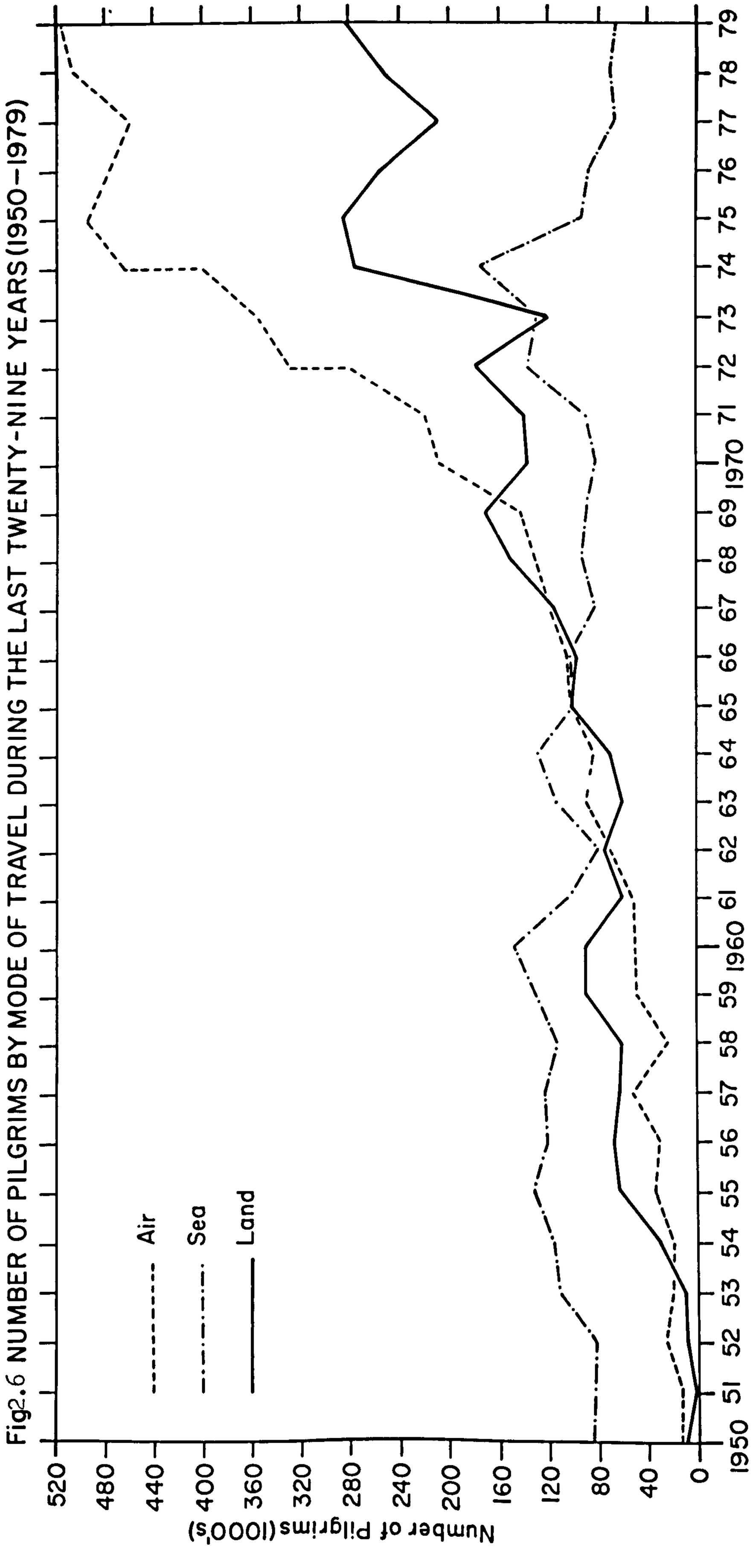

Fig2.6 NUMBER OF PILGRIMS BY MODE OF TRAVEL DURING THE LAST TWENTY-NINE YEARS(1950–1979)
Number of Pilgrims (1000's)
520
480
440
400
360
320
280
240
200
160
120
80
40
0
Air
Sea
Land
1950 51 52 53 54 55 56 57 58 59 1960 61 62 63 64 65 66 67 68 69 1970 71 72 73 74 75 76 77 78 79
YEAR

TABLE 2.4 Increase in Number of External Pilgrims visiting Makkah over the last Fifty three Year Period (1926-1979)

A.D.	Number of Pilgrims	A.D.	Number of Pilgrims	A.D.	Number of Pilgrims
1926	90,662	1944	37,630	1962	197,039
1927	96,212	1945	61,386	1963	266,555
1928	90,764	1946	55,244	1964	283,319
1929	81,666	1947	75,614	1965	294.118
1930	39,045	1948	95,033	1966	316,226
1931	29,065	1949	107,652	1967	318,507
1932	20,181	1950	107,981	1968	374,784
1933	25,291	1951	100,531	1969	406,295
1934	33,898	1952	147,650	1970	431,270
1935	22,830	1953	149,450	1971	479,339
1936	49,517	1954	162,351	1972	645,182
1937	76,224	1955	232,371	1973	607,755
1938	59,577	1956	220,513	1974	918,777
1939	32,152	1957	234,909	1975	894,573
1940	9,024	1958	202,706	1976	719,040
1941	23,863	1959	266,100	1977	739,319
1942	24,743	1960	285,948	1978	830,236
1943	37,857	1961	216,455	1979	862,520

Source:
(1) Naqabat Al-Sayyarat Office (Automobile Association), Makkah (1926-65)
(2) Statistical Yearbook Issues 1 - 12, 1965-1976 The Central Department of Statistics, Ministry of Finance and National Economy, Al-Riyadh, Saudi Arabia.
(3) Pilgrims Statistics 1970-1978, Agency Ministry of Interior for Passport and Civil Service, Al-Riyadh, Saudi Arabia.
(4) Al-Madinah Daily Newspaper No.4438 Nov. 15, 1978, and No. 4752 Nov.10, 1979, p.16.

Since 1926, a record of the total numbers of External pilgrims arriving by the three modes of travel (sea, land and air) has been kept but no records were obtained relating to the numbers gathering from within Saudi Arabia. Only since 1971 have Saudi pilgrims been recorded. In that year, their number was 648,490, or 60% of the total pilgrims, both External and Internal,* while the remainder (External) were 431,270 or 40% of the total.[20] These figures gave the total numbers of pilgrims who made Al-Hajj in 1971 as 1,079,760; the numbers increased during the four years 1971-1975 to attain 1,557,867 in 1975. The total numbers dropped to 1,456,432 in 1976 whereas in 1977 the figure increased to 1,627,589 and increased again to 1,899,420 in 1978.[21]

The recent rapid increase in the numbers of pilgrims led the government of Saudi Arabia to sign an agreement with R.M.J.M. in 1971 to make a study of Al-Hajj for the forthcoming 20 year period. According to the survey, it was estimated that during the next 20 years (1971-1991) the total number of pilgrims would be about two million. It was estimated that there would be nearly 1,200,000 overseas pilgrims and the remainder, 800,000 from within Saudi Arabia itself.[22]

This total is only a projection, and actual numbers may be higher or lower but without a more comprehensive survey, a more accurate forecast is impossible. Such a survey would involve not only Saudi Arabia, but also other Muslim nations and figures would be difficult to determine especially taking into account whether or not such governments actively encourage

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* "External" designates pilgrims arriving from abroad, whereas "Internal" designates pilgrims from throughout Saudi Arabia, including both Saudis and non-Saudis.

or discourage their citizens in making a pilgrimage to Makkah. Political stability within these nations must be taken into account also when forecasting probable increases in the number of pilgrims to Makkah. Another factor is economic; Bangladesh, for example, has restricted the number of its pilgrims to prevent hard currency from going out of the country.

Such studies are vital in order that the government may provide the necessary services and other facilities required, and care must be taken not to underestimate the impact of the movement of pilgrims and the resulting demands on the existing services. The total number of passengers projected for 1986, in a study undertaken by Airways Engineering Corporation in 1968 in connection with the proposal to develop a new international airport at Jeddah, had already been reached by 1971.[23] This means that 15 years before the actual target date of the study the new facilities have proved to be totally incapable of handling the enormous increase of pilgrims travelling by air (see Table 2.2).

In the study of Al-Hajj in 1971 by R.M.J.M. a short term estimate of 1,275,000 overseas and internal pilgrims was projected for 1975. The breakdown of this total was given as 650,000 from abroad and 625,000 from within Saudi Arabia. By comparison, the total number of pilgrims who actually made Al-Hajj in 1975 was 1,557,867 (894,573 from abroad and the remaining 663,294 internal pilgrims) which means that during the four years 1971-1975 the total number of pilgrims increased by 282,867. The difference therefore between the short-term estimate of 1,275,000 by R.M.J.M. for the 1975 season and the

number of pilgrims who actually made the pilgrimage in 1975 was 282,867.

It is clear now that the growing number of pilgrims has created an ever greater demand for social and public services during the pilgrimage season. One essential service was established in the period of the Mamluks in the form of the Muta'wifeen (pilgrims' guides to Makkah) and the Muza'wireen or the Adilla (pilgrims' guides to Al-Madinah) to cater for pilgrims in the Holy Places. Health care was another essential service which has to be provided for both pilgrims and resident population in Makkah and Al-Madinah. Other services are the provision of transport facilities for pilgrims between the Holy Places, increasing the number of points of entry by the three modes of travel - sea, land and air.

V. Pilgrimage Points of Entry and Transportation within Saudi Arabia

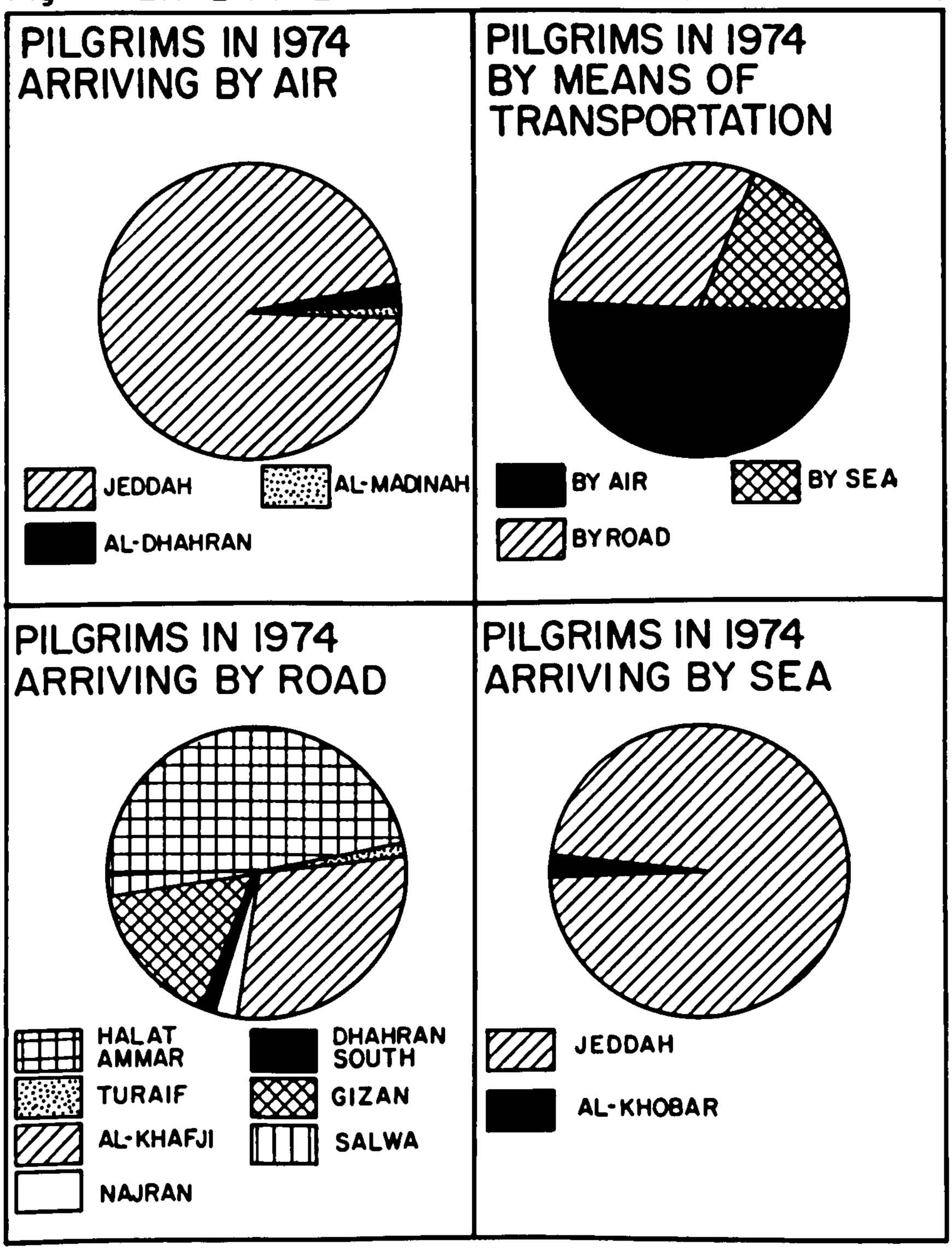
The pilgrimage involves the performance of certain rituals in specific areas on fixed days of Al-Hajj, and since the early Islamic era there have been organisations to ensure that pilgrims are in the correct places at the right times. In early times, these duties were carried out by the guides and the camel men, who ensured that the pilgrims were at Arafat, Muzdalifah and Muna at the proper time. Before the widespread use of the car, pilgrims arriving by sea at Jeddah were met by their guides and transported to Makkah. Pilgrims with their own transport were directed to Makkah, Arafat, Muzdalifah and Muna.

The port of Yonbu served as Al-Madinah's gateway to the sea for many years, until the Arab/Israeli war of 1967 caused

the closure of the Suez Canal. Jeddah became established as the most important seaport receiving all ships coming from South East Asia, and in 1974 98.82% of all pilgrims coming by sea docked at Jeddah, the remainder (1.18%) at Al-Khobar and none at Yonbu.[24] (Fig. 2.7) After the re-opening of the Suez Canal in 1975, of the total pilgrims arriving by sea (113, 374) 110,963 (97.87%) docked at Jeddah, 42 (0.04%) at Yonbu and 2,369 (2.09%) at Al-Khobar.[25] The number arriving at Yonbu increased in 1976 : of the total 80,906 coming by sea 71,805 (88.75%) docked at Jeddah, and 7,212 (8.92%) and 1,883 (2.33%) arrived at Yonbu and Al-Khobar respectively.[26] Under the Second Plan (1975-1980) for the overall development of the major and minor seaports throughout the country, the port of Yonbu is to receive some improvement including the building of seven piers, and by the construction of these facilities the port will be capable of serving an increasing number of pilgrims.[27] It appears therefore that the number of pilgrims arriving by sea at Yonbu is going to increase in the future as pilgrims coming from the Mediterranean countries prefer to visit Al-Madinah first, and thus Yonbu has a clear locational advantage over other ports on the Red Sea coast.

As Saudi Arabia has frontiers with many neighbouring Arab states, this has led to the establishment of nine points of policed entry to the country by automobile, to receive normal travellers and pilgrims. Halat Ammar on the northern border receives travellers from Jordan, Syria, Lebanon and Turkey; there are also two other less important points of entry - Turaif and A'rar. On the southern border three main towns receive passengers coming from Yemen and Southern Arabia, and these are Jizan, Najran and Dhahran South. Another

Fig 2.7 EXTERNAL PILGRIMS BY MODE OF TRAVEL 1974



Source:- Passport Department, Ministry of Interior

point of entry for travellers from the Arab Emirates and Qatar on the Arabian Gulf is Salwa, between the eastern boundary of Saudi Arabia and Qatar. Between the borders of Kuwait, Iraq and Saudi Arabia in the north-east of the country are two points of entry; these are Al-Khafji and Ruqi for travellers from Kuwait, Iraq, Iran, Afghanistan and Bangladesh. In 1976 the first three points to the north (Halat Ammar, Turaif and A'rar) catered for a total of 117, 180 pilgrims, the other three to the east (Ruqi, Al-Khafji and Salwa) catered for 109,607, and the remaining three to the south catered for 36,596. (Fig. 2.8). Figure 2.8 shows the points of entry for pilgrims entering Saudi Arabia by land, sea and air, and their numbers according to the pilgrim statistics of 1976.

Since the early 1950's the government of Saudi Arabia has constructed building units close to the seaport of Jeddah (known collectively as "Madinat Al-Hujjaj" or Pilgrims' Town) for the temporary accommodation of pilgrims travelling by sea, whilst the formalities of their arrival and departure are completed. A similar unit exists for pilgrims travelling by air close to the airport of Jeddah. At the two centres which are self-contained, (complete with shops, restaurants, cafes, public toilets, water, electricity and other facilities), whilst making an official check, special employees question the pilgrims as to whether they have a Mutawif (guide) to Makkah (see Section VII). If they have no Mutawif one is assigned to them before they are transported in special coaches to Makkah. This eliminates complications on their arrival in Makkah, and does away with "pilgrims agents" who operated by directing as many pilgrims as possible to one particular

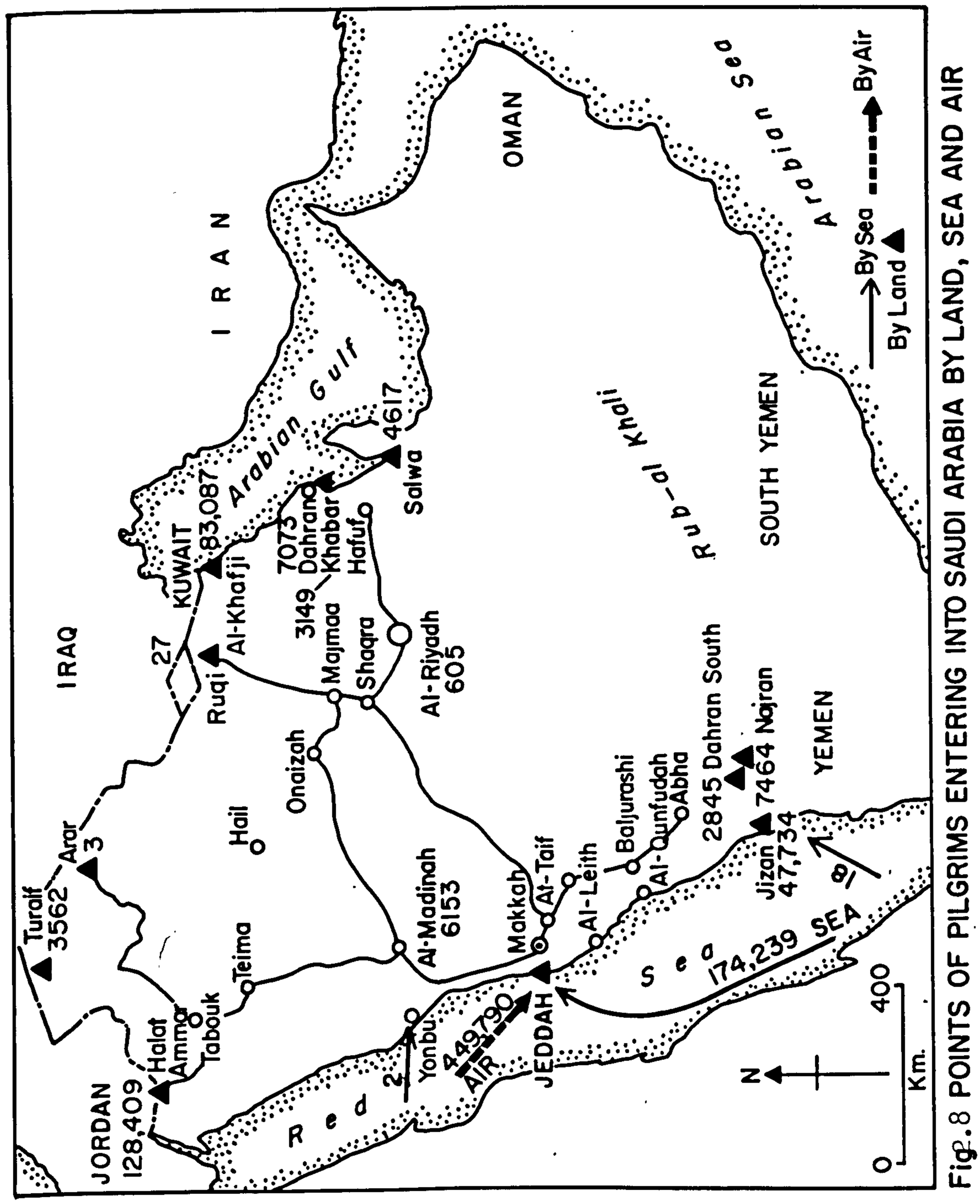


Fig.8 POINTS OF PILGRIMS ENTERING INTO SAUDI ARABIA BY LAND, SEA AND AIR 1394A.H.-1974A.D.
Source of date: Passport Dept. Ministry of Interior

Mutawif in Makkah.[28]

Several private car firms have been founded over the years for the convenience of pilgrims (see page 59); however, these firms had no government supervision and provided an unsatisfactory service. In 1952 a law was passed which stated that there must be a minimum of 80 buses and 20 cars available for every company to carry pilgrims from Jeddah to Makkah, between the three holy areas of Al-Hajj and to Al-Madinah. Five of the existing nine private companies qualified for licences, and the capacity of their vehicles has increased from 31,071 seats in 1952 to 122,300 seats in 1973, and at the present time they operate a fleet of 3,465 buses and 1,230 passenger cars.[29]

In order to co-ordinate operation of these five companies, an independent government department was established in 1952 called Naqabat Al-Sayyarat (the Automobile Association) which organised and arranged the transport of pilgrims from Jeddah to Makkah, the three holy areas (Arafat, Muzdalifah and Muna) and Al-Madinah. The Association's main functions are to supervise the operation of the companies, to distribute pilgrims evenly among them, to collect fares from the Mutawifeen and pay these to the companies. It also fixes fares, prepares schedules and keeps records of the number of pilgrims and their nationalities. In 1975, the government set up a special department to take over the responsibility for transporting pilgrims instead of the automobile companies in order to make the service more efficient. For this purpose it imported two thousand coaches but, because they were unable to recruit a sufficient number of qualified drivers, this

department could not run the bus service, which led the government to distribute the coaches between the automobile companies.[30] Another purpose of this special government department was to run these coaches for public service all the year round between Makkah, Jeddah, Al-Madinah, Al-Ta'if and possibly to Al-Riyadh and the Eastern Province Cities, instead of only letting them operate during the short pilgrimage season. However, so far this object has not proved successful and the service of transporting pilgrims appears likely to remain in the hands of the existing automobile companies. In fact the widespread use of cars has necessitated the construction of special pedestrian roads between Makkah and the other three pilgrimage areas to relieve traffic congestion. Since 1970, special 30 metre wide roads have been built with pedestrian barriers (see Fig. 2.2 and Plate 1.4); these illuminated roads have saved the lives of many pedestrians. No records exist for earlier years, but the R.M.J.M. study recorded that 109,150 pilgrims out of a total of 1,042,027 walked the full distance (approximately 20 Km) between the three holy centres at Makkah in 1971, and also predicted that by 1975 about 400,000 pedestrian pilgrims would walk between Arafat, Muzdalifah and Muna, and that this figure would reach 600,000 by 1991 (the remaining 1,400,000 travelling by motor vehicle).[31]

VI. Health and The Pilgrimage

Since the early 19th Century when pilgrims first began to arrive by sea in large numbers from South and South East Asia the incidence of disease increased notably in Makkah and Al-Madinah during the pilgrimage season. A lack of adequate health services, sewerage facilities and pure drinking

water all contributed to insanitary conditions. Such conditions encouraged cholera, dysentery, smallpox and malaria, and caused much suffering and loss of life amongst the citizens of Makkah and Al-Madinah until the discovery of the anti-cholera vaccine in 1883.

Pilgrims arriving from India were the main source of cholera.

> "Pilgrim traffic from the east (notably India, where cholera was rampant) sufficiently explain the frequency of epidemics in the Hijaz during past years and the Hijaz has certainly paid dearly for its privilege of being the custodian of the Holy Places of Islam. " [32]

The poor standard of medical facilities in India and the failure of pilgrims to be vaccinated against cholera and other epidemic diseases before they travelled to Makkah enhanced health problems.

As a result, the governments of some Muslim States, in particular India, Indonesia and Egypt, were forced to take preventative measures to halt the spread of these fatal diseases. An agreement was reached between the rulers of the countries concerned to establish two check points at the northern and southern ends of the Red Sea, the island of Kamaran, near Yemen (maintained jointly by the governments of India and the Dutch Indies) to check ships carrying pilgrims from East and South Asia, and Al-toor in Sinai, as the check point for pilgrims arriving from the north. The aim of this action was two-fold; first to check-up on ships carrying pilgrims to Makkah, and secondly to make a check on their return journey. Since then, incidents of epidemic diseases have been considerably reduced. In the records of the

1936 - 37 season, there were twenty deaths on board ship out of 24,000 pilgrims passing through Kamaran;the health of the remainder was satisfactory. The other well-equipped quarantine station (at Al-toor, Sinai), run by the Egyptian Quarantine Board, has also played an important part in preventing epidemic diseases reaching Egypt, by making it compulsory for all pilgrims returning by the northward sea route to pass through this station.[33]

Despite the massive endeavours which the government has devoted to the provision of health services for pilgrims, their efforts have not been one hundred per cent effective. Ignorance amongst pilgrims of personal cleanliness, and public sanitation etc., have invariably been responsible for recent outbreaks of cholera.

The situation was aggravated by the hot climate in both Makkah and Al-Madinah which make living uncomfortable during the summer. When the pilgrimage takes place in the summer season (approximately once every ten years) the overcrowded conditions in the cities and the extreme heat make life almost unbearable. Many pilgrims from colder countries have been known to collapse in the oppressive heat during the ceremonies of Al-Hajj, especially the elderly, and many die from over-exposure to the sun and almost 80% of all cases of illness reported in 1963 were caused by this exposure.[34] Air-conditioning, for those who can afford to pay for it, has helped indoors. The government has tried, through radio and television and via the Mutawifeen (guides), to encourage pilgrims to stay indoors during the heat of the day and to fulfil the duties of their pilgrimage during the cool of the

evening, and to some extent this campaign has been successful.

Al-Madinah is less affected by diseases carried by pilgrims, because Al-Hajj does not require the ritual gathering of large numbers of pilgrims on specific days in Al-Madinah. Visits to Al-Madinah are thus spread out more evenly, and there is no overcrowding. Although the visit to Al-Madinah can be made at any time of the year, most pilgrims usually combine their visit with the pilgrimage to Makkah. The pilgrimage to Makkah requires that all pilgrims spend certain days in the three holy areas (Arafat, Muzdalifah and Muna), but no such duties are required to them in Al-Madinah. Ritual slaughtering of animals is not called for in Al-Madinah - as noted above the old method of slaughter was one of the main sources of disease in Makkah. All of these factors have limited the incidence of disease in Al-Madinah.

The government of Saudi Arabia has provided medical care for all pilgrims through existing health services, not only in Makkah and Al-Madinah, but also throughout the country. The health care provided for pilgrims in the early years after the establishment of the country contributed significantly to the reduction in the death rate among pilgrims; only 40 deaths were reported out of a total of 100,000 pilgrims, and by the 1934 season, the number of deaths had been reduced to 15 out of 80,000. These can be attributed to the improved medical and sanitary conditions introduced by the Saudi government in a relatively short space of time.[35] The massive increase in the numbers of pilgrims have placed enormous pressures on available health services and facilities in Makkah

during the pilgrimage season, as on certain days all pilgrims converge on Makkah.

In an attempt to solve this problem, the government has taken the following measures - recruitment of as many doctors and qualified assistants as possible from other cities of the country to help in providing medical care for pilgrims has been one factor. Also, the government has made vaccination against smallpox and innoculation against cholera and yellow fever compulsory for all pilgrims entering the country, and every pilgrim must carrry a certificate of innoculation. Compulsory vaccination for all citizens has apparently contributed much to the absence of cholera and other epidemic diseases. The government has drawn the attention of the authorities in all Muslim states to the serious nature of these diseases, and has asked for their co-operation in fighting them. Most Muslim countries now send a medical mission with their pilgrims to Makkah, to help provide medical care. Quarantine stations have now been set up at Jeddah (the main International Sea and Air Port) to replace those at Kamaran and Al-toor. Several mobile hospital units and six health centres have been set up at the nine previously mentioned points of pilgrims' entry (see Fig. 2.8) along the west and east coasts and the northern and southern border of the country. The task of providing health facilities for such vast numbers of pilgrims at a given time relies on a vast array of supplies and equipment, and in 1956 the government built the first modern quarantine station and hospital at Jeddah, which can provide medical care for over 22,000 out-patients and hospital care for 1,800 in-patients.[36]

As a result of such concerted effort, many of the problems introduced by the presence of pilgrims from various parts of the world have largely been overcome. At the same time, local diseases have been wiped out in some parts of the country, e.g. the Eastern Province (where trachoma was prevalent) and the low coastal areas in Tehama where malaria was common. Co-operation between the Ministry of Health, the Arabian American Oil Company (Aramco) and the World Health Organisation has resulted in these diseases being brought under control:

> "for the first time, disease eradication measures are being effected. Smallpox, and cholera, long the scourges of Arabia, have been almost eliminated, and the threat of malaria has been dramatically reduced". 37

A modern slaughter house has been built and large freezers installed in Muna as part of the steps to improve sanitation during the ritual slaughtering of animals during the pilgrimage, when thousands of animals are slaughtered on certain days. The old method of slaughtering these animals was one of the major causes of disease; the vast quantities of meat from the slaughtered animals could not be eaten immediately, and there was no refrigerated storage to prevent deterioration. Piles of meat were left on the ground, rotting in the heat, providing an ideal breeding ground for germs and disease. The possibility of setting up a meat factory to preserve such quantities of meat has been considered (see Chapter 7).

However, despite government efforts to care for the health of pilgrims who carry out the required rituals in Makkah, Arafat, Muzdalifah and Muna, sanitation provision remains unsatisfactory. In early 1970 and 1971, three out-

breaks of cholera occurred in the country; the Preventative Medicine Department and other authorities immediately confined the suspected cases to isolation hospitals, and a mass vaccination campaign took place throughout the country. The country was declared free of cholera in September 1972. Another minor outbreak of cholera occurred during the 1974 pilgrimage among pilgrims from Nigeria who were camping in the Kudry area, south of Makkah. The outbreak was immediately brought under control, and those affected were transferred to an isolation hospital where the disease was contained.[38]

The development of medical and other services are examined further in their more normally urban context in chapter 8.

As we see, for communications, transport and medical and health services the special demands created by the pilgrimage have been and are met by provisions made in a regional context by a network of settlements rather than wholly by Makkah and Al-Madinah themselves (this point is further examined in chapters 3 and 7 and the conclusion). In one aspect the functioning relationship between Makkah and Al-Madinah on the one hand and Jeddah on the other can be examined more closely here with particular respect to the Mutawifeen Courier Services.

VII. The Development of the Mutawifeen "Courier" Services

The Mutawifeen (guides) emerged during the reign of the Mamluks. Non-Arabic in origin, they saw the need for people in the holy places to look after pilgrims and to guide them in the correct ways of performing the rites of the pilgrimage.

The Mutawifeen (sing. Mutawif, .the name being derived from the ceremonial act of walking around Al-K'abah) filled these needs. Since that time their duties have involved meeting pilgrims (assigned to them by the Mutawifeens' Agents in Jeddah), securing accommodation for the pilgrims in Makkah and the three holy areas, and arranging transport for them on their outward and return journey. A similar range of duties is performed in Al-Madinah by the Muzawireen (sing. Muzawir), a name which is derived from the act of "Ziarah", the visit to the holy mosque of Al-Madinah and nearby places of historical interest.

It has now become customary for both non-Arabic speaking pilgrims and pilgrims from all Arab countries (except those from the various states in the Arabian Peninsula) to engage Mutawifeen (Makkah) and Muzawireen (Al-Madinah) to act as guides and interpreters during their stay. This type of employment has become a form of heritable privilege, passed from one generation to another. In former years, (because of the difficulty of living in Makkah and Al-Madinah) most of these Mutawifeen and Muzawireen had no supplementary occupation, and were forced to save during the pilgrimage season, in order to have money to live on until the next season.

However, over the past few years the numbers of these people have increased due to the rapid increase in the annual number of pilgrims. According to the "Pilgrims Guide" published by the Ministry of Pilgrimage and Waqfs in 1963, there were 1,006 Mutawif operating in Makkah,[39] most of whom normally work either in the government or private sectors,

but leave themselves free to look after the pilgrims during the pilgrimage season. In order to cope with the rate of growth in the annual numbers of pilgrims and in order to ensure sufficient services for them the number of Al-Mutawifeen had increased to 1,300 in 1977.[40] The corresponding figure for those in Al-Madinah was 193. Because the task of Al-Mutawifeen in Makkah is more demanding than that of Al-Muzawireen in Al-Madinah, every Mutawif is usually assisted in his duties by either his sons or brothers or both, and he hires extra help depending on the number of pilgrims he caters for. Thus an average of about 12-20 people assist a Mutawif in his task which makes up a total number of 15,600-26,000 who are recruited for the service of the external pilgrims.

The distribution of pilgrims among the existing 1,300 Mutawifeen passed through three stages of development from the Ottoman period till the present time; first came Al-Taqreer (the assignment) which meant that each nationality of pilgrims from the Muslim world was assigned to one particular Mutawif. This system continued up to 1965 (1385 A.H when it was replaced by another one called Al-Su'al (the asking) which gave freedom to all pilgrims to select the Mutawif of their choice. This system solved many of the complaints of the pilgrims concerning the previous system (Al-Taqreer) of having the same Mutawif every year, yet it did create a disadvantage arising from the competition between the Mutawifeen who paid agents in many Muslim countries in order to ensure larger numbers of pilgrims. In 1975 (1395 A.H) the system of Al-Tawzi'e (the Distribution) was introduced by which means

each Mutawif receives a certain number of pilgrims (assigned by representatives of the Saudi government) to maintain sufficient services to them. [41]

In early 1978, a decree was passed concerning the unification of all services of Al-Mutawifeen into one unit to provide a full service for pilgrims. This concentration of responsibility into one establishment provides a chance to offer improved services and quarantees Al-Mutawifeen a constant supply of work, especially since contemporary pilgrims arrive in Makkah throughout the year. [42]

Here then we have a service activity which has very considerable implications for the urban development of Makkah and Al-Madinah, and to a certain extent, Jeddah. The Mutawifeen are organised and licensed from a central administration at Makkah called the Agency Ministry of Pilgrimage and Waqfs), while most of the main courier agents work from Jeddah. Most of the couriers themselves, however, are inhabitants of Makkah and Al-Madinah and the services which they supply include travel to Makkah and accommodation in the Holy City. Before we consider urban morphology etc. in Chapters 5 and 6 therefore we must examine the nature of the demand and supply of accommodation associated with the pilgrimage.

VIII. Hotels and Traditional pilgrim Accommodation

Most of the people from Saudi Arabia who come to visit the two holy cities either stay with relatives or friends, or in coffee house-lodgings. Since the 1930's there has also grown a pressing need for hotels as a result of the steadily

increasing numbers of representatives from many Arab and Muslim countries on government missions, and by individual businessmen. At the same time, the importance of teachers, doctors, engineers and other professional people from Egypt and other Arab and Muslim states necessitated the establishment of hotels to provide temporary accommodation.

In 1936 (1355 A.H) the first hotel was opened in Makkah in Ajiad quarter, adjacent to Al-Haram; it was designed and constructed by "Bank Misr" (Bank of Egypt) and called "Funduq Misr" (Hotel of Egypt), but the costs were met mainly by the Saudi Ministry of Finance. The hotel served government representatives and foreign officials; in 1947 (1367 A.H) this hotel was sold to one of Makkah's most prominent merchants, and is now called the Hotel of Makkah.[43] The main reason for this was to encourage the construction of hotels by the private sector. At approximately the same time, a second hotel, "Funduq Al-Taysir", was established in Makkah with two branches, one in Al-Madinah and the other in Jeddah, all providing accommodation for visitors from home and abroad. Since then, hotel accommodation has become common and many hotels, of varying sizes, have been built at different times to accommodate the rising numbers of visitors to Makkah and Al-Madinah.

In 1975, personal survey showed that there were 28 hotels in Makkah and 20 in Al-Madinah. The hotels at Makkah had an average of 92 beds each, a total of 2,576 beds as a whole, whilst in Al-Madinah they had an average of 84 beds each, making a total of 1,680 beds. However, these capacities are raised to about 4,500 beds in Makkah (an increase of

1,924 beds) and 2,550 beds in Al-Madinah (an increase of 870 beds), during the Al-Hajj season, by putting more beds into the larger rooms.[44]

It is evident that these figures are very small in relation to the total number of external pilgrims to Makkah (830,236 in 1978), more than two thirds of these also normally visiting Al-Madinah. This means about 184 persons/room in Makkah and 193 persons/room in Al-Madinah. The main reasons for the relative lack of success of hotels are that a large percentage of pilgrims come from the rural areas of Arab and Muslim countries; the majority of them are uneducated and unfamiliar with hotel service: also because of the nature of Al-Hajj itself, which requires that the period needed for carrying out the duties of the pilgrimage is about four days, one of which to be spent in Arafat and the other three in Muna. After these and other duties have been fulfilled in Makkah and the three holy areas, pilgrims are free to return home. The visits to these pilgrimage areas (Arafat, Muzdalifah and Muna) must be carried out strictly in the correct sequence, otherwise the act of pilgrimage is incomplete and therefore invalid. This task involves three other factors, which have to be taken into account, making the task of organising the pilgrims' itinerary a complicated and demanding one; for example, the problem of arranging transport from Jeddah to Makkah and to the three holy areas and the return journey, all at the appropriate time and also the problems associated with finding accommodation in Makkah, Arafat and Muna. Finally, there is the language barrier; a large majority of pilgrims are from other Muslim countries where Arabic is not the

customary language.

These factors did not encourage the development of hotels and have made the services of Al-Mutawifeen essential; the hotels can provide no comparable service. In spite of this, the restructuring of the first zone recommended in the Master Plan would mean that by 1991 all buildings here could be built up to a certain height, and so designed that they could easily be used as hotel accommodation.. This may encourage those Mutawifeen who receive large numbers of pilgrims to manage such hotels themselves or to go into partnership with hotel owners (most hotel owners lack the experience gained over the years by Al-Mutawifeen). Such a partnership would mean that the hotels in Makkah could provide a much more efficient service if their administration was in the hands of Al-Mutawifeen. The problem of letting flats and complete buildings in the first zone immediately surrounding Al-Haram could be overcome by using the apartment buildings as hotels for visitors all the year long. A similar solution could be found in Al-Madinah where those serving as Adilla (sing.Dalil) or Muzawir use the apartment buildings immediately around Al-Haram as hotels for visitors. Such organisation no doubt will sustain the new suggested unification (1978) of all services of Al-Mutawifeen into one establishment which necessitates many Mutawifeen to work all the year round in the service of the pilgrims.

As an example, in 1973 one of the major Mutawifeen for people from India rented one of the large, recently erected, apartment buildings adjacent to Al-Haram in Makkah, and started it as a hotel; visitors to the city were accommodated all the

year round, but he concentrated on catering for pilgrims during Al-Hajj and uses the hotel only for pilgrims, in addition to renting some other buildings.[45] Until now no other Mutawifeen have attempted this, but it seems a possible solution for those buildings around Al-Haram which are left unutilized for most of the year. By encouraging other Mutawifeen to follow such a pioneering example, they can offer the wide variety of services and facilities acquired over the centuries in the Mutawifeen "courier" service.

Over the past centuries the need for temporary accommodation in the pilgrimage areas has led to the growth of the traditional coffee houses which later served a dual function as meeting places and as lodgings. This type of accommodation had spread to Makkah and Al-Madinah before the introduction of hotels. With the recent improvements to roads and the widespread use of motor vehicles the owners of many coffee houses in Muna and Arafat were encouraged to open all the year round rather than only during Al-Hajj season as these areas have now become important leisure centres for the population in Makkah. It is easier now for residents of Makkah to move in the evening, and more coffee houses are being opened on the outskirts of Makkah and Al-Madinah to cater for this new demand for leisure. Such outings have now become a regular pastime for many of the citizens of the cities. The writer's 1975 survey showed that there were 56 coffee houses in Makkah (including Arafat and Muna) and 27 in Al-Madinah distributed throughout the cities as illustrated in figures 5.12 and 5.13.[46]

IX. Summary

The Pilgrimage, therefore, has initiated tremendous change over the centuries. The pilgrimage to Makkah and the visit to Al-Madinah have necessitated the establishment of specialised services which were developed in conjunction with development of transport which led to the rapid increases in number of pilgrims. The most important of these services is the provision of accommodation for pilgrims in the holy places administrated by the Mutawifeen in Makkah and the Adilla in Al-Madinah. Initially transportation was supplied by the camelmen and later replaced by the introduction of the motor car and "the Automobile Association" took over such services. Health care has been a key factor in ensuring that such a large number of pilgrims were kept free from disease. Initially health controls were administered in the country of origin, and later adopted by the Saudi Government who instigated further changes in the Makkah - Al-Madinah - Jeddah region.

Before the establishment of Saudi Arabia the region suffered through the lack of finance and general administration, but since the 1940's such service gradually developed. There have been many other demands for services and facilities associated with the pilgrimage in the holy places, in the form of "the Pilgrim's Town" in Jeddah for pilgrims arriving by sea and air, the construction of pedestrians route between the three holy areas and Makkah, and the building of road networks in the region. The pilgrimage, therefore, has had a considerable role in the development of Al-Madinah but above all in Makkah and the immediate environs.

At this point some preliminary observations can be made concerning the nature and status of the urban services provided by Makkah and Al-Madinah, starting with identifying the groups so serviced. First, Al-Madinah as a sedentary settlement in a relatively fertile area of Al-Hijaz (see chapters one and three) can be said to have a permanent secular residential population. Makkah, by contrast, had no such local resource-based element but did have a permanent small trading community. Secondly, Makkah and Al-Madinah both have permanent residential populations which owe their existence to the pilgrimage and the demands which it has created. Thirdly, Makkah and Al-Madinah both have large temporary influxes of visitors and pilgrims. In the case of Makkah the numbers are very large and their impact highly concentrated in time. Al-Madinah has a more even time-flow of a smaller number of pilgrims. The services demanded by the last group are not all met by Makkah and Al-Madinah; for example, health of pilgrims of both arriving by air and sea is checked in Jeddah. Similarly important is the administration of pilgrims where their distribution among the Mutawifeen and providing them with transport to Makkah are organised through the Agents of Al-Mutawifeen in Jeddah.

Consequently, the urban services which we will examine later must be seen in a special regional context which links together Makkah and Al-Madinah, Jeddah and to a lesser extent other nearby settlements. This is not now a basic Christaller type urban hierarchical model but one in which for a variety of non-commercial reasons Jeddah provides a large number of services which one might have expected functionally to be provided by Makkah and Al-Madinah. It must also be recognised

that any analogy between these centres of prescribed pilgrimage and tourist centres must be very limited.

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CHAPTER THREE

Makkah and Al-Madinah in Regional Resource Setting - Water and Agriculture

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This chapter is devoted to the explanation of supply potential of the hinterlands of the two cities with particular respect to water and agriculture. Makkah and Al-Madinah are located in the arid zone and thus are poorly endowed with agricultural and hydrological resources. Such a harsh physical environment has a great impact on the development of the two cities in determining the amount of relevant material inputs that can be provided by the region for both pilgrim and residential demands. As we shall see, the functional and spatial resource relationships between the urban centres of Makkah and Al-Madinah and the regions of supply are analogous to other relationships between the Holy Cities and other centres.

The chapter is divided into two major sections : Water and Agriculture, yet with a specially strong emphasis on water availability on which any agricultural development, as well as urban populations and industry are dependent.

I. Water Resources

A. Rainfall and groundwater

The Arabian Peninsula, in general, has an arid climate. The only region of Saudi Arabia where water is relatively readily available being the southern part of Al-Hijaz, which has significant amounts of rainfall - approximately 12 inches of precipitation are recorded per annum in the Asir Region.[1] The region of Al-Hijaz, which contains Makkah and Al-Madinah,

is characterised by very sparse rainfall, the annual maximum rarely exceeds 40 mm, (Jeddah average, Fig. 3.1).[2] An irregular distribution of this precipitation is characteristic with rain often falling in torrential bursts, causing violent floods which often result in damage to the cities and neighbouring agricultural areas. The history of the two cities, in particular Makkah, is marked by such events which occur once in every 13 year period.[3]

The Wadis or Awdiah (pl.), the major sources of water supply to both cities dissect the region and carry ephemeral water flows, some seeping through into the ground and some being utilized directly via the dams and reservoirs, but vast quantities are lost into the Red Sea from direct runoff, often in the form of flash-floods. Underlying the dry surface of the wadis are important sources of underground water which may be reached by digging wells through the wadi bed. This phenomenon influenced the siting of early settlements such as Al-Madinah. Underground water flows also influenced the alignment of caravan and trade routes which converge at Al-Madinah.

Sporadic rainfall in this region is also associated with rapid surface runoff torrential floods. Various control measures have been introduced into the wadi catchments, both as flood protection and to increase infiltration of water into the wadi gravels. The Wadi of Al-Aqiq and Bat'han are examples of where the water table has been increased through the building of small dams. Figure 3.2 illustrates the catchment area which supplies Al-Madinah and the surrounding agricultural areas with groundwater.

Fig. 3.1 Precipitation in Saudi Arabia

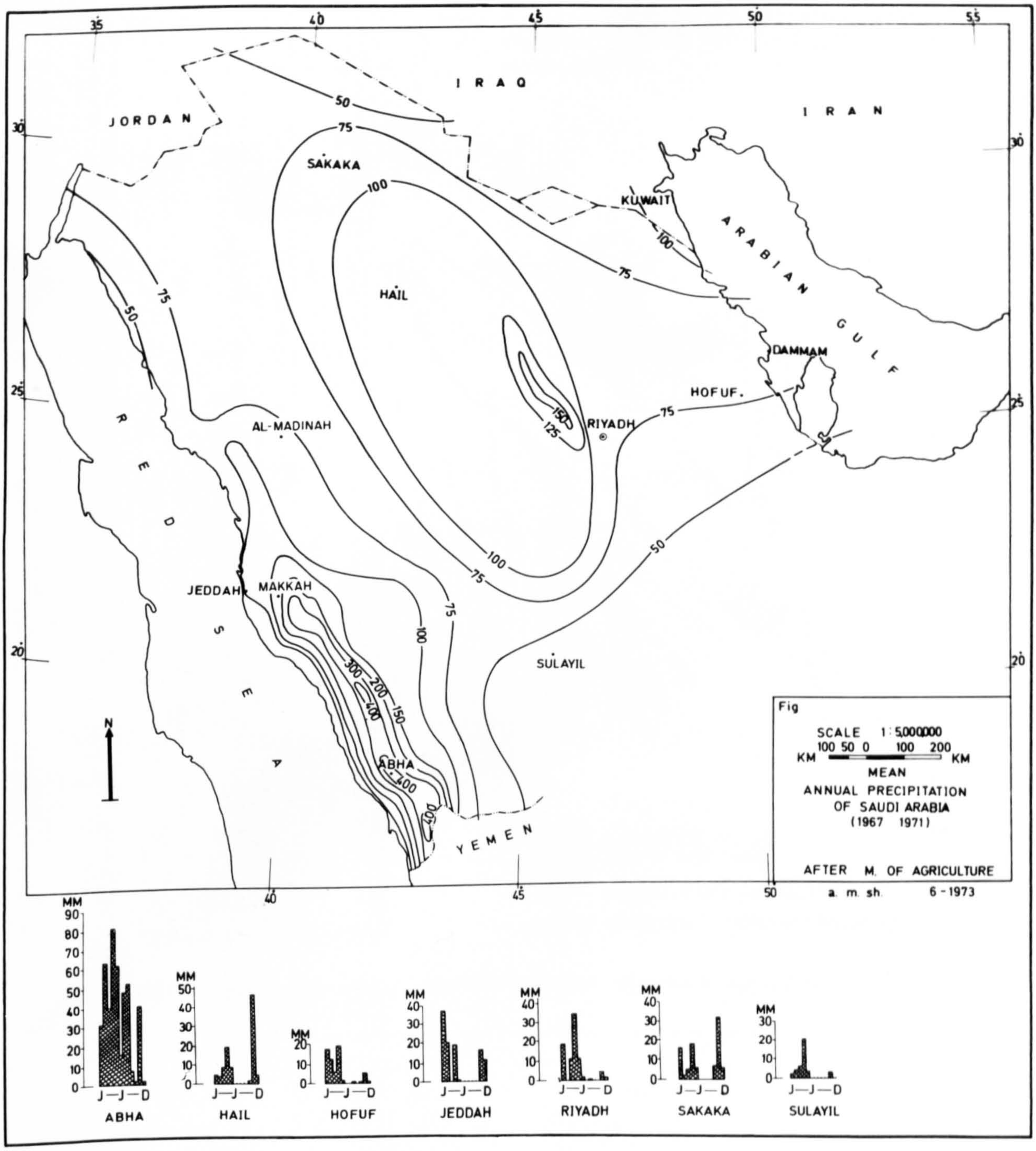
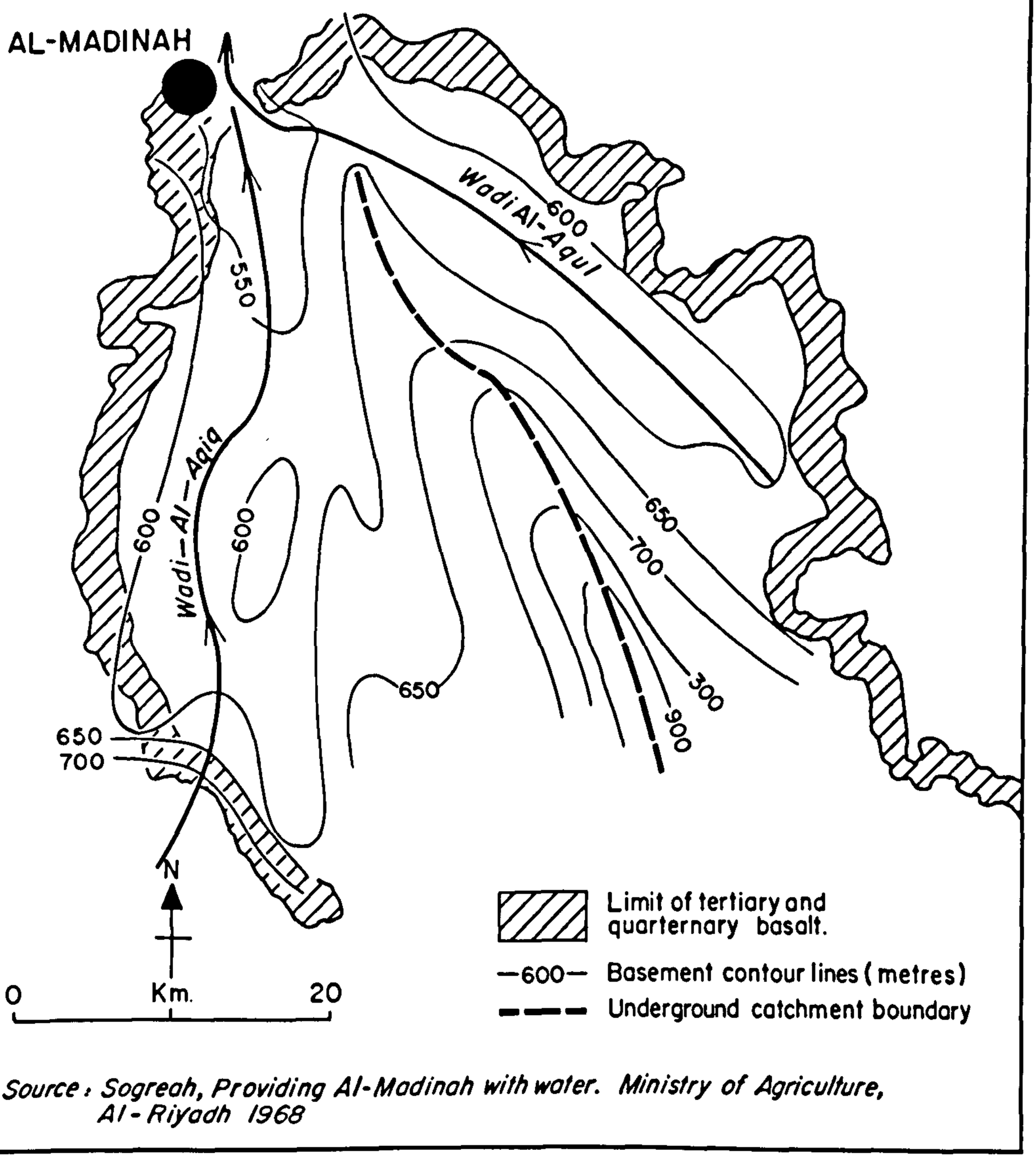


Fig.3.2 MAJOR WADIS OF AL-MADINAH (QUBA WELL FIELD) SUPPLYING THE CITY WITH WATER



Source : Sogreah, Providing Al-Madinah with water. Ministry of Agriculture, Al-Riyadh 1968

Makkah is also supplied with water from underground wadi flows, but these lie some distance from the city; the most important being Wadi N'aman and Wadi Fatimah (Fig. 3.3).

B. The Geological Structure

Underlying Makkah and Al-Madinah is a complex geological structure known as the Arabian Shield. This vast Precambrian complex comprising of Schists, gneiss and granite rocks, occupies roughly one-third of the western Arabian Peninsula (Fig. 3.4). Since the beginning of the Palaeozoic Era, the Arabian Shield has been relatively stable, subject only to gentle speirogenic movement. The Arabian Shield is a massive formation of ancient igneous and metamorphic rocks which has undergone little folding since the Cambrian Period.[4] The later stages of the Eocene, Miocene and Pliocene periods were accompanied by deep seated faulting which brought lava to the surface, and as a result of geologial evolution extensive lava flows of Tertiary and Quaternary origin developed in North and Southern Arabia.[5]

The lava flows, known to the Arab as Harra (pl.Harrat) can be identified in local names, e.g. Harrat Al-Madinah which is the source of much of Al-Madinah's water, Harrat Khaiber, Al-Ula, Mada'in Salih and Harrat Al-Uwairidh near Tabouk to the north of Al-Madinah. In the vicinity of Al-Madinah are Harrat Wagm and Wabrah, situated to the west of Al-Madinah. These Harrat provide both a suitable location for cultivation and an essential supply of underground water which emanates from the geological structure.

Most of the ground water in Al-Madinah is stored

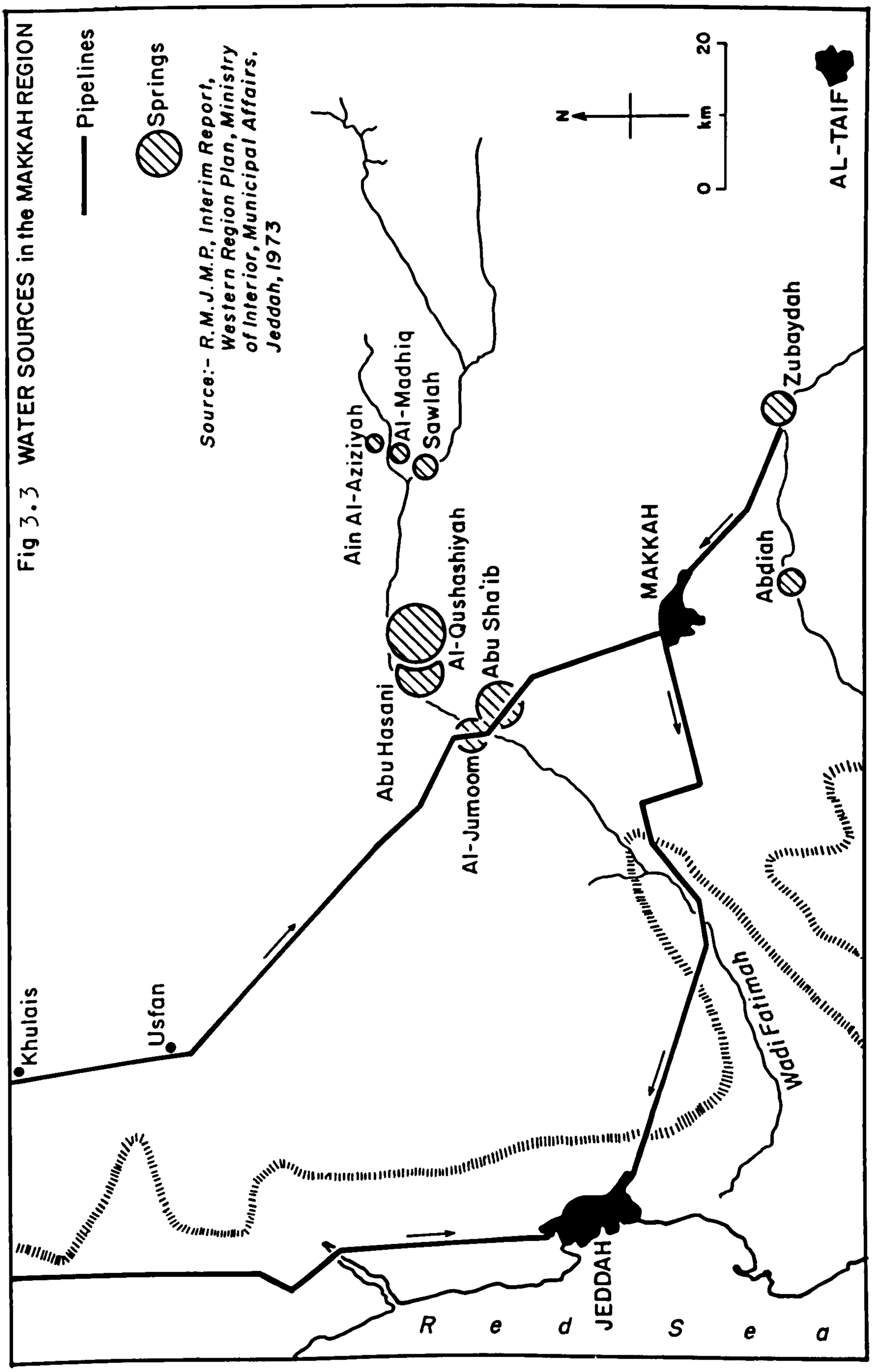
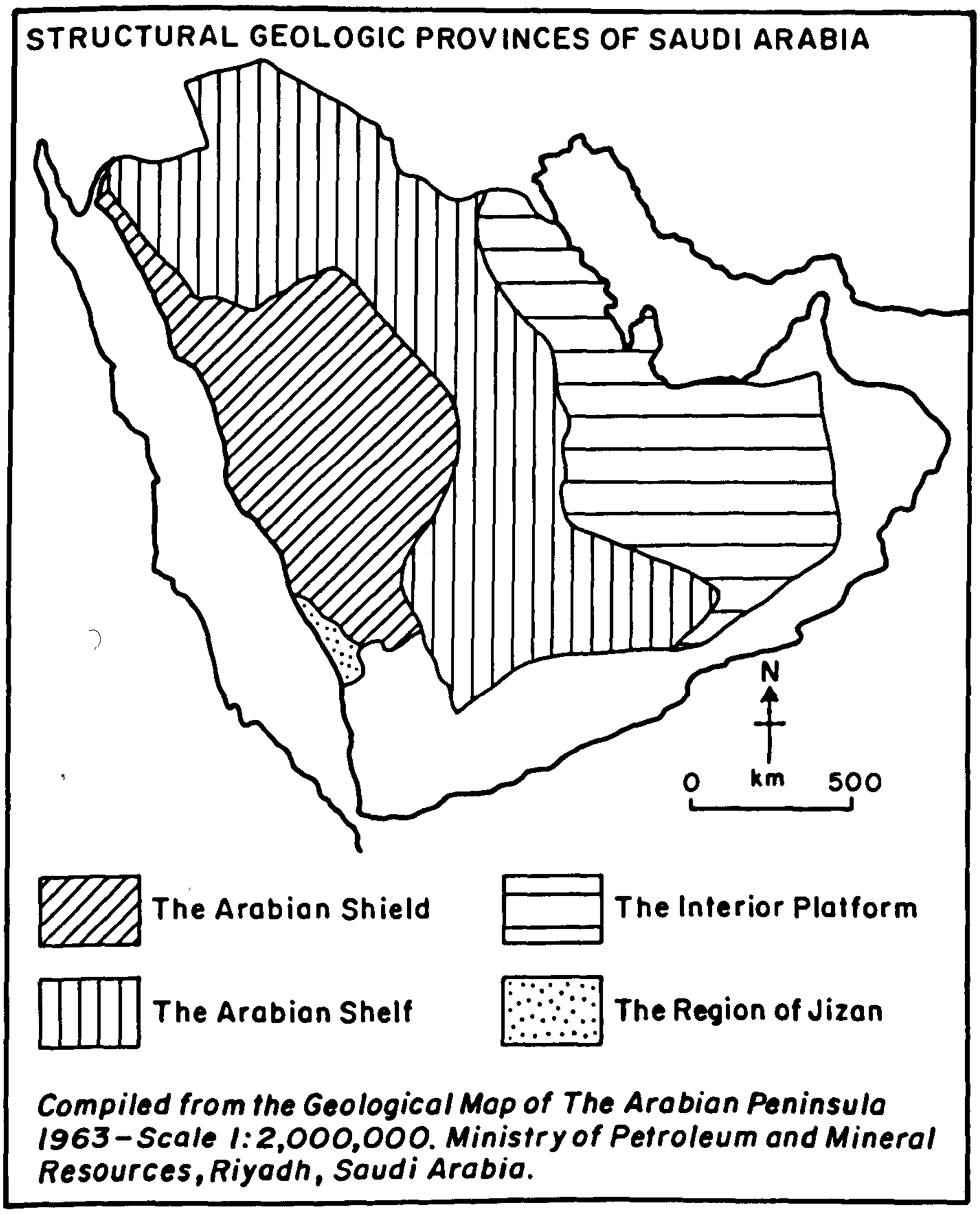


Fig 3.3 WATER SOURCES in the MAKKAH REGION

Fig. 3.4


STRUCTURAL GEOLOGIC PROVINCES OF SAUDI ARABIA
N
0 km 500
The Arabian Shield
The Interior Platform
The Arabian Shelf
The Region of Jizan
Compiled from the Geological Map of The Arabian Peninsula 1963 – Scale 1:2,000,000. Ministry of Petroleum and Mineral Resources, Riyadh, Saudi Arabia.

in two layers of rocks; early igneous and ancient sedimentary; and the younger igneous rocks. The earliest rocks, early igneous and sedimentary, originated in the ancient pluvial era when water infiltrated down from the surface layer to be collected in the igneous rocks at an average depth of about 80 m. The second type of series, young igneous rocks (mainly basalt) is more easily exploited for water even though there are no large continuous aquifers; such formations are regarded as the most important reservoir for Al-Madinah's water resources. Formations of the second type are extensively scattered around Al-Madinah and were formed as a result of recent basalt or volcanic outpourings, e.g. Harrt Rahatt, south of Al-Madinah which represents a significant water storage reservoir. The two most important valleys - Al-Aqiq and Al-Aqul, are bordered by such basaltic formations and cover the ancient alluvium of surrounding valleys, and are the source of Ain Al-Zarqa, the most important spring supplying the city with water.[6]

II. Water Exploitation and Distribution

Information gathered from classical historical records indicates that Makkah was in existence when the well of Zamzam was discovered by Hajir (Hagar) and her son Isma'il (Ishmael) at the time of Ibrahim's (Abraham) residencein the area.[7] This well was the only source of water in the area and attracted the tribe of Jurhum and, subsequently, others to settle in the area with the descendants of Ibrahim.[8] From that time onwards many different tribes have settled in the area, the supply of water from the well of Zamzam being

the prime motivating factor in the settlement of this land. Another feature in the settlement of the area was the foundation of Al-K'abah (discussed in Chapter 1) by Ibrahim which encouraged settlement in this arid region, eventually resulting in permanent urban settlement.

The well of Zamzam was capable of supplying only a small number of the area's inhabitants until about the fifth century when Makkah became established as the centre of trade for the ancient civilisation when it then became necessary to search for alternative water resources. Extensive excavations were carried out in the suburbs of Makkah which resulted in the discovery of several wells with potable water, the most important being those in Al-Zahir, Al-Asqalany and Ju'aranah.[9] Water from these wells was carried to the city on the backs of animals where it was sold on the open market. One prominent Arab historian gave evidence to support the theory that during the pre-Islamic period, Makkah was supplied with water from wells dug in various parts inside and at the outskirts of the city and this system continued up to the rise of Islam.[10]

In the early history of Al-Madinah, evidence suggests that many wells and springs were dug in and around the city limits, hence agriculture prospered and settlement in the area encouraged. As was illustrated in Chapter one the availability of water and the fertile soil types in the natural basin where the city is presently located, ensured the continual existence of the rural settlement to the rise of Islam. During the rule of Caliph Mu'awiah (665 A.D.) the founder of the Umayyad dynasty in Damascus, an additional

source was found at Quba about 3 Km south of the city. Water from this fountain (named Al-Zarqa after Marwan Ibn Al-Hakam then Governor of Al-Madinah who undertook the project on behalf of the Caliph) was carried from Quba to Al-Madinah via stone canals. From the discovery of this new source till the late 1950's, Al-Zarqa was an essential supply of water to Al-Madinah.[11]

Even here, however, the influence of the holy status of the city appears significant as is noted by a contemporary Arab historian writing of Al-Madinah:

> "The reason for its continued functioning during this period was due to the care and attention paid to it by the Muslim Caliphs, Kings, Princes and Wealthy men in their desire to obtain God's grace and recompense, inasmuch as this fountain supplied water to the neighbours of the Prophet..." [12]

The supply of Al-Madinah with water continued from the source of Al-Zarqa fountain and was supplemented from wells found in almost every house in Al-Madinah. Because water obtained from these wells was often brackish and thus unsuitable for drinking, it was used for other domestic purposes such as washing and cleaning the stone floors.

Prior to the Abbasid rule in 750 A.D. methods of water supply system had fallen into disrepair. The exploitation of supplies from a Wadi near Arafat, originally by the Caliph Mu'amiyah, was ill-managed by the succeeding Caliphs and this source was soon exhausted. During the first period of the Abbasid rule, a project was undertaken to exploit new sources by the Queen Zubaydah, wife of Caliph Haroon Al-Rasheed (the third Caliph in the Abbasid dynasty) located in Wadi N'aman, some 40 Km to the south-east of

Makkah, the Ain Zubaydah, as it was known, supplied the majority of the urban population since that time till the late 1940's, although water supply was freqently disrupted as a result of neglect and dispute over the rule of Makkah.

In the past, this re-occurring problem remained unsolved, partly because the situation never became critically serious and the traditional way of life did not demand the availability of huge volumes of water. Meanwhile, the Caliphs, Sultans and their Governors who ruled Makkah were not unduly concerned with the city's water supply for there was no national responsibility to Makkah or Al-Madinah other than their religious importance. As the resident population of Makkah and Al-Madinah has increased rapidly since the late 1940's, along with the annual numbers of visiting pilgrims, the two fountains, Al-Zarqa and Zubaydah have failed to meet the demand for water. The introduction of modern buildings also heralded modern water supply systems, and all these factors have combined with improved living standards to create an unprecedented demand on existing supplies, thus creating serious water shortages.

In modern times, the first step undertaken to supply both cities with water was initiated with the formation of a separate administrative body for each Ain (fountain), the Zubaydah in Makkah and Al-Zarqa in Al-Madinah in order to manage water supplies; each was later linked directly to the Deputy of Municipal Affairs* of the Ministry of the Interior. Large sums of money were allocated in the annual budgets to ensure the maintenance of the fountains and to ensure a

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* This department in 1975 became the Ministry of Municipalities and Rural Affairs.

continuous flow of water to the cities of Makkah and Al-Madinah. During the past 15 years (1950-1965) these administration boards acquired several other springs and wells to supplement the original supply.

As natural water resources were found at some distance from Makkah and Al-Madinah the canals or qanats introduced by the Persians were used to carry water to the cities. Thus, by means of these canals it was possible to carry water to both cities from the earliest Muslim times; however, the supply was limited to certain areas in the cities and this, in turn, strongly influenced the direction of urban expansion. By the beginning of the present century a water distribution network was introduced to Al-Madinah, and water points or taps were installed in the major streets and quarters of the city which made water easier to obtain by the inhabitants of the city.[13] As Al-Madinah expanded, the number of public taps or Kabbass was increased as necessary in order to supply the city's population with their demand for water. As a result, by the end of the 1950's there were 1,500 taps distributed throughout Al-Madinah, but this system rapidly disappeared in the early 1960's.[14]

Since 1960 the direct supply to homes, and the number of buildings connected to water supply, has rapidly increased. Consequently, the number of public taps in the city has decreased accordingly, with the exception of newly established quarters such as the Eastern and Western Harrah of Al-Madinah, which are supplied by motor-tankers as the difficult topographical conditions of the area prevent the laying of pipes for a direct supply.

Makkah's water was transported via stone canals from Ain Zubaydah to several reservoirs in different quarters of the city, and from there, water carriers were employed to distribute the water to individual homes. When the pipe network came into service in the late 1950's, many people in the old quarters chose to be connected to this network, and this reduced the demands from public water points. The recently developed quarters were automatically connected to this network, and thus do not have public taps. Most of the homes in the new quarters had piped water, whereas only 40% of those in the old quarters enjoyed this facility.[15] In Makkah a number of quarters are supplied almost entirely from direct, private facilities (Al-Aziziyah, Al-Shishshah and Al-Rawdhah these three quarters now incorporated into one, i.e. Al-Faisaliyah; Al-Jumaizah; Al-Qushashiyah; Al-Shamiyah; Al-Naqa; Al-Misfalah; Sheib Amr; Ajiad; Al-Nuzha); the remaining quarters are supplied from public facilities.* [16]

III. Water Demand

A. Domestic Demands

As Makkah's population increased, the supply of domestic water from Ain Zubaydah became insufficient to meet the increasing demands. It became necessary to supplement this supply from the sources of water provided by some of the major wadis along the course of Wadi Fatimah which has supplied Makkah with almost three quarters of its total

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* The water consumption in individual houses in both cities was difficult to estimate at the time of the fieldwork, particularly due to the various methods of obtaining water.

water requirements.[17] Makkah is now supplied from five sources, according to Report No. 2490, September 1973, Engineering Office, Ain Zubaydah, Deputy General Director of Ain Zubaydah and Ain Al-Aziziyah (see Table 3.1 and Fig. 3.3).[18] The Report gives the volume of water supplied from each source, and states that the existing network can now cater for 5,000 subscribers, the capacity of each of these six sources being as follows:

Table 3.1 : The Water Resources of the Ain Zubaydah Authority

Name	Type	Average Yield m^3/day	Wadi
Ain Zubaydah	Spring	3,500	N'aman
Ain Al-Abdiyah	Well	2,000	N'aman
Ain Al-Aziziyah	Spring	2,600	Fatimah
Ain Al-Madhiq	Spring	5,000	Fatimah
Ain Sawlah	Spring	2,000	Fatimah
Ain Al-Qushashiyah	Well	6,500	Fatimah
Total		21,600	

Source : The Ain Zubaydah and Al-Aziziyah Engineering Office, Report No. 2490, September 1973, Makkah p.7.

The purpose behind this report was to establish the quantity of water which could be exploited from existing sources, and the number of subscribers who could be provided by maximum output. Assuming an average consumption of 150 litres per person per day and a total population of Makkah to be 366,801 (population Census 1974), if every citizen had

piped water, then the demand would be 55020.15 cubic metres per day i.e. rather more than the present total output of existing sources.. It is obvious that alternative sources must be found to make up the deficiency, or the available supply would be cut to nearly 57 litres per person per day instead of 150 litres. (Comparable consumption figures for other major cities are: New York 600 litres per day per person, Cairo 250 litres and Alexandria 220 litres).[19]

The existing supply network is poor, and is incapable of carrying running water, its pipes do not exceed six inches in diameter and pumping stations are required in many areas to raise water to the higher levels of the city. Consequently, the Ain Zubaydah Administration reported to the authorities that it could not now accept all applications from prospective subscribers, and all applications should be postponed until the completion of the work on the new network. The report also indicates that if extra pipelines are connected to the small existing network, this would reduce the volume of water available to existing subscribers in most quarters of the city. With regard to Al-Shuhadah and Al-Zahir quarters, and part of the Jarwal quarter (especially Al-Bieb'an) which receive water from Al-Qushashiyah, it is possible to link new pipes to the network to supply homes not yet connected to the distribution system.[20]

One basic solution includes the construction of a new pipeline network connecting existing and new water sources to nine large elevated cisterns to be erected on some of the mountains throughout the Makkah, Muna and Arafat region (these are counted as part of Makkah for water supplies); the

total pipe network used in this project amounted to 140 Km and required the digging of 24 wells in Wadi N'aman, and a further 9 wells in Wadi Al-Rahjan and Al-Ghamidiyah. The total cost involved in the project was estimated at more than 65 million Saudi Riyal [21] (almost £9 million current 1979), to meet current and future demands, catering for predictable increases in the population of Makkah, and also in the number of pilgrims, and to transfer water to the city more easily and more hygienically than by the old stone canals.[22]

The volume of water guaranteed by the four cisterns built in Makkah is 51,000 cubic metres, but this would provide only 140 litres per person per day for the total population (census 1974). At present, extra all-the-year round demand for water in Makkah is supplied from two hundred wells scattered in and around the city; about 90% of the population is supplied from six Ains previously mentioned, nearly 50% receive piped water and 40% are supplied from the many public water points distributed in various quarters of the city, particularly in the old quarters. The remainder obtain their water from private wells, and as the water increases in price during the pilgrimage season, the extra demand is often met from these private wells. [23]

With regard to Al-Madinah, it was indicated in the Water Supply section of this chapter that Al-Madinah formerly obtained its water from Ain Al-Zarqa; however, in the early 1960's this source failed to meet the city's requirements, and has now dried up. It therefore became imperative to dig new wells and the number of these has gradually increased from 9 to 23 in order to make up for supplies formerly obtained

from Ain Al-Zarqa to meet Al-Madinah's growing demand for domestic water. [24] (It is worth mentioning here that although Ain Al-Zarqa has dried up, the name is still used for the administrative body in charge of Al-Madinah's water supply). All these efforts failed to meet the increasing demand and water shortages continued in Al-Madinah until the 1970's, especially during the hot summer months. The city almost trebled its population for about two months during the pilgrimage season in 1973 placing an almost unbearable burden on water resources. The Engineering office of Ain Al-Zarqa Administration was asked to report on water resources in Al-Madinah, and a geological survey (similar to that of Makkah) on existing resources was carried out at the beginning of 1973. The report, submitted in March 1973, made suggestions as to the number of sources and their capacity, together with recommendations for preventing the occurrence of the recent water shortage, which was the result of increased demands on an already over-taxed supply. The report indicated that Al-Madinah is at present supplied from 23 drilled wells in the Quba area south of Al-Madinah (near the dried up Ain Al-Zarqa), one well in Al-Anbariyah near the old Railway Station, and another in Al-Mataar street. The total combined capacity of these wells is 4,250 galls. p.m. (270 litres/second) and currently the pumps are operated eighteen hours per day, with a total daily capacity of 17,500 cubic metres, or about 17,500,000 litres of water. [25]

If the whole population of Al-Madinah had piped water, each member of the family living in the city could have been supplied with 80 litres in 1974 (population census 1974).

Using Sogreah's 1973 estimate of Al-Madinah's population (118,200), this would give 148 litres per person per day. From the two estimates, it is evident that in the winter months, sufficient water is provided and no water shortages are suffered; however, during the hot summer months consumption rises rapidly, and the present supply cannot cater for these increases, without taking into consideration the extra demands of the pilgrim population. One suggestion made by the report was to operate the pumps for 20-21 hours per day, thus increasing the volume of water to 20,000 cubic metres or 20,000,000 litres per day, but even this volume would not cater for the increased demand in summer.

In order to provide the 150 litres per person per day (the amount stated in the report) the output should rise to 21,617 cubic metres, which means that an extra 4,117 cubic metres are required. The additional requirement could possibly be supplied by cleaning and redeveloping some existing wells and by further well digging.[26]

B. Pilgrimage and Summer Seasons

During Al-Hajj season, when the cities' populations are trebled due to the influx of pilgrims, existing resources are incapable of coping with the demand for water. Other factors have also contributed to the higher water consumption in both Makkah and Al-Madinah, e.g. public squares and gardens and the public fountains which are found in many of the major squares; the private gardens of the villa-type houses; the air conditioning units and western-style toilets found in many of these homes; and modern bathrooms. All these facilities place a heavy burden on the limited volume of water available

in both cities. Although the exact volume of water used by the fountains and gardens is unknown, it is extremely high; the air-conditioning units also use large quantities of water, as do the western-style toilets, baths and showers now being built in many homes. Although no official figures are available, it has been estimated that the new toilets require as much as twenty times the volume of water as the old Arab-style toilets.

The pilgrimage season places specially heavy demands on the water resources of both cities. Nowadays, many pilgrims arrive early, often arriving between the beginning of Ramadhan and the start of the next month to it, Shawwal, frequently spending as much as three or four months in the holy places (Ramadhan, Shawwal, Thu Al-Qi'adah and Thu Al-Hijjah). In addition to this seasonal demand, water needs are high during the normal four-monthly summer period, making a total of eight months of heavy demand, compared with four months of comparatively low consumption in winter.

The number of pilgrims visiting Makkah can be calculated as all visitors make the pilgrimage, whilst for Al-Madinah numbers fluctuate from year to year as a visit to this city is not obligatory. The total number of overseas pilgrims to Makkah in 1973 was 607,755 (see Table 2.2), and from the figures of previous years, it appears that only about two thirds of this number visited Al-Madinah (about 400,000). In its report, Sogreah claimed that in 1973, approximately 133,000 pilgrims visited Al-Madinah at a rate of 19,000 per week, and the estimated water requirements for 1978 are listed in Table 3.2, and compared with consumption in 1973.[27]

Table 3.2 : Water Requirements and Consumption in Al-Madinah between 1973 - 1978

	Daily Consumption (Cubic Metres)	
	1973	1978
Normal times (Spring, Autumn, Winter)	21,700	24.275
Peak times (Summer and Al-Hajj season)	24,500	44,224

Source : Sogreah Report 1973, Securing Al-Madinah with water, Ministry of Agriculture and Water, Al-Riyadh, Saudi Arabia p.34.

The report in question stated that 24,500 cubic metres per day could be supplied from nine new wells. In addition some of the farms in Wadi Bat'han, on the edge of the Ain-Al-Zarqa well field, are to be purchased and water from their wells will be used to meet the extra demand created by the pilgrims. This last measure, however, illustrates how the competition for use of groundwater has developed. Agriculture is already under pressure (see section II) and any further industrial development can only increase competition.

Demand increased sharply in the summers and Al-Hajj seasons between 1973 - 1978 and it was anticipated by Sogreah that an extra 19,949 cubic metres of water would be required by 1978.[28] It is apparent that the volume of water currently produced by most of the wells is diminishing - basically a problem of discharge against recharge, and a great deal of water is lost through wastage - the inefficiency of the old pipeline network and also the low price charged to consumers.

Urgent steps need to be taken in the near future to supplement the supply and these include the drilling of new wells to tap other natural resources around the city. Other measures may have to be taken to control consumption, including an increase in the price of water.[29]

Although measures taken so far have proved a temporary solution, during the pilgrimage season and the summer months, shortages are still being created by increasing urban consumption. The necessity of supplying Makkah and Al-Madinah with water from alternative sources other than ground water is clear.

IV. Future Water Supplies

A. Underground water

The adoption of a modern way of life in cities as experienced in Makkah and Al-Madinah has required the support of huge volumes of water. As indicated above, natural resources of potable water, not only in Makkah and Al-Madinah, but also the whole country, are being severely overtaxed at present, as the withdrawal of large amounts of underground water has created an imbalance in the stored quantity of water. As a result, old resources have either dried up (e.g. Ain Al-Zarqa in Al-Madinah), or have failed to produce the required volume (Ain Zubaydah in Makkah). The extra requirements have been fulfilled by drilling new wells and by the purchase of springs and wells in Wadi Fatimah (around Makkah), and wells in farming land around Al-Madinah often at the expense of nearby agricultural areas.

All studies carried out indicate that underground

water resources which produce water for urban centres as well as agricultural lands have been decreasing as the direct result of the failure of recharge to keep up with discharge. This means that the volume of stored underground water, available for many thousands of years, may dry up in the very near future, unless immediate steps are taken to solve this problem.

This same problem was observed in the Sogreah study of water supplies in Al-Madinah and in experiments carried out on several dams constructed in selected areas along the nearby wadis. These experiments demonstrated that the correlation between discharge and recharge is very low. Sogreah concluded that by about 1990, the water supply in Al-Madinah will cease unless new resources are found. [30] In fact, the rapid decrease in water resources is threatening not only the growing urban development, but also the surrounding agricultural areas and the gardens and green areas of Al-Madinah. Several proposals have been introduced but the basic facts of regional hydrology, coupled with climatic aridity, indicates that the cities of Makkah and Al-Madinah, if they are to continue to grow and develop, cannot adequately be supplied by local water supplies. Some of the problems underlying the hydrological characteristics are summarised as follows:-

i) It appears that rainwater may penetrate through strong layers, which are incapable of absorbing it or storing it, so that much water is lost (e.g. via Wadi Rabigh, Wadi Khulais or Fatimah, (figure 3.5).

ii) It is also believed that the underground basin beneath the basalt is poor in water resources and incapable of water storage;

iii) there may be an obstacle from east to west which runs beneath the volcanic lava south of Al-Madinah.

iv) Al-Madinah may be located far from the main source of penetration of rain water, some of which runs into a branch of Wadi Al-Aqiq, and in this case, the water drains away from the source of Al-Madinah's wells;

v) also, the penetration of water varies with the amount of water that comes to the area, and available data indicates that the area has recently been suffering from a deficiency of precipitation.

The following remedies have been suggested:-

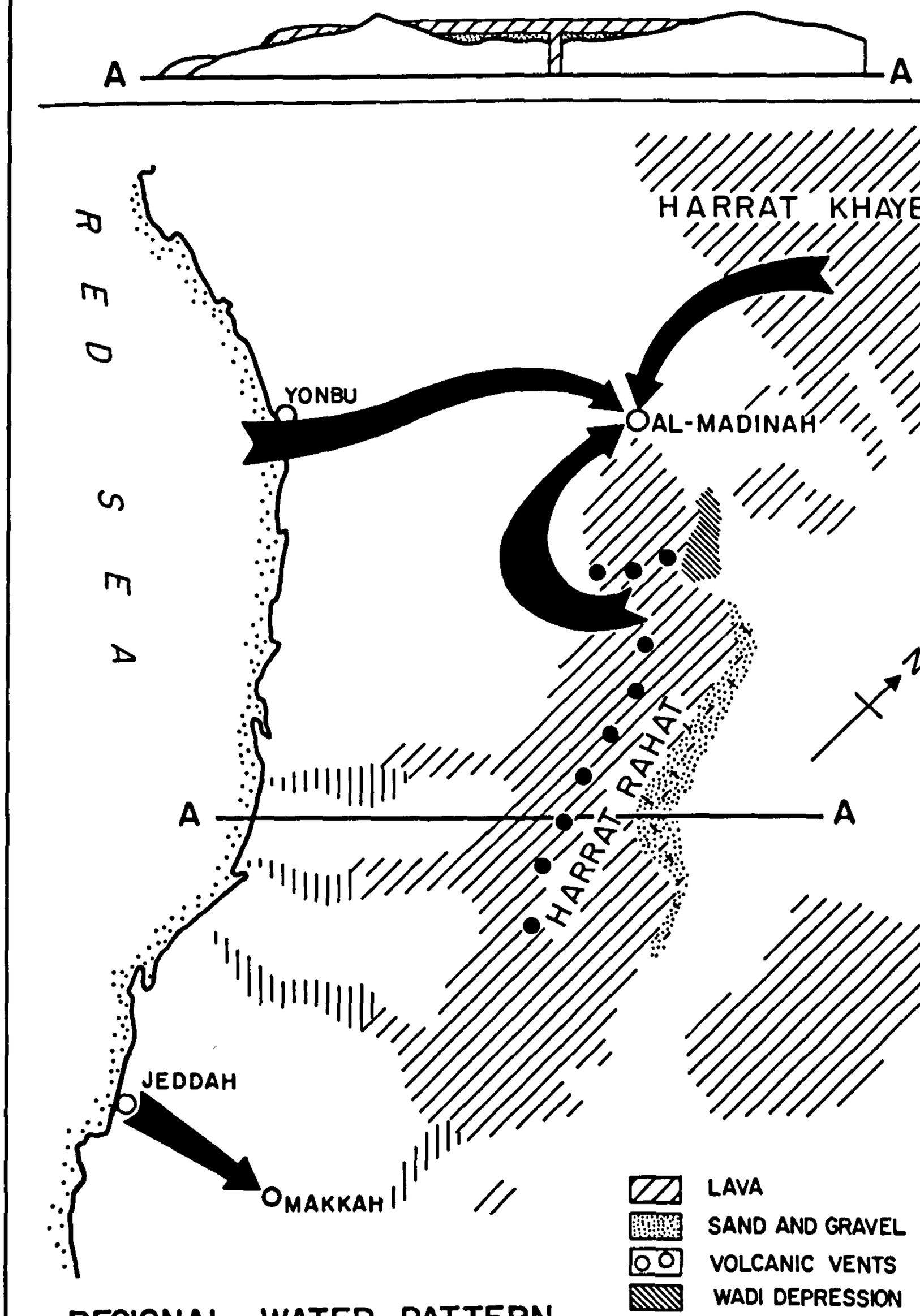
i) the installation of pumps to draw water from beneath the volcanic lava to a suitable area, which has geologically favourable structures capable of holding water;

ii) drawing water from beneath Harrat Khaybar and treating it to reduce the salt content, then directing it to Al-Madinah;

iii) pumping water from the Red Sea (about 180 Km from Al-Madinah) by installation of desalination plant at Yonbu Al-Bahr (fig. 3.5). [31]

As a result, the Ministry of Agriculture and Water in Saudi Arabia has prohibited the digging of new wells and even attempts to deepen existing wells to obtain water for agricultural purposes. The population study of Makkah carried out in 1971 by R.M.J.M estimated that the total population in 1971 was 301,000 and that the anticipated population by 1991 would be 550,000 on the lowest (almost double the 1971 figure) and 950,000 on the highest estimate (treble the 1971 figure). [32] If we assume that the volume of water now available remains constant over the next twenty years, this would give only 34 litres per person per day on the lowest estimate and 20 litres per person per day on the highest estimate - without taking into consideration the estimated two million pilgrims to Makkah by 1991. This would bring the population up to nearly

Fig. 3.5



REGIONAL WATER PATTERN

Source:- R.M.J.M.P. Interim Report, Western Region Plan, Ministry of Interior, Municipal Affairs, Jeddah. 1973.

3 million during the two months of Al-Hajj season and reduce the available water to 6.5 litres per person per day. This figure is altogether too low for any urban society.

Working on a daily consumption of 150 litres (the figure given by the Water Authorities of both Makkah and Al-Madinah in their report in 1973), the volume of water needed by 1991 for Makkah would be 114,250 cubic metres on lowest population estimate and 182,500 on the highest (14,250,000 - 182,500,000 litres) and the corresponding figures for Al-Madinah would be 37,500 and 67, 500 cubic metres (37,500,000 and 67,500,000 litres). These figures, even on the lowest population estimates, require the present water supply to be multiplied about six times for Makkah and three times for Al-Madinah.

Existing natural resources are incapable of producing more than 21,600 cubic metres per day for Makkah and 20,000 cubmic metres for Al-Madinah, and there is an urgent need to find an alternative source of water to make up the deficit and meet the demands for water at the assumed consumption rate of 150 litres per person per day. This can be done by one or a combination of the two of the following methods:

a) by searching for an abundant underground water supply in new areas:

b) By making full use of desalination plants such as the one now operating in Jeddah and other towns along the Red Sea and the Arabian Gulf (fig. 3.6).

B. <u>Desalination</u>

The desalination of sea water as an alternative supply of fresh water for arid zones, has been considered by the Saudi Arabian government since before the early 1960's, when

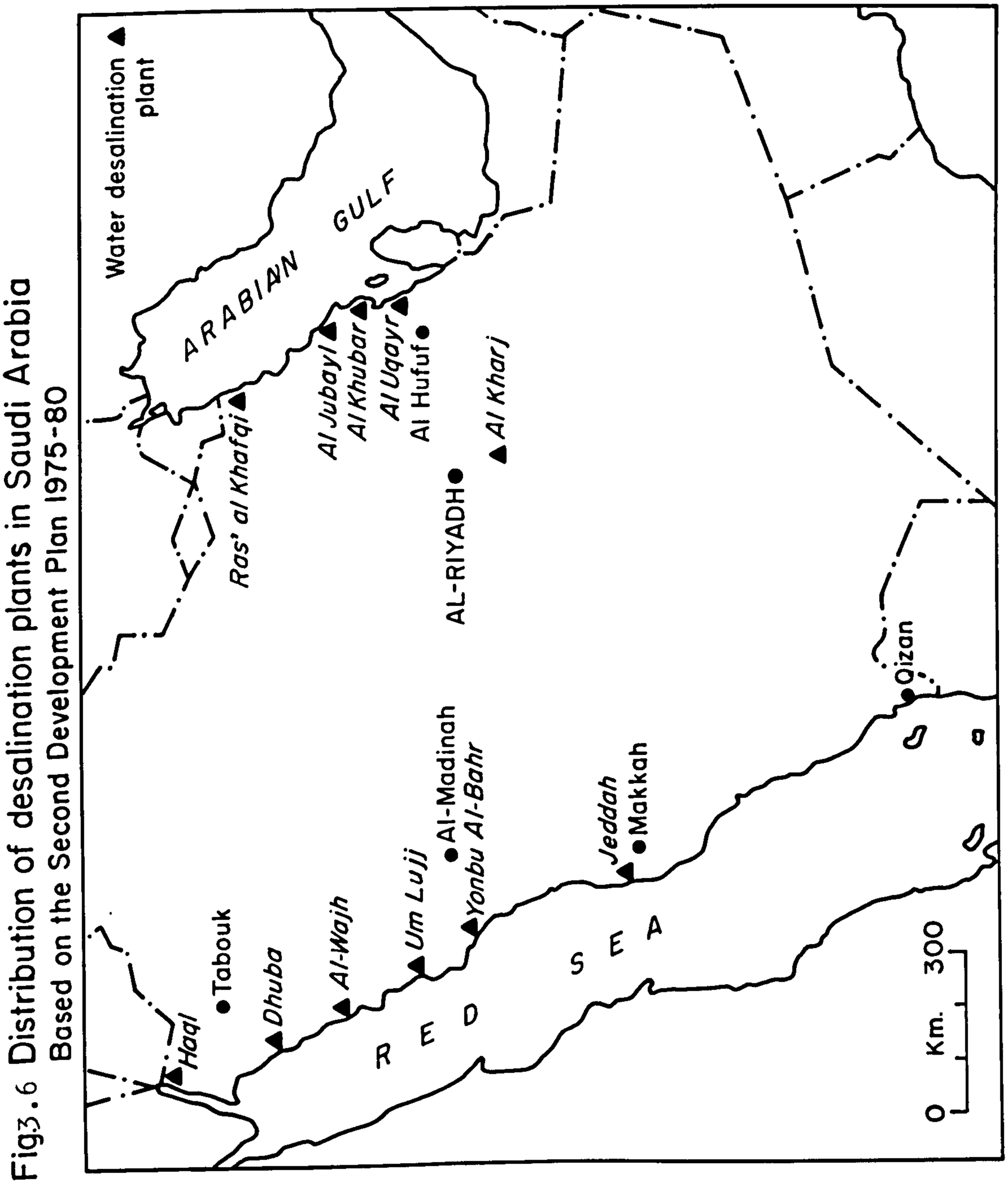


Fig3.6 Distribution of desalination plants in Saudi Arabia
Based on the Second Development Plan 1975-80

natural resources failed to meet Jeddah's demand for water. In 1967 the government established an independent department, the "General Desalination of Sea Water Administration" in Jeddah; this department became later "The Saline Water Conversion Corporation" and in 1975 its headquarters were transferred to Al-Riyadh, the capital city. The desalination plant at Jeddah is the largest of its kind in the country, and since it came into full production in mid 1971 can produce 18,200 cubic metres of water per day (as much as the existing natural supplies in Makkah): this represents one-third of Jeddah's total requirement, the deficit being made up by ground water extracted from Wadis Fatimah and Khulais, (see fig. 3.3). Although Wadi Fatimah is severely overdrawn, as it supplies water to both Makkah and Jeddah, Wadi Khulais appears to balance with extraction approximately matching recharge.[33]

In Makkah, it is now necessary to supplement existing water resources from alternative new sources, and in order to solve the problem of urgent water shortages the desalination plant at Jeddah could be expanded to supply Makkah's extra requirements. Al-Madinah has three possible sources of additional drinking water (see p.123 and fig. 3.5) which could be developed in the near future to help solve her water problem. However, the immediate answer for both Makkah and Al-Madinah appears to be the expansion of the Jeddah Desalination Plant (75 Km from Makkah and 450 km from Al-Madinah). The nearest source of desalinated water for Al-Madinah as was indicated earlier will be via Yonbu Al-Bahr on the Red Sea, a distance of 180 Km (see fig. 3.5). This project is under

consideration and will be carried out as part of the Second Year Plan (1975-1980) and will supply Al-Madinah, Yonbu and other nearby cities.

Makkah and Al-Madinah therefore are becoming increasingly integrated into regional and national water-supply networks. Given the availability of energy and financial sources, Saudi Arabia has embarked on a vast national desalination programme (see Fig. 3.6) in which the two cities' needs play a significant part. One desalination plant is to be constructed inland, at Al-Madinah to treat brackish water beneath Harrat Rahat. Under the second phase of the plan, the capacity of the plant at Jeddah is expected to be raised from its current supply of 18,200 $,^3$ of fresh water per day to 38,000 m^3 per day. The plant at Jeddah will be expanded further until it is in a position to supply the city with its total current and future needs and also those of Makkah.* The proposed desalination plant at Yonbu will also cater for the demands of Al-Madinah. [34]

Alternatively an attempt sought more recently to overcome water shortages is to import icebergs from the Artic or Antarctic and moor them off-shore, where they could then be shaped into blocks and transferred to oil-fuelled melting plants, after which water could be piped to towns and cities. Possible benefits of obtaining water in this way have been considered by the Saudi Arabian Saline Water Conversion Corporation, who have prepared "highly advanced

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* Under the third phase to be completed by the end of 1979, the Jeddah Desalination Plant will be capable of producing 20 million gallons a day and under the fourth phase it is expected to be raised to a capacity of 50 million gallons per day by the end of 1982.

blue print plans to use giant tugs to tow icebergs from Antarctica". [35]

The cost of melting, storing and piping water obtained in this way is estimated to be approximately one-tenth of the cost of desalinated sea water. Louis Morrow, a U.K. oceanographer, points out that -

> "The Saudis have a perfectly workable scheme for using between five and seven tugs to tow a mile-long iceberg of between 90 - 130 million tons for an unlimited distance." [36]

It is obvious now that Saudi Arabia has two alternative sources for supplying current and future water requirements, (in particular for Makkah and Al-Madinah), either by desalination or from icebergs. The first is very expensive, both from the point of maintenance and too heavily reliance on diminishing oil reserves or high energy costs, whereas the second can be carried out at roughly one-tenth of the cost of desalination of sea water.[37] It remains to assess the practical application of the second method by employing tugs to tow a sizeable iceberg to the nearest off-shore point in Saudi Arabia (Jeddah shore on the Red Sea) and estimate the time required to supply adequate volumes of water to meet the two holy cities needs and other urban centres of the country with similar problems.

What is already clear is that even to supply the cities' permanent populations and the associated urban, and industrial activities with essential water, extra-regional resources have to be drawn upon, whilst the special additional demands created by pilgrims vastly increase this dependence on non-local water resources. Dependence on water is normal in all affluent urbanised regions, for example California

and the West Midland region in England. In this case one is dealing with an extremely difficult situation for three main reasons. First, the level of demand is not totally under municipal or even national control - the pilgrimage factor. Secondly, and particularly in the case of Makkah, peak demand is very large and highly seasonal while the periodicity is also externally governed - by the Hijjra Calendar. Thirdly, local and regional water resources are extremely limited and for the past decade and for at least another decade into the future, the non-renewable capital of groundwater has been and will be, critically depleted. So far urban land-use and morphology have not been obviously affected by this essential resource factor but this may appear significant in the future.

Spatially, the functional linkages already observed between Makkah, Al-Madinah, Jeddah and to some extent Yonbu are clearly very strong, resting on something as simple as the interior location of the two holy cities and the coastal location requirements of desalination plants.

V. Storm Water Control

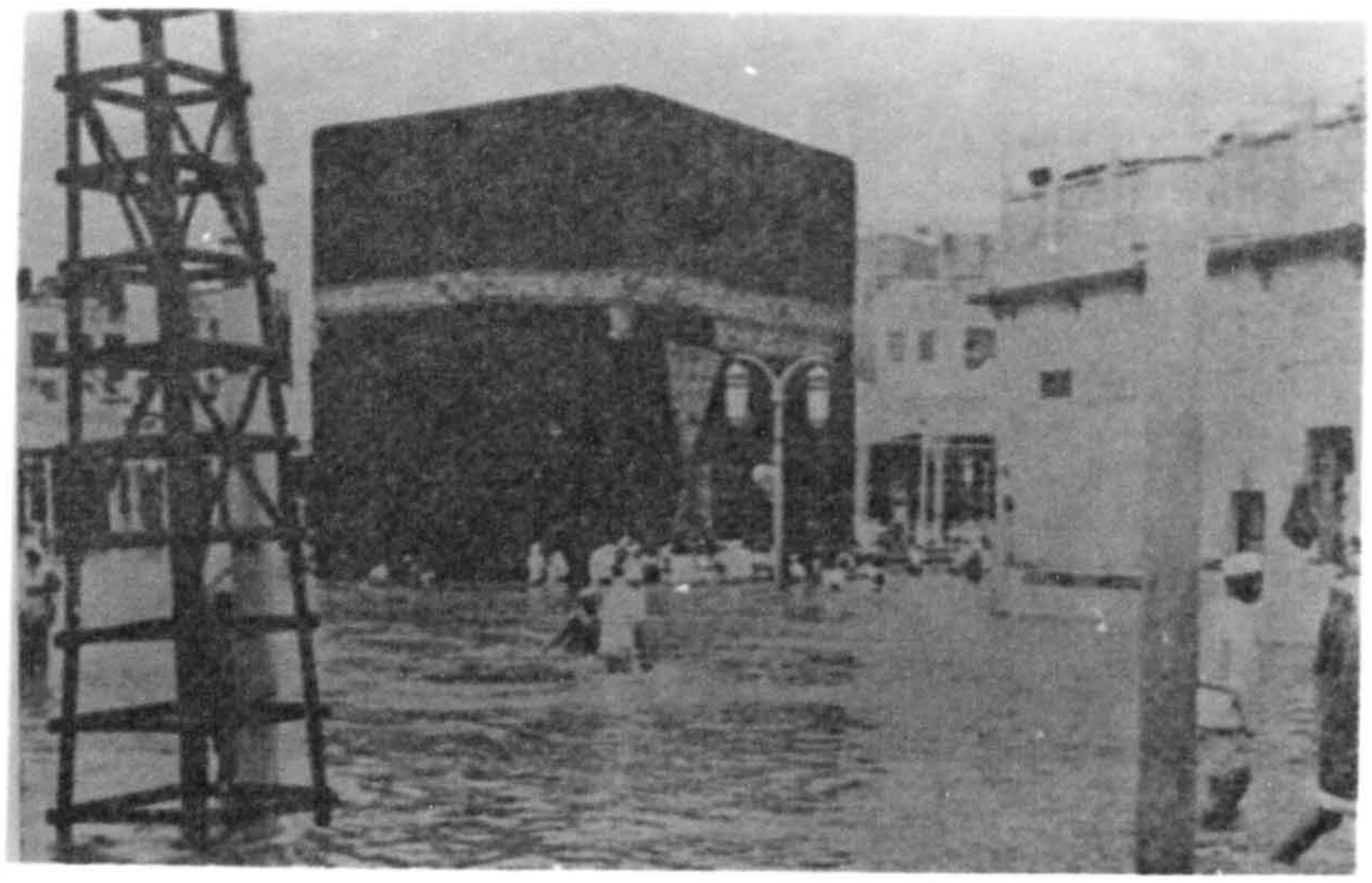
A. Storm Water

Makkah's location in the low basin of its valley, and the location of Al-Haram in the centre of the city, along with the high mountains which surround the city, often cause Al-Haram and other areas along the valley water course to be under flood for several days. The valley of Makkah runs from its head, north-east, descending south-west (Jabal Al-Noor and Muna), and breaks through the city to join

several of its mountain passes (Sheib Al-M'abdah, Sheib Amer and Sheib Ajiad), later draining south into Al-Misfalah quarter. Although Makkah is dry and hot, and its average annual rainfall is less than four inches, yet rain often comes in torrential storms lasting for several days. Over the centuries, Arab historians have recorded about ninety incidents causing loss of life and property, approximately one every 13 years (see p.102). Since the early days of Islam, the city has been flooded many times; Al-Haram has been submerged (Plate 1.5), its entrance blocked for many days, and people have been killed by falling masonry. On several occasions, dams have been erected by the current Caliph, Sultan or Governor, to prevent flooding of Al-Haram, the first attempt being in 17 A.H. (638 A.D) during the reign of the Caliph Omer, when the Mudda'a area close to Al-Haram was raised with dust and gravel to divert rain water to the eastern edge of Al-Haram. [38] As a result, Al-Haram was made safe from this direction, but to the east, the land was left low and as the Makkah Valley water course terminated at Al-Misfalah quarter Al-Haram was threatened with flooding from this direction. It is here that the valley water course joins the flood coming from Ajiad, which raises the level of the rain water entering Al-Haram and submerging it to a depth of about 1 - 1½ metres (see Plates 1.6/1.7). Makkah has also been subjected to several sudden torrents; one occurred during the pilgrimage season in 80 A.H (700 A.D), when a heavy storm in the valley swept away all the belongings of pilgrims encamped there, forcing them to climb the hills of the city to safety.[39]

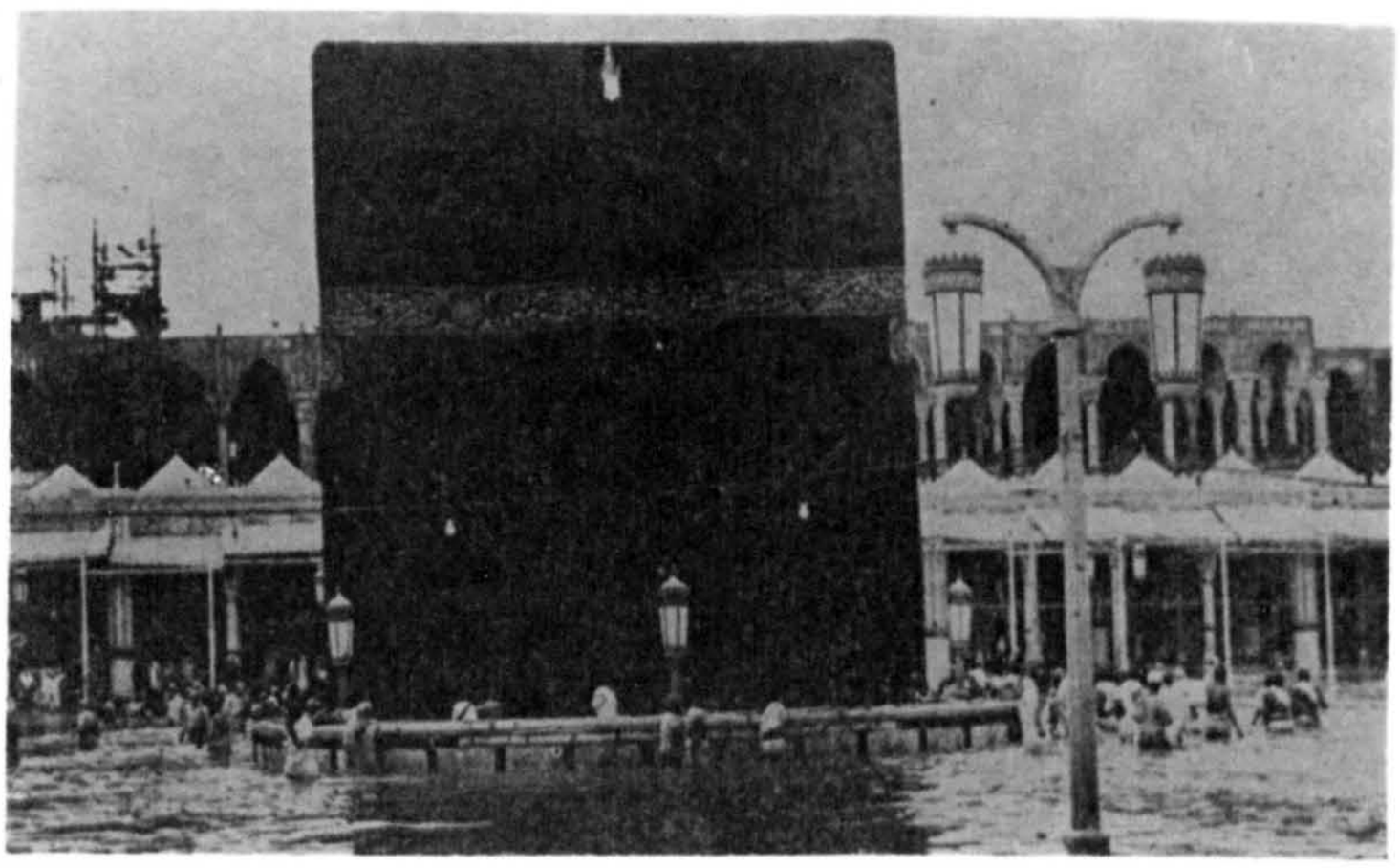
A dam was later built at the end of Al-M'abdah quarter,

1.5



A view showing Al-Haram of Makkah flooded with rain water.

1.6



Al-Haram of Makkah is submerged with rain flood, Pilgrims are making the ritual circuit around Al-K'abah.

1.7



A view showing Al-Haram of Makkah flooded, Pilgrims kept awa from getting closer to Al-K'abah.

to prevent the torrents entering from Jabal Al-Noor area, but it was not possible to control floods from other areas; this situation prevailed until the early 1960's when an open canal was built near to the dam to divert rain water coming from Muna to Khariq Al-Oshar. Although these measures have reduced flood damage, the process of asphalting all the principal streets and minor roads of the city has greatly reduced the absorption rate of rain water which gathers from other areas inside the city. This phenomenon has led to preliminary studies being carried out to provide a storm water drainage system for Makkah, Al-Madinah and other urban centres of the country, to safeguard them from storm damage. In the first phase, which is now complete, canals have been built to divert rain water from Makkah, at the same time as the carrying out of the project for enlarging Al-Haram. As Al-Haram lies at a lower elevation of the city, a drainage system was built under Al-Haram, at its eastern edge, to drain water down to the furthest end of Al-Misfalah quarter. In the second phase, now in progress, a long canal is being built from the higher northern area of the city in Al-Ma'bdah quarter to the lower lying southern areas, to drain water and to prevent the storm damage. In the third phase, still under preliminary study, small dams will be built across the rain water courses over the mountains inside the city, to collect rain which falls in these areas.

Damage by flooding has not created such problems in Al-Madinah, as there is no runoff risk from immediately surrounding hills, and Al-Madinah lies on higher ground. However, damage has been caused by water from nearby valleys, the most important incident being during the reign of the

Caliph Othman when the city suffered serious flooding: a dike was built on the Wadi Qanat to protect the city from rain water which rose very high in the wadi, and a canal was built to divert part of the flood.[40] Several primitive dams have been built by various Caliphs and Governors, but these were unstable and required continuous repair, and quickly fell into disuse, The Saudi Government has recently built dams over the three major wadis, Al-Aqiq, Al-Aqul, and Al-Qanat - in an attempt to maintain the underground water level and to preserve water for irrigation. The only wadi to break through to Al-Madinah in the south western area is Wadi Bat'han, and bridges have been erected over this wadi, inside the city, were built along its higher edges in order to avoid flooding, and were reached by steps. A plan similar to that of Makkah for an overall drainage system in Al-Madinah is currently being undertaken to prevent the former storm damage which posed serious threats to life and property.

B. Sewage Disposal:

The arid nature of the climates of Makkah and Al-Madinah, together with the soil texture, has allowed citizens to dispose of their waste quite efficiently through the traditional method of digging a two-to-four-metre hole, either under or at the front or back of their property. Most of the liquid waste was absorbed by the soil and solid waste was periodically removed. This was the only form of waste disposal available, and was characteristic of most Middle Eastern countries. In Al-Madinah, only in two areas, the Eastern and

Western Harrah, was liquid waste not easily absorbed by the soil, due to the rocky nature of the land (lava); large holes were difficult to dig, and had to be emptied more frequently. Even using dynamite, it is still difficult; and as the construction of large buildings is discouraged, the area is mostly settled by people from the lower-income groups.

The traditional method of waste disposal was uncomplicated, and required very little water; there was therefore no need for an urban sanitation network. However, the introduction of modern sanitation and the recent increases in population have made the provision of a disposal network imperative in order to avoid a health hazard in the city.

Most modern houses now being built in Makkah and Al-Madinah have modern-style toilets, which use at least twenty times as much water as the old Arabic-style toilets; the soil has become saturated and vast quantities of waste water are now lying behind these homes. Huge tankers formerly removed the waste, but this method is now insanitary and impractical, and modern sewage systems are now a necessity for all Saudi Arabian cities.

Like most other Middle Eastern cities, Makkah and Al-Madinah are installing sewage disposal systems and treatment plants, and the main plants were completed in 1974. The plant for Makkah is situated to the south at Al-Misfalah, and that for Al-Madinah is to the north, beyond the Ohud mountains. The whole system was scheduled for completion in 1976, when most homes were to be connected to the disposal network.[41] This project has now been completed. As Arabic-style toilets are replaced by modern ones, these disposal

networks will require vast amounts of water, and pressure on existing supplies will increase even further. This means in turn the accumulation of massive volumes of waste water in the sewage plants, which, when treated, could be of great value for other purposes, e.g. irrigation of private and public gardens and squares, and possibly for modern lavatories. Such action will reduce pressure on the domestic water supply, but meanwhile, the treated water can be used for the air conditioning units which are now widely used in both cities, and which consume vast amounts of water.

The per capita consumption of water in Makkah and Al-Madinah is expected to rise even further as the use of modern toilets becomes more widespread, thus placing even further pressure on existing water resources. The misuse of water also places heavy burdens on these resources, as does the modern lifestyle now being adopted, and it is becoming more and more apparent that these extra demands must be met by the desalination of sea water or other alternatives such as icebergs.

VI Regional Agricultural Resources

It has been pointed out earlier in the first section of this chapter that the region of Makkah and Al-Madinah is situated in an arid zone, and thus the problems of poor environmental conditions have limited both water supply and agricultural lands. The barren state of the valley of Makkah was mentioned in the Holy Quran when Ibrahim beseeched God to give his people what they needed to sustain life (see Ch.One page 19). Makkah's early inhabitants (the Tribe

of Quraysh), realising the inadequacy of the area for cultivation, decided as early as the 5th century that in order to make the area suitable for settlement they would be compelled to engage in trade and thus established Makkah as a centre of commercial activity.

If trade had not existed then it seems likely that Makkah would not have grown in size so quickly as it did (see Appendix B1.4). With the coming of Islam the trade caravans were replaced by caravans carrying pilgrims; the income from the pilgrimage enabled the inhabitants of Makkah to import their foodstuffs from the nearby valleys and the highlands of Al-Hijaz.

The first attempt to grow plants in the city of Makkah was made during the Umayyad period by Mu'awiyah, the first Caliph of this dynasty, who ordered the digging of canals to supply the city with water from outside, and encouraged the digging of private wells in and around the outskirts of Makkah using engineering knowledge developed in Syria.[42] This early work by Mu'awiyah resulted in the availability of water in the city and made possible the existence of several gardens and orchards in areas which are now built up. The main crops were palm trees, some vegetables (radish, spring onion, lemon, marrow, tomatoes, mint etc.) as well as fruits (bananas, apples, sweet lemon, almond etc.) and flowers which had never before been grown in the city or in its outer areas. Many of Makkah's inhabitants resented this course of action, as the idea of gardens and orchards was totally opposed to their concept of the land of Makkah, described by Ibrahim as a barren, uncultivable valley, (see Ch. one page 19), and a fear that a life of leisure would

lead to neglect of religious obligations.[43]

Although these endeavours to cultivate some parts of the inner and outer areas of the city were successful, such areas were limited to Al-M'ala, Al-Misfalah, Al-Zahir and Al-Shuhada which were owned by wealthy people (see Fig.1.3). The maintenance of these cultivable areas was made possible through the continuous irrigation from wells. Due to the continuous extraction of water for irrigation and the limited capacity of the wells, some were soon exhausted. More recently, in the period before the expansion of the residential areas of Al-Zahir and Al-Aziziyah, some residents of these new quarters dug wells and cultivated their plots of land with fruits and vegetables which required a lot of water to thrive.

The land surrounding Al-Madinah (see Fig. 1.4) was fertile and with the availability of water, groups of farms were set up around the wells and springs. The early settlers of this area were engaged in agriculture, the main crops were wheat, dates, fruits and vegetables. By the beginning of Islam, the city had grown around Al-Haram and was surrounded by groups of farms. The agricultural lands continued to support the inhabitants who had settled to serve the pilgrims. With the small number of residents and careful use of water, a successful agricultural community grew, concentrating especially on the growth of dates, which were a main part of the inhabitants' diet. Surplus dates were bought up by pilgrims and visitors as gifts for those at home. Today there are two factories for packing dates as they are still in demand by visitors to Al-Madinah. Thus, two sources of income were created for the city, the money

spent by visitors as a result of Al-Madinah's religious function, and the dates sold to the pilgrims and exported to Makkah, Jeddah and Al-Ta'if, especially during the month of Ramadhan (fasting). The recent residential expansion of Al-Madinah, however, has been at the expense of the former agricultural areas scattered outside the city wall (which was demolished in late 1940's).[44] This process has taken place as a consequence of the growth of the population of Al-Madinah which, with the existing pressure on water resources has resulted in the diversion of supplies to the urban users rather than for agricultural purposes.

VII. Urban-Rural Relationship

Agricultural development in the hinterland of the two cities, has been strongly influenced by local, regional and national processes and policies, both directly and indirectly through water policies. It is significant that the Key Ministry is that for Agriculture and Water.

Makkah and Al-Madinah before 1938 were major urban centres within a country in which over 90% of the population were engaged in subsistence agriculture, based on small scale cultivation and nomadic pastoralism (see Chapter 4). Today the rural population is much smaller proportion of the total (possibly less than 50%) and the towns which attract people from the countryside and compete with agriculture for limited water supplies, at the same time make ever growing commercial demands for local and other agricultural products.

In the Western Province the drift of population from rural to urban areas has been most extreme in the case of

Jeddah which increased its population from 60,000 to 561,000 between 1946 and 1974.[45] Part of this growth was associated with the increase in regional functions - including those in administration, transport, public utilities and services performed for the holy cities of Makkah and Al-Madinah. In the two cities themselves 58.2% and 64.2% respectively of the 1962 Population Census inhabitants were immigrants from the surrounding farming and nomadic communities (see Chapter 4).

The process of migration from the rural areas has caused an imbalance in the number of males and females (see Fig. 3.7), as young men have been drawn by the higher wages in the cities, leaving the women in the agricultural areas. This has resulted in a lack of labour in the agricultural areas of Makkah and Al-Madinah. However, improvements in living standards in both cities have created a new demand for agricultural products and encouraged some workers to stay in the agricultural areas. Thus a change to cash crops, fruit and vegetables has taken place at the expense of field crops, especially dates. Improvements in marketing and transport have aided the development of commercial farming. This has occurred particularly in the region of Al-Madinah where the demand for dates has declined, while that for vegetables and fruit has increased. A similar change has occurred in Makkah.

It has now become possible for the owners of agricultural land close to the cities to optimise their use of the very costly but limited water supply and, by employing modern techniques, improve the agricultural yield, despite a lack of labour. Modern irrigation techniques have been

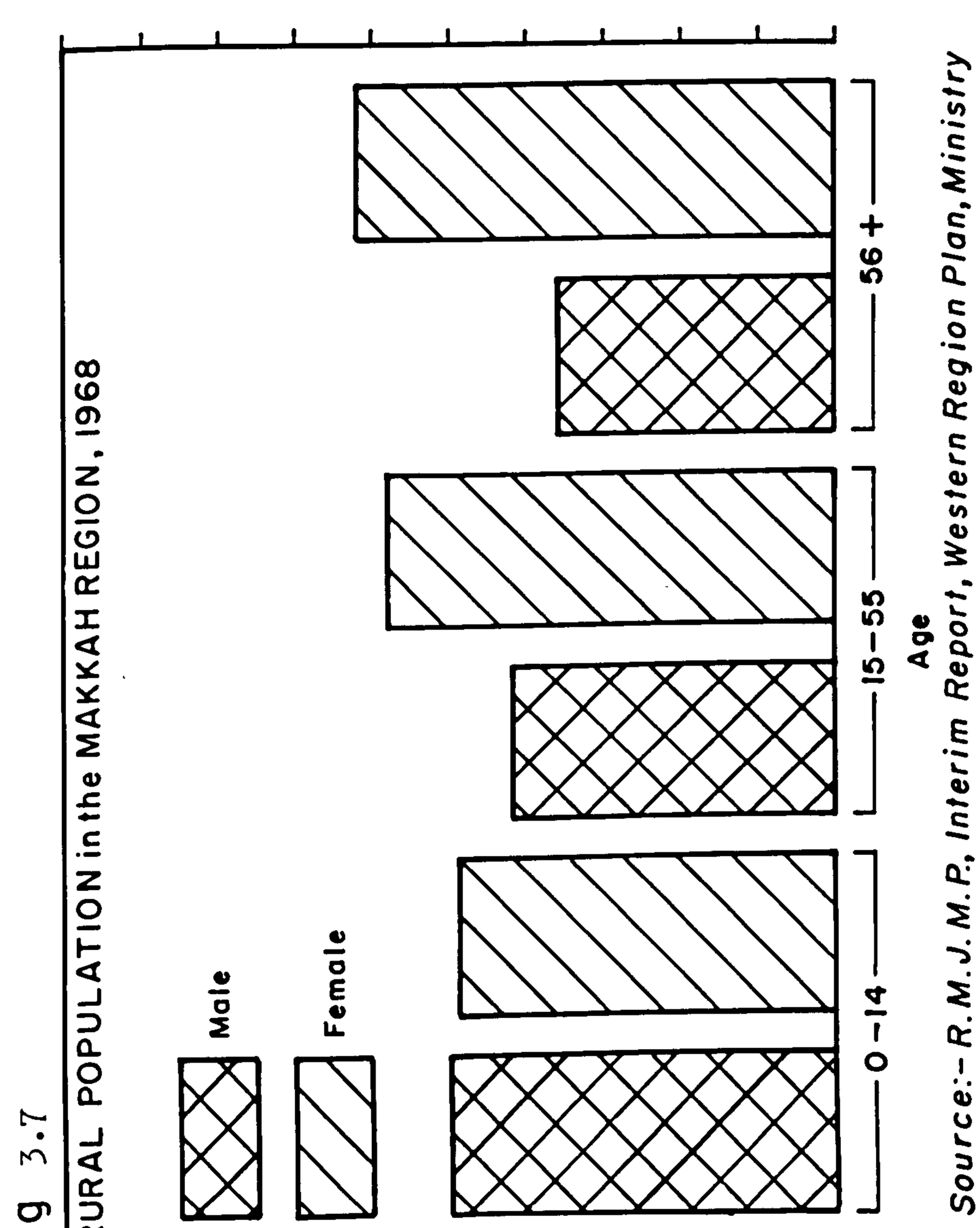


Fig 3.7
RURAL POPULATION in the MAKKAH REGION, 1968

Source:- R.M.J.M.P., Interim Report, Western Region Plan, Ministry of Interior, Municipal Affairs, Jeddah, 1973

introduced; there has been wider use of agricultural machinery and fertilisers, and increased employment of Yemeni migrants as regular farm labourers. In fact there is a high drop-out rate of work among the Saudis, both in agriculture and the small handicraft industry which require sustained effort, and this has caused the demand for non-Saudi labour to grow, a trend which will probably continue for some decades to come.[46] At the same time the Saudi Arabian government has been attempting to stem the flow of people from country to town and to encourage domestic agricultural production, for example by the giving of production subsidies illustrated in Table 3.3

Table 3.3 : Subsidy Programme to Agriculture

Inputs	Year of Introduction	Amount%
Farm machinery	1393 (1973	45% of price
Fertilizers	1393 (1973)	50% of price
Animal feed concentrades (36% protein)	1393 (1973)	50% of price
Poultry Farms	1394 (1974)	30% of price*
Dairy Farms	1394 (1974)	30% of price*
Transportation of 200 or more dairy cattle	1395 (1975)	Total cost of transportation.
Outputs		
Wheat	1393 (1973)	Rls 0.25 per kilo
Sorghum	1393 (1973)	Rls 0.25 per kilo
Rice	1393 (1973)	Rls 0.30 per kilo
Sheep	1394 (1974)	Rls 10.00 per head
Camels	1394 (1974)	Rls 50.00 per head

*20% if financed by the Agricultural Bank.

Source : Central Planning Organisation, Development Plan 1395-1400 (1975-80)

Since late 1950, as a result of the gradual increase in the price of sheep and goats, many people in Makkah and Al-Madinah have taken to eating beef and camel meat. A

particularly high demand for livestock occurs during the pilgrimage to Makkah, for the ritual sacrifice; the number sacrificed in 1973 reached 600,000 head.[47] The demand for cattle and camels has increased recently, for at the sacrifice, and in spiritual fulfilment, cattle are equal to 7 head of sheep and one camel equals 7 head of sheep. Many pilgrims now tend to share either cattle or camels. The pilgrim thus has an option, either of offering a sheep for his sacrifice (which is at present quite expensive) or of sharing cattle or camels with other pilgrims.

Makkah and Al-Madinah, as noted in Chapter 2, received special attention as far as communications were concerned in order to expedite pilgrim traffic, and the developing arterial road network opened up these growing urban markets to external supplies. From 1964/65 onward, and accelerated by the 1975 programme, rural road building has, as elsewhere in the country, improved the linkages between agricultural areas and the cities. Thus the products of agricultural areas quite remote from Makkah and Al-Madinah are now easily transported by lorries and trucks within several hours rather than several days by camels and donkeys. Such long journeys used to make the fruit and vegetables liable to deterioration before reaching their destination.

Two route networks have been developed in the Western Province to facilitate the flow of foodstuffs and services to Makkah and Al-Madinah. These route networks also link the outlying agricultural areas and its inhabitants and met their need for services from both cities, the only major urban centres in the area. The first was a continuation of the

old Trade Route crossing Arabia, leading north to the Mediterranean, and was used later by pilgrims to Makkah and Al-Madinah. The second followed the most accessible parts of the dispersed pattern of routes between the agricultural settlements in the area.

VIII. Food Supply and Demand

The high purchasing power of the populations of Makkah and Al-Madinah has helped to turn the surrounding agricultural areas into areas of commercial farming, and has also led to the importation of crops to the region from other cultivable areas in the country which have become accessible with roads. The agricultural areas in both cities' regions are now more productive than many others in the country. Even so, dependence on imports is considerable and increasing.

Although the urban area of Makkah lacks open green areas and cultivated lands, it is surrounded by some fertile land. The recent improvements in socio-economic conditions in Makkah have encouraged many local farmers to cater for the specialist fruit and vegetable requirements of the urban population. Yet with all of these efforts, local sources still only provide a small fraction of Makkah's fruit and vegetable requirements, and thus the bulk must still be imported from outside the area.

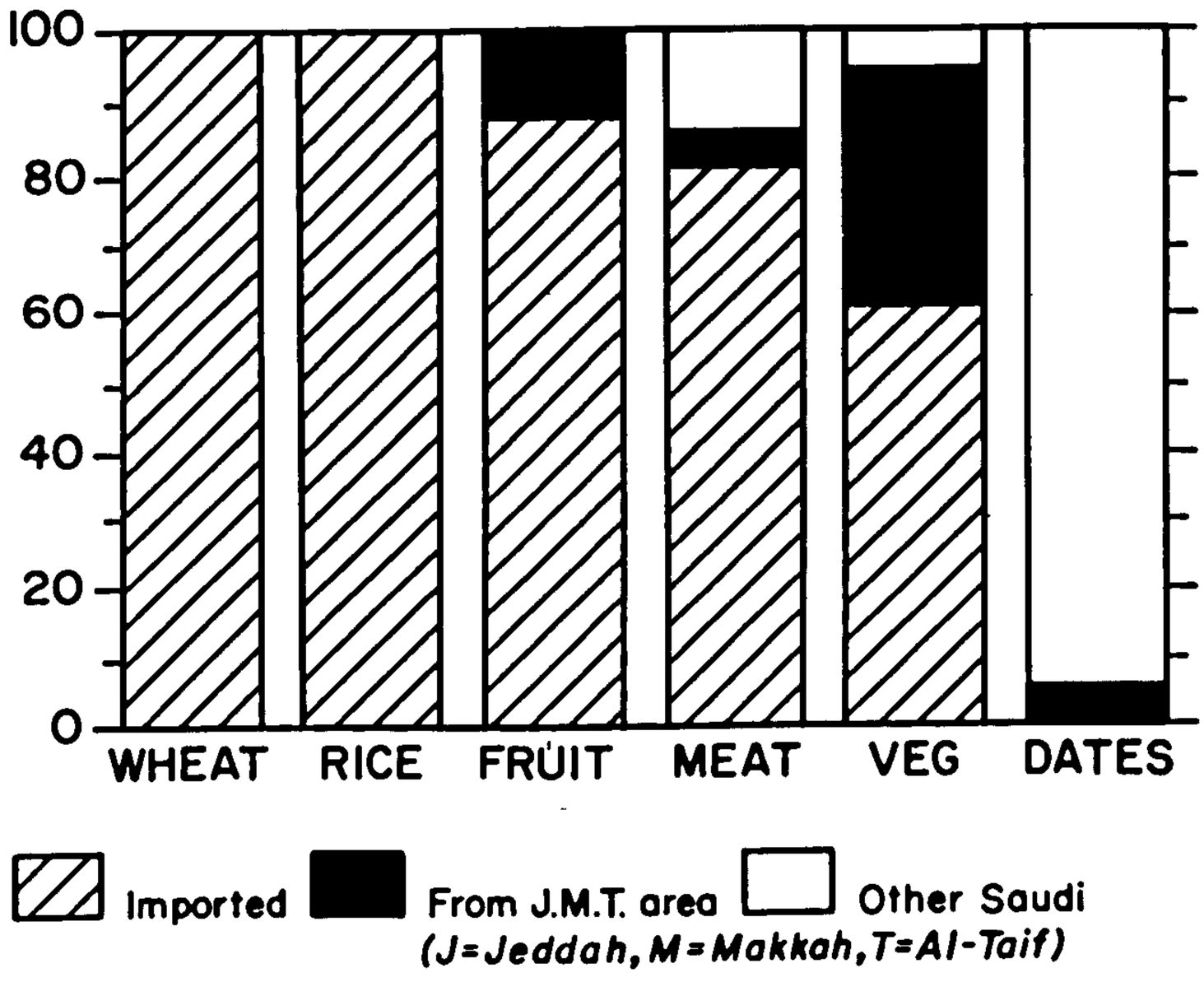
Detailed figures on the pattern of food supplies to Makkah are not readily available, as there is no special department which keeps records of food imported for urban consumption in Makkah and Al-Madinah. According to estimates from the Commercial Chamber in Makkah 1975, rice - and to

a lesser extent wheat, (which form the staple element of urban diet) - are imported from North America and the Far East. Neither of these products are produced locally. More than 80% of the total fruit requirements (oranges, apple and bananas) and about 80% of all meat and 60% of all vegetables are imported.[48]

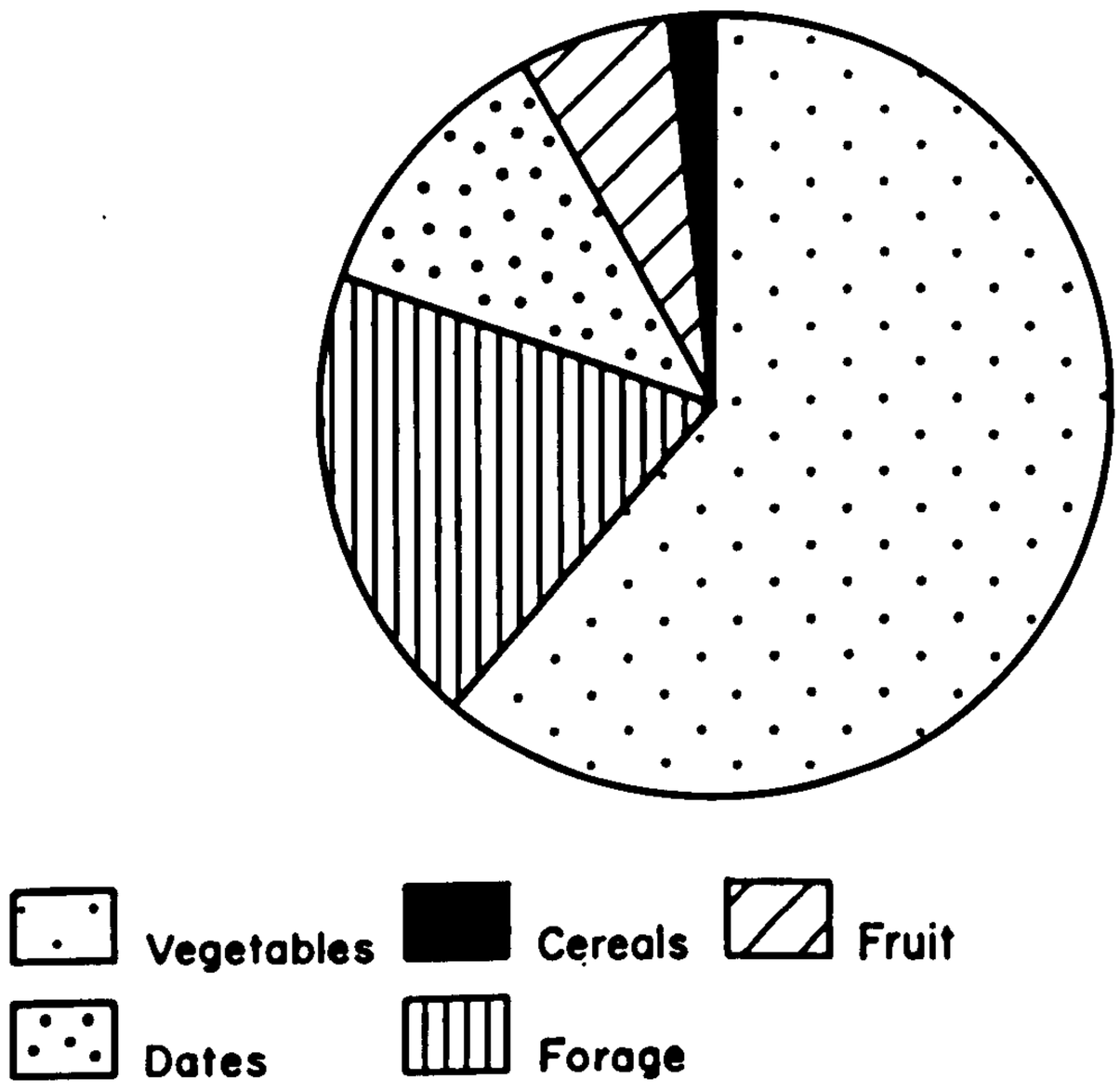
The total requirement of dates is supplied entirely from within Saudi Arabia; many dates now consumed in Makkah (especially during the month of Ramadhan) come from Al-Madinah's agricultural belt, the rest being supplied from other areas in the Central and Eastern provinces of the country. With the recent improvement in standards of living, dates have become a very minor element in the dietary requirements of the city, with consumption being limited mainly to the Month of Fasting when, since the beginning of Islam, the inhabitants break their fast with dates. This habit (which was attributed to the Prophet Muhammad) evolved because dates were then the major field crop in Arabia, and they thus become the main staple food of the inhabitants.

Makkah consumes about 27% of all the fruit produced in the region of Jeddah/Makkah and Al-Ta'if, most of which comes from the sub-region of Al-Ta'if. However, this represents only 15% of Makkah's total fruit consumption, the remainder being imported from Jordan, Lebanon and Syria.[49] Vegetables are the only crops produced in the region of Makkah (Wadi Fatimah, Khulais, Usfan, Abdiyah and the sub-region of Al-Ta'if), and retain a substantial proportion of Makkah market (Fig. 3.8). This is principally a result of the introduction of commercial farming which led to an increase in farm sizes, the use of modern farming techniques

Fig 3.8 FOOD SUPPLY IN MAKKAH



CROP STRUCTURE IN MAKKAH



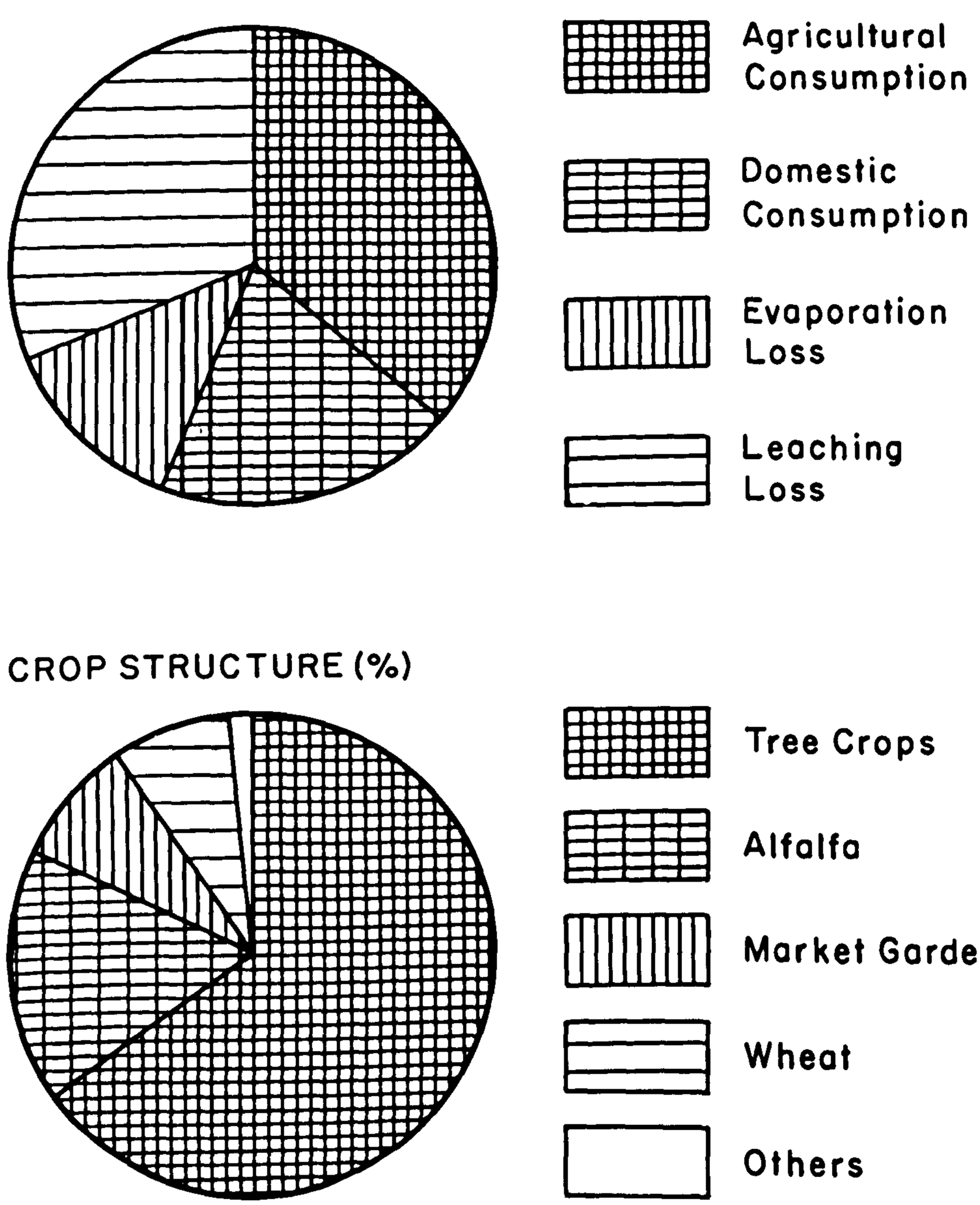
Source:- R. M. J. M. P., Interim Report, Western Region Plan, Ministry of Interior, Municipal Affairs, Jeddah, 1973

and year round farming. The remaining vegetable requirement is supplemented from the sub-region of Al-Ta'if. In the region of Makkah vegetable crops have first priority, followed by forage crops, dates, fruit and cereals.

Al-Madinah contrasts with Makkah, as most of her green areas and cultivated lands are found near to the city itself allowing her to be relatively self sufficient with regard to farm products. Agricultural consumption of water is twice as high as domestic consumption; estimates of the quantities of water consumed by the various sectors of Al-Madinah are illustrated in Fig. 3.9. This shows that domestic consumers account for only 18% of the total, agriculture 36%, evaporation loss 29% and leakages 15%. The volume of water lost by both evaporation and leakage is high, about half of Al-Madinah's total water supply. If all of this water, or at least most of it, could be conserved, it could considerably augment the supply of water.

In the agricultural sector, some measures have been taken to reduce water consumption similar to those recommended for urban use, namely by forbidding the drilling of new wells and also the deepening of existing wells, and thus extending the period during which the water table is able to supply the city. To solve such restrictions on the pumping of water (especially in the south of the city), it was recommended by Sogreah that treated waste water be used in these areas. [50] The provision of water for domestic use has been given priority over water for agriculture as the former problem became acute. As a result, the cultivated lands adjacent to the city have been severely affected and have declined in importance as

Fig 3.9 WATER USE AND AGRICULTURE IN AL-MADINAH



Source:- R.M.J.M.P., Interim Report, Western Region Plan, Ministry of Interior, Municipal Affairs, Jeddah, 1973

agricultural areas.

In Al-Madinah the rapidly expanding urban area is encroaching on agricultural lands. For example, the areas of Al-Sayh, Al-Auyon, Sultanah, Al-Anabis and Irwah to the west of Al-Madinah, Budha'ah to the north of the old section of the city (next to the quarter of Bab Al-Majeedi), and Al-Awali to the south have all disappeared, together with Quba and Qurban to the south. All of these areas, which are now becoming residential quarters of the city, were productive agricultural lands about forty years ago.

Although these former agricultural areas are disappearing several new commercial agricultural areas are being developed along the road to Al-Madinah airport to the north east of the city. This area has become important since the establishment of the airport in early 1960, which encouraged some citizens of Al-Madinah to buy plots of land there. The existence of water in these areas led to growth of groups of farms which were encouraged by the introduction of modern equipment and techniques, plus assistance from the Agricultural Bank and the Agricultural Unit Centre of Al-Madinah. More importance has been given to the more distant agricultural areas of Qal'at Jiyah and Al-Yatamah to the north which are being developed to supply Al-Madinah's fruit and vegetable requirements. Al-Madinah's crop structure presently can be divided as is seen in Fig. 3.9 into five major categories as follows - tree crops (dates, fruit) alfalfa, wheat and market garden vegetables, along with small quantities of other crops.

The total currently cultivated area of the regions of

Al-Madinah and Makkah within Al-Hijaz account for about 21,126 hectares out of 34,238 hectares of arable land as is seen in Table 3.4; their locations are illustrated in Fig. 3.10.

Table 3.4 : Agricultural Resources of the Hinterland Regions of Makkah and Al-Madinah

Area	Arable Area	Cultivated Areas	Water Resources
Jeddah and Makkah	8,094	5,504	Ground water and flood water
Al-Ta'if	5,668	2,891	Ground water and flood water
Semi-Tihama	2,028	2,028	Ground water and rain
Al-Lieth Area	10,633	7,548	Floodspreading
Rabigh, Badrand and Yonbu	1,700	1,705	Ground water and flood water
Al-Madinah	6,115	1,450	Ground water and flood water
Total	34,238	21,126	

Source: R.M.J.M. Regional Framework, Western Region Plan Jeddah, Kingdom of Saudi Arabia June 1972, p. 39.

Table 3.4 shows the location of the agricultural areas, their size in hectares and their water resources according to the 1971 Survey. Most of these areas are now devoted to the cultivation of fruit, vegetables and some cereal. The area of cultivation will be expanded under the Development Plan Projects (1975-1980). This will result in almost doubling the cultivated area in the Western Province and a consequent increase in the production of fruit, vegetables and cereals in Makkah and Al-Madinah.

The application of modern farming techniques in the Makkah/Al-Madinah region has helped to solve both the environmental and the labour problem and has helped to achieve a

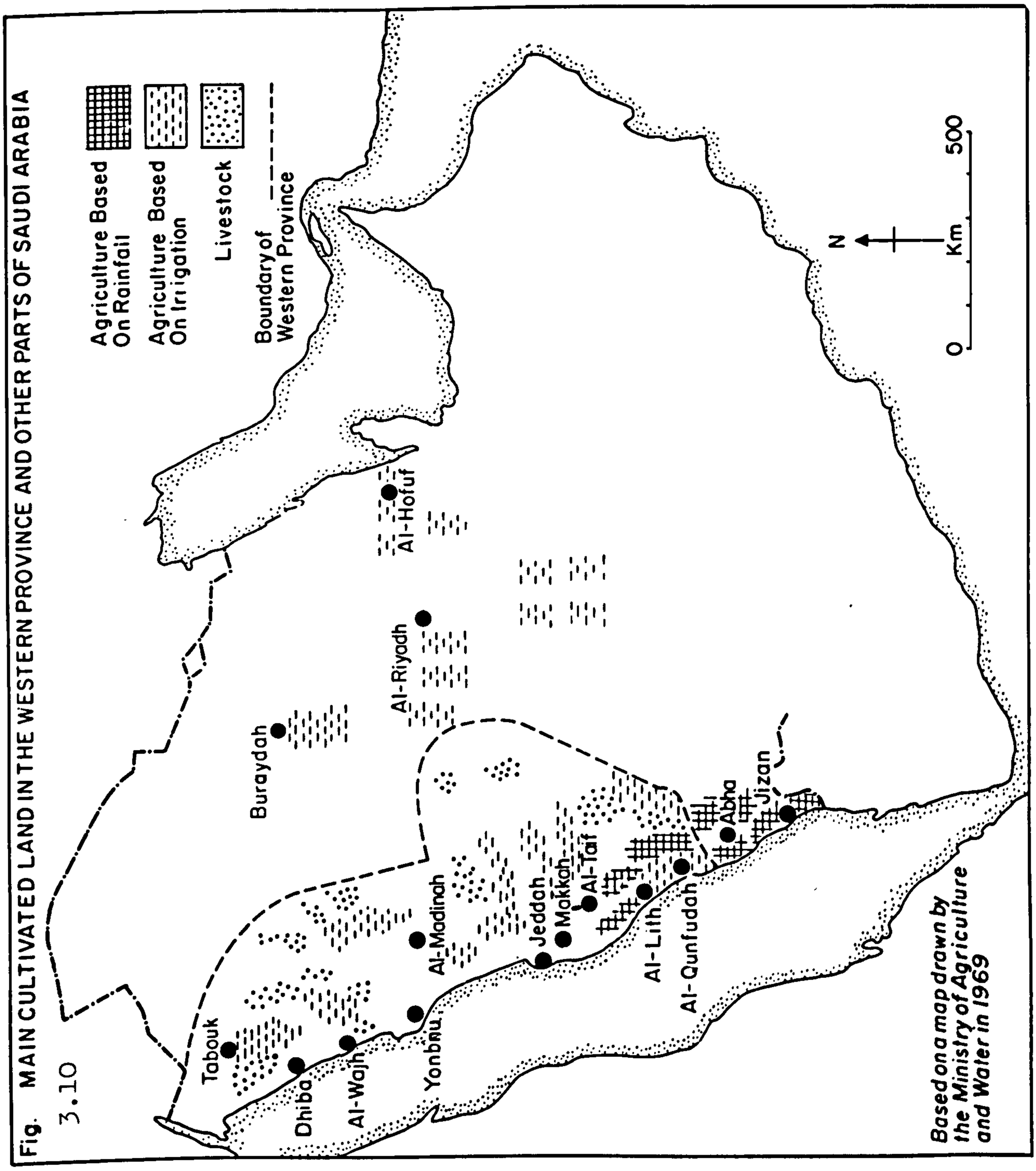


Fig. MAIN CULTIVATED LAND IN THE WESTERN PROVINCE AND OTHER PARTS OF SAUDI ARABIA

3.10

more efficient use of land, water and labour; yet, nevertheless to achieve self-sufficiency in livestock production and agricultural products will be an almost impossible task. The recent increase in population, together with improved standards of living resulting in changes in dietary habits have placed severe pressure on the existing limited cultivable land. To these factors can be added the extra demand placed on food supply by pilgrims, whose number reached more than 1,6000,000 in 1978.

Therefore, Makkah and Al-Madinah will continue to import foodstuffs from other parts of Saudi Arabia and from abroad. Makkah and Al-Madinah can be regionally self-sufficient only in vegetables and will have to continue to supplement their requirements in fruit from outside the country. The other staple foods such as wheat and rice are almost totally imported from abroad. At the same time, employment and economic opportunities tend to grow more rapidly in the urban centres than in the rural areas (as elsewhere in Saudi Arabia) so that rural-urban migration continues, reinforced by the limited and difficult nature of agricultural land - resources and climate in the region.

Makkah and Al-Madinah, then, in terms of food, as with water, have outgrown the supplies which their immediate hinterlands can provide. Their permanent populations are now reliant on national and international resource - flows and their periodic pilgrim population makes such dependence overwhelming. Even the permanent population demands largely arise directly and indirectly from the religious status and functions of the two cities (see Chapter 2).

In economic terms this demand is sustained by wealth originating and generated outside the region, for example expenditure by pilgrims and visitors and by the Saudi Arabian State deriving the bulk of its revenues from oil exports. Both Makkah and Al-Madinah are urban centres, therefore, technically analogous in this respect to other towns and cities which either for religious or secular touristic reasons can draw on external basic resources, and are not dependent on indigenous efforts in manufacture or administration. Benares in India, Canterbury in medieval (and even modern) England are two obvious other examples. Makkah and Al-Madinah are however unique in that, as noted in Chapter 2, they are essential focii for hundreds of millions of Muslims from many lands which now include some extremely wealthy countries. At the same time, no cities of equivalent high status are located in such low carrying capacity environments.

Spatially, Makkah and Al-Madinah are similarly inextricably locked into regional and international supply route systems. The road communications, mainly to the Red Sea ports of Jeddah and Yonbu, and to a lesser extent with the highland of Al-Hajaz are but the regional land transport links within far wider supply chains which, if broken, would result in eventually the total collapse of the cities' urban life. This last event is, of course, inconceivable for cities which lie at the heart of a world-scale religion.

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CHAPTER FOUR

Population

CHAPTER FOUR

Population

In this chapter we will first examine the data available concerning the populations of Makkah and Al-Madinah in the period before 1950 (see also Chapter one). Since that time the change brought about in the Saudi Arabian's economy and living standards has had considerable demographic effects on population trends and its distribution; in addition, the urban hierarchy has itself been vastly altered. These changes have both directly and indirectly affected the two cities. The recent and contemporary demographic characteristics of population distribution within Makkah and Al-Madinah will then be examined.

I. Population Estimates Pre-1950

Prior to 1962, population statistics were either estimated or based on data provided by European travellers who visited the country, or travellers and writers from neighbouring Arab countries. Estimates of this nature were somewhat erratic, but because of the religious importance of the cities many such estimates were made of the populations of Makkah and Al-Madinah. Population information was thus of a questionable nature until the early 1960's when a Population Census became necessary in order to allocate the various development programmes which the government had planned for developing the country. However, in estimating the population of Makkah and Al-Madinah the writer has limited himself only to estimates made since the beginning of the 19th century.

As early as the beginning of the 19th century, Ali Bey, who visited the two holy cities between 1803 and 1807 made the following observation:

> "The city of Mecca (Makkah) which is known to have contained more than 100,000 souls, does not at present shelter more than between 16,000 to 18,000".[1]

He attributed this situation to the unrest which prevailed in Makkah as a result of the wars among the Sharif family and also to the occupation of the two holy cities by the first Saudi ruler (after which rule reverted to the Ottomans in 1818). Ali Bey noted that some quarters of the city were abandoned and in ruins, and the events leading up to this destruction almost certainly caused many people to leave the city, causing a sharp reduction in the population. He mentioned that Al-Madinah had about 3,000 inhabitants at the time of his visit, and gave the same reason for this low figure as he had done for Makkah.[2]

Rosenthal, who visited Makkah at the same time as Ali Bey, estimated Makkah's population to be 60,000,[3] while at the beginning of the twentieth century, one of the Egyptian Amirs, Ibrahim Pasha Rif'at when escorting pilgrims from Egypt, estimated it as 120,000.[4] At the same time another Egyptian writer, Al-Batnuni, estimated Makkah's population as 150,000 and gave the following breakdown by nationality (Table 4.1).

Table 4.1 : Total Population of Makkah, By Nationality 1910

Nationality	Number
Citizens of Makkah	30,000
Arabs from Al-Hijaz	25,000
Yemen and Hadhramaut	20,000
Indians	12,000
Indonesian	15,000
Afghanistan	10,000
Syrian	5,000
North Africa	5,000
Other nationalities	8,000
Total	150,000

Source: M.L. Al-Batnuni, Al-Rihlah Al-Hijaziyah (Al-Hijaziyah Journey), 1911 (1329 A.H) Qairo, Al-Jamaliyah Press, second edition, pp. 40-41.

Al-Batnuni estimated that the total population of Al-Madinah was 60,000 and while he gave no breakdown of this figure, he did state that a large percentage of the total were from Turkey, India, Egypt, Syria and North Africa.[5]

The totals given by both Arab writers were almost double those given by the European travellers, and the breakdown of the population of Makkah into nationalities encouraged overestimation; the two holy cities were poor food producing areas, almost totally dependent on the annual revenue from pilgrims, and this did not encourage vast numbers to live there. Further confusion arises from the fact that when these estimates were made, Makkah and Al-Madinah

were still under Ottoman rule and a large number of residents were Turks; even so Al-Batnuni gives no separate figures for the Turks living in the city. After the secession of the Arab provinces and the fall of the Ottoman Empire in 1918, most of the Turkish citizens returned to Turkey. The emigration is particularly noticeable in Fig. 4.1 when a sharp decline in the resident population is evident.

More recently, in 1933, Philby stated that as a consequence of the construction of "the railway of Al-Hijaz" between Damascus and Al-Madinah, the population of Al-Madinah grew rapidly to 70,000 inhabitants, but this figure fell to 15,000 after the destruction of Al-Hijaz line.[6] The railway of Al-Hijaz was in operation for eight years (1908-1916) and during this short period Al-Madinah's population appears to have increased fourfold. No population figures were given for Makkah at that time as the line did not reach Makkah (see Fig. 2.3) so no similar population expansion was expected. In 1946 Twitchell indicated the population of Al-Madinah as 30,000 and that of Makkah as 80,000,[7] while about 13 years later in 1959, Lipsky* estimated the population of Al-Madinah as 40,000 and that of Makkah as 80,000.[8]

From the above figures given by various writers from the beginning of the 19th century to the late 1950's (almost 150 years), some idea can be obtained about the total population of Makkah and Al-Madinah during this period, though none of the estimates can be regarded as reliable.

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* The population figure for Makkah given by Lipsky in 1959 was not an accurate figure as the population was estimated at 100,000 in 1950 by Kingsley Davis, and at 150,000 in 1957 by the Ministry of Finance (see Tables 4.2 and 4.1).

These various sets of figures, together with post 1950 figures are shown in Tables 4.2A and 4.3A which indicate that both cities seemed to have large populations on some occasions and small on others, which make it very difficult to determine the natural rate of increase from one year to another during this period. Taking into consideration the number of foreign pilgrims arriving annually in Makkah during the pilgrimage season of 1877-78 (42,718) and the total number of pilgrims assembled in Arafat (180,000), (see Chapter 2) the population of Makkah at that time must have been approximately 60,000 and that of Al-Madinah, 15,000.

The very slow population increases in Makkah and Al-Madinah continued until their incorporation into the State of Saudi Arabia in 1925. At this time both cities experienced political stability and internal security for the first time since the early period of Islam. The establishment of firm central government in the area had brought with it a new era of prosperity, not only for the holy cities, but for the whole of Saudi Arabia.

II. Population size post-1950

Since 1950 the country's revenue from the production of oil has risen substantially; recorded as $57 million in 1950 it doubled twice in the next two years, reaching $212 million in 1952, and it doubled yet again in the following ten years to reach $410 million in 1962 and $909 million in 1967.[9] Many new employment opportunities have been created by the vast amount of the oil revenue spent in the public sector. These employment opportunities

TABLE 4.2A Population Estimates in Makkah during two hundred years (1803-2000)

Year	Population	Source
1803	18,000	Ali Bey
1807	60,000	Rosental, E.
1909	120,000	Pasha, I.R.
1911	150,000	Al-Batnuni, M.L.
1946	80,000	Twitchell, K.S.
1950	100,000	Davis, K.
1957	100,000	Ministry of Finance
1959	80,000	Lipsky, G.K.
1960	159,000	Davis, K.
1960	250,000	Cressey, G.B.
1962	158,908	First National Population Census
1965	185,000	Amin, G.A.
1970	215,000	Davis, K.
1970	250,000	McGregor, R.(Population of the Middle East and North Africa)(ed.)
1971	301,000	R.M.J.M. Survey
1974	366,801	Second National Population Census
1991	550,000	R.M.J.M. Projection for next 20 years (1971-1991) (Low Estimate)
1991	750,000	R.M.J.M. Projection for next 20 years (1971-1991)(High Estimate)
2000	936,645	The writer's Estimate

TABLE 4.2B Average Annual Rate of Population Growth (1962-2000)

Year	Population	Population Increase	Av. Ann. Rate of Growth
1962	158,908		
1965	185,000	26,092	5.20
1971	301,000	116,000	8.40
1974	366,801	65,801	6.80
1991	550,000	183,199 (Low Estimate)	2.40
1991	750,000	200,000 (High Estimate)	4.30
2000	686,873	63,127 (Low Estimate)	2.50
2000	936,645	249,772 (High Estimate)	2.50

TABLE 4.3A Population Estimates in Al-Madinah during two hundred year (1803-2000)

Year	Population	Source
1803	3,000	Ali Bey
1908	70,000	Philby, H. St. J.B.
1911	60,000	Al-Batnuni, M.L.
1916	15,000	Philby, H.St.J.B.
1946	30,000	Twitchell, K.S.
1959	40,000	Lipsky, G.K.
1960	75,000	Cressey, G.B.
1962	71,988	First National Population Census
1970	90,000	McGregor, R. (Population of the Middle East and North Africa)(ed.)
1970	100,000	Davis, K.
1971	137,000	R.M.J.M. Survey
1974	198,186	Second National Population Census
1991	250,000	R.M.J.M. Projection for next 20 years (1971-1991) (Low Estimate)
1991	350,000	R.M.J.M. Projection for next 20 years (1971-1991) (High Estimate)
2000	437,101	The writer's Estimate

TABLE 4.3B Average Annual Rate of Population Growth (1962-2000)

Year	Population	Population Increase	Av.Ann.Rate of Growth
1962	71,988		
1971	137,000	65,012	7.40
1974	198,186	61,186	13.10
1991	250,000	51,815 (Low Estimate)	1.40
1991	350,000	100,000 (High Estimate)	3.40
2000	312,215	37,785 (Low Estimate)	2.50
2000	437,101	124,887 (High Estimate)	2.50

have attracted and encouraged many young people to migrate from other parts of the country and from other Arab and Muslim countries, to seek employment in Makkah, Al-Madinah and other urban centres of the country. As a result of immigration and natural increase, the population of Makkah which was estimated by the early part of the 1950's at 100,000,[10] had increased about 60,000 during the following ten years to become 159,000 [11] in 1960 and that of Al-Madinah the figure which was given for 1960 was 75,000.[12] However, in 1962 the first National Population Census gave the population of Makkah and Al-Madinah as 158,908 and 71,988 respectively,[13] and it can be seen that the populations of both cities were 92 and 3012 lower respectively, than the figures given in 1960. The 1962 figures, however, given by the Central Department of Statistics for the whole country, were never ratified by the government, as it was assumed that serious undercounting took place. With an estimated 10% growth rate, from the 1962 Population Census, by 1970 the populations of Makkah and Al-Madinah would become 250,000 and 90,000 respectively.[14] However, the Socio-Economic Survey conducted by R.M.J.M. in 1971 gave Makkah's population as 301,000 and that of Al-Madinah as 137,000.[15] Table 4.4 shows the projected growth figures for the next twenty years (1971-1991) and the figures of the 1974 Population Census.

Table 4.4 Populations of Makkah and Al-Madinah in 1962, 1970, 1971 and 1974 and Projected Figures for 1991

City	Population Census 1962	Estimate 1970 (Based on 1962)	Survey 1971 (RMJM)	Population Census 1974	R.M.J.M. Projection for next 20 years	
					Low Estimate Growth	High Estimate Growth
Makkah	158,908	250,000	301,000	366,801	550,000	750,000
Al-Madinah	71,998	90,000	137,000	198,186	250,000	350,000

Source: Census Population 1962 and 1974, Estimate 1970, Survey 1971 (RMJM) and RMJM Projections for 1991.

The difference between the two figures (1970-1971) is 51,000 for Makkah and 47,000 for Al-Madinah, and it is difficult to see how such a high rate of growth could take place in one year. A 10% growth rate from the Population Census figures of 1962 would be insufficient to raise the population to the 1971 figure; it can therefore be safely stated that either the Census of 1962 was underestimated, or the 1971 R.M.J.M. Survey was overestimated. The difference between the two totals (1962 and 1971) is 142,359 (Makkah) and 65,002 (Al-Madinah), suggesting almost a 100% increase in nine years.

The results of the 1971 Survey seem more acceptable, for the following reasons; since 1964, when the late King Faisal became King of Saudi Arabia, the country had passed through its most flourishing period; each year's budget has been balanced with the government oil revenue to avoid the mistakes made prior to 1960's. The government has established a programme to maximise growth with continuing financial and monetary stability. This can be seen in the

expansion of the built up area, closely linked to corresponding increases in population and rising living standards. Secondly, job opportunities were created by increases in the staff of existing social services and public utilities and by the opening of new departments such as the Department of Girls' Education, the Automatic Telephone Exchange (Saudi Tel) Social Security and Social Services offices and several others.

Finally, this resulted in the immigration of large numbers of people to the cities from the nearby rural areas (see Fig. 3.5), from other parts of Saudi Arabia and from other Arab and Muslim countries. Unfortunately no records are available to show how many people have settled in Makkah and Al-Madinah in recent years, but many jobs in the new urban services requiring both skilled and unskilled workers, have been filled by the newcomers to both cities. A rising birth rate and a falling mortality rate, brought about by rising standards of living and improved economic conditions, improved medical care and hygiene, have brought about greater natural increases. The many new business opportunities and profitable enterprises and the foundation of the College of Education and Al-Shari'a of Makkah, and the Islamic University of Al-Madinah, have contributed to the population increases shown in the 1971 Survey (see Table 4.4).

The nominal annual rate of increase of Makkah's population between the 1962 Census and the 1971 Survey was 7.4%, and a similar rate of increase took place in Al-Madinah. With regard to post-1971 projections, the low estimated

growth for both cities (Table 4.5 indicated 3.1% and the high estimate for Makkah was 4.7% and 4.8% for Al-Madinah. Such figures are exceptionally high in comparison with the accepted rate of 2.5% put forward by the U.N. and adopted by the Central Department of Statistics of Saudi Arabia.

The writer has therefore adopted the U.N. growth rates in order to determine the populations of Makkah and Al-Madinah in 1975, for the next 20 years (1975-1995) and estimated that by 1995 the population of Makkah would be 544,427 and that of Al-Madinah 247,795 (Table 4.5). The writer's calculations, based on the 2.5% per annum growth rate, give lower figures than the R.M.J.M. projections for both cities in 1991, yet it is presumed that the total populations of Makkah and Al-Madinah would be lower for the following reasons:-

i) According to the results of fieldwork carried out by the writer in 1975, the average family has 5.13 members, whereas about 18 years ago, according to the 1957 report,[16] there were 7 people in each family; family sizes thus appear to be reducing.

ii) A strong tendency has been observed amongst the educated people (whose numbers are increasing annually), to have small families. As education becomes more widespread it can be expected that family sizes will be reduced correspondingly, and by 1995 the average family will probably only have 5, or less, members.

TABLE 4.5 Population Growth in Makkah and Al-Madinah in 1962, 1970, 1971, 1974, 1975, 1991 and 1995

		MAKKAH				AL-MADINAH			
		Population	Increase	Percentage	Annual Rate of Increase	Population	Increase	Percentage	Annual Rate of Increase
Population Census	1962	158,908				71,998			
Estimate (based on 1962)	1962 1970	250,000	+ 91,092	63.5%	5.8%	90,000	+ 18,002	20.0%	2.8%
Survey (RMJM)	1962 1971	301,000	+142,092	47.2%	7.4%	137,000	+ 65,002	47.4%	7.4%
Estimate	1971	301,000	-	-	-	-	-	-	-
Population Census (by the writer)	1974	366,861	+65,861	19.42%	6.8%	198,186	+ 61,186	30.87%	13.1%
	1975	332,248	-34,623	9.4%	2.5%	151,222	+ 14,222	9.4%	2.5%
Projected for next 20 yrs:	1971		+249,000	45.2%	3.1%		+1113,000	45.2%	3.1%
Low estimate growth (RMJM)	1991	550,000				250,000			
High estimate growth (RMJM)	1971		+449,000	59.8%	4.7%		+213,000	60.8%	4.8%
	1991	750,000				350,000			
Projected for next 20 yrs.	1975		+212,179	61.0%	2.5%		+ 96,573	38.9%	2.5%
(estimated growth of the writer)	1995	544,427				247,795			

Source : Census Population 1962, Estimated Growth for 1970, Population Survey 1971, Second Census Population 1974, and the Writer's Fieldwork in 1975.

iii) Improved standards of living and rising costs, since 1973, provide even greater incentive to limiting family size; people simply can no longer afford such large families.

However, there is no official family planning programme in Saudi Arabia, and the government has no wish to implement such a programme for the following reasons birth control is prohibited by Islamic religious teachings, though these have been recently interpreted differently by some Muslim countries, for example, Turkey, Iran, Egypt and Tunisia have adopted family planning programmes. [17]

In the case of Saudi Arabia individuals have started to adopt family control and it is through such efforts that family sizes are expected to be reduced.

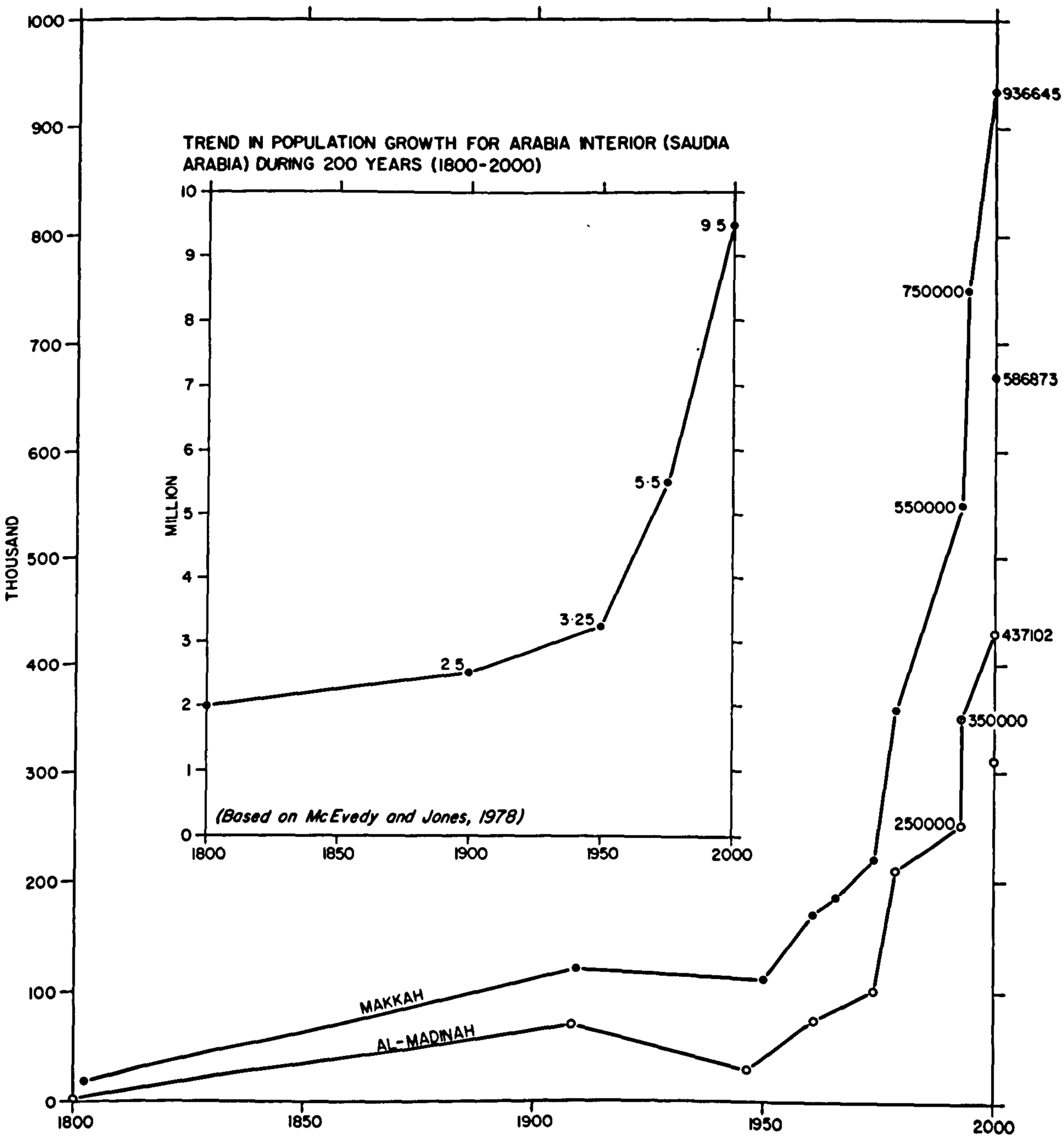
Arguably, Saudi Arabia has no overpopulation problem, certainly not in terms of the ratio of population to area, and not in terms of the capacity of the present economy to sustain and improve the standards of living. The only reservation in this respect lies in the capacity of the land to satisfy the population's food requirements. However, in contrast to other developing countries such as Egypt and India by no stretch of the imagination could Saudi Arabia be termed "overpopulated". Even though the country produces less than half its own food requirements, the export of oil has placed her in an extremely good economic position, for the importation of goods and hence, there seems to be little need for family planning schemes on a national scale. Nevertheless, family planning is now being practiced by many educated people in the urban centres of the country, but it

is rather a personal attempt on behalf of individuals to reduce their family size.

Population growth of Makkah and Al-Madinah during the last two hundred years are shown in Tables 4.2A and 4.3A; Tables 4.2B and 4.3B show average annual rate of population growth during 38 years (1962-2000) and their trend is illustrated in Figure 4.1 which shows the trend of growth within such a period. Both Makkah and Al-Madinah display similar trends to those presented by McEvedy and Jones (1978) for the whole of Saudi Arabia (interior). Certain variation in the population of the two cities is evident although these are more likely to be attributed to inaccurate estimates rather than absolute changes in the population. However, sharp declines or increases may be due to circumstances not yet fully understood.

The growth of the populations of Makkah and Al-Madinah must therefore also be seen in the national context in that changes in relative urban population sizes - ranking - are often indicative of other changes in functional status and in Section III we examine the changing size importance within Saudi Arabia of Makkah and Al-Madinah and compare their growth rates with those of other cities.

Fig 4.1 TREND IN POPULATION GROWTH DURING 200 YEARS (1800-2000) FOR MAKKAH AND AL-MADINAH



III. Recent changes in population size ranking of urban centres

The rapid population increases in Saudi Arabia since the early 1950's and the subsequent rapid urban growth are associated with the shift in the population balance from the old established urban centres such as Makkah and Al-Madinah to newer urban centres which have experienced recent growth - Jeddah, Al-Riyadh, Al-Ta'if, Tabouk and the cities of the Eastern, Northern and Southern provinces. Because of this the urban hierarchy had also changed with Al-Riyadh now first and Jeddah second in size. Up until the early 1950's however, Makkah has been the largest city in the country in terms of both population size and built up area, and as early as the first half of the 1950's the total population of Saudi Arabia was assumed to have been 4 - 6 million, of which only 8.4% was estimated to live in localities of 100,000 or more inhabitants.[18] Saudi Arabia when compared to other Middle Eastern countries had a relatively low urban population. (For a comparison of such proportions, see Table 4.4).

Table 4.6. Proportion of Population living in Cities of 100,000 in some Arab Countries in the 1950's

Country	Census Year	Per Cent
Kuwait	1957	50.6
Lebanon	1958	33.1
Syria	1955	28.9
Iraq	1957	14.5
Saudi Arabia	1954	8.4
Jordan	1952	8.1

Source: Ragheb, I., (1972) Patterns of Urban Growth in the Middle East. In : Breese, G., (Ed.) The City in Newly Developing Countries : Readings on Urbanism and Urbanization Prentice-Hall International In.London p.108

If the total population of Saudi Arabia in the 1950's was estimated to have been four million, the number of people living in the cities was then 336,000. Only two cities in Saudi Arabia had almost one hundred thousand people, namely Makkah and Jeddah; the city of Al-Riyadh, the capital, had an estimated figure of 82,000.[19]

Up to 1954 only three cities had a population approaching 100,000 and this can be related to the former type of economy that prevailed in the country, namely only a poor income from the annual pilgrims to Makkah, small farming communities, and poor pastoral activities. Much of the population lived close to subsistence level. The rapid urban growth of the country began with the exploitation of oil, which by the early 1950's brought tremendous wealth to Saudi Arabia. The steady rise of revenue from oil has enabled the government for the first time, to embark on social programmes including the improvement of living standards, housing, health, education, and other social and public services. These opene urban employment opportunities which attracted an ever increasing number of rural dwellers to the urban settlements. The tremendous opportunities in the cities for education and social improvement, and the higher level of services and amenities have drawn an increasing number of migrants from rural and nomadic areas. In the Population Census of 1962 it was found that more than half of the total population of Al-Madinah (64.23%) and that of Makkah (58.17%) were born outside the cities.[20]

The 1962 Population Census gave the total population of the country at 3,300,000 and of these 800,000 were urban, 700,000 nomadic and the remaining 1,800,000 were in rural

settlements.[21] The population as a whole was small and whilst the economy was improving the urban population in turn was still small, slightly less than one-quarter of the total. Settlements were generally small; the number of settlements with about 25,000 inhabitants in 1962 were about 12. Those with more than 50,000 totalled 5, and those between 2,000 - 10,000 represented the majority of settlements (Fig. 4.2). The rough breakdown of the total population in 1962 were 24.25% urban, 20.75% nomadic and 55% were rural settled (Table 4.7).

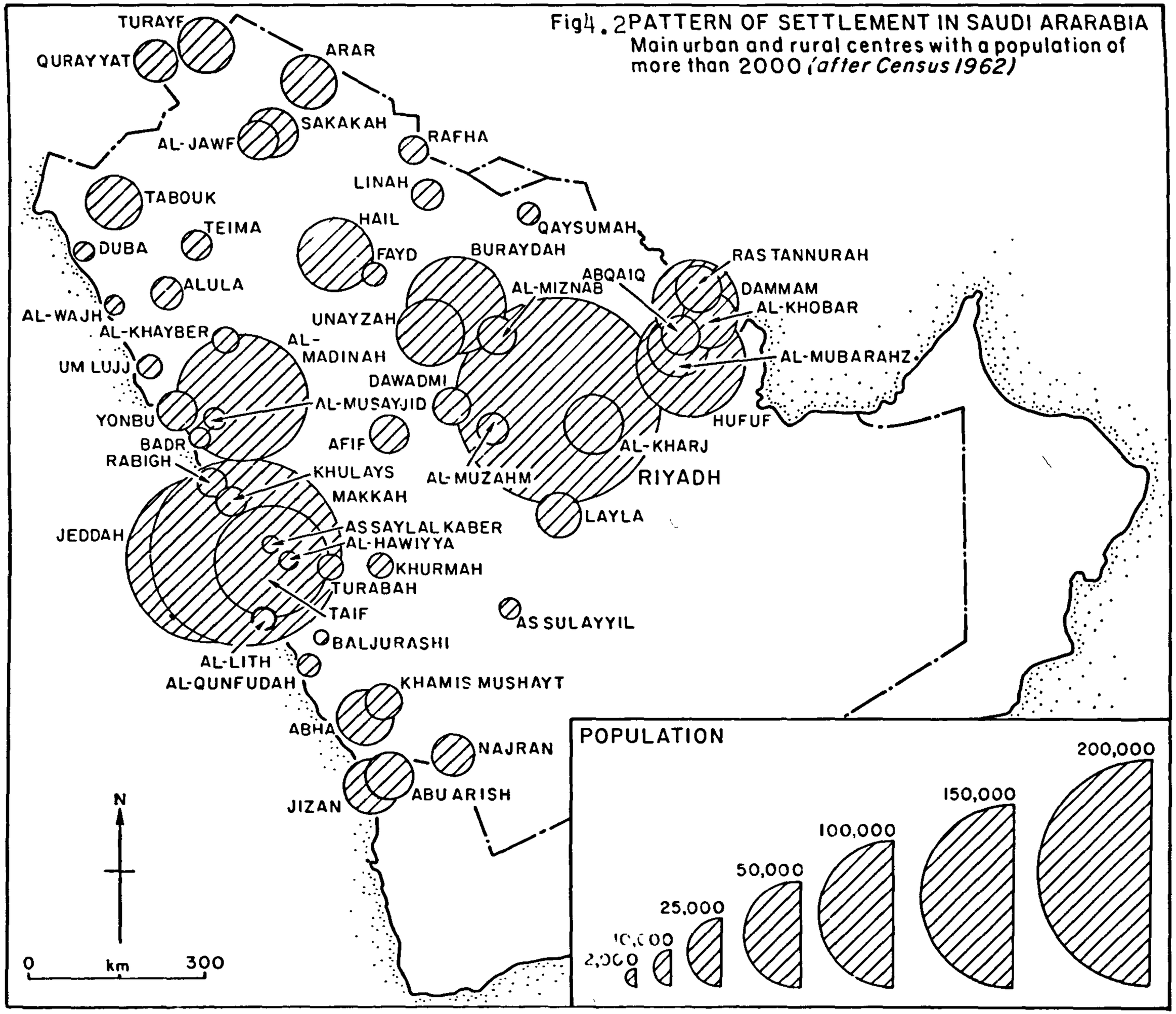
Table 4.7. Population of Saudi Arabia in 1962, Number of Urban, Nomadic and Rural Settled and their Percentage

	Number	Per Cent
Urban	800,000	24.25
Nomadic	700,000	20.75
Rural Settled	1,300,000	55
Total	3,300,000	100

Source: The Central Department of Statistics, the Population Census of 1962, Ministry of Finance, Al-Riyadh, Saudi Arabia.

According to the sample survey done in 1966 by the Central Department of Statistics, to correct the assumed under-accounting of the 1962 Population Census, the total population was given as 4,861,206. Of these only 999,464 were urban dwellers which constituted about one-fifth (or 20.5%) of the total population.[21] This means that although the total population was higher in 1966 than 1962 the

Fig4.2 PATTERN OF SETTLEMENT IN SAUDI ARARABIA
Main urban and rural centres with a population of more than 2000 *(after Census 1962)*



corresponding figure for urban was less, about (4%) of 1962. While the second Population Census of 1974 gave the total as 7,012,642, the settled population (rural and urban) was 5,128,655, and the rest (1,883,987) were classified as nomads.[23] Due to the absence of differentiation between the total urban and rural population, it has been difficult to accurately determine rural and urban populations. However, these figures were obtained for the existing urban centres having more than 30,000 population, which would mean a total of approximately 3,006,809 - more than one-third, or 34% of the total population in 1974. Table 4.8 below shows the total population of Saudi Arabia, the urban population and the per cent of urban to total population in 1962, 1966 and 1974:

Table 4.8 Total Population, Urban and Per Cent of Urban to Total in 1962, 1966 and 1974

Year	Total Population	Urban Population	% of Urban to Total Population
1962	3,300,000	800,000	24.25
1966	4,861,206	999,464	20.75
1974	7,012,642	3,006,809	34

Source: The Central Department of Statistics; the Population Census of 1962, 1966 and 1974, Ministry of Finance, Al-Riyadh, Saudi Arabia.

It can be seen that although the total population has been increasing considerably the urban population is still not as large as the rural. The urban population is concentrated in the five main cities of the country which accounted for about 66.44% of the total urban as is seen in Table 4.9.

It can be seen also that the total population in these urban centres has almost tripled within the 12 year period 1962-1974. Meanwhile, Makkah and Al-Madinah nominally increased by about two and a half times during the same period although if the 1962 figures are regarded as underestimates, the true rate of growth was lower than this.

Table 4.9 Population of the Five Major Cities of Saudi Arabia according to the Population Census Figures of 1962 and 1974

City	No. of Population 1962*	1974
Al-Riyadh	169,185	666,840
Jeddah	147,811	561,104
Makkah	158,641	366.801
Al-Ta'if	71,998	104,857
Al-Madinah	53,594	198,186
. . . . .	. . . . .	
Total .	601,589	1,997,788

Source: The Central Department of Statistics, the Population Census of 1962 and 1974.

* Not ratified by the government as it did not show the real situation.

Reference to figure 4.3 reveals that only two urban centres in the vast area of Saudi Arabia had over 500,000 (Al-Riyadh and Jeddah), and only one had over 300,000 (Makkah) and two had about 200,000 (Al-Madinah and Al-Ta'if). The remainder were small urban centres, which had between 30,000 - 50,000 population, (1974 Census). The concentration of job opportunities in these five urban centres (Table 4.9 made them

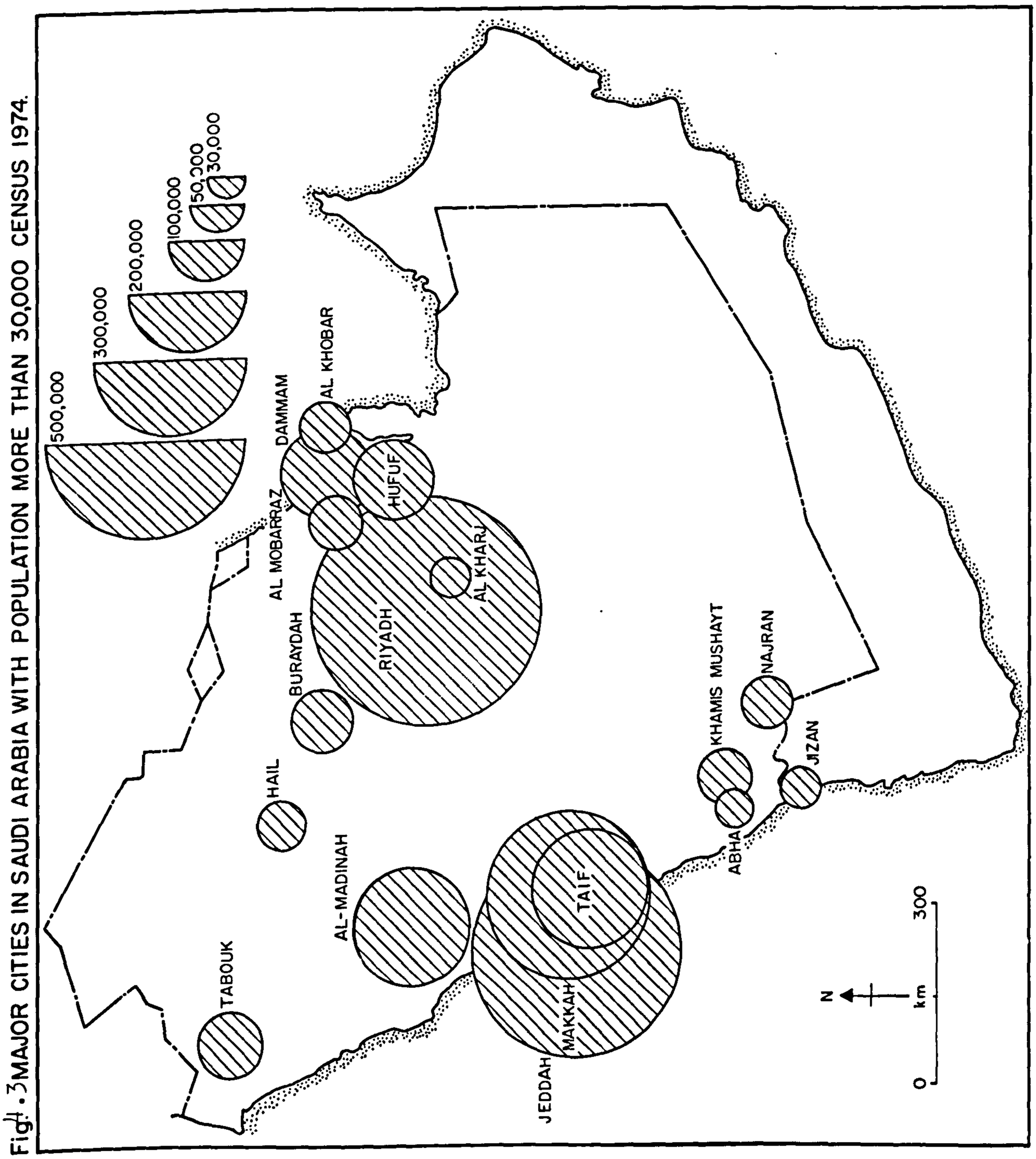


Fig. 3 MAJOR CITIES IN SAUDI ARABIA WITH POPULATION MORE THAN 30,000 CENSUS 1974.

become the main centre of settlement for the new immigrants from the various parts of the country and abroad.

Since 1960 more emphasis has been placed on infrastructure as part of the overall development plan and this has accelerated urbanization in the country. Improving the roads between the main urban areas and building the network of roads to link most of the small dispersed settlement communities, development of the sea port facilities of Jeddah and Al-Dammam and the airports of Jeddah, Al-Riyadh, Al-Dhahran, Al-Ta'if, Al-Madinah and Khamis-Meshait were all major factors in urban growth. The oil industry in addition to being the prime agent in the economic growth of the country has also effected the emergence of the new towns of Al-Dhahran, Al-Khobar, Al-Dammam, Abqaiq, Rass-Tannurah, Al-Jubail and many other centres in the oil producing area of the Eastern Province. In the north-east of the country on the "Tapline", as a continuation of oil industry establishments, the four pumping stations of Turaif, A'rar, Al-Qaysumah and Al-Nu'ayriyah, which later rapidly developed into towns, are another example.

The urban growth of the country has accelerated and been spread over larger areas of its vast land and this was made possible by the development of the transportation sector in terms of connecting these areas with the rest of the country through the construction of asphalted roads and airports (see Figs. 2.4 and 2.5) since the 1950's which facilitated movement. All of these areas now have their own commercial activities and service industries to meet the needs of the settled population in them and also the rural and nomadic population around and connected to them.

It can be concluded from this discussion that the shift of power to the city of Al-Riyadh since the early 1950's has caused Makkah to relinquish its former position as a capital, housing the most important government ministries and departments. Jeddah's close proximity to Makkah, its favourable location on the Red Sea, and its vast flat hinterland, which places no restriction on physical expansion (as in the case of Makkah) have enabled it to grow in size and importance.

Al-Madinah on the other hand has been second in importance to Makkah in a religious sense since it was deposed as capital of the emerging Islamic State. Al-Madinah remained the primary urban administrative centre for a larger territory of the north western part of Saudi Arabia until the early 1960's when the growing urban centre of Tabouk emerged as Al-Madinah's rival for this position. Tabouk's favourable location in the extreme north of Western Saudi Arabia resulted in it becoming a regional centre. Because of its proximity to Israel, Tabouk became a military base and was granted a large measure of administrative authority.

Although the administrative influence of Makkah and Al-Madinah nowadays has been shrinking in favour of new urban centres as well as the fact that their settled population has tended not to grow at the same rate as other urban centres of the country, their religious function has remained and has proved more important than their previous roles as governmental and administrative centres. The former unsettled political situation in the region as a whole and the poor economic condition (based on pilgrims) did not encourage a

large population to inhabit both cities. Presently as a result of favourable stability and the rapid increase in the number of annual pilgrims Makkah and Al-Madinah have been experiencing expansion in both size of population and built up area.

We next examine the population trends of the two cities, together with an examination of the population distribution within the cities quarters, and of the underlying factors relating to the growth and composition of their population. The first National Population Census was taken in 1962, but as already noted, the results were regarded as being under-estimates. The reasons for the failure of this Census included the ignorance of the population over the aim of the Census (they often gave false information); because of the Yemen War, some thought that the Census was a way for the government to determine the number of adults eligible for military service; the seclusion of women from public places and the reluctance of the officials conducting the census to visit them in their homes without the presence of their husbands; shortage of trained personnel at the time when the census was taken, and the usage of unskilled staff, all contributed to inaccuracy.

However, in 1966 a Population Sample census was conducted by the Central Department of Statistics to correct the results of the 1962 Census, and in 1974 the Second Population Census was carried out. This census proved much more accurate*, and all of these population statistics are used in

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* Extensive publicity via radio and television was used to explain the purpose of the Population Census, requesting citizens to co-operate with the census officials. At the same time, the day of the Census was made a national holiday, and men were requested to stay at home with their families so that the officials could enter their homes to collect information.

this chapter as well as throughout the other chapters of this thesis, together with the 1971 Population Survey by R.M.J.M. In some cases the 1962 figures are used, although their unreliability must be noted. The writer also carried out his own questionnaire surveys and data from these are also utilised; here the main deficiency arises from the standard problem of enumerating females. Sex-ratio figures must be noted especially regarding under-enumeration of the female population.

IV. The Distribution of Population within Makkah and Al-Madinah

According to the Population Census of 1962 the populations of Makkah (158,908) and Al-Madinah (71,988) were distributed within the existing classified major quarters of both cities as shown in Tables 4.10 and 4.11, which also show the numbers of Saudi and non-Saudi citizens, by sex for each quarter of the two cities.[24]

The average population density over the whole city of Makkah was 32 per hectare, although densities vary between quarters (see below), but broadly three distinct areas of differing population density can be observed in both cities (Fig. 4.4) :

1) The first and most densely populated district is that immediately around Al-Haram. As this district forms part of the city centre, the ground floor of most of these buildings is given over to commercial use, with only the upper floors used for residential purposes. This feature is entirely different from other Saudi Arabian cities such as Al-Riyadh, Jeddah and Al-Ta'if, and also differs from other Middle Eastern and European cities, in so far as the city

Table 4.10 Distribution of Population between quarters of Makkah divided into Sex, Nationality and their Percentage of Total (Population Census 1962)

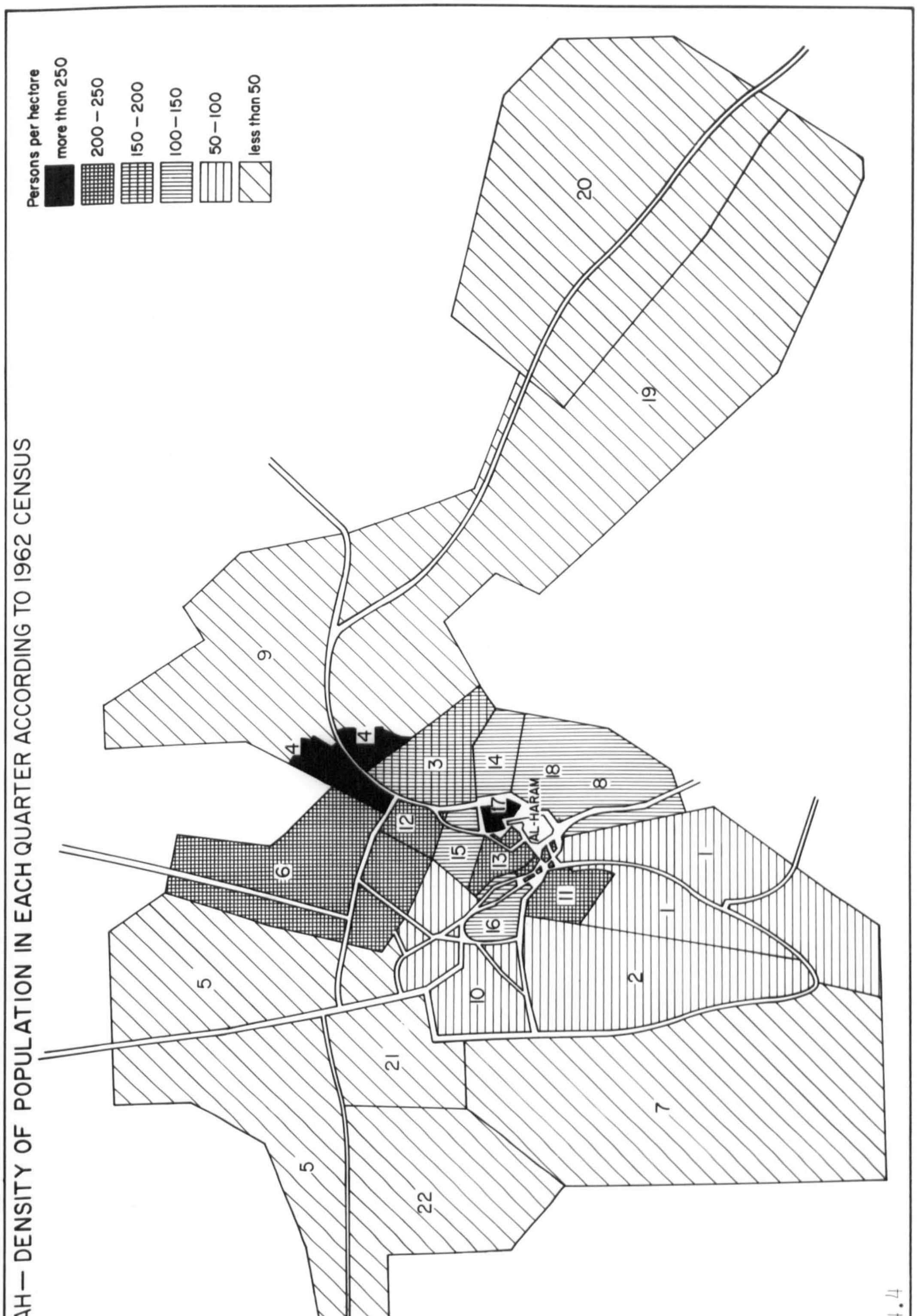
Quarter	Pop.	Sex		Nationality	
		Male %	Female %	Saudi %	Non Saudi %
Al-Misfalah	22,661	11,983(53)	10,678(47)	16,553(73)	6,108(27)
Al-Tundaba'wi	12,079	6,271(52)	5,808(48)	7,419(61)	4,660(39)
Sheib A'mer	11,785	6,181(52)	5,604(48)	10,315(88)	1,470(12)
Al-Jumaizah	11,723	5,948(51)	5,775(49)	10,936(93)	787(7)
Al-Zahir	11,474	6,036(53)	5,438(47)	10,810(94)	664(8)
Al-Utaibiyah	11,203	5,892(53)	5,311(47)	10,290(92)	913(8)
Al-Hinda'wiyah	11,080	5,672(51)	5,408(49)	5,760(52)	5,320(48)
Ajiad	10,339	5,706(55)	4,633(45)	8,266(80)	2,073(20)
Al-Ma'bdah	9,935	4,999(50)	4,936(50)	9,166(92)	769(8)
Jarwal	8,630	4,655(54)	3,975(46)	7,485(87)	1,155(13)
Al-Shubaikah	6,822	3,508(51)	3,314(49)	4,840(71)	1,982(29)
Al-Sulaimaniyah	5,868	3,149(54)	2,719(46)	5,124(87)	744(13)
Al-Shamiyah	5,291	2,925(55)	2,366(45)	4,479(85)	812(15)
Suq al-Lail	3,461	1,923(55)	1,538(45)	2,437(70)	1,024(30)
Al-Naqa	3,307	1,819(55)	1,488(45)	2,697(82)	610(18)
Harat Al-Bab	2,933	1,464(50)	1,469(50)	2,659(91)	274(9)
Al-Qararah	2,737	1,410(52)	1,326(48)	2,297(84)	439(16)
Al-Qushashiyah	2,163	1,301(60)	862(40)	1,555(72)	608(28)
Al-Faisaliyah	1,725	867(50)	858(50)	1,394(81)	331(19)
Muna	1,422	951(67)	471(33)	1,388(98)	34(2)
Al-Zahrah	1,308	681(52)	621(48)	1,215(93)	93(7)
Al-Nuzha	963	586(61)	377(39)	896(93)	67(7)
Total	158,908	83,933(53)	74.975(47)	127,971(81)	30.937(19)

Source: Central Department of Statistics, Population Census 1962-63, Ministry of Finance and National Economy, Al-Riyadh, Saudi Arabia p.35.

Table 4.11 Distribution of Population between quarters of Al-Madinah, divided into Sex, Nationality and their Percentages of Total (Population Census 1962)

Quarter	Pop.	Sex		Nationality	
		Male %	Female %	Saudi %	Non Saudi %
Bab Al-Majeedi	13,959	7,412(53)	6,547(47)	9,184(66)	4,775(34)
Al-Manshiyah	10,343	5,238(51)	5,005(49)	9,895(96)	448(4)
Al-Anbariyah	7,793	3,901(50)	3,892(50)	6,957(89)	836(1)
Al-Aghawat	5,792	3,058(53)	2,734(47)	4,254(73)	1,538(27)
Bab Al-Shami	5,450	3,066(56)	2,394(44)	4,941(91)	509(9)
Al-Manakhah	5,410	2,824(52)	2,586(48)	4,819(89)	591(11)
Al-Saha	3,825	2,276(59)	1,549(41)	2,773(72)	1,052(28)
Al-Tajuri	3,599	1,802(50)	1,797(50)	3,331(92)	268(8)
Al-Nakhawlah	2,841	1,514(53)	1,327(47)	2,425(85)	416(15)
A'bar Ali	2,613	1,641(63)	972(37)	2,607(99.3)	6(2)
Al-Awali	2,286	1,098(48)	1,188(52)	2,238(98)	48(2)
Al-Jurf	2,030	1,123(55)	907(45)	1,782(88)	248(12)
Quba	1,572	808(51)	764(49)	1,548(98)	24(2)
Al-Shuhada	1,282	614(48)	668(52)	1,277(99.8)	5(2)
Al-Anabis	1,105	562(51)	543(49)	1,067(97)	38(3)
Qurban	839	406(48)	433(52)	830(99)	9(1)
Al-Uyoon	659	321(49)	338(51)	649(98)	10(2)
Al-Tayar	600	305(51)	295(49)	506(84)	94(16)
Total	71,998	37,776(52)	24,222(48)	61,083(85)	10,915(15)

Source: Central Department of Statistics, Population Census 1962-63, Ministry of Finance and National Economy, Al-Riyadh, Saudi Arabia p.34.



MAKKAH— DENSITY OF POPULATION IN EACH QUARTER ACCORDING TO 1962 CENSUS

Fig 4.4

centre is almost entirely given over to this mingling of commerce and residence.

Since the period of expansion of the two Harams in the early 1950's, and the widening of public streets, many buildings in this district have been removed and not replaced, resulting in a reduction in population density; most of these people have now moved to the newly established quarters on the outskirts. In the case of Makkah, Al-Jumaizah quarter, close to Al-Haram, was found to have a very high density, together with Al-Qararah quarter, the only zone around Al-Haram left displaying the old population density pattern. Both of these quarters have more than 250 persons per hectare. These two quarters, which rank fourth and seventeenth in size of population (Table 4.10), had 14,640 persons, or 9% of the total population of Makkah.

2) The second zone, having the second highest population density contains 13 quarters (No. 1, 2, 3, 6, 10, 11, 12, 13, 14, 15, 16 and 18). There are three levels of population density discernible in this area - 200 - 250 persons/hectare, 150-200 persons/hectare and 100-150 persons/hectare (Fig. 4.4). Houses in this zone are tightly packed, and as most of the quarters are old there are no wide streets or squares, yet many pilgrims choose to reside in this area; it has a population of 106,542 (67% of the total population of Makkah), and due to its close proximity to Al-Haram, it is very popular and is the most crowded area of Makkah during Al-Hajj.

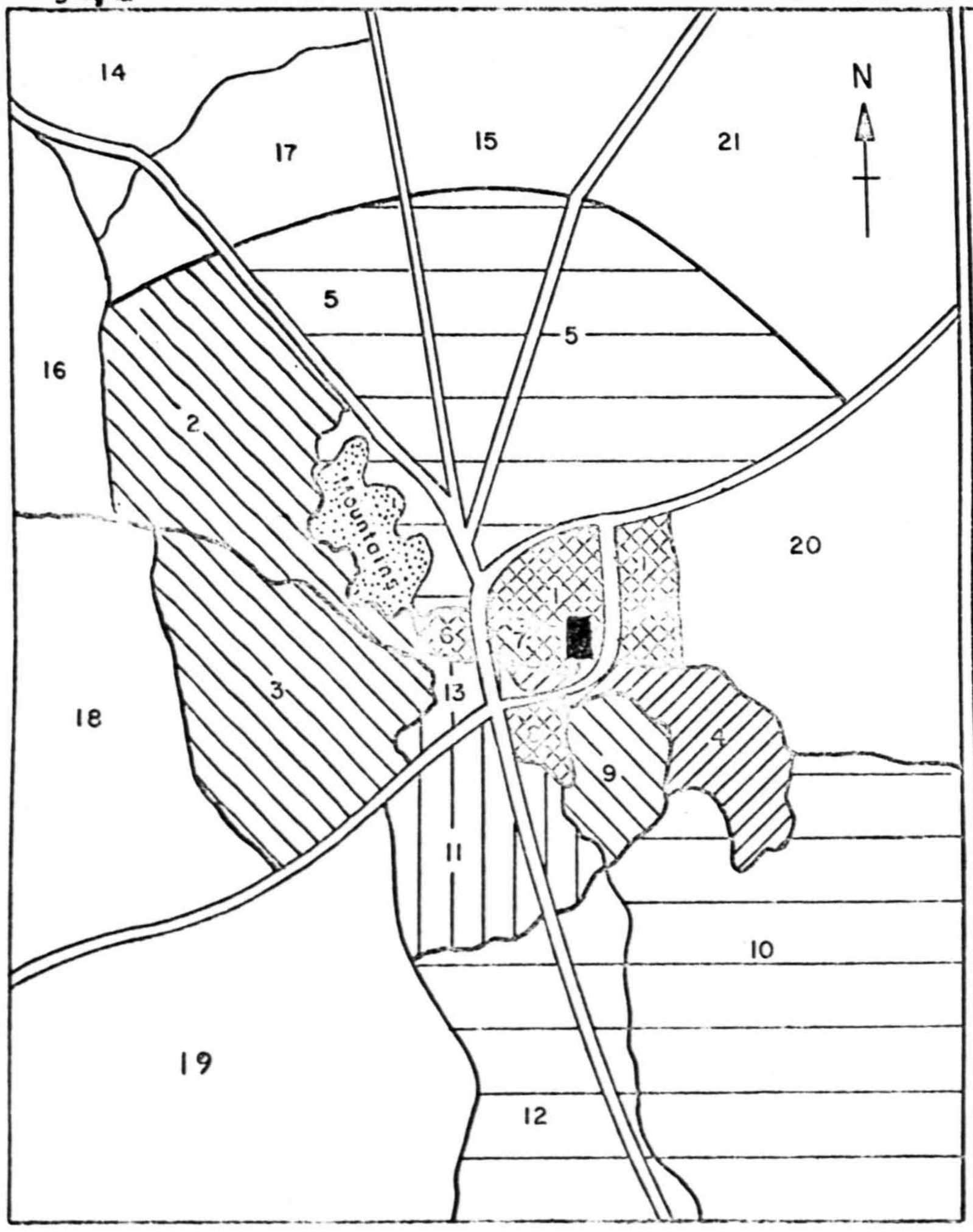
3) The other suburbs, comprising the remaining seven quarters (Nos. 20, 19, 9, 5, 21, 22 and 7 see Fig. 4.4)

are the least densely populated; buildings are a mixture of mansions and villa-type homes, are well spaced and most have their own gardens. Quarter No. 20 is Muna, one of the three areas of pilgrimage, which has now become a quarter of Makkah; residential expansion here is of the third degree of density, which is the lowest, but during Al-Hajj this area becomes very crowded for three days, when all pilgrims (1,627,589 in 1977) converge upon it. At this time the population density reaches its maximum level of 2,500 per hectare, higher than the most populated area around Al-Haram of Makkah.

These last seven suburban quarters make up the least dense area of Makkah which houses 37,907 inhabitants, or 23.8% of the total population of Makkah; its area comprises 3,417 hectares or 69% of the total area of Makkah, with room for further residential development. The population of the whole city increases sharply during the pilgrimage season every year, rising to more than treble its normal permanent level.

In the case of Al-Madinah(Fig. 4.5), the four quarters around Al-Haram (Nos. 1, 6, 7 and 8) were the most densely populated, having 150 persons per hectare, followed by quarter No.4, with 80-100 persons per hectare. The third district, containing six quarters (Nos. 2,3,9,5,10 and 12) had the lowest density of the city, ranging between 60-80 persons per hectare, 40-60 and 20-40 persons per hectare. The areas of the remaining quarters (Nos. 14,15,16,17,18,19, 20 and 21) are regarded as suburbs of Al-Madinah; they have only recently grown and been joined to the city centre with asphalt road, and their population density corresponds to

Fig. 45 DENSITY OF POPULATION IN THE MAJOR QUARTERS OF AL-MADINAH (BASED ON 1962 CENSUS)



1 BAB AL-MAJEEDI
2 AL-MANSHIYAH
3 AL-ANBARIYAH
4 AL-AGHAWAT
5 BAB AL-SHAMI
6 AL-MANAKHAH
7 AL-SAHA
8 AL-TAJURI
9 AL-NAKHAWLAH
10 AL-AWALI
11 QUBA
12 QURBAN
13 AL-TAYAR
14 AL-JURF
15 AL-SHUHADA
16 AL-ANABIS
17 AL-UYOON (SULTANAH)
18 AL-HARRA AL-GHARBIYAH (WESTERN HARRA)
19 AL-MEGHAISLAH
20 AL-HARRA AL-SHARQIYAH (EASTERN HARRA)
21 AL-MATAAR

0 Km 5

Source: Town planning office, Jeddah.

DENSITY/HECTARE

>100	60–80	20–40
80–100	40–60	< 20

the lowest division, with approximately 20 persons per hectare. These outer suburbs are still under-developed and have great potential for residential expansion such as is now taking place, and to meet future anticipated increases in the population of Al-Madinah.

V. Population Structure

The 1962 Population Census broke down the population by sex, in each single quarter of Makkah and Al-Madinah, and divided each sex into broad age groups, but neglected to show the ages of each sex separately. This deficiency was one of the criticisms of this Census, but it was the first experience of census taking, and at least gave some idea of age structure in both cities. (Table 4.12).

The population was classified into four broad age groups: less than 10 year, 10-30 years, 31-50 years and over 50 years. The percentages in each groups are given as follows; the population in the less than 10 years of age category comprised 55,873 (35%) in Makkah, and the corresponding figure for Al-Madinah was 25,573 (36%). These figures are slightly low in comparison with Al-Ta'if where the figure was 42%. The 10-30 year age group comprised 25,252 (35%) in Al-Madinah and 68,285 (43%) in Makkah. It can be noted that these groups include a large number of individuals of school age (10-18 years), the remainder being of working age (18-30 years). The 31-50 year age group comprises 33,436 (22%) in Makkah and 15,174 (21%) in Al-Madinah. The lower proportion within this age group (working age adults) can be explained by a then continuing high mortality rate and

Table 4.12 Age Structure in Makkah and Al-Madinah in 1962 and 1971

	MAKKAH			AL-MADINAH		
Age Group	Number	% of Total Population		Number	% of Total Population	
			1962			
Under 10	55,873	35	78%	25,573	36	71%
10 - 30	68,285	43		25,252	35	
31 - 50	23,936	15		15,174	21	
50+	11,547	7		5,999	8	
			1971			
0 - 4	50,260	17.6	46%	23,742	17	49%
5 - 14	88,476	29.0	44%	43,690	32	47%
15 - 24	45,890	15	50%	20,673	15	47%
25 - 44	73,943	24		29,907	22	
45 - 64	33,650	11		13,659	10	
65+	8,781	3		5,329	4	

Source: Central Department of Statistics, Population Census 1962. Al-Riyadh, Saudi Arabia.

R.M.J.M. "Socio-Economic Data", The Western Region Framework 1971, Jeddah, Saudi Arabia.

widespread migration to Al-Riyadh to seek employment in various Ministries and official departments following the removal of these offices in 1955. Finally in the 50 years and over category were found 11,547 (7%) in Makkah and 5,999 in Al-Madinah. This proportion seems low compared with western developed countries, where life expectancy is higher.

No breakdown of age group by sex was made in the 1962 Population Census, and it has not been possible to develop a population pyramid for Makkah and Al-Madinah, indicating the ratio of males to females. Figures 4.6 and 4.7 have therefore been adapted to show the age structure of the population of each of the quarters in both cities, both male and female. It can be seen from Table 2.8 that 78% of the population of Makkah and 71% of the population is found in the age group 0-30 years. This indicates a high percentage of young people in both cities, almost three-quarters of the total population, and the same ratios are found in all quarters of both cities; only five quarters of Al-Madinah and four in Makkah have a slightly lower ratio, but this may be explained by under-enumeration, especially for females, where the traditional barriers still exist.

If the 0-20 year age group alone is considered, it is found that almost half the population of Makkah and Al-Madinah are found within this group, and this pattern is observed in most other Middle Eastern countries, where children comprise over half the population and form the broad base of the pyramid. In the 1971 Survey by R.M.J.M. school-age children accounted for 44% of the 5-24 year age group in Makkah and 47% in Al-Madinah. Age structure in this survey

Fig. 4.6 AGE STRUCTURE OF THE POPULATION OF THE QUARTERS OF MAKKAH (based on census population 1962)

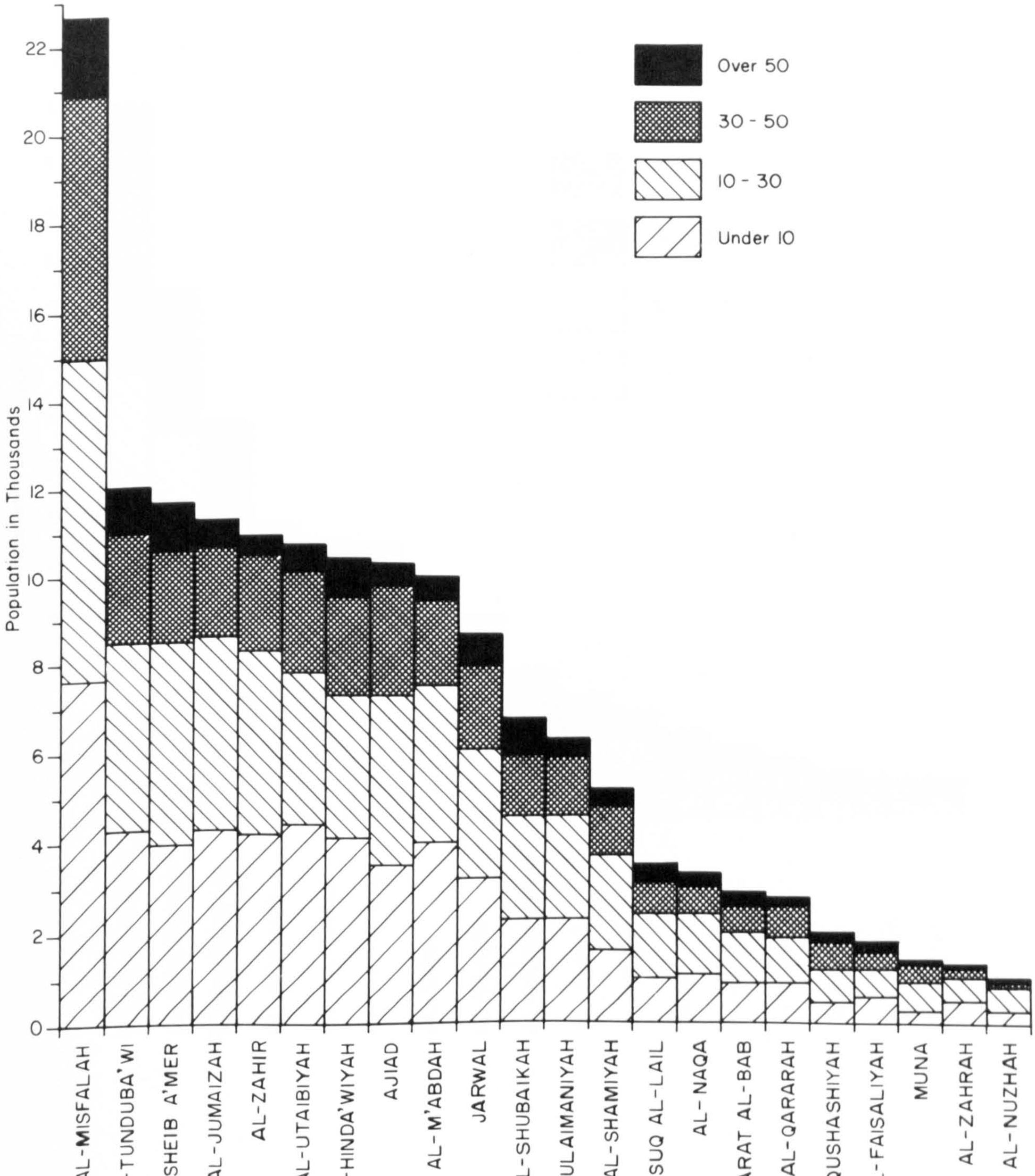
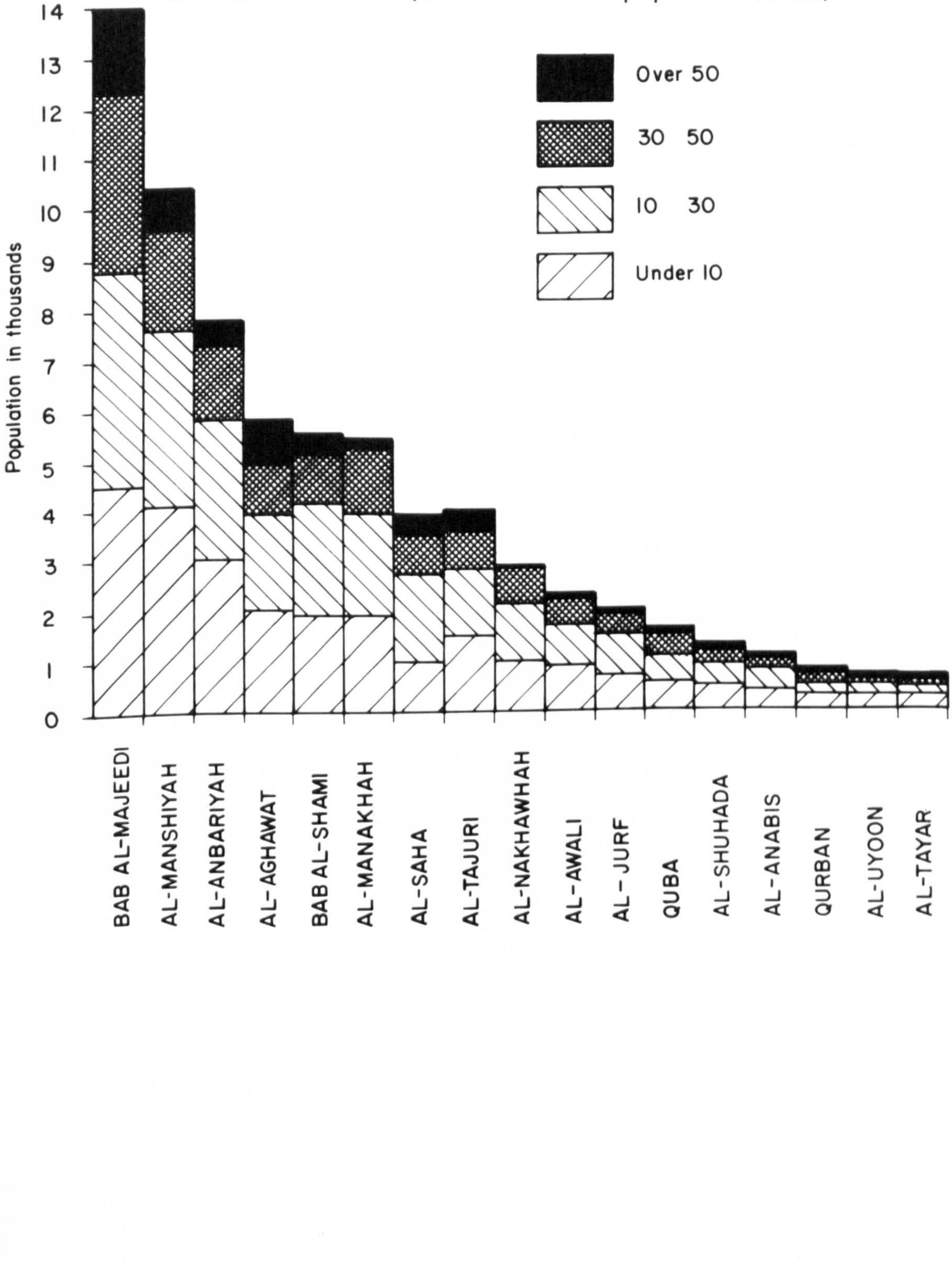


Fig. 4.7 AGE STRUCTURE OF THE POPULATION OF THE QUARTERS OF AL-MADINAH (based on census population 1962)



was broken down into six groups, with much greater definition than in the 1962 Population Census, where only four groups were given. Adults of working age and over, accounted for nearly 50% of the total population of both cities (see Table 4.12). Unfortunately the 1971 Survey neglected again, as in the Population Census of 1962, to separate males and females in each group, and it was not possible to construct an age-sex pyramid.

In the absence of separate statistics for males and females in each age group in both cities (Population Census 1962 and Survey 1971), the writer distributed questionnaires during his fieldwork in 1975 which included questions regarding the number of males and females in each family. When analysing the results it was possible to develop a population pyriamid (Figures 4.8 and 4.9) indicating the ratio of males to females in both cities. The 0-19 years age group was found to contain over 50% of the total population in both Makkah and Al-Madinah. This is as would be expected and conforms with the pattern found in most other Middle Eastern countries. In this group, males constituted 54.75% of all males in Makkah and 55.5% in Al-Madinah, while females in this group constituted 58.25% of all females in Makkah and 59.25% in Al-Madinah (Table 4.11).

In the 5-19 years age group (those of school age) Makkah was found to have 36.75% of all males and 39.25% of all females; Al-Madinah similarly had 37.5% of all males and 40.25% of all females. Clearly, females outnumber males in these age groups; and obviously with almost 40% of the population requiring education, plus the fact that education for girls is now compulsory, this has exerted great pressure

Fig.4.8 Age-Sex Pyramid of Population of Al-Madinah
Based on the writer's fieldwork 1975

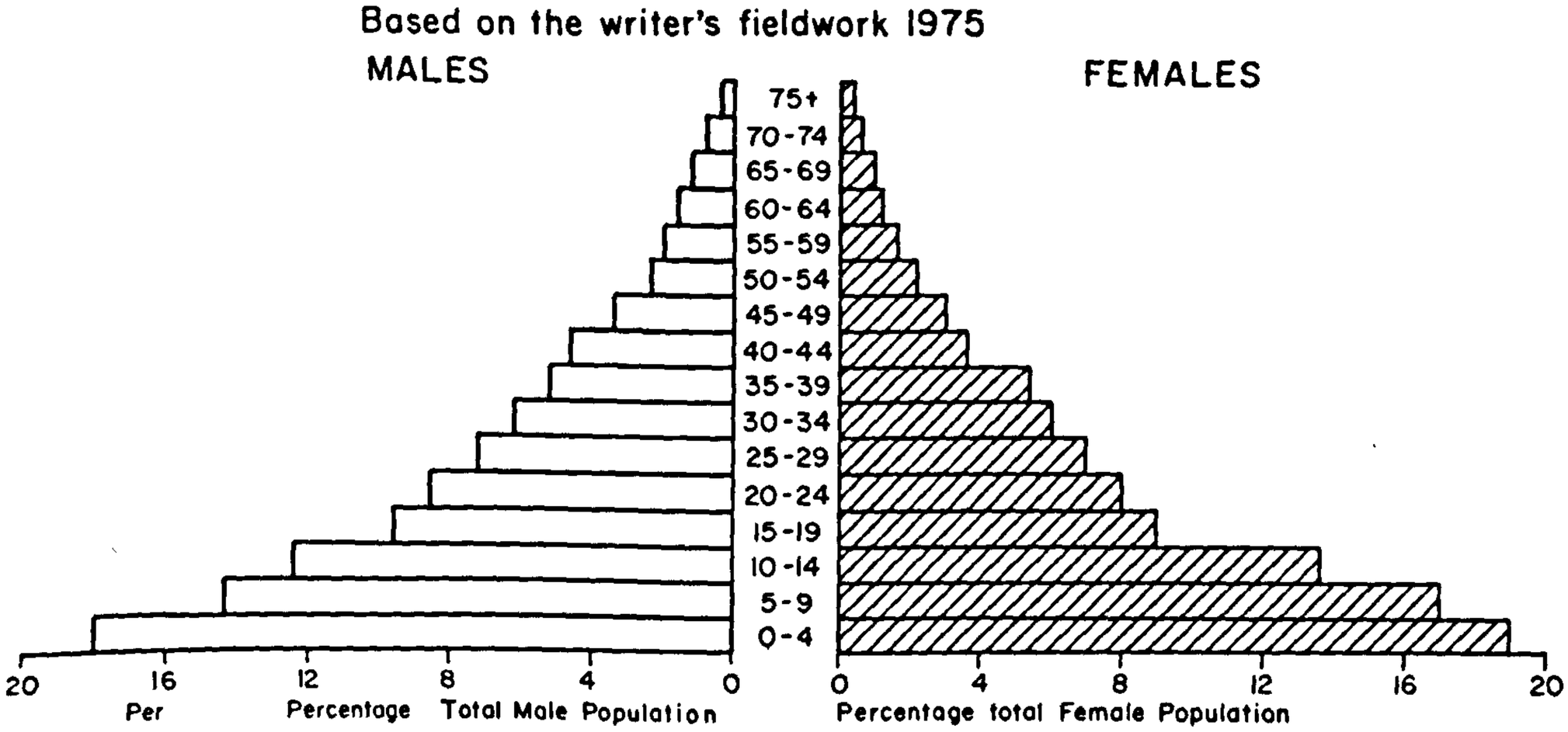


Fig.4.9 Age-Sex Pyramid of Population of Makkah
Based on the writer's fieldwork 1975

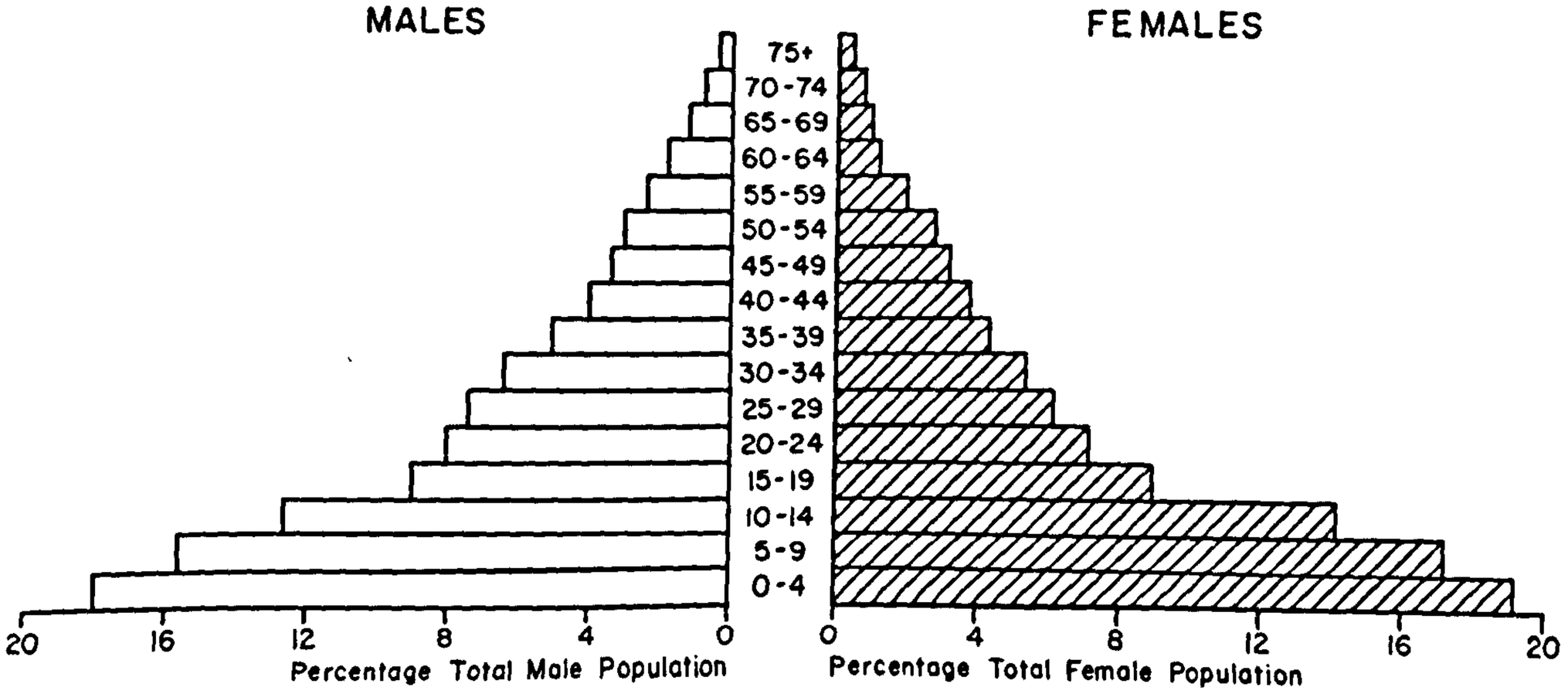


Table 4.13 Percentage of Males/Females in each Group in Makkah and Al-Madinah in 1975

		MAKKAH		AL-MADINAH	
	Age Group	Male	Female	Male	Female
1.	0 - 14	45	49.25	46.25	50.25
2.	15 - 19	9.75	9.00	9.25	9.00
3.	0 - 19	54.75	58.25	55.50	59.25
4.	5 - 19	36.75	39.25	37.50	40.00
5.	20 - 24	8.75	8.00	8.00	7.00
6.	15 - 39	36.75	35.25	36.00	31:75
7.	25 - 39	18.00	18.25	19.00	17.75
8.	40 - 64	15.25	13.00	14.50	13.75
9.	65 - 75+	3.25	2.50	3.00	2.25
	Total	100	100	100	100

Source: Personal fieldwork by the writer; 1975.

on existing educational facilities and has created a demand for more places in the schools. In the 20-24 (higher education) age group, both cities were found to have about 8% of the total population.

In the 15-39 age group (classified as adults of working age), Makkah was found to have 36.75% of all males and 35.25% of all females, while Al-Madinah had 36% of all males and 31.75 of all females. Here, only a very low percentage of females are participating in the work force. However, as education becomes available to females, it can be expected that their impact on the working community will increase considerably.

In the 15-19 year age group, the ratio of males to females is close in Makkah 9.57% of all males and 9% of all females; however these figures do not give an accurate picture for, due to the traditional guarding of females, parents are not always honest, especially in rural areas, when giving details of their daughters and their ages, with the result that statistics obtained for females, especially those over 14, are unreliable, particularly those obtained through questionnaires and not based on birth certificates. This factor may also be responsible for the lower percentage of females recorded not only in Makkah and Al-Madinah, but in most major cities of the country such as Jeddah, Al-Riyadh and Al-Ta'if; the 1962 Population Census put the population of the two holy cities as 47% female; that of Jeddah and Al-Riyadh as 43% female and Al-Ta'if as 46% female. In the 1971 Survey Makkah was 48% female, Al-Madinah and Al-Ta'if

49% female, Jeddah 46.6% female and according to the results of the writer's personal survey in 1975, Makkah was 47% female (similar to the 1962 Census) and Al-Madinah 48% female (Table 4.14).

There is a very large expatriate work force in the country, most of whom are single males; few married men bring wives and families, and this contributes to the higher ratio of males over females in all urban centres of the country. However, the percentage of females is naturally higher than males and this is seen in the age group 0 - 14, where females exceed males in both cities (Table 4.13).

The 1962 Census estimated the population of Makkah as 83,933 (53%) males and 74,975 (47%) females, and that of Al-Madinah as 38,000 (53%) males and 33,989 (47%) females (Tables 4.10, 4.11), and this indicated a higher percentage of males in both cities; this applied to all quarters of both cities. These figures were also confirmed in the 1971 R.M.J.M. Survey and in the writer's personal survey carried out in 1975.

The differential between sexes in Makkah and Al-Madinah can be related to job opportunities available in the various employment sectors which attract both skilled and unskilled labour. Many of these workers are unaccompanied males; secondly the traditional attitude towards women - the reluctance to give correct information regarding the number of women in a household, and a failure to report their correct age, leading to an under-enumeration of females; this could have led to a discrepancy in the ratio between males and females in all cities. In a country such as Saudi Arabia,

Table 4.14 Sex Ratio in Five Major Cities in 1962, 1971 & 1975

	1962		1971		1975	
	Male	Female	Male	Female	Male	Female
Makkah	53%	47%	52%	48%	53%	47%
Al-Madinah	53%	47%	51%	49%	52%	48%
Jeddah	57%	43%	54%	46%	-	-
Al-Riyadh	57%	43%	-	-	-	-
Al-Taif	54%	46%	51%	49%	-	-

Source: Population Census, 1962, R.M.J.M. Survey, 1971 and Survey by the writer in 1975.

where the tradition is to have a predominantly male work force (except in the field of teaching, medicine, and more recently, social work, radio and TV) these ratios are not surprising. Most of the country's workforce is male, many of whom migrate from other areas, and furthermore married men do not normally bring their families. A similar trend is observed in other Middle Eastern countries such as Egypt, Tunisia and Iran, though there, also, females are playing an increasingly important role in the country's economy. We must note here, however, that expatriates living or working in Makkah and Al-Madinah must be Muslims.

The recent improvements in living standards, and the provision of better health facilities such as hospital and medical centres have been instrumental in eradicating disease, and have reduced infant mortality considerably; people also now have a much higher life expectancy than twenty-five years previously. The recorded birth rate in both cities, and indeed over the whole country, was inaccurate, because records of births have only been kept for a very short time (since the beginning of 1960); also, citizens do not always register the birth of a baby, especially those born at home and delivered by midwives. This situation arose out of ignorance on the one hand, and because some of the midwives were not registered at the Directorate of General Health on the other.

As a result, the Census, which relied on hospital statistics of live births was not fully representative of the situation in Makkah and Al-Madinah. The average number of births registered each month in Al-Madinah was 365 in

1973 and 370 in 1974, while the average number of deaths registered per month was 150 for the same period.[25] The average number of live births registered per month in Makkah was 465 in 1973 and 488 in 1974, whilst the corresponding figures for death were 216 and 217.[26] Infant mortality is still high (almost 40% of all births) for children less than one year old; the lowest mortality rate occurs in the age group 5 - 45 years (almost 20%) and the highest in the age group 45 - 65 years (almost 70%).

Since 1960, education has become compulsory for girls as well as for boys, and as a birth certificate is required to register a child for school, parents now realise the importance of this document and register for the necessary certificate when the child is born. Since then it has been possible to compile a reliable official record of birth and death rates, although illiteracy still causes some parents, who do not yet recognise the importance of a birth certificate, to neglect reporting the birth of their children. However, a significant factor affecting trends and distribution of population in the places of origin of the cities' inhabitants is explained in the following section.

VI. Origin of the Populations

Until the rise of Islam the two holy cities were inhabited by various tribes of Arabian origin, the most recent being the Quraysh in Makkah and the Aws and the Khazraj in Al-Madinah*. After the spread of Islam beyond the

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* For detailed discussion see Watt, W.N., (1956) Muhammad at Mecca, and;
Watt, W.N., (1956) Muhammad at Medina
Oxford University Press.

Arabian Peninsula, both cities became the spiritual focus and physical goal of Muslims throughout the world. The annual pilgrimage to Makkah, together with the function of the holy Harams of both cities as centres of Islamic study have led to the presence of Muslims of many nationalities. Since that time many Muslims have settled in the two holy cities and are now regarded as one nation, unified by bonds of Islam, regardless of their origins. Over the centuries Makkah and Al-Madinah have become cosmopolitan cities; through inter-marriage a nation has emerged with a common culture. Though the Arabic language is spoken by all, it is now influenced by the introduction of many foreign words which are now used and understood by citizens of the four major cities of Al-Hijaz: Makkah, Al-Madinah, Jeddah and Al-Ta'if. This intermixture of different nationalities has been described by one Arab historian who stated that the majority of the population of Makkah has acquired the characteristics of various races and has been influenced by their mode of eating, dressing and speaking.[27] The foreign immigrants have become totally integrated, and are hardly distinguishable from the natives of the area, particularly as the majority of them have also forgotten their native tongue. As a result, the inhabitants of Makkah and Al-Madinah today can be broadly classified into the following groups:

1. Those who can trace their origins to the Qureish, Ashr'af (Sharifs)* or to one of the Arabian tribes who inhabited the area before Islam.

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* People who claim that they are descended from Al-Hassan, or Al-Hussein, son of Fatimah, the Prophet's daughter, and wife of Ali the Fourth of the Orthodox Caliphs.

2. Those who come from other parts of Saudi Arabia.
3. Those who are from other Arab countries (Yemen, Hadhramout, Iraq, Syria, Lebanon, Palestine, Egypt Libya, Tunisia, Algeria, Morocco, Sudan and Moritania).
4. Those from various Muslim States (Turkey, India, Pakistan, Afghanistan, Turkistan, Indonesia, Malaysia and Central Africa).

The descendants of the original settlers of both cities have rapidly diminished, partly through migration to neighbouring states and also due to the frequent internal wars over rule of the two holy cities.[28] Their numbers have been further reduced by inter-marriage with citizens of Makkah and Al-Madinah. The recent political stability of the area since the emergence of the Saudi Arabian state, and the economic prosperity resulting from the discovery of oil, have attracted more people from the above Muslim and Arab nations to settle in the area. At the same time, the other prime factors (Al-Hajj and the study of Islam and Arabia language) have also exerted a strong "pull" factor on many people from different Muslim countries. All these immigrants, who arrived both before and after the establishment of the Saudi Arabian state, now hold Saudi nationality, and in the early 1960's a law was passed restricting immigration from outside the country. According to the Population Census of 1962, Makkah had a non-Saudi population of 30,937 (19%) of the total (non-Saudis designated all people from the various Arab and Muslim countries who do not hold Saudi nationality) and Al-Madinah had an immigrant population of 10,915 (15%) of the total. Their distribution between the various quarters

of both cities is shown on Tables 4.10 and 4.11 but unfortunately their origin and the percentage of each group were not available.

Al-Hinda'iwiyah quarter in Makkah ranked first, with 40% of its total population originally coming from Central Africa, mainly Nigeria; next came Al-Tundhuba'wi (38%), Suq Al-Lail (29%), Al-Shubaikah (29%), Al-Misfalah (27%) and Ajiad (20%). Al-Madinah had three quarters with a high proportion of their inhabitants originating outside Saudi Arabia, these were Bab Al-Majeedi (34%), Al-Saha (28%), and Al-Aghawat (27%). (See Tables 4.10 and 4.11 .

There are some quarters and sub-quarters in Makkah and Al-Madinah called after the place of origin of the people settled there, such as: Al-Sulaimoniyah (designated by the people who came from Afghanistan), Al-Tundhubami (designated by the people who came from Central Africa), Al-Bukhariyah, a sub-quarter of Al-Misfalah, (designated by the people who came from Turkistan). In the case of Al-Madinah, Al-Takarnah is a sub-quarter of Bab-Al-Majeedi (designated by the people who came from Central Africa).

The 1971 R.M.J.M. Survey estimated the population of Makkah as being 73.4% Saudi and 26.6% non-Saudi; and that of Al-Madinah as 82.7% Saudi and 17.3% non-Saudi. It can be seen that the proportion of Saudis in Al-Madinah is higher than in Makkah, possibly due to the greater employment opportunities available in Al-Madinah. By way of comparison, in Jeddah (which ranks second only to Al-Riyadh, the capital, for employment opportunities), non-Saudis comprised 42.1% of the population in 1971 (R.M.J.M. Survey). A 7.1% rise in

the non-Saudi population of Jeddah was observed between 1962 and 1971, and if a similar rate of increase takes place in the next few years, Jeddah's population could become half-non-Saudi. In fact, the recent sharp increase in population in most urban centres of the country, which has also caused a rapid increase in the population of the whole country, is almost certainly the result of immigration from outside the country.

However, when conducting his personal survey in 1975, the writer found that of those replying to questionnaires, only 6.5% in Makkah and 5.2% in Al-Madinah admitted to being of foreign origin,* indicating a sharp reduction in the number of expatriates in both cities. This is not surprising when the time lapse is considered (1962 to 1975), as many people classified as foreigners in 1962 had become eligible for Saudi nationality by 1975. Also many non-Saudis did not tell the truth to safeguard their position if they thought there was any chance of the writer's survey being an attempt by the government to determine the number of foreigners living in the country. The writer noted himself that some of the citizens met personally at the time of handing out the questionnaires were not of Saudi nationality judging from their accents, though they said that they were Saudis. Such an attitude may have caused the figures to be very low, and the real percentage of non-Saudi persons may be as high as 20 - 25% of the total population of Makkah and Al-Madinah.

The difficulty of determining the accurate percentage

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* those born in one of the various Arab and Muslim countries.

of people of non-Arab origin (those from various Muslim countries) today is becoming obvious, for example both 1962 and 1971 Surveys showed very small numbers. The writer encountered similar problems: the majority of people who answered the questionnaires did not reveal their place of origin, replying that they were Saudis. Therefore, it was impossible to classify the composition of the population of Makkah and Al-Madinah or to relate their percentage to the place of origin.

The shortage of both skilled and unskilled manpower to fill the variety of job opportunities has meant importing a large expatriate work force. According to the statement from the Ministry of the Interior, Committee for Acquiring Foreign Labour, the total number of employees engaged under the First Five Year Development Plan (1970-1975) is now 1,600,000, indicating an annual rate of increase of 3.8% per annum over the five year period; Saudi labourers comprise about 80% of the above total. Under the Second Five Year Plan (1975-1980), it has been projected that this labour requirement will need tobe doubled to become 3,200,000 and this is a good indication of how much the nation depends on her work force to carry out this plan.[29] By August 1978 such figures had been attained before the target date, which is a good indication of how quickly the development programmes have acquired the number of workers projected.[30]

It has also been projected that during the period of the second Five Year Plan the town of Al-Jubail in the Eastern Province on the Arabian Gulf will itself require 20,000 additional workers for Industrial schemes to be

undertaken there. At the same time permission has been granted for between 500 and 1,000 foreign workers to be imported to enable individual Saudi establishments to enlarge their existing work force.[31] The main purpose of this programme is to boost the private sector in order to uphold the implementation of the development projects and reduce the volume of imported goods and commodities. The 640,000 foreign workers needed for the Second Five Year Plan have already arrived; when this total is added to the existing population of the country, which according to the 1974 Census was 7,012,642, this would give Saudi Arabia a total population of 7,652,642. If this trend continues at a similar rate during the Third Five Year Plan (1980-1985) and many more foreign workers are imported, then the total population of the country would rise to about 7,972,42 by 1985 (not including the natural increase in the intervening period) of which 1,600,000 or 20% would be expatriates. Of these, a considerable proportion would be recruited for Makkah and Al-Madinah to help in executing the schemes to be undertaken under the present Five Year Plan.

The populations of Makkah and Al-Madinah are then expanding from three sources; natural increase, immigration as a result of highly paid employment opportunities and from immigration for religious purposes. The last factor has been active since the rise of Islam through the annual pilgrimage to Makkah, when foreign pilgrims often remained in either Makkah or Al-Madinah after completing the duties of their pilgrimage.

The main point to be stressed here is that immigration

for religious reasons was difficult to control, and is so even now after the introduction of the Law of Penalty against any citizen found illegally harbouring these people. The law states that foreign pilgrims must not remain in Saudi Arabia after making their pilgrimage, and those who do so without official permission are liable to detention and deportation. Citizens are also warned not to conceal alien pilgrims or any foreign persons, and those who do so risk severe punishment.[32]

This source of hidden immigration both for religious and employment purposes causes problems not only for Makkah and Al-Madinah, but for the country as a whole, as these illegal migrants contribute little to the country's economic development. Most of these people are among the lower income groups in their own country, and are attracted by employment possibilities in Saudi Arabia; however, many are illiterate and unskilled, and their presence merely raises the unemployment figures in the country. They also place extra burdens on the country's social services and facilities and are mainly responsible for the creation of the shanty quarters which have sprung up on the outskirts of the major urban centres of the Western Province (Al-Hijaz). These people, who come mainly from Central Africa, originally settled in Makkah at the southern end of Al-Misfalah quarter, but with residential expansion they were pushed outwards to Shari'e Al-Mansour, Al-Thundhubawi and Al-Hindamiyah areas.

Legal immigrants are imported through the Office of Labour, Ministry of Labour and Social Affairs with the

permission of the Department of Passports and Nationality, Ministry of Interior; their numbers are regulated and they are given a residence permit for a limited period, which can be renewed if their services are still required. Their residence and place of employment are known and it is thus possible to control them.

To some extent there may be a continuing tendency for some ethnic groups of permanent residents to concentrate in particular quarters but such clustering is far less important than it had been in the past. More important now are the spatial differentiations associated with variations in functional land use and with socio-economic status. In the following Chapter we therefore turn to an examination of physical development and land use changes within the cities; in Chapter six to the demand and supply of housing.

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CHAPTER FIVE

Physical Development and Land Use

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Physical Development and Land Use

With improvements in the mode of travel of pilgrims visiting the two holy cities, together with the political stability of the nation as a whole, sharp increases in the number of pilgrims attending Makkah and Al-Madinah have resulted. Consequently the resident population in the two cities has grown rapidly, accompanied with improved standards of living which, in turn, created a demand for greater social and public services. These factors have resulted, firstly, in the expansion of the two Harams as a direct result of the religious function, and secondly, in the expansion of the cities' built up areas to accommodate increased demands by both the indigenous and temporary populations. The consequence of these changes has been the expansion of the area of the two cities enforcing changes on their former physical structures. In this Chapter we will examine these broad changes and illustrate the difficulties which are encountered in meeting such demands, whilst Chapters 6, 7 and 8 examine the major urban functions in greater detail.

I. Evolution of the Morphology of the Cities

Ibn Battutah, who visited Makkah in 725, described it as a "big city" in terms of its built up area and absolute size of its population. Visitors to the city could not see Al-Haram until they were close to it due to Makkah's location in the wadi basin and the encircling mountains.[1] This means that even the tallest minarets of Al-Haram, which characterised the skyline at that time, were hidden behind the

various buildings surrounding Al-Haram. The attraction of Al-Haram as the main religious focus of the city, the shortage of flat land around Al-Haram, and the wish of the people to be as close as possible to it, led to the inhabitants building their houses close together and side by side from earliest times.

As early as 1803 a European named Ali Bey, who embraced Islam, visited Makkah and gave the following description:

> "There is no open place or space in Mecca (Makkah) because the irregularity of the ground and the want of space would not permit it". 2

It is evident here that the topographical features of the terrain influenced the city's original layout, and all the various constructions generally followed the flat land as far as possible. Only when this had become overcrowded did buildings begin to creep up the gentler mountain slopes (Plates 1.8/1.9).The built up area was compact, congested and confined to the valleys, pierced only by narrow streets and alleys and with an absence of open spaces or public squares to alleviate the congestion of buildings close together.

In 1814 Burckhardt visited Makkah and Al-Madinah, and sketched the first map of each city, and reported that Makkah was rectangular in shape (Fig. 5.1) :

> "This town is situated in a valley, narrow and sandy, the main direction of which is from north to south; but it inclines towards the north-west near the south extremity of the town". 3

When Burton visited the two holy cities in 1853 his map of Al-Madinah appeared "eggshaped", and included the



1.8

A view in Makkah showing use of mountains around the centre as residential areas.



1.9

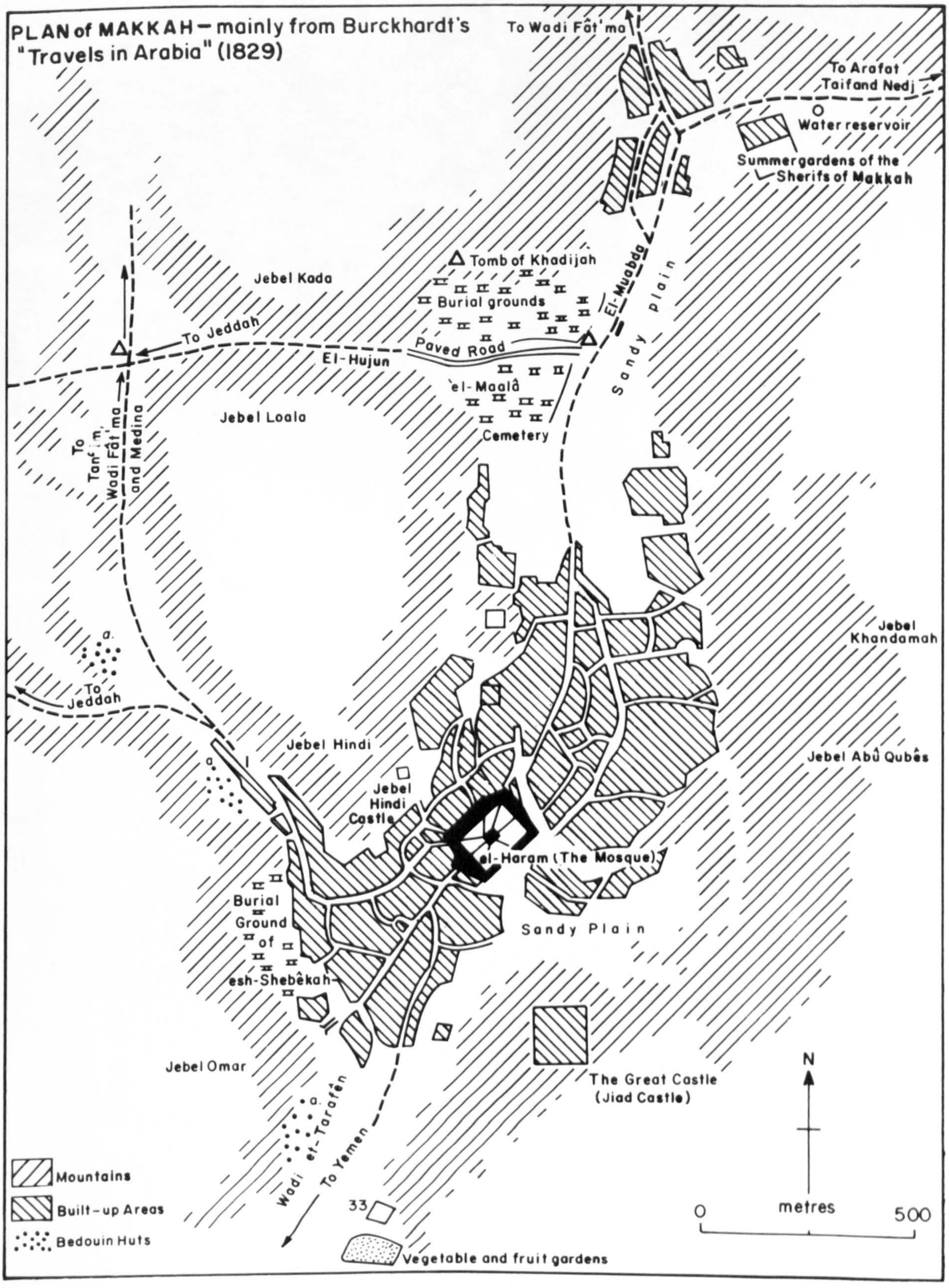
Shortage of flat land around Al-Haram, forced citizens of Makkah to build their houses over the gentler mountain slope



1.10

A view showing Al-Sulaiman House in quarter of Jarwal, Makka
Detail of Islamic style sculptured facade.

Fig. 5.1


PLAN of MAKKAH – mainly from Burckhardt's "Travels in Arabia" (1829)
To Wadi Fât'ma
To Arafat Taifand Nedj
Water reservoir
Summergardens of the Sherifs of Makkah
El-Muabda
Sandy plain
Tomb of Khadijah
Jebel Kada
Burial grounds
To Jeddah
Paved Road
El-Hujun
el-Maalâ
Cemetery
Jebel Loala
To Tan'im, Wadi Fât'ma and Medina
Jebel Khandamah
To Jeddah
Jebel Hindi
Jebel Abû Qubês
Jebel Hindi Castle
el-Haram (The Mosque)
Burial Ground of esh-Shebêkah
Sandy Plain
Jebel Omar
The Great Castle (Jiad Castle)
Wadi et-Tarafên
To Yemen
33
Vegetable and fruit gardens
Mountains
Built-up Areas
Bedouin Huts
N
0
metres
500

cemetery yard of Al-Nakhawilah, not shown on Burckhardt's map (Fig. 1.4).[4] Both maps were measured in paces, and cause obvious problems in assessing the exact size of the two cities. In order to eliminate this possible confusion, the scale in paces was approximated to one metre (based on current available maps) and both maps are reproduced in Figures 5.1 and 1.4.

In 1877 Keane visited Makkah and gave the following description :

> "The whole of this valley, about one mile and a half long by one third of a mile across, is packed and crammed with buildings of all shapes and sizes, placed in no kind of order, climbing far up the steep side of the surrounding hills....." 5

Rutter's map of Makkah and Al-Madinah, drawn in 1928, included the walls built at Al-Madinah by Sharif Hussein, the Amir of Makkah, the railway station to the west and subsequent urban expansion (from the time of Burckhardt to Rutter) which took place in the north.[6] This map of Makkah also showed urban expansion to the west and north-east of the city, as did Hurgronje's later map of Makkah.[7] Comparison of these maps show that there was very little difference between Burckhardt's map and subsequent maps, which confirm that very little urban growth took place due to the unsettled situation in the area up to the time of the foundation of the Saudi Arabian State.

During the Saudi period, as a result of the political stability and the internal security which had been brought about in the area, Makkah and Al-Madinah had begun to spread outwards onto the open land around them. The introduction and widespread use of motor cars, in both cities, has

facilitated the expansion of the built up area and led to the incorporation of much of the surrounding land into the built up area in a short space of time.

With regard to Al-Madinah, a similar picture is apparent in the city layout, with again the domination of the nucleus - Al-Haram. More recently, the construction of a wall around the city confined its expansion and effectively restricted further physical growth. The only general difference in the layout of Al-Madinah from that of Makkah arose from topographical features of the terrain, for although Al-Madinah was confined between the two mountain masses (Jabal A'yn and Jabal Uhud) the expansion of its built up area was not restricted by them, and the only feature to present an obstacle was Jabal Sila'a in the middle to the north-west of the city (see Figs. 1.4 and 1.6).

From the time of unification of the two holy cities with the State of Saudi Arabia, three phases of expansion can be identified which were influenced by new factors such as higher income levels, the use of motor vehicles inside the city, the introduction of modern styles of buildings, all operating in the absence of a positive plan for expansion. The first stage of enlarging the two cities can be identified in a 28 year period from 1925 - 1953. Although a large proportion of the total present built up area was occupied in this period, lack of trained staff and supervision at both the Municipality Departments of Makkah and Al-Madinah resulted in the adoption of previous traditional patterns in the construction and layout of buildings. The narrow streets and alleys, even in the newer quarters, were still the almost

accidental consequence of individual building on accessible plots rather than a planned structure i.e. road layout did not precede building; the highly variable densities and the absence of public services were all features which duplicated the old patterns. These have proved extremely costly for the government to rectify in more recent times.

It is clear that the Haram districts of Makkah and Al-Madinah have played a special nuclear function in the two cities. In both cases the Harams are the focus of pilgrimage and attraction, having a status and importance only found in other shrine cities such as Mashhad in Iran. The Harams clearly affect the urban morphology of the two cities as we will see in the following section.

II. Improvement and Expansion of the Harams

During the second quarter of this century, Makkah and Al-Madinah entered a period of expansion and improvement; early improvements to the two Harams included the provision of a badly needed improved electricity network, luxurious Persian carpets and electric ceiling fans. Also two separate offices were set up (the Police of Al-Haram and the Directorate of Al-Haram), to administer their affairs. [8]

The place of Al-Mass'a adjacent to Al-Haram of Makkah was provided with a shelter to protect people carrying out Al-S'ay* from the heat of the sun between its two hillocks (Al-Safa and Al-Marwah) and its ground was paved to ease the walk along its 450 yard distance, a walk which has to be made

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* The ritual running between the two hillocks of Al-Safa and Al-Marwah seven times.

seven times at the pilgrimage and during the rest of the year, as part of religious duties. To solve the problem of overcrowding during worship in Al-Haram of Makkah, a large area of its large open court was covered with a movable canvas shelter which allowed a large number of pilgrims to pray out of the sun.[9] Chronic overcrowding called for urgent and practical steps to be undertaken; by the beginning of 1950 when the government was in a stronger economic position as a result of the exploitation of oil, the expansion of the two Harams received priority in the development projects of the country. Financial difficulties which the government encountered in its early administration of the country had precluded any earlier attempts to carry out the above improvements.

The recent rise in the population of Makkah and Al-Madinah, and in the annual numbers of external pilgrims, were reflected in the growth of the built up areas in both cities. Initially the growth in both figures of population was, however, slow since the income derived from the pilgrimage was not high enough to attract or support large numbers of people to live permanently in the cities. The low income of most Muslim countries, and the slow introduction of modern means of transport were major contributory factors in the second quarter of this century.

In referring to Table 2.4 (numbers of external pilgrims), it is clear that from 1948 the number of pilgrims began to reach one hundred thousand, and from then on tended to rise steadily unlike in previous years when the numbers fluctuated from around ninety thousand to less than ten thousand (in 1940). The rise in the number of residents in the two cities

followed the growth in the numbers of pilgrims and the public services during the same period (1926 - 1948), and although the actual figures are not available a very slow rise in numbers appears to occur. Makkah attained a larger population than Al-Madinah due to Makkah's position as the acting capital of the country.

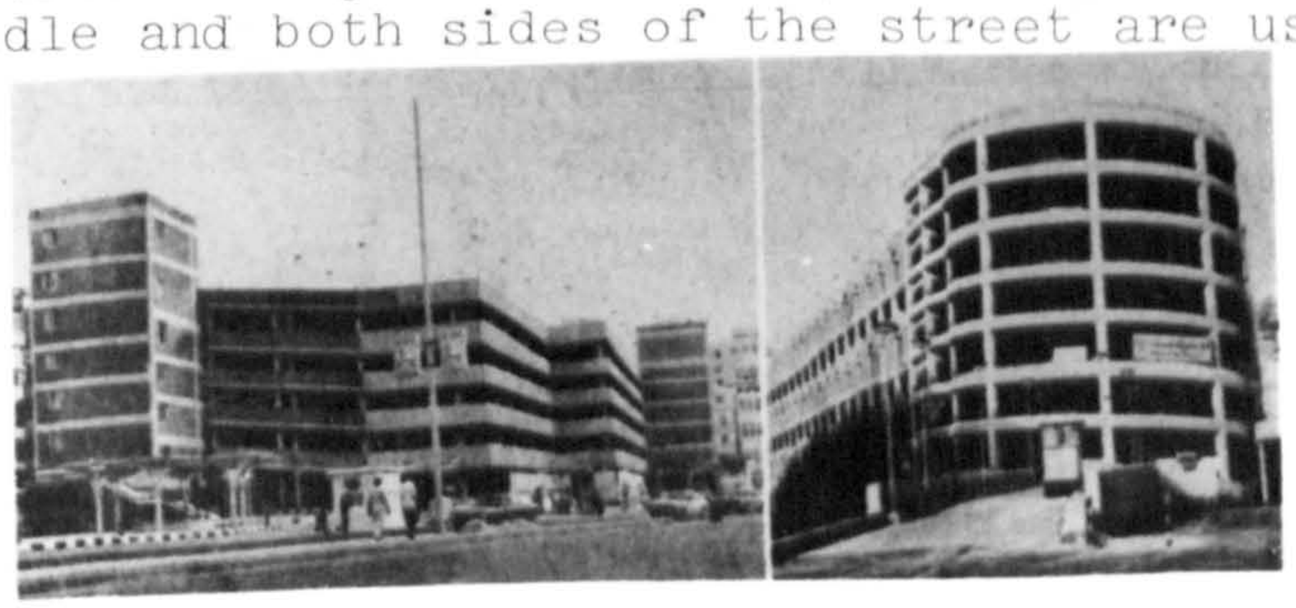
Because Al-Haram of Makkah is situated in a very topographically constricted part of the city, and the large additional area required for the pilgrims, part of the planned expansion became vertical rather than horizontal, thus also reducing the number of properties surrounding Al-Haram destined for demolition. After religious legalisation of adding an upper floor onto the new building, (similar to a gallery) the project was able to go ahead, and a second floor meant that Al-Haram could hold 300,000 worshippers at one time, [10] approximately eight times the 35,000 capacity estimated in 1958. [11]

The project has also included the provision of car parking space for 4,000 vehicles and four large squares around Al-Haram (Plates 1.14/1.15) By levelling the area around Al-Haram and carrying out the recommended scheme of leaving the ground floor of the re-structured residential area around Al-Haram, both Al-Haram and the area surrounding it would accommodate approximately 700,000 worshippers (Table 5.1). The religious dedication devoted to the care of the two Harams has extended also to the building of mosques throughout both cities (Figs.5.2 and 5.3) by government and individual citizens. The following account from the "Sayings of the



1.14
The square of Bab Al-Malik, one of the four modern squares around Al-Haram of Makkah.

1.15
The main street of Ajiad from the side of Bab Al-Malik, a part of the middle and both sides of the street are used as parking areas.



1.16
Recent Multi-Storey car Park near to Al-Haram area in Makkah, one at Al-Qushashiyah and the other at Al-Hojun quarters.

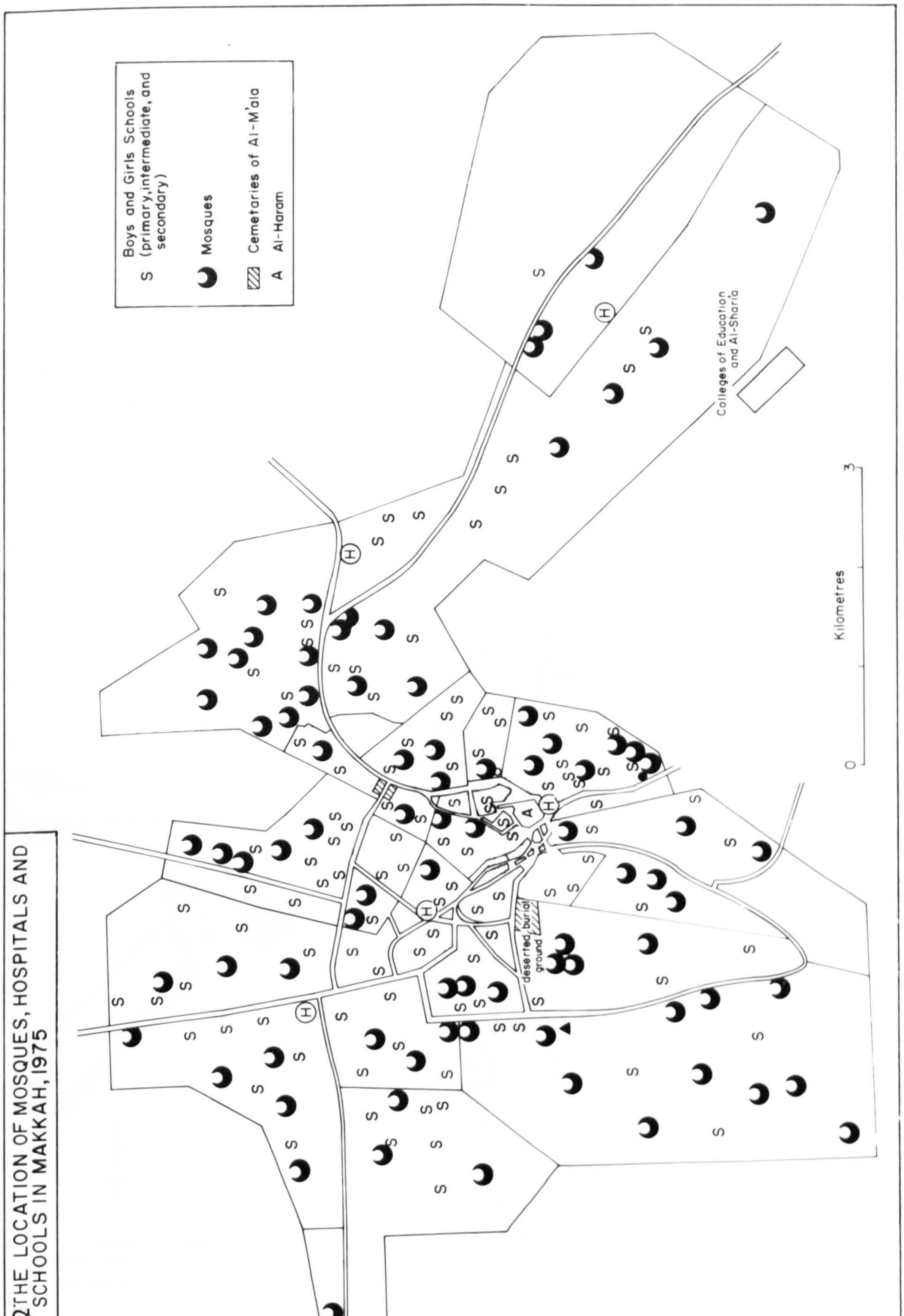
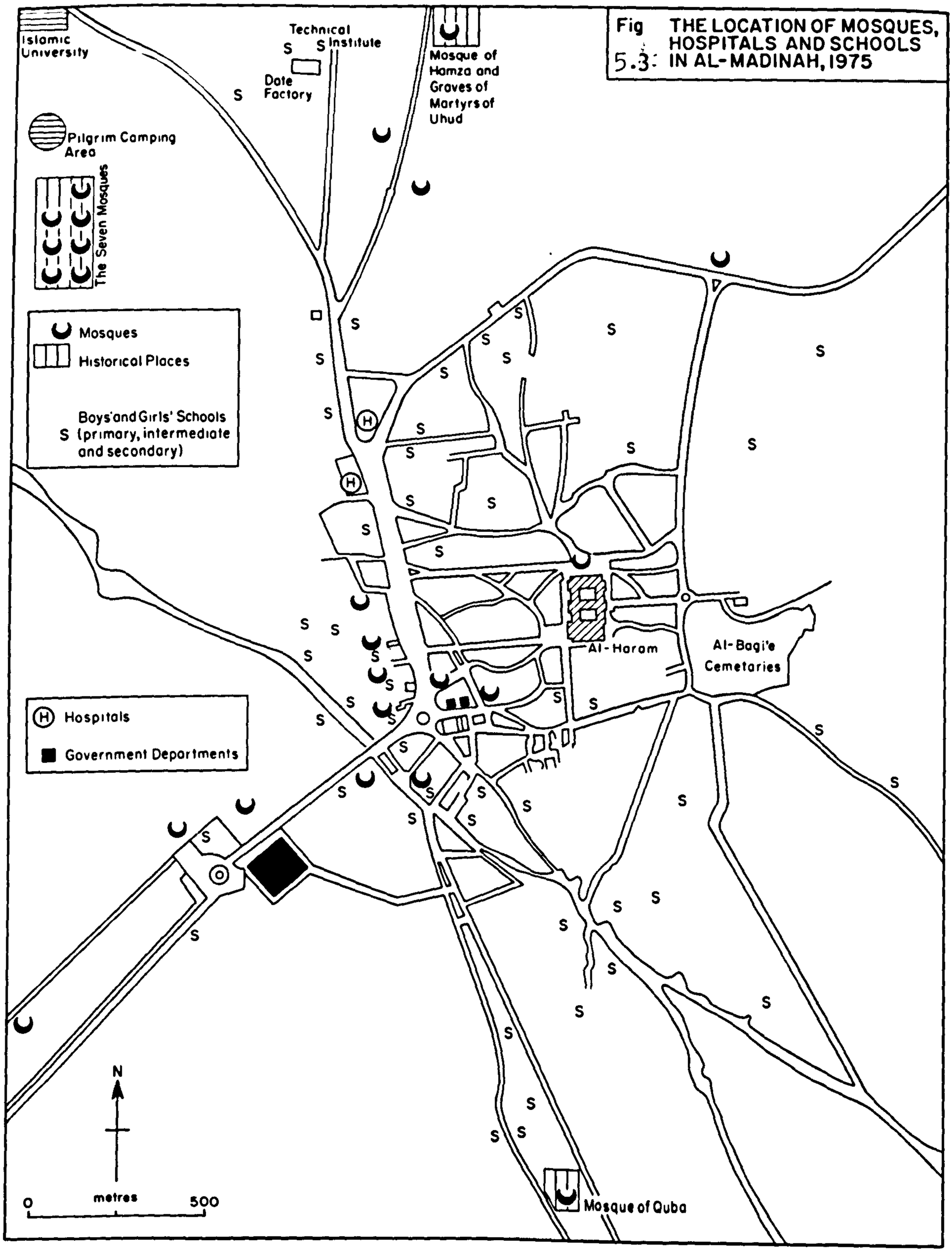


Fig 5.2 THE LOCATION OF MOSQUES, HOSPITALS AND SCHOOLS IN MAKKAH, 1975

Fig 5.3: THE LOCATION OF MOSQUES, HOSPITALS AND SCHOOLS IN AL-MADINAH, 1975



Prophet" has been the motive behind such a good task. "Whosoever has built a mosque for God, God has built him a house in Heaven".

Table 5.1 : Area of Al-Haram of Makkah and its Projected Capacity in 1977

Section	Area (Ha)	No. of Worshippers
Al-Haram and second floor	10.00	200,000
Open space around Al-Haram	7.75	155,000
Ground floor under special areas	17.75	145,000
Open spaces and car parks	10.00	200,000
	45.50	700,000

Source : Anon (1977) Plans to Ease Mecca's Supercrowding, Events (January), p.32.

Under the project completed in 1970 the former problems of the incapability of Al-Haram of Makkah to accommodate the ever rising number of annual pilgrims has now been overcome and the present area can absorb most of the current numbers. It was also under this scheme that Al-Mass'a (which was separated from Al-Haram by the main street passing through the centre, and many buildings adjacent to Al-Haram) was annexed and became part of Al-Haram property. The former mixing of pilgrims who were carrying out Al-S'ay with the daily shoppers in Al-Mass'a area, and the interference with the movement of traffic and animals was avoided by the opening

of two streets, one around Al-Safa and the other around Al-Marwah, (see Plate 1.12).

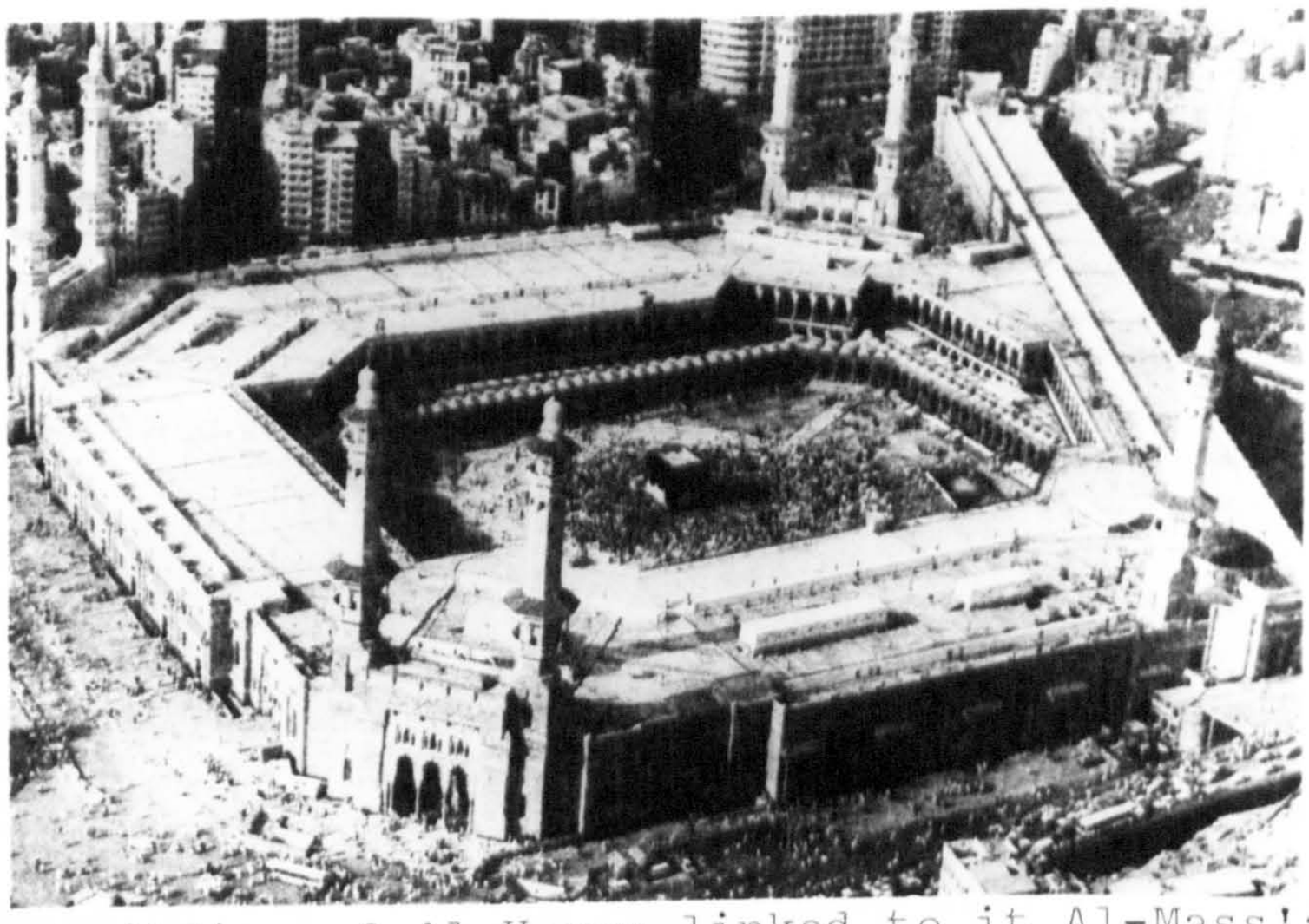
This project therefore diverted traffic around Al-Haram and enabled the establishment of a clear area surrounding it. It is now encircled by four large squares and open spaces (see Table 5.1) where once it was touched upon all sides by buildings (see Plate 1.11). Al-Mass'a also acquired a magnificent new building in a style similar to that of Al-Haram, (see Plate 1.12). The whole construction has become one unit centred in the middle of the city of Makkah, (see Plate 1.13). As an overall improvement the existing streets around Al-Haram of Makkah were made wider and some other new ones were opened to facilitate the movement of traffic to Al-Haram and the streets were provided with pedestrian subways linking the surrounding busy quarters with Al-Haram to avoid crossing the main streets. This scheme took almost fifteen years to complete (1955 - 1970) and dramatically changed the structure of the old centre of the city, consuming large areas of the old quarters around Al-Haram and pushing the commercial and residential zones further away.

Large parts of the commercial and residential areas originally surrounding Al-Haram, were moved to new areas in Al-Ghazzah, Al-Shamiyah and Al-Qararah main streets. Many other new shops have been opened in the principal streets of the quarters of Al-Misfalah, Jarwal, Al-Utaibiyah, Al-Jumaizah and Al-M'abdah to cater for the busy areas.

With regard to Al-Madinah under the second and current scheme of enlargement of Al-Haram, this will be expanded by



1.11 The old building of Al-Haram of Makkah surrounded by buildings on all sides.



1.12 The new building of Al-Haram linked to it Al-Mass'a area, as shown, to the extreme north east.



1.13 Al-Mass'a from inside; a large hall shown crowded with pilgrims making the ritual Al-S'ay, free from interference from pedestrians.

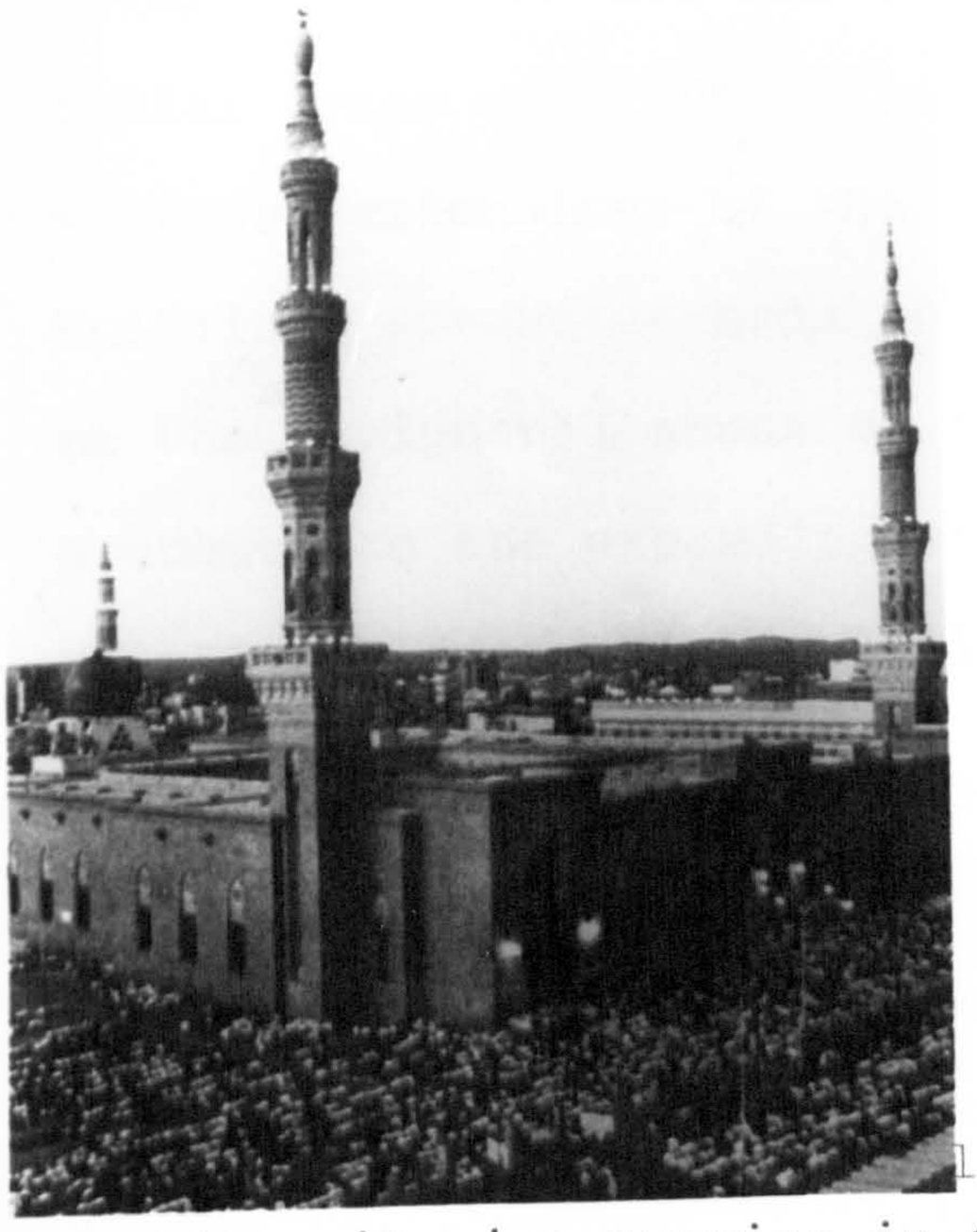
a total area of 12,000 sq. metres (bringing its total area to about 28,327 sq. metres). By this new acquisition the area of Al-Haram in Al-Madinah, will be equivalent to almost one-sixth of Al-Haram of Makkah alone without adding the other open spaces (see Table 5.1). This area of Al-Haram of Al-Madinah however is still small and if a second floor similar to that of Al-Haram of Makkah was considered, the required number of properties in the old built up area surrounding Al-Haram destined for demolition (a project already started) could be reduced (see Fig. 5.9 and Plates 1.17/18).

III. Characteristics of Recent Rapid Urban Growth

1. Makkah:

Between 1925 and 1953 (1344-1373 A.H) the city grew rapidly, although its total population was not accurately known; the only estimate, in the early part of the 1950's put the population at 100,000.[12] This figure seems quite reasonable for Makkah at that time was the only large city in the whole of the Arabian Peninsula, capital of the region of Al-Hijaz for centuries and later acting capital of the country (see Chapter 4).

The administrative importance that Makkah had occupied in the 1920's, 1930's and 1940's, by the setting up of most government ministries and important departments in the city, attracted many thousands of people from other parts of the country, and from other Arab and Muslim countries. Makkah became the social, cultural and economic centre of the newly formed state and entered a phase of extremely rapid growth



1.17 view showing pilgrims praying in the pen area, cleared to be annexed to -Haram of Al-Madinah.



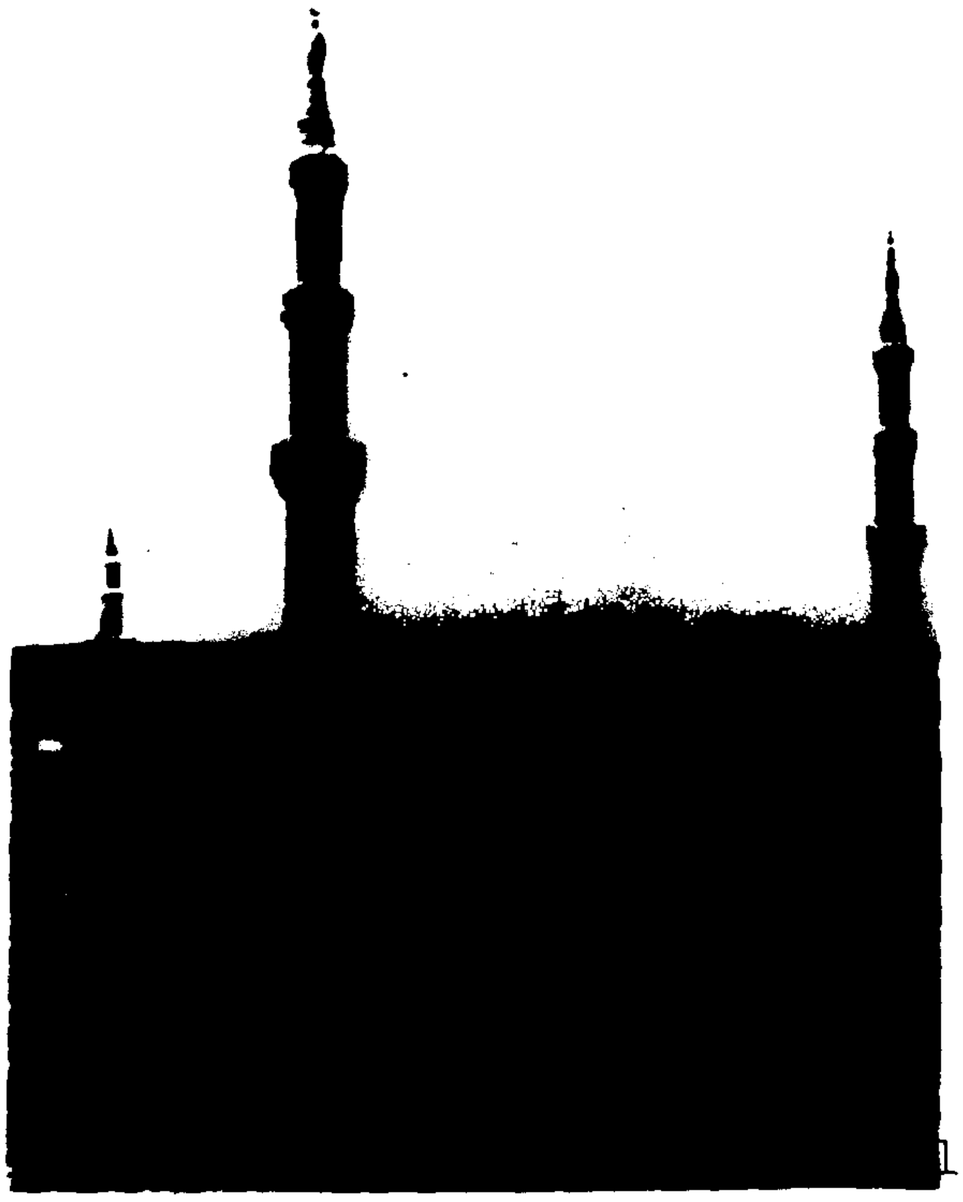
1.18 Crowds of pilgrims in Al-Haram of Al-Madinah, praying in the open area around it.



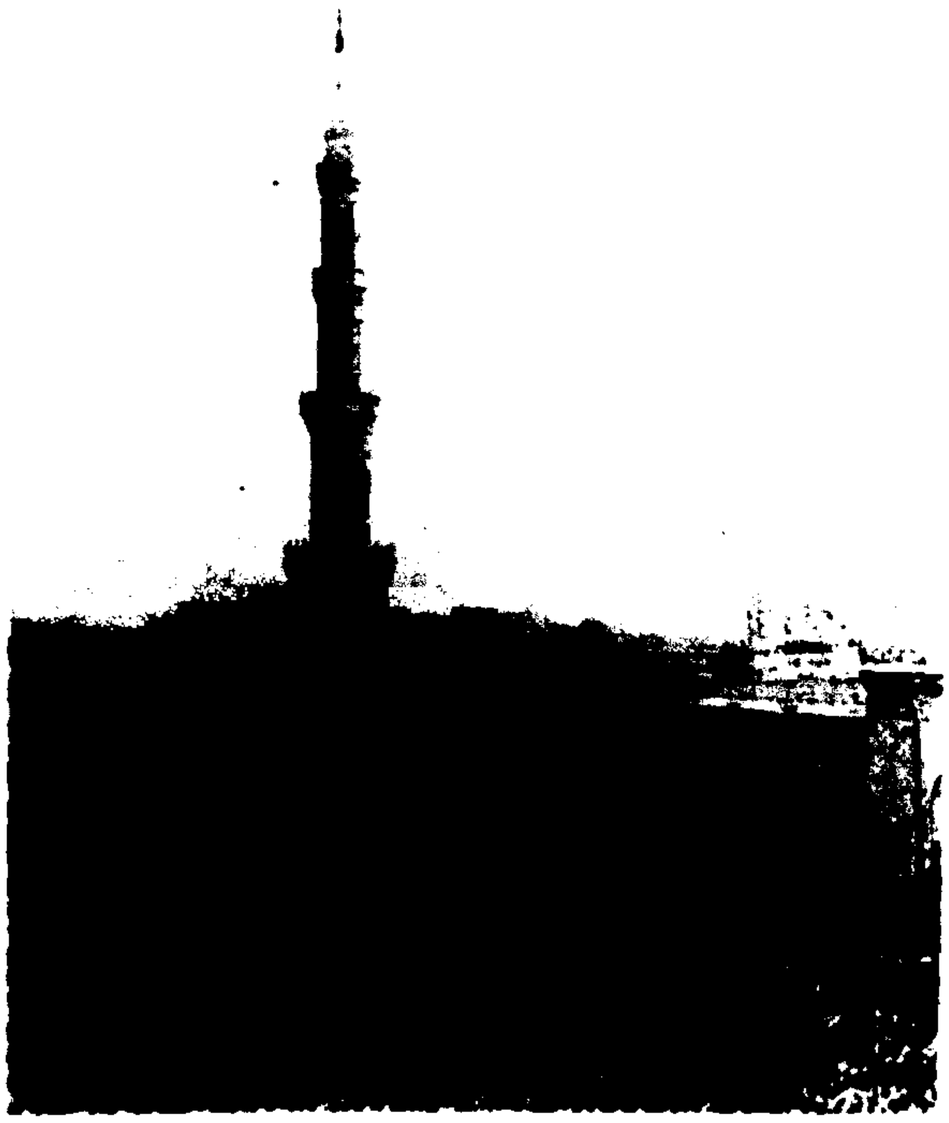
1.19 he modern Suq Al-Sagheer treet lined with hotel uildings in Makkah.



1.20 The street of Al-Ghazzah in Makkah, the most busy commercial area around Al-Haram.



1.17 A view showing pilgrims praying in the open area, cleared to be annexed to Al-Haram of Al-Madinah.



1.18 Crowds of pilgrims in Al-Haram of Al-Madinah, praying in the open area around it.



1.19 The modern Suq Al-Sagheer street lined with hotel buildings in Makkah.



1.20 The street of Al-Ghazzah in Makkah, the most busy commercial area around Al-Haram.

both in physical and population terms. The built up area expanded in two ways: by filling in the few empty spaces in the existing area within the city with new modern buildings being erected on old sites and by creating the new residential areas of Al-Utaibiyah and Al-Zahir as the two natural westward extensions of the city from the direction of Jarwal. Buildings spread upwards on to the slopes of the mountains on the peripheral areas of the city, in an attempt to accommodate the expanding population and increasing numbers of pilgrims (see Plates 1.15, 1.19/1,20/1.24 and 1.25/1.26).

Lack of public transport, the preference of pilgrims to have their lodgings as close as possible to Al-Haram and the city centre, and the low incomes in general, up to the mid 1950's, meant that the majority of citizens had a very low standard of living within the confines of the urban area. By 1953, the built up area of Makkah expanded to 7,121,000 sq. metres, see Fig. 1.5. Figure 1.5 also shows the extent of the urban area before the Saudi period, and the city's expansion in this stage (1925-1953) can be clearly seen, as compared with the area of the city hundreds of years ago, when it did not even cover a million and a half square metres.

In the eleven years between 1953 and 1964 (1373-1384 A.H), six new residential areas grew up, two (Al-Shishshah and Al-Rawdhah) to the north-east of Al-Haram, a natural continuation of the city beyond the quarter of Al-M'abdah on the road leading to the holy site of Muna. To the west, north-west and south-west, the other four were founded - Al-Tundhuba'wi, Al-Hinda'wiyah, Al-Nuzha and Al-Zahra, which closely followed the topographical features of the terrain.



1.25

The main street of Al-Zahir, one of the modern streets in Makkah.



1.26

The fountain of Al-Bib'an in the main street of Al-Zahir at the far top end of the above street view.



1.27

One of the modern streets in Al-Madinah.

These new residential areas, have grown in response to many factors, including the enlargement of Al-Haram, the widening and straightening of streets and the opening of new ones (resulting in a reduction of the built up area in the centre), population growth, an increase in the number of annual pilgrims and the enormous growth in national income. As noted in Chapter 4, it is probable that the 1962 Census under-recorded the city's population, but there was clearly a considerable population growth between 1950 and 1962. Unfortunately, there are no accurate records of the number of building permits granted over this period. It was possible however, to obtain data on permits granted between 1965 and 1975 (see Fig. 5.4) which shows the actual number of permits granted by the Municipal Department of Makkah over the past 11 years. The highest number of permits were granted in 1965, 1966, 1974 and 1975 (800, 850, 850 and 900 respectively. [13] By comparing the 1975 figure with the two other leading urban centres, we can see that Al-Riyadh (the capital city) granted 4,885 permits and that Jeddah granted 1092, while Al-Madinah only granted 470.

Under the third phase of growth from 1964 to 1975, the enlargement of the built up area continued, filling those open spaces still remaining in the outlying residential areas since 1955, such as the area of Al-Aziziyah, and all of these brought the total area of Makkah to approximately 20,500,000 sq. metres. At the same time the foundations were laid for the built up area of Al-Rissaifah, Al-Shuhada and Al-Adl. Although Al-Shuhada commenced its growth as a residential area in the second phase (1955 - 1964) it did not achieve its present importance until the adjacent area

Fig5.4 THE GROWTH OF BUILDING PERMITS ISSUED BY MUNICIPALITY OF MAKKAH BETWEEN 1965-1975

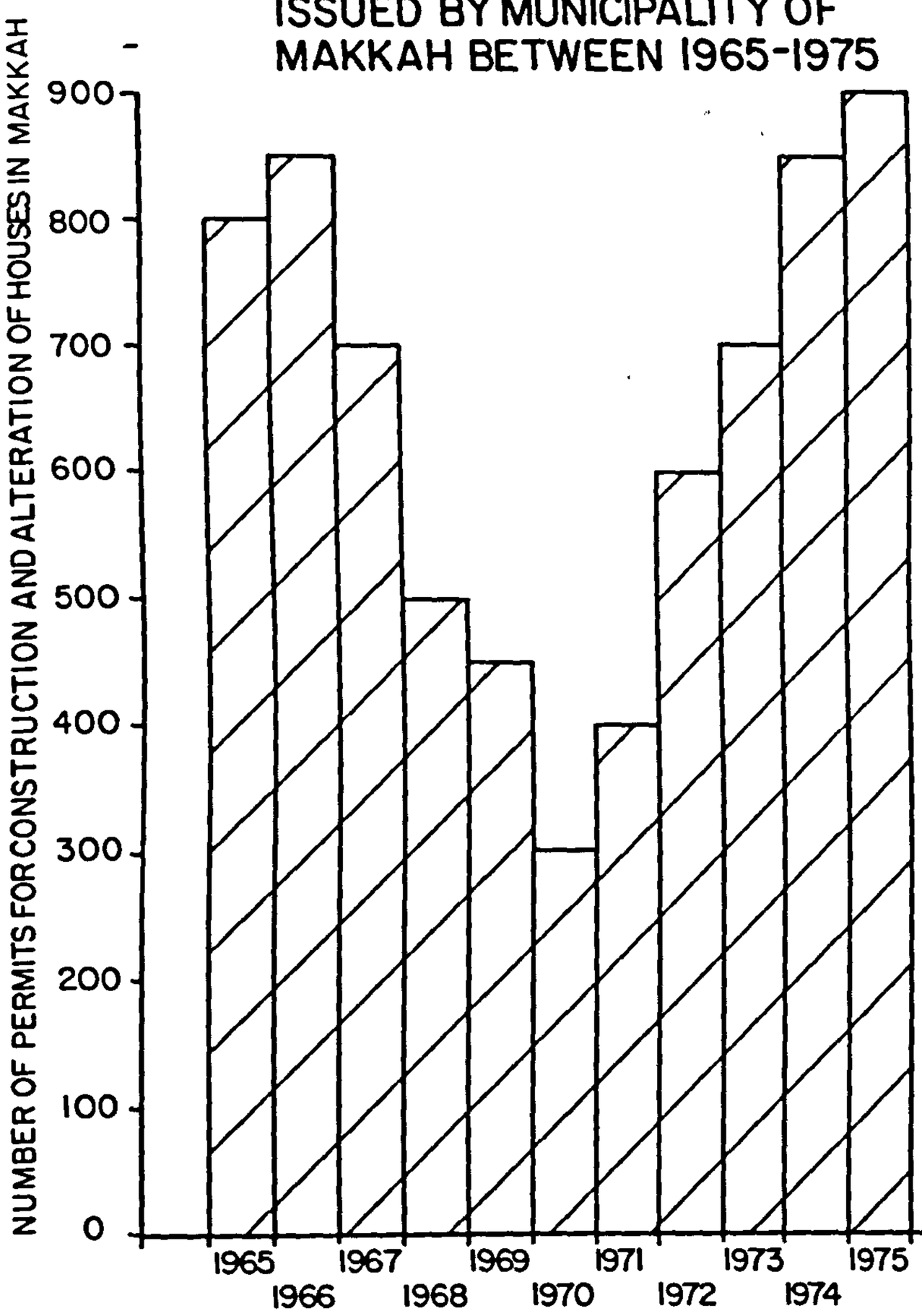
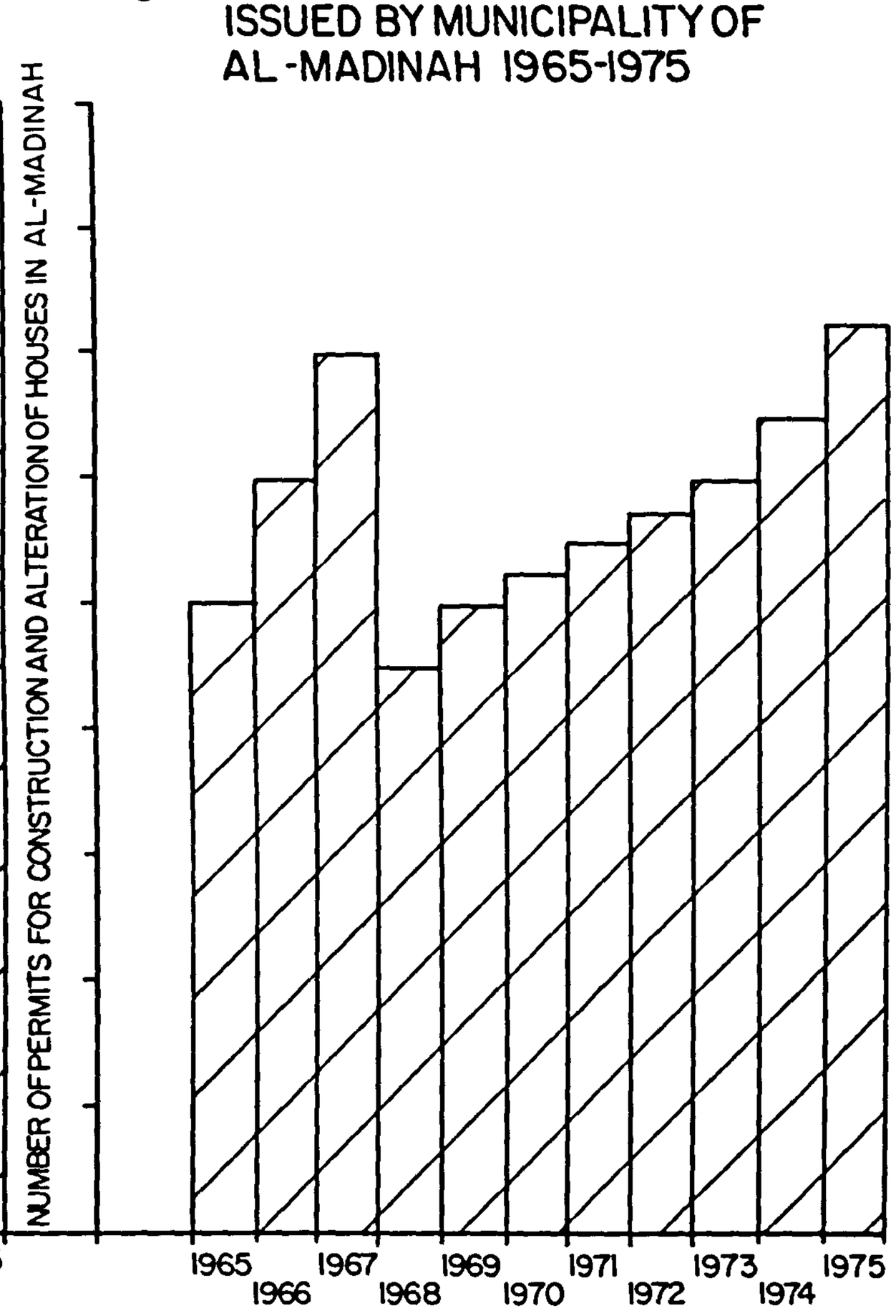


Fig.5.7 THE GROWTH OF BUILDING PERMITS ISSUED BY MUNICIPALITY OF AL-MADINAH 1965-1975



Source: Ministry of Finance and National Economy, (1965-1973)

of Al-Tan'im (which forms the northern extent of the holy ground of Makkah) was planned as the industrial zone of the city between 1964 - 1975, taking advantage of the location of the city's power station in this area.

In order to meet a need for further residential areas, the area of Al-Rissaifah (to the far south-west of the city on the road to Jeddah) was planned in the early 1970's and sites were reserved for the two Colleges of Education and Al-Shari'a, which are to be moved from their present site in Al-Aziziyah, where they are surrounded by buildings and therefore have no room for further expansion. After these two colleges are moved to their new locations, the projected University of Makkah will be opened and several new colleges founded. The execution of this project will no doubt accelerate the development of the area into another established quarter of Makkah, and many people have already begun to build homes in the area, encouraged by the provision of essential services such as paved streets, electricity and water.

Property speculators have already constructed several villa-type buildings, and others have reserved walled plots which are standing vacant in anticipation of highly inflated prices when the University of Makkah is complete and there is a demand for homes in the area. A similar situation could develop to that which arose in the early 1960's in Al-Aziziyah, on the road to Al-Ta'if, after the construction of Al-Aziziyah Secondary School, the two Colleges (Education and Al-Shari'a) the Institute of Teachers' Preparation and later the Girls' Secondary School.

These establishments created a need for extra public services such as paved roads, water, electricity and telephone services, etc., which accelerated the provision of other facilities, e.g. mosques, two elementary public schools for both sexes, nursery private school, the National Hospital, a branch of the National Commercial Bank and a House of Social Care. Salerooms for new and second-hand cars, petrol stations, cafes, restaurants, and coffee houses (the major road to Al-Ta'if which passes through the main street of this area was the most important factor in rapid growth of this area) were also attached to this area. This predominantly residential quarter also has a chicken farm, an ice factory, a large store for the bulk sale of soft drinks, an office of the Red Crescent (equivalent to the Red Cross) and the camp for the Al-Hajj traffic control policement.

The third new residential area, Al-Adl, on the old road to Al-Ta'if, is still underdeveloped and has plenty of room to cater for any future expansion of the city in this direction. These three residential areas have recently been assigned by the town planning office as planned areas for the purpose of future expansion. The built up area of Makkah has, then, expanded in every direction following broadly the topographically featured terrain of the city, except to the south-east where restrictions were imposed by the existence of the mountains (see Fig. 1.7 and Plate 1.3).

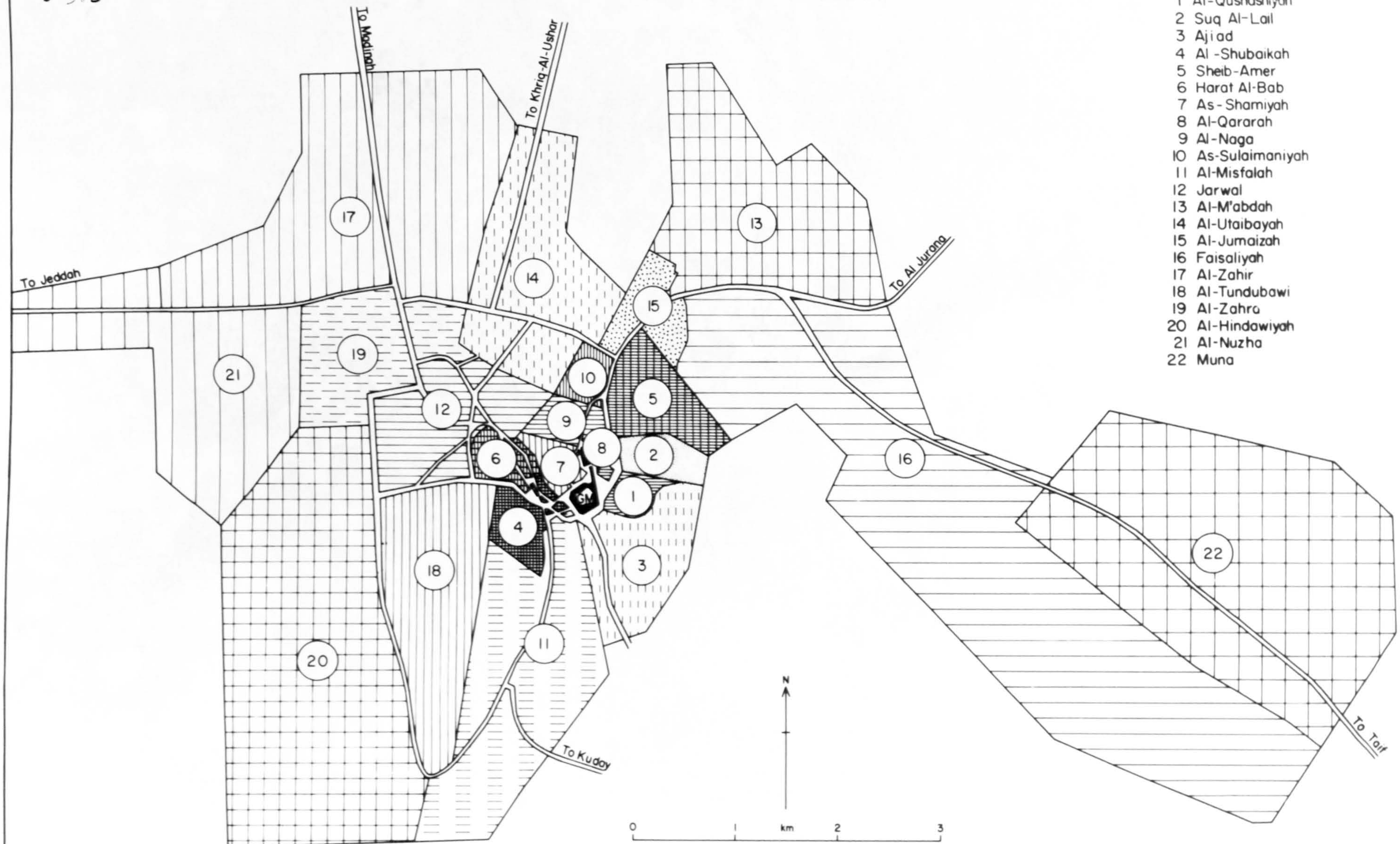
The second and third phases of expansion of the built up area of Makkah were assisted by many factors, notably an increase in commercial activity, (encouraged by the

widespread use of motor vehicles), population growth, and an increase in the number of overseas pilgrims. Cheaper air travel meant a large increase in the numbers of pilgrims from abroad (see Table 2.2). Although Makkah was demoted from being the Administrative centre of Saudi Arabia in 1953, 1955 saw the start of the scheme for enlarging Al-Haram. The decrease in the population of the city which took place around this time as a consequence of Al-Riyadh replacing Makkah as capital, was partly compensated by this project. The influx of 3,500 workers (many of them accompanied by their familes) including engineers, skilled workers, labourers and administrative staff, both from Saudi Arabia and abroad, was another factor which necessitated the provision of lodgings and other essential requirements.[14] Improved job opportunities also attracted many workers and their families.

In 1966 the Municipality of Makkah reorganised the existing 29 quarters of the city for administrative purposes to form 22 major quarters (Figure 5.5). This reorganisation eliminated some former confusion regarding the boundaries of all old and new quarters which were formerly intermingled and this was made possible under the scheme for improving the city, by opening new streets and widening existing ones. Figure 5.5 illustrates the main streets either separating or cutting across these quarters. This plan served two purposes as it defined the limits of each quarter for the Sheikh or Umdah (the elected person from each quarter who helps police in local disputes) and it assisted the Municipality Department in its task of providing necessary facilities and services to every quarter.

Fig. 5.5

THE MAJOR QUARTERS OF MAKKAH



1 Al-Qushashiyah
2 Suq Al-Lail
3 Ajiad
4 Al-Shubaikah
5 Sheib-Amer
6 Harat Al-Bab
7 As-Shamiyah
8 Al-Qararah
9 Al-Naga
10 As-Sulaimaniyah
11 Al-Misfalah
12 Jarwal
13 Al-M'abdah
14 Al-Utaibayah
15 Al-Jumaizah
16 Faisaliyah
17 Al-Zahir
18 Al-Tundubawi
19 Al-Zahra
20 Al-Hindawiyah
21 Al-Nuzha
22 Muna

Scource Municipality of Makkah

In this new division, the area of Muna was included as a separate quarter of Makkah; many people now reside in it all year long and it experiences extreme crowding for a three-day period during the pilgrimage season (see Chapter 2). The present map of Makkah according to Figure 5.5 reveals an irregular shape, which has been largely determined by the surrounding physical features of the city. The south-east of the city has remained free of buildings as the mountain masses occupy the area and make it very difficult to build on, unlike those gentler slopes inside the city. After the three other new areas (Al-Rissaifah, Al-Shuhada and Al-Adl) are fully developed, the slopes of the city to the north-north east and west will be filled up with various residential sites by 1991, as projected by R.M.J.M.

2. Al-Madinah

Between 1925 and 1953 (1344-1373 A.H), the urban expansion of Al-Madinah was limited to the infilling of empty spaces inside the walled city, which effectively delimited the extent of the residential area. However, small suburbs did begin to spread beyond the wall when the area inside it became too cramped for the expanding population. This urban spread beyond the former barrier (the city wall) was made possible in this phase by the fact that internal security throughout the country was under the control of the Saudi government, which encouraged new dwellers, as well as some of the existing population in the area, to build their houses there. As a result of this expansion, by the late 1940's the city wall had become obsolete and hence was pulled down and the new settlement areas were connected

to the rest of the city by modern streets.

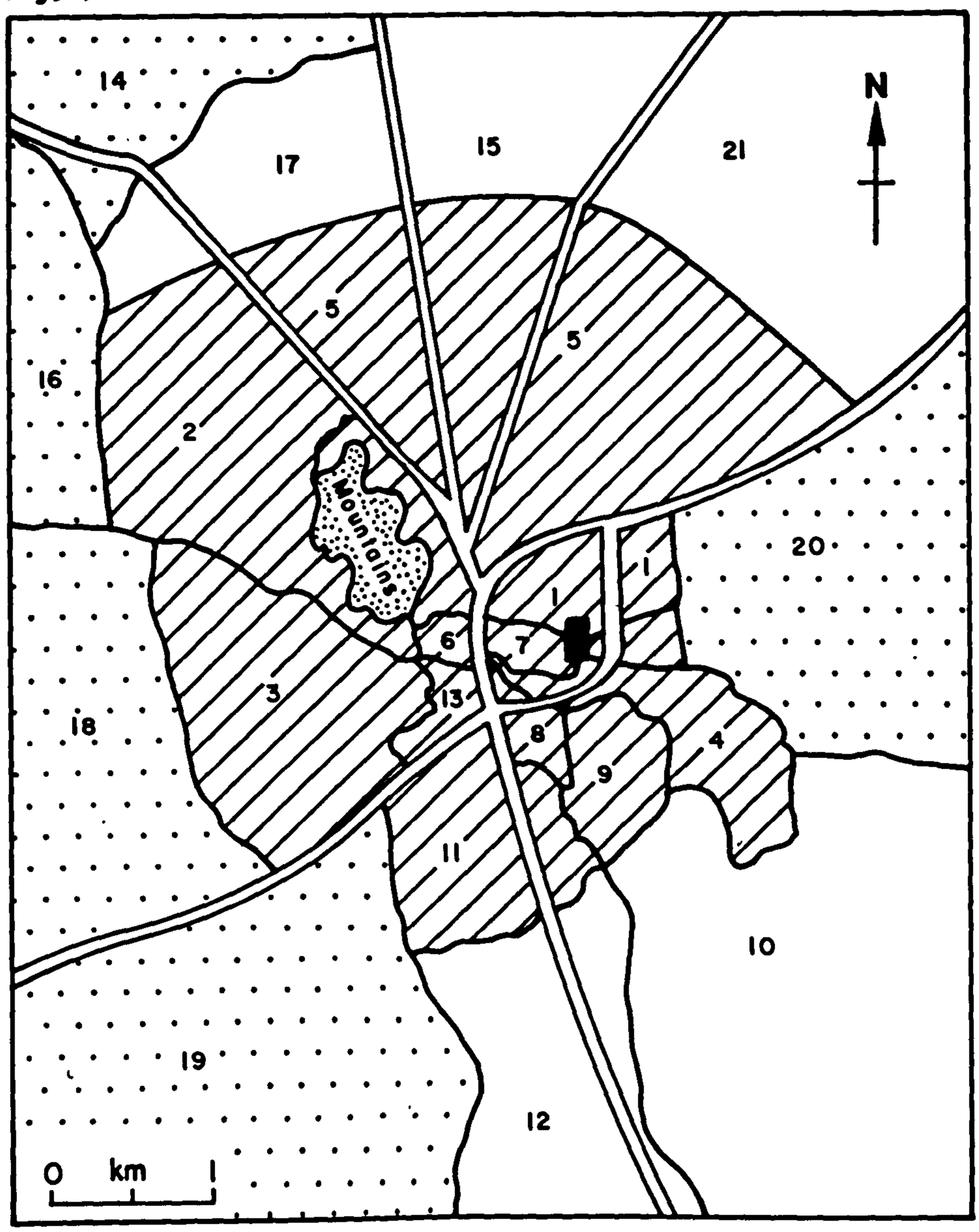
As in Makkah, no population census was undertaken, and early estimates were inaccurate. The expansion of the built up area which took place during this period shows that the population was in excess of 50,000.[15] During this period, several projects were undertaken which dramatically changed the structure of the city, and the replanning of a considerable area of the city's core was needed to improve the city and facilitate progress. The various improvements included: pulling down the city wall in 1948 to make way for the emerging physical growth of Al-Madinah, which had already surpassed the limits of the wall: execution of the grand plan for enlarging Al-Haram to accommodate the rising number of people wishing to pray during the visiting seasons at the annual pilgrimage to Makkah: widening and modifying many major streets and providing them with cultivated central islands and paved widewalks along both sides and the creation of public squares with fountains in the middle and the building of bridges where necessary; improving the major road between Al-Madinah, Jeddah and Makkah, so that it followed the shortest possible route, and so that it was wide enough for two-way traffic. Its surface was asphalted and buildings were built where necessary, and rest areas were provided along the route with petrol stations, restaurants and some traditional coffee houses to serve passing through pilgrims coaches and car: the Royal Palaces were established in the Sultanah area, approximately 5 Km from the centre of the city, encouraging people to settle there.[16]

The first two schemes outlined above required the demolition of many old buildings and they eventually cost

the government some 40 million S.R. (approximately £6 million sterling). The occupants of buildings which were demolished to make way for the expansion of Al-Haram and for the road improvements were forced to move into new suburbs. The Sultanah and Al-Shuhada areas were established to the north-west, Al-Mataar, Al-Harrah-Al-Shariqiyah (the Eastern Harrah) to the north-east and east. The areas of Quba, Qurban, Al-Awali and Al-Meghaislah grew to the south, south east and south-west of the centre of the city, and Al-Anbariyah, Al-Harrah-Al-Gharbiyah (the western Harrah) and Al-Manshiyah to the west. Thus, Al-Madinah became a city of many quarters, (21 in all) and Fig. 5.6 shows Al-Madinah's expansion during these three phases of growth, namely 1925-1953, 1953-1964 and 1964-1975, from the original 11 quarters of the old walled city. (see Fig. 5.6 and Plate 1.2). Present day townscape of Al-Madinah can be clearly shown in Plate 1.. 21 which shows the many modern high-rise buildings. (see Plate 1.27)

Regarding the first three quarters to the north (Sultanah, Al-Shuhada and Al-Mataar), their initial import-ance can be understood through the following description of their growth. The first urban growth in Sultanah began with the building of the Royal Palace for the late King Abdul Aziz in the early 1950's (some of these constructions were later given over to mark the first foundation of the Islamic University of Al-Madinah). The area is now planned and linked to the centre of the city with asphalt roads, and has been provided with water, electricity, telephone and other urban services and been designated a residential area, but although many villa-type homes have been constructed it is not yet completely built up and there is ample room for

Fig5.6THE OLD AND NEW RESIDENTIAL AREAS OF AL-MADINAH



Al-Haram

The Old Quarters

The New Planned Quarters

The New Unplanned Quarters

(for key to numbers see Fig.4.5)



further development. It has become the quarter of the affluent, the dwellings being luxury detached homes with surrounding gardens and broad streets.

The importance of Al-Shuhada lies in the fact that it houses the tomb of the Martyr Hamzah, an uncle of the Prophet. The area is visited (for its historical importance) by pilgrims and visitors who come to Al-Madinah, and has been connected to the city centre by means of a paved road; various types of houses have been built, including modern villa type residences. The area of Al-Mataar, so named due to its location on the road leading to the airport of the same name, has proved extremely attractive to many citizens: many people have settled there and houses, shops garages and car salerooms have been established. A bus service connecting the area with the city centre, and the relatively high altitude of the area have proved added attractions.

The Quba area owes its importance to the fact that the first mosque of Islam was built there. It is visited by most visitors to Al-Madinah; this road, along with others in the area, has recently been paved under the plan for the improvement of the city's major streets. Mainly a residential area which has experienced growth since the first phase of the city's expansion (1925-1953), there are many large apartment buildings as well as small houses owned by middle-income groups, and are all modern designs. The need for large apartment-type buildings encouraged the existence of many large constructions which were at first used as government offices and were later used as accommodation for pilgrims, with the result that rents are

comparatively higher here than in other quarters of the city. However, since 1972, most of the government offices have been moved to the large building in Al-Anbariyah (on the site of the old Turkish barracks) and Al-Anbariyah is now more important from an administration point of view than Quba, although the latter still retains its significance for pilgrims and visitors of Al-Madinah.

The other five areas (Qurban, Al-A'wali, Al-Meghaislah, Al-Harra-Al-Gharbiyah and Al-Harrah-Al-Sharqiyah) are still growing rapidly. As these areas are inhabited predominantly by low income groups, on the whole they were not planned and traditional building styles have been employed, (see Plate 1.12) with the result that some traditional characteristics have been repeated leading to the same haphazard layout as before. The absence of a positive plan, and the lack of strict supervision from the Municipality of Al-Madinah has proved extremely costly for the government to rectify these mistakes. However, the number of building permits granted rose rapidly during these three phases of enlarging the city, although no accurate records were kept (the same as the case in Makkah). The first regular record of construction and alteration actually dates from 1965, and Fig. 5.8 shows the number of permits granted by the Municipality of Al-Madinah during the 1965-1975 period.[17] The building peak was reached in 1967 after which the number of permits granted fluctuated from year to year, attaining the lowest figure in 1968 of only 430, but by 1975 the 1968 peak was reached once more.

Since 1975, due to the sharp increase in the price of

plots of land for building houses, the shortage and high cost of employing workers, plus the high cost of building materials, house construction has been slowed down in Makkah and Al-Madinah, and also the relative stagnation in the annual number of pilgrims has been another factor in this decline. (see Table 2.4). Even the money made available for development of private housing by the "Real Estate Development Fund" after 1975 for every citizen anywhere in the country, did not lead to an increase in building construction in either city. Public sector projects for the construction of urban roads and other services have attracted the majority of labourers which are currently employed in the country.

The recent expansion of Makkah and Al-Madinah has also resulted in improvement of the existing streets and improvement of private and public transport. The following description illustrates the alterations which took place during the three stages of the urban growth of both cities.

IV. Street Patterns

Following the initial growth of Makkah when the land use pattern followed the region's topographical features, intensive land use around Al-Haram and its immediate area and the Central Business District (C.B.D.) combined with narrow streets and a shortage of open spaces were common characteristics. The tendency of citizens to build their homes very close to each other to make maximum use of the flat land in the centre and on the perimeter, without paying any attention to the direction of streets penetrating these areas of the city, restricted the movement of traffic (mostly animals), especially during the pilgrimage season. During

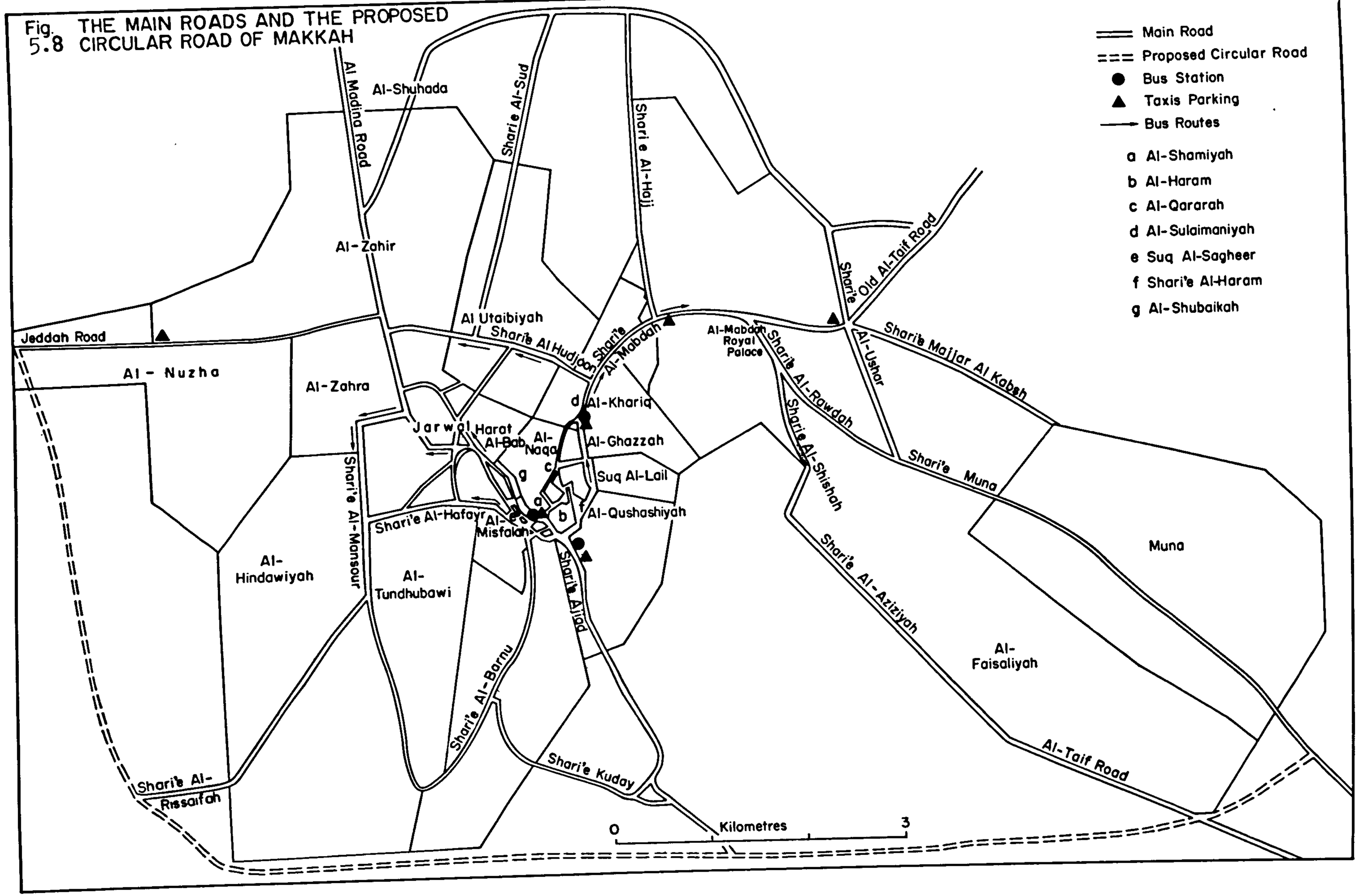
Al-Hajj, pilgrim caravans often collided when making their way through the narrow, twisted streets of the city, causing much damage.

The introduction of motor vehicles in the form of large buses and lorries for the mass transport of pilgrims further aggravated the problem, and it became almost impossible to drive through the Aziqqah (passages) to get pilgrims to their accommodation, which was concentrated in those areas.

A similar situation prevailed in Al-Madinah, and until the late 1940's this walled city, with its narrow twisted streets, alleys and Ahwisha (small, semi-circular residential areas) was totally unsuitable for the movement of motor traffic, which had, by then, begun to replace traditional methods. Until the early 1950's the only wide main street through the city of Makkah followed the direction of the natural watercourse of the valley, cutting the city from north-east to south. From the north this street passes through busy, crowded quarters and sub-quarters such as Al-M'abdah, Al-Khariq, Al-Ghazzah Suq Al-Lail and Al-Qushashiyah and from there turns around the eastern side of Al-Haram to pass through Suq Al-Sagheer; here the street divides into two branches, south to Al-Misfalah and the other west, passing Al-Shubaikah, Harat Al-Bab and Jarwal, towards the Jeddah road (Fig. 5.8). Figure 5.8 also shows taxis parking, bus station and bus routes in Makkah.

Due to topographic barriers there was no easy alternative route, and this street was the only one leading in and out of the city. Extremely busy at all times, it became jammed with motor vehicles and pedestrians during Al-Hajj.

Fig. 5.8 THE MAIN ROADS AND THE PROPOSED CIRCULAR ROAD OF MAKKAH



The street remains the city's most important thoroughfare, and it is lined on both sides with shops; people shopping in the area mingle with the motor traffic, causing inconvenience to shoppers and hindering the movement of traffic. In order to ease the pressure on this busy street, the government of Saudi Arabia initially thought of widening its narrowest section. This meant the expropriation of a large number of private premises. The project was carried out in 1955 at the time of enlarging Al-Haram, as part of an overall programme of improvement of the medieval city, the street was asphalted and for the first time a paved sidewalk, almost two metres wide, was provided along both sides of the road. Most of the buildings on the left hand side of the road leading to Al-Haram were modernised, large apartment blocks were built on the parts of the old site which remained after the street was widened; the ground floors of these apartment blocks were retained for various commercial uses, shops and offices (see Plates 1.19/1.20).

There are several areas with very high buildings lining extremely narrow streets, from Al-M'abdah down to Al-Ghazzah, from Suq Al-Lail to Al-Qushashiyah. The premises here are very old and need to be modernised. Under the project for the improvement of Makkah, six new branch streets were opened in various directions (see Fig. 5.8); leading to the centre and Al-Haram, these new streets will make the central area more easily accessible. One of these connects Al-Hujoon and Al-Utaibiyah to the main street, a second comes from Al-Khariq Square cutting through four old quarters - Al-Sulaimaniyah, Al-Naqa, Al-Shamiyah and Al-Qararah, and links these areas with the main street, a third comes from Al-Ghazzah Square,

penetrating from the back of Suq Al-Lail and Al-Qushashiyah quarters, following the edge of Jabal Qubais down to Ajiad Square.

With regard to the other three streets, one penetrates to the end of Ajiad Square through Jabal Bakhash, leading to the east of Al-Haram (and the three holy areas of Al-Hajj); a second passes Al-Shubaikah Square, leading west through Jabal Al-Hafayer and joins the area behind it (part of Jarwal, all of Al-Tundubawi, Shari'e Al-Mansour and Al-Hindawiyah), to the centre. The sixth runs through Jabal Al-K'abah parallel to Harat Al-Bab Street and is a continuation of the main street leading west. These ten new main streets (see Fig. 5.8) have made the central area, and in particular Al-Haram, more easily accessible; they have been of great benefit in alleviating the former traffic congestion in the city, but at the same time accentuate the central nodality of Al-Haram.

Completed between 1955 and 1960, these routes were part of a plan which included four large squares around Al-Haram, which separate it from the commercial and residential areas which formerly crowded Al-Haram on all sides. The upper side of one of these new squares (Ajiad Square) is used as a small park for taxis and buses (see Plates 1.15/1.16) and the remainder provides parking space for the cars of visitors to Ajiad Hospital, tenants of one of the tall apartment buildings, and visitors to three nearby hotels. This square also serves as a car park for the residents of outlying quarters of the city when they come to the centre for evening prayers or Friday noon prayers in Al-Haram, or merely to shop in the city centre. The other three squares,

Bab Al-Salaam, Bab Al-Omra and Bab Ziadah, all serve as parking areas, and this has eased the problem of the scarcity of open space in the centre and facilitated the movement of traffic around Al-Haram (see Plate 1.12).

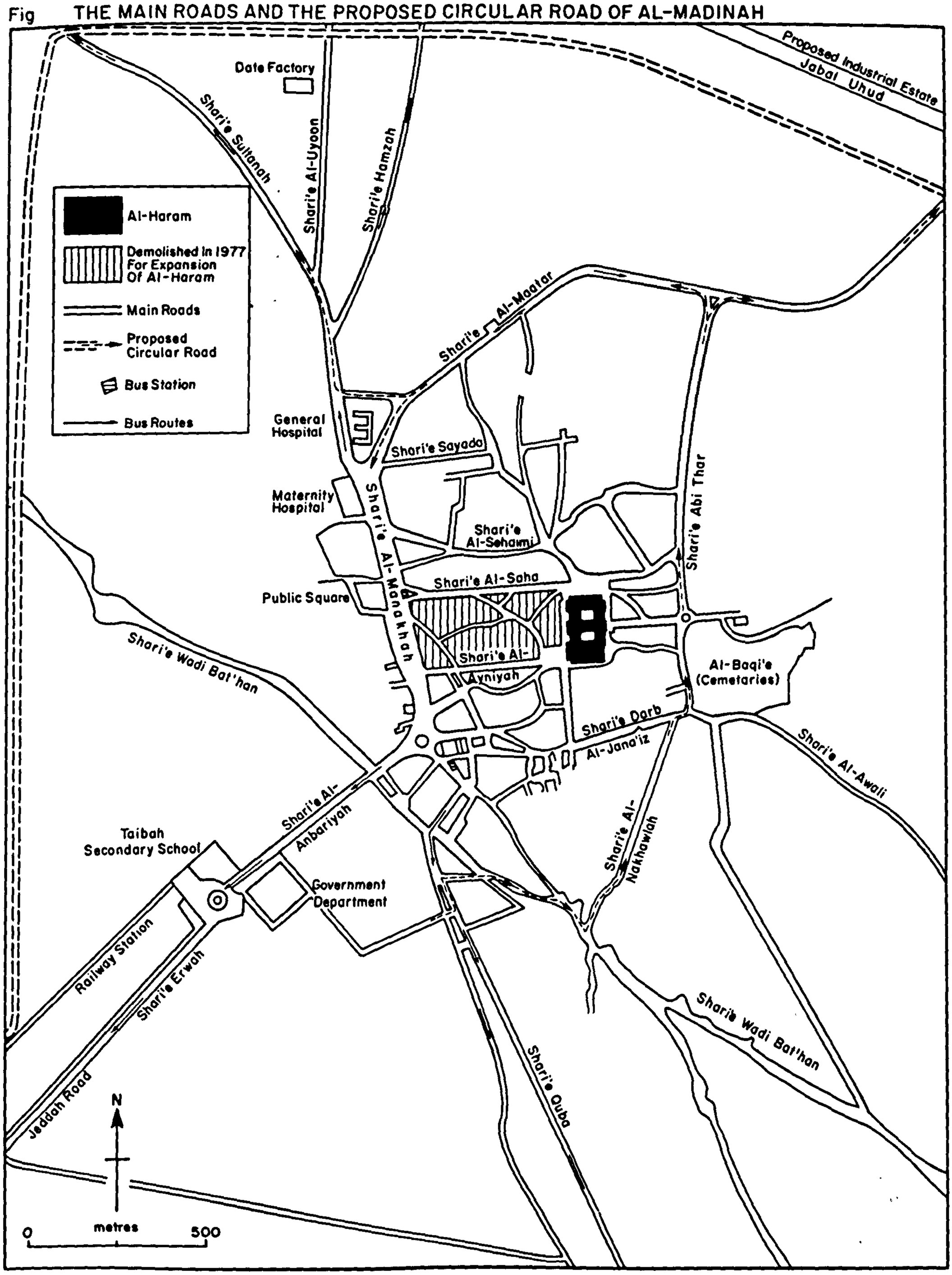
In the case of Al-Madinah, Shari'e Al-Anbariyah, leading to the old Railway Station, Shari'e Al-Manakhah and Shari'e Al-Ayniyah were the only wide streets within the old walled city which led to Al-Haram. The first stage of the project for enlarging Al-Haram and improving the most important streets (1953 - 1955) included opening new streets, and widening and asphalting existing ones as shown in Fig. 5.9 (which also shows other street improvements carried out between 1960 and 1965). As a result of these two stages many streets were asphalted and were made into dual carriage-ways with greeen islands in the middle, sidewalks were provided for the first time to avoid the mingling of pedest-rians and traffic, and traffic lights were provided at some intersections to replace the traditional manual control by a policeman. As in Makkah, several squares were provided in the inner area of the city, these served as parking areas and several sidestreets were also designated as parking zones. These can be seen clearly in Fig. 5.9 which shows parking areas for taxis and buses, and also for private cars in the centres of Al-Madinah and Makkah.

V. Public and Private Transport and Urban Communications

The recent rapid outward extension of Makkah and Al-Madinah to provide new residential areas, coupled with a rising per capita income, have encouraged many families to buy their own cars. Public transport does operate in both

5.9

Fig THE MAIN ROADS AND THE PROPOSED CIRCULAR ROAD OF AL-MADINAH



cities, and Makkah has the largest and most widely used public transport system of all main cities of the Western Province.[18] The public transport system is only used by men; the continued use of the veil means that men and women must be segregated in public places, and taxis and private cars are favoured by women for all journeys in both cities. Public transport is used mainly by the lower income groups and men travelling on their own; such services operate at a financial loss.

Buses in both cities are privately owned, but the Traffic Department in Makkah and Al-Madinah exercises control. There are problems with timetables which make the service inefficient and in need of efficient operating schedules.

The widespread use of private cars means that their numbers have sharply increased, and the survey of 1977 revealed that there were 45,000 vehicles in Makkah and 24,350 in Al-Madinah. If we estimate the approximate number of families in both cities according to an annual increase of 2.5% from the Census Population of 1974, then in 1977 Makkah had one car for every 8 families and Al-Madinah about one car per 9 families,[19] These figures are relatively low when one considers the large percentage of females who require transport, and it is evident that taxis must be widely used by the greater number of families in both cities who do not own private cars. Obviously, during the pilgrimage season and the month of fasting there is a much heavier demand for taxis in both cities than during the rest of the year because of the increase in number of visitors arriving from abroad and within Saudi Arabia.

Every pilgrimage season the number of private and public cars coming to Makkah increases, and this is now the most popular form of transport among pilgrims. In the pilgrimage season of 1973, more than 100,000 cars were brought to the city, whilst three years after in 1976, the total number of motor cars was 111,809,[20] and in 1977, the figures of cars had increased to 115,038, an increase of 3,229 or (2.89%) over 1973.[21] Such figures are high for the existing streets of Makkah, and this has been causing much congestion on certain streets, especially during the pilgrimage season. This has been relieved slightly by the introduction of a one-way system on certain streets on Al-Hajj days until the circular road around the city is complete, to divert the flow of cars and prevent them from entering the city, in various directions linked to this route (see Fig. 5.9). In Al-Madinah there are two main streets serving the city - Al-Anbariyah Street (leading to Jeddah and the centre) and Al-Mataar Street leading from the airport. This put great stress on Shari'e Al-Manakhah, the main street through the centre leading to Al-Haram, which during Al-Hajj is heavily congested with traffic. To relieve this congestion, in the early 1970's the government constructed another street, commencing behind the old Railway Station and heading along to Sultanah Street; this road is used by all pilgrim buses, and other large cars coming from Jeddah make their way from the entrance of this new street (by the Railway Station) to Sultanah Street, where there is a reserved camping area; this has eliminated the need for these vehicles (cars, buses and lorries) to be driven through the city. Under the current development plans for Makkah and Al-Madinah,

some schemes have been proposed to alleviate present and future traffic problems, taking into consideration the fact that the urban areas of both cities are continually expanding to meet the anticipated increases of their populations.

One of the first stage proposals was the construction of a circular road from the Railway Station leading south through Al-Naklawlah Street and continuing east and north-east to join Al-Mataar north passes Jabal Sila'a and returning to the old Railway Station (see Fig. 5.9). This circular road will make the centre and Al-Haram more accessible and pressure will be reduced on Shari'e Al-Anbariyah and Al-Manakhah. The second stage includes the construction of a second circular road to join the new residential areas on the outskirts which are expected to expand when the population attains its highest estimate by 1991. This road will link the east of Al-Madinah with its north and west and complete the circle by meeting the first circular road in the west and the entrance to the Railway Station. These two circular roads around the central area of Al-Madinah will connect Al-Haram and the central area directly with the suburbs and the peripheral areas.

It is apparent that the areal expansion of the cities, the change in type and volume of vehicular transport and the recent attempts to improve road systems within the cities, all reflect not only the changes associated with normal urban growth but also the special demands created by the pilgrims, directly and indirectly. This theme is repeated in the following examination of urban land use.

VI. Preliminary Consideration of Urban Land Use

A. General Pattern

As a result of the tremendous demand created by both resident and pilgrim populations the two cities together with the Harams have been expanded from their former small areas to their present large size. In such expansion the general layout of the two cities followed the topographical features of the terrain which influenced the construction of buildings to become compact and concentrated in the centre around Al-Haram. Because of the wish of the inhabitants and pilgrims to have their dwellings close to Al-Haram (to make the five daily prayers on time), together with the concentrated nodal demand for many retail and other services immediately around Al-Haram, commercial activities serving both population compete with residential demand around Al-Haram. Consequently, most of the ground floors of the buildings in the centre and, to a certain extent, in other quarters immediately around the centre, especially on the main streets, are occupied by commercial activities as discussed in Chapter Seven, the upper floors being used as residences.

When considering industrial activities, however, this sector plays a relatively small part in the economics of the two cities. One predominant activity is that of handicrafts which developed to serve the demands of visiting and indigenous population. The handicraft industries, in both Makkah and Al-Madinah, as noted in Chapter 7, experience considerable seasonal variations in the demand for their products and also have to compete with other activities for

space in the central area. They have responded by becoming "footloose", infilling non-contiguous sites as close as possible to Al-Haram entrances. They have not assumed the aggregated form which may be identified in other Middle Eastern cities. Despite the lack of definite polarization, some handicraft industries are often located alongside commercial activities - crafts such as gold, silver, copper and iron smelting and also tailors, and leather work, can be found in adjacent areas. In view of the vast demand for land from the commercial and residential sectors, handicraft industries have been unable to compete with the high rents and have been forced out to locations with a low rental value.

There are little typological differences between the spatial location of these activities in Makkah and Al-Madinah. Temporal expansions of the urban areas are illustrated in Figures 5.10 and 5.11. The concentration of services, such as hotels, coffee-houses and restaurants are apparent in Figures 5.12 and 5.13.

Other services which are not associated with the pilgrimage, such as schools and mosques are well scattered throughout the two cities reflecting the needs of the resident population - see Figures 5.2 and 5.3

Urban land use in Makkah and Al-Madinah was and is governed first and foremost by the influence of the Harams which occupied large proportions of the centre of the cities. These areas were reserved for the purposes of religions, as centres for prayers and other religious functions. Under the present project of expansion, a large area surrounding

PHYSICAL DEVELOPMENT AND LAND USE OF MAKKAH

Fig 5.10

1 Emirat Makkah Administration
2 Palace of the Late King Faisal
3 Colleges of Education and Al-Shari'a
4 Garden of Al-Zahir (Public Leasure Area)
5 Hospital of Al-Zahir
6 Sports Area

------Approximate Limit of the City Centre

Market Area © Cemetery H Hospital

● Clinic Centre C Red Crescent Centre

Main Roads

P Post Office
Po Police Station
F Fire Station

Mountains

Area in Sq metres

164000	Before Islam to 40 AH		
346000	40 – 132	(662-750)	
588000	132 – 923	(750-1517)	
1,400,100	923 – 1343	(1517-1925)	
7,121,000	1343-1375	(1925-1955)	
19,480,000	1375-1384	(1955-1964)	
20,300,000	1384-1391	(1964-1975)	

Industrial Estate
Power Station
Al-Madinah Road
Jeddah Road
Old Al-Taif Road
Muna
New Al-Taif Road
Kuday Road
M-Al-Haram
Current Residential Building
N
0 metres 1000

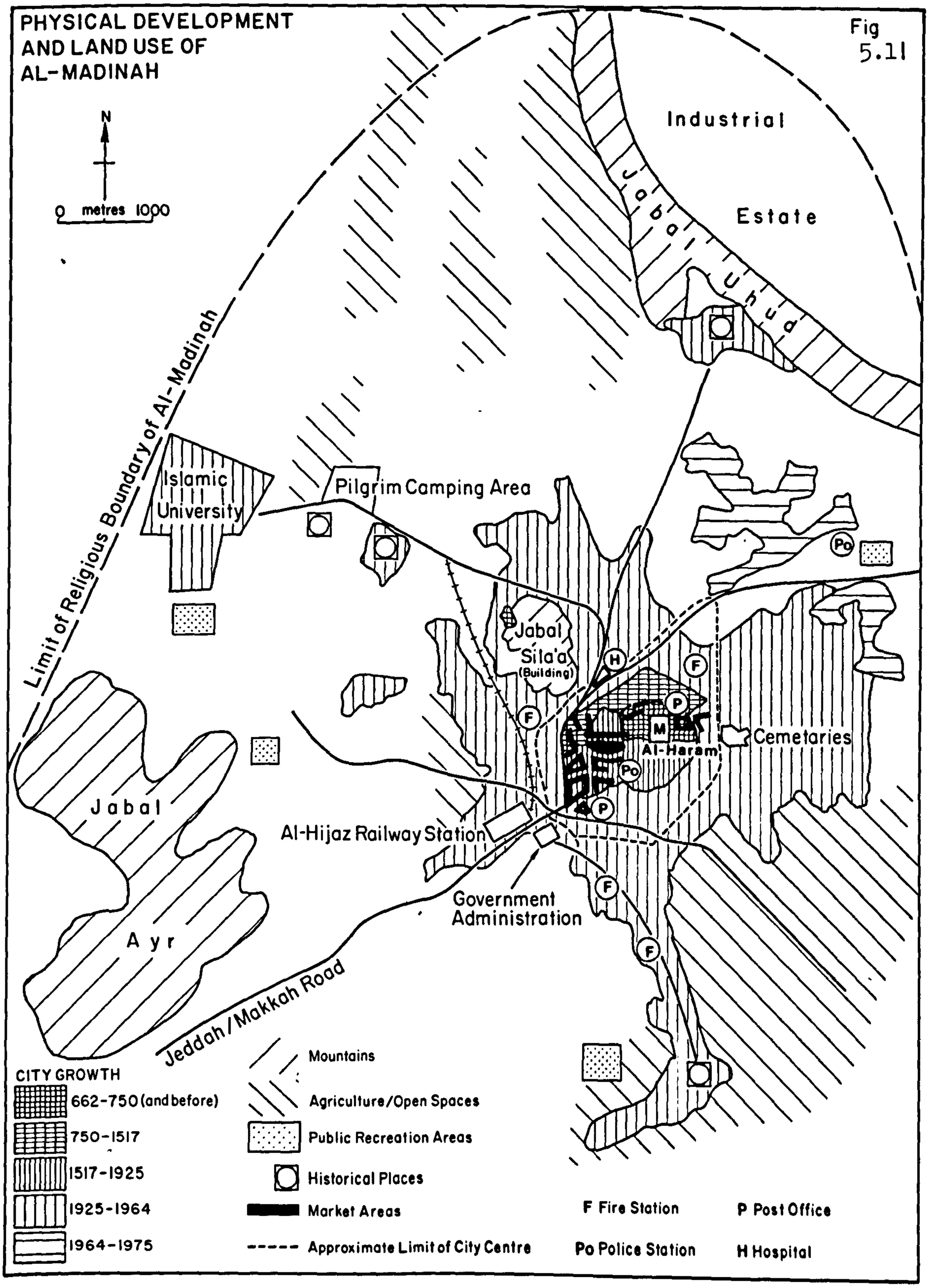

PHYSICAL DEVELOPMENT
AND LAND USE OF
AL-MADINAH
Fig
5.11
N
0 metres 1000
Industrial
Estate
Uhud
Limit of Religious Boundary of Al-Madinah
Islamic University
Pilgrim Camping Area
Jabal Sila'a (Building)
Al-Haram
Cemetaries
Jabal
Ayr
Al-Hijaz Railway Station
Government Administration
Jeddah/Makkah Road
CITY GROWTH
662-750 (and before)
750-1517
1517-1925
1925-1964
1964-1975
Mountains
Agriculture/Open Spaces
Public Recreation Areas
Historical Places
Market Areas
Approximate Limit of City Centre
F Fire Station
P Post Office
Po Police Station
H Hospital

Fig 5.12 THE LOCATION OF HOTELS, RESTAURANTS AND COFFEE-HOUSES IN MAKKAH, 1975

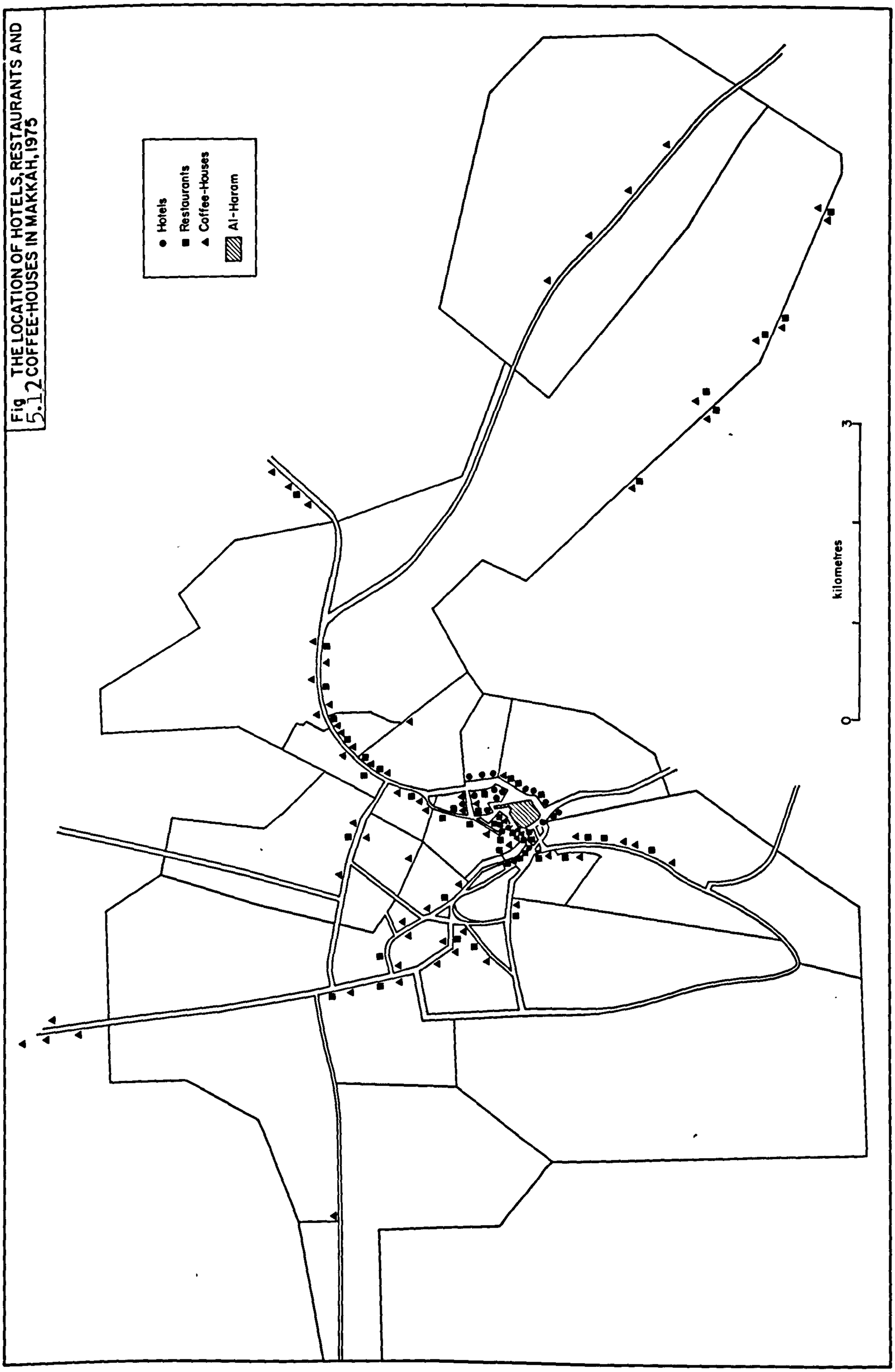
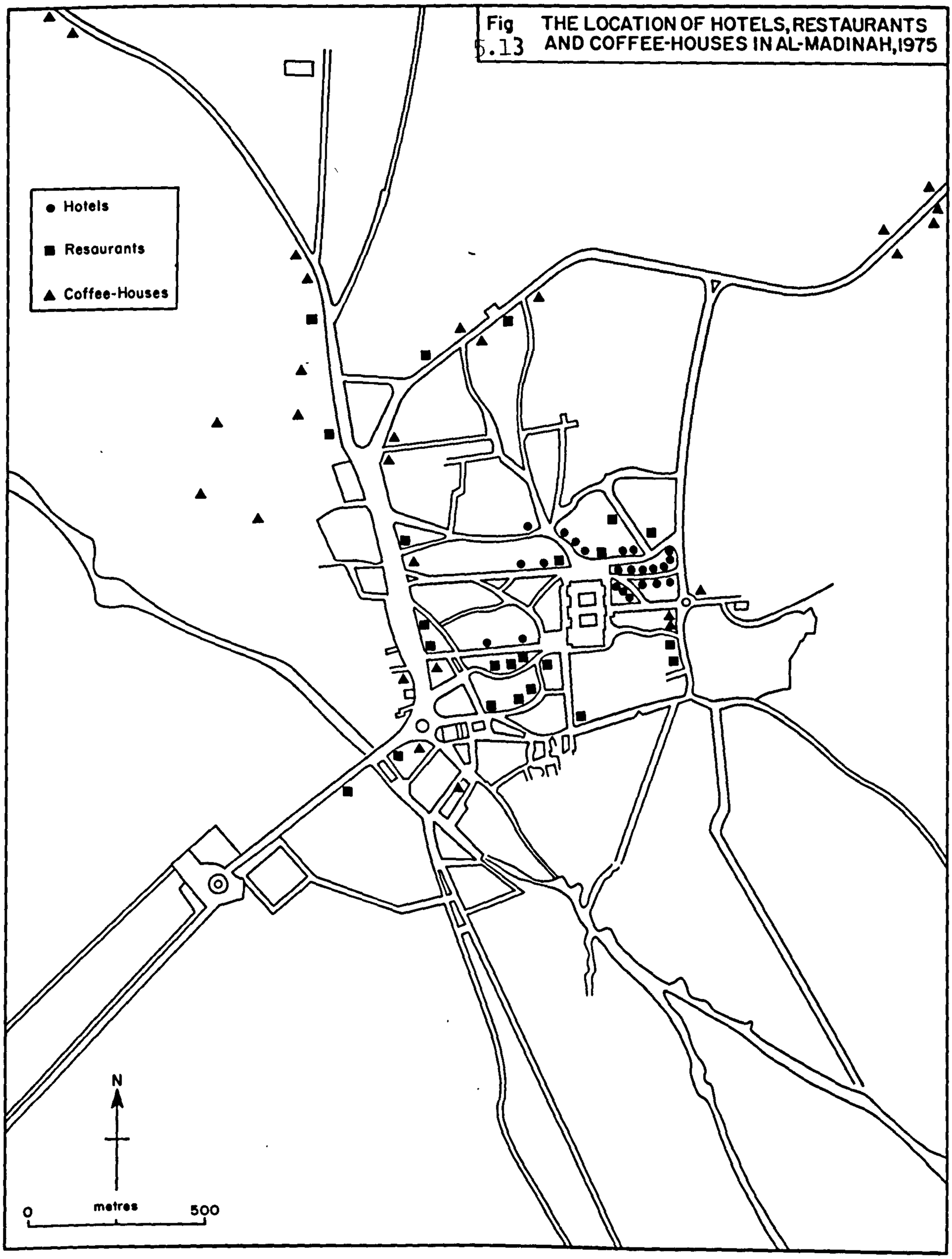


Fig 5.13 THE LOCATION OF HOTELS, RESTAURANTS AND COFFEE-HOUSES IN AL-MADINAH, 1975



Al-Haram especially in the case of Makkah, is cleared for car-parking in normal days of the year and used as an area for prayers at the pilgrimage season (see Table 5.1). Immediately behind this is the congested and mixed use of older residential and commercial areas. This zoning has been reinforced rather than weakened by the introduction of motor vehicles. For the permanent population greater ease of transport has made it possible to live away from the centre and this has alleviated the position of competition for land for residential purposes. Nevertheless the attractive influence of the Haram to pilgrims has maintained the demand for pilgrims' accommodation at the original central locations. In order to meet the ever-increasing demand, particularly by pilgrims for housing in the centres, most of the traditional buildings have been replaced with high-density accommodation modern multi-storey buildings. The ground floors of many of these buildings are occupied by commercial activities; in appearance this dual-use is reflected in ground floor arcades providing shade for pedestrian walkways in front of shops, with the upper floors being used as apartments.

Administrative buildings were also intermixed on land used by residential and commercial activities surrounding Al-Haram, but under the recent schemes of expansion of the Harams of Makkah and Al-Madinah most of these earlier buildings were relocated further away from the central district. For example, the police headquarters in Makkah which was earlier located adjacent to Al-Haram, was transferred, together with the office of the Emirate of Makkah to the Palace of Al-M'abdah, the residence of the late King Abdul

Aziz. The only remaining major activity of this kind in the vicinity of Al-Haram is the Hospital of Ajiad with the advacent site being occupied by the Finance Department of Makkah. The Municipality of Makkah, which was located in the same area next to the hospital building, was taken over for a public square and for widening the main street of Ajiad. It was relocated in two areas, one at Al-Utaibiyah and the other at Al-Zahir quarters. The postoffice administration which was very close to one of the main entrances of Al-Haram, Bab Ali (Gate of Ali) was also taken over for the benefit of street expansion and is now relocated in another modern building in Al-M'ala adjacent to Al-Haram area. The other administrative offices are found scattered around the city and now there is no noticeable concentration of administrative functions in one location.

In Al-Madinah similar changes took place. The only concentration of administration is the "Mujamma'a" a modern large building, which was constructed on the site of the "Turkish Barrack". Here are found the Headquarters of Emirate of Al-Madinah, Ain Al-Zarqa office, the Finance office of Al-Madinah, the social security office, the Agricultural Unit centre and many other governmental offices. The Municipality of Al-Madinah and the police administration which were located in separate buildings close to each other in the vicinity of Al-Haram area,now,under the Second Scheme of expansion of Al-Haram of Al-Madinah and its area surrounding, are to be taken over and relocated further away from their present site. The other administrative functions such as the Educational Directorate District office of

Al-Madinah, the Health Directorate District office, Al-Hajj office, court buildings and other governmental offices are scattered around either in their original location in the old quarters, or are moved to some of the new quarters.

Thus, the absence of planning before and after the expansion of the two cities, as explained earlier in this Chapter, did not allow concentration for these administrative buildings, except that they were located generally as close as possible to the centre. Currently, with the use of car by many citizens of both cities, together with the demand for car-parking areas around these old locations in the centre, especially in the areas which were not considered in the current scheme of widening the streets, such a central location near Al-Haram has become unsuitable and unnecessary for occupation by these administrative functions. Therefore, there is now a tendency for them to construct their own buildings for governmental offices in the new areas where open land is still available, taking into consideration the requirements of car-parking.

Land has now been allocated for industrial estates for light industry, both in Makkah and Al-Madinah (see Figures 5.10 and 5.11) to which it is expected to move all the industrial establishments dealing with motor repairs, printing newspapers and other services, i.e. soft drinks factories and other bulk industry. Craft industries, it is expected, will remain located as at present. In the current planning of Makkah and Al-Madinah there can be then detected some spatial differentiation between types of industry, although some, such as those dealing with furniture, making wooden and metal doors and windows for houses, and even car

repair are still maintaining their location within residential areas close to their customers.

This broad picture of the urban land use in Makkah and Al-Madinah shows that both cities' areas were developed similarly to other cities of Saudi Arabia and the only essential difference is the existence of the Harams which, to an extreme degree, congested the centres with both residential and commercial uses.

Nowadays, with the expansion of the two cities and the availability of cars, a large proportion of the permanent residents are moving to the new quarters, but the desire of the pilgrims remains to have their accommodation as close as possible to Al-Haram. There is, therefore, a clear distinction between the spatial pulls affecting the two main population components. Nevertheless, as far as the central city areas are concerned, they and the immediately neighbouring zones in Makkah and Al-Madinah appear likely to maintain the contemporary arrangement due to the favourable interwoven relations which were developed since early times between these functions (Al-Haram, housing and commerce). In the central areas, however, more space is needed for implementing the present requirement for social and public services facilities, particularly in order to make them capable of serving the large number of pilgrims that concentrate there during Al-Hajj season. Empty space is very hard to get and will be very costly due to the appropriation and demolition of surrounding buildings.

B. Hotels and Visitors Services

The hotel industry, because of its association with pilgrims' services, has developed from the beginning around Al-Haram and now all hotels are concentrated close to the centres of both cities. The wish of pilgrims to have their accommodation very close to Al-Haram made such concentration of hotels a natural response. If the recommendations concerning the restructuring of the area around Al-Haram are implemented (in the case of Makkah, and discussed in Chapter six), control over the design of new hotel construction will further concentrate hotel land use in the vicinity close to Al-Haram. Such clustering of hotel services will enhance competition between individual hotels; this competition, together with their close location to Al-Haram, will also result in high costs to the customers reflected in the high status characteristics of the hotels to be located here. Associated with these high status hotel services are restaurants of a modern type. Consequently the concentration of hotels will simultaneously concentrate the location of the higher class modern restaurants (see also Chapter 8).

Other services connected with pilgrims are banks and the traditional money changers which are located in the centre close to Al-Haram. However, although these services are much needed by pilgrims, they are not large in number and do not exert any significant pressure on land use as Jeddah has taken the lead in providing these and many other services; neither Makkah nor Al-Madinah have developed as banking centres. Similarly, travel agents, offices are not found in Makkah and Al-Madinah because the mutawifeen themselves provide these services and the courier service as a whole

is also organised from Jeddah (see Chapter two).

It can be concluded now that only the hotal industry, which has developed recently is a significant new factor in affecting land use in the central areas of Makkah and Al-Madinah. Hotels are now competing with the requirements of business, commerce and residential accommodation in the areas adjacent to the Al-Haram (see Figures 5.10 and 5.11). It was illustrated in Figures 5.12 and 5.13 the concentration of these services in the centres which have placed increasing pressure on the extremely scarce land in the two cities' centres and have been increasing the value of land which is already at a premium. Other services which are not closely associated with pilgrims are almost evenly scattered throughout the cities' quarters (see Figures 5.2 and 5.3). In part, this reflects a diffused demand within the new residential areas (see Chapter 8) for some publicly provided services such as schools and mosques. On the other hand, in neither city have neighbourhood shopping precincts been established and the central commercial and suq districts remain unchallenged except for a few small "corner-shops". In the main, however, it is the centripetal effects of the Harams which still dominate land use in spite of the changes which have occurred in the provision and planning of housing accommodation examined in Chapter 6.

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CHAPTER SIX

Housing - Demand and Supply

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Housing - Demand and Supply

Since the beginning of Islam there has been a need to provide two types of accommodation to meet the increasing number of pilgrims, and for the residents. Following an earlier period of slow growth (see Chapter 5), since the early 1950's Makkah and Al-Madinah have been influenced by four factors, all of which have contributed to the expansion of their built up area. Rapid increases in national income, the growth of the resident population, sharp increases in the number of annual external pilgrims, and the expansion of the two Harams and street widening have all affected the growth.

These factors have placed enormous stress on existing accommodation, services and other related facilities. In response to urgent demands for extra housing, both cities have spread outwards, acquiring large areas of land without a positive form or plan. This led to serious problems and caused the Government to intervene in the late 1960's and eventually to instigate the preparation of the first Master Plan to control future development. For example the high rents paid during the pilgrimage season have persuaded many wealthy Saudi to build large buildings. Many of the owners of these have followed a policy of leaving them unoccupied during the rest of the year; they are fully utilised only during the short Hajj season.

I. Housing Development

Since the late 1940's, in an attempt to accommodate the rising population and steadily increasing numbers of pilgrims (see Table 2.4), both cities have expanded upwards along the slopes of the hills and outwards to the nearby open land in the case of Makkah; Al-Madinah outgrew its city wall which became obsolete and was demolished in 1948. The introduction to both cities of modern concrete structures, (which gradually replaced the small traditional stone buildings with wood lattice facades, Plates 1.22 and 1,24) has also provided more accommodation. This trend continued during the whole of this period, and when the scheme for expansion of Al-Haram commenced in 1953 and 1955, in Al-Madinah and Makkah respectively, the new apartment buildings continued to grow on the sites of demolished buildings; also, land was appropriated for the widening of roads.

Residential expansion took place through the efforts of the private building sector. The absence of any special department dealing with housing development and of official supervision of the built up area, as well as a lack of government participation, hindered the financing of large housing schemes. The only well planned residential areas in Makkah in the early 1960's were Al-Aziziyah (now becoming Al-Faisaliyah), Al-Zahra, Al-Nuzhah and a large part of Al-Zahir, and in 1970 Al-Rissaifah, Al-Adl and South Kuday areas had been planned and made suitable for residential use (Fig. 6.1). In Al-Madinah, the areas of Sultanah, Al-Mataar, Al-Shuhada, the Eastern Harra, Quba and Al-Anbariyah were other examples of the recent planned areas of resid-

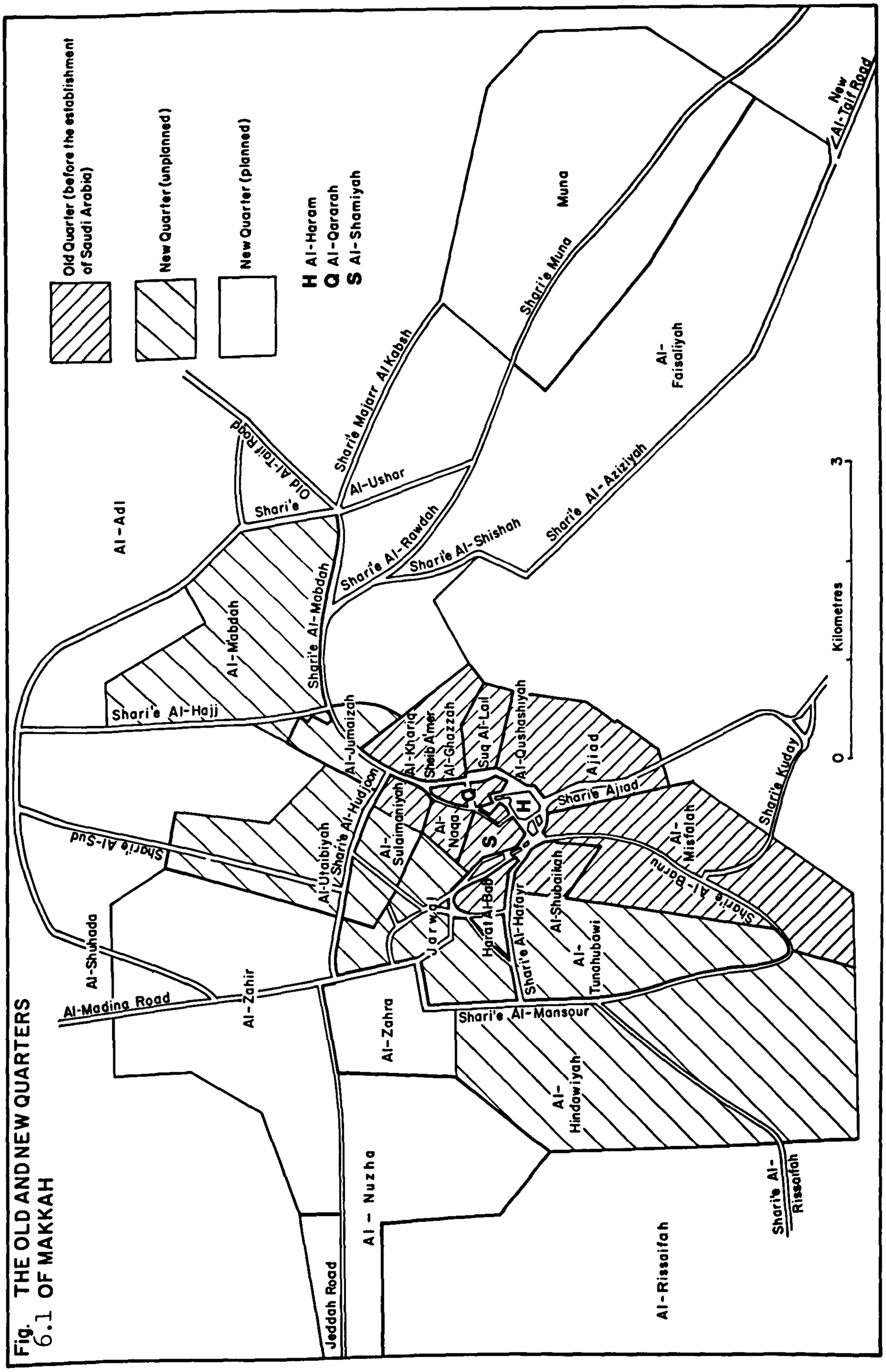


Fig. 6.1 THE OLD AND NEW QUARTERS OF MAKKAH

ential use.(see Fig.5 .6)

A totally different approach was followed in Al-Riyadh when it was established as the official State Capital in 1953: all important Ministries and Government Departments were moved there. Since then, there has been government participation in planning, both through the Ministry of Defence concerned with its own staff (Military and Administrative) and the Ministry of Finance, providing a variety of accommodation for employees in all sectors of government. The Municipality of Al-Riyadh commissioned the building of several apartment blocks and the private sector in the form of wealthy citizens and Royalty was also very active; much of the building in both the centre and on the perimeter was undertaken by these developers. The private shareholders were more concerned with acquiring, from the government, large plots of land on the outskirts of the city, which, after planning, were divided into smaller plots for building detached villa type dwellings, or smaller dwelling units.

In October 1975 the Ministry of Housing and Public Works was set up to ensure the provision of adequate housing in the major cities and towns of the country. This Ministry was to pursue the Housing and Public Works Programme outlined in the Development Plan and was to:

> "... carry out construction of 59,000 housing units over a three year period at an estimated financial outlay of RS. 62 billion, for which purpose a provision of RS. 90 billion has been made available in 1976/77 (1396/97) Budget". 1

The contracts for 41,750 housing units under the 1st stage have already been allocated for the urban communities concerned. The three major cities of Al-Riyadh, Jeddah and

Al-Dammam/Al-Khobar, received the highest share of 10,000 units and Makkah and Al-Madinah are to have 5,500 units each; the remaining 750 are allocated to Al-Khafji. Money was allocated for the construction of 2,500 housing units (now completed for families in the lower income bracket) in Al-Riyadh, Jeddah and Al-Dammam/Al-Khobar, but none for Makkah and Al-Madinah.[2] In the same year that the Ministry of Housing and Public Works was established, the Ministry for Municipalities and Rural Affairs was set up to take over the functions of the former Deputy of Municipalities Affairs, which was linked to the Ministry of the Interior.

As the recent housing developments in Makkah and Al-Madinah have been mainly initiated by the private sector, the solution of the problem of shortage of dwelling units in both cities has been a slow process and has resulted in low standards of building construction and design. Had government participation come earlier, lower income families could have been provided with accommodation or interest-free loans (similar to the "Real Estate Development Fund" founded in 1975 to grant nationwide interest-free subsidized long term loans for the construction of owner-occupied homes, as well as residential compounds) to encourage the building of more substantial houses, and this would have prevented the growth of shanty quarters of sun-dried mud bricks, red bricks, cement blocks and other less substantial materials. It is anticipated that the combined efforts now being made by both the government and the private sectors will relieve the housing problems in Makkah and Al-Madinah.

II. Dwelling Types and Population Density

A. Makkah

According to the Socio-Economic Survey of 1971, Makkah had five distinct categories of dwellings; non-detached houses, which accounted for 65.3% of all homes, are clearly the dominant group, and are mainly of the traditional type. Then comes the apartment blocks which are new to the city, accounting for 21.3% of all homes. These two types are found in the seven old quarters around Al-Haram where most of the pilgrims prefer to have their accommodation. The third group are the shanty homes accounting for 11.4% of the total which are found in the new quarters; they are inhabited only by people in the lower income groups, mostly from Africa (locally known as Takarinah) and those immigrants from the various parts of the Western Province. The fourth group are the detached dwellings, accounting for 1.4% of all homes; these houses are found interspersed with other types of building in the suburbs, where cheap land has encouraged construction. The remaining homes (0.6% of the total) consist of a variety of dwellings, often a one-storey house built of sun-dried bricks or cement blocks on a small plot of land. By 1975, the proportion of traditional dwelling had dropped to 58%, the apartment buildings had risen to 27.4% the shanty category was reduced to 9.6%, the detached dwellings had risen to 3.2% and the fifth group, the one-storey house with one family, accounts for 1.8%.

The highest population density in the old quarters with non-detached buildings (see Fig. 6.2) was 360 persons per hectare, according to the 1971 Survey the highest in

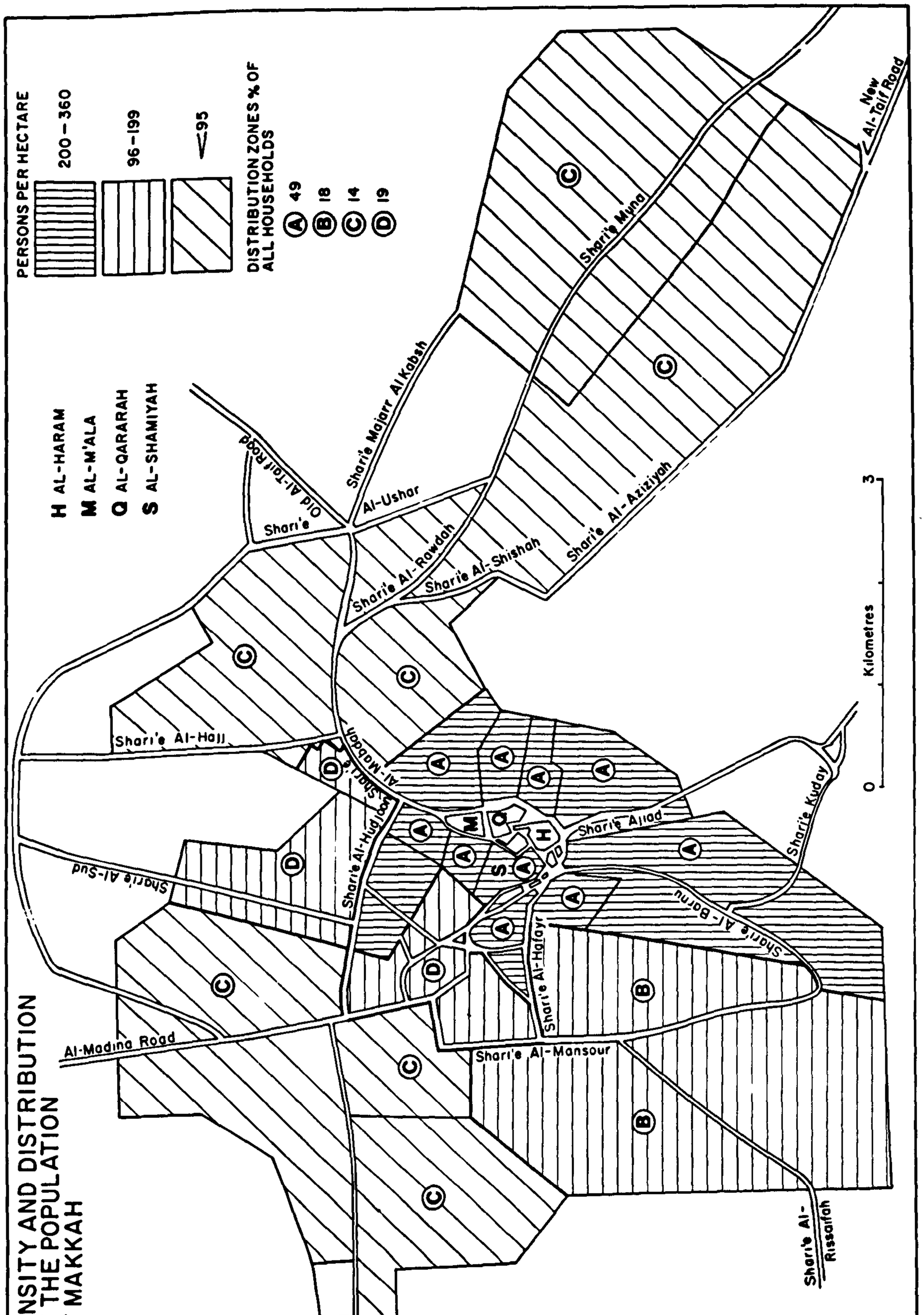


Fig. 6.2 DENSITY AND DISTRIBUTION OF THE POPULATION OF MAKKAH

the city. This zone has been packed with various kinds of buildings, both of residential and commercial use. The shortage of flat land has also affected the building styles in this zone where tall houses of 4 to 5 storeys in the traditional style, with one dwelling unit on each floor because of their small plots of land, were the dominant ones. More recently, when apartment dwellings were introduced to the city, a large number of the old buildings began to disappear in favour of these modern multi-storey constructions with several dwelling units on each floor. Unfortunately, the absence of a positive plan for the introduction of the apartment blocks and the acute shortage of suitable land has led to duplication of the old type building, the reconstruction of narrow streets, and an absence of car parking facilities and open land. The traditional style of building was influenced by the climate in the area, and the very narrow streets.

In some newly established quarters, e.g. Al-Tundhubawi and Al-Hindawiyah population density at the time of the 1971 Survey fell sharply to approximately 95 persons per hectare; detached dwellings predominate in this zone, accounting for the low population density.[3] The relative remoteness of this zone from Al-Haram and the low price of plots of land encouraged buildings of this kind, in planned quarters with wide streets, divided in the middle by traffic islands. The effect of the four factors outlined earlier has, however, encouraged urban growth to such an extent that the crescent of such development extending from Al-M'abdah to the north-east to Al-Tundhubawi in the south-west

has become more attractive for residence. As a result, population density is now growing in this zone to between 100 and 200 persons per hectare according to 1975 personal fieldwork (Fig. 6.2). The lower population density recorded in the 1971Survey has become characteristic of the yet more recent detached-houses periphery, the third zone expansion, e.g. Al-Nuzha and Al-Faisaliyah. This change in the distribution of population has taken place since the early 1970's because many citizens were not able to secure accommodation in the old quarters (owners renting them only during Al-Hajj). People who could afford to build their own homes did so on the new periphery and others rented accommodation in the intermediate zone - marginal up to 1970/71 but now regarded as central.

The 1971 Survey which divided the city into two broad zones of population i.e. the old quarters and the new, has already been superseded and from 1975 we can recognize three zones, the old quarters, the zone of 1950's and 1960's expansion, and the new peripheral zone. This distribution is shown in Fig. 6.2. In the first zone, which has a very high population density, there does not seem to be any overcrowding within the dwellings. Although they are closely packed together, the number of occupants per dwelling appears to be no greater than in other cities of the Western Region[4] (Table 6.1) From Table 6.1, it can be seen that there was no significant difference in the rate of occupancy between Makkah and other urban centres in the Western Region. Only the influence of Al-Haram has caused a very high density of buildings in the first zone.

This area had a permanent population of 90,000 according to the 1971 Survey. In the pilgrimage season it can accommodate more than three times this to become the most crowded area of Makkah. The occupancy levels were then found to be as follows: 14.0% unoccupied, 17.9% had up to one person per room, 9.8% had three to four persons per room and 6.6% had four persons or more per room.

Within the intervening four years period (1971-1975), as a result of the booming construction activity, the occupancy rates have changed, as shown below.[5]

Table 6.1 : Occupancy Rate: Makkah and other Western Region Cities, 1971-1975

Density	1971 Makkah R.M.J.M	1975 Makkah Writer	Western Region
1. Unoccupied	14.0	16.4	14.9
2. Up to one person/room	17.9	19.7	16.3
3. 1-2 persons/room	32.7	34.0	34.0
4. 2-3 persons/room	18.6	15.2	19.5
5. 3-4 persons/room	9.8	8.5	8.5
6. more than 4 persons/room	6.6	6.2	6.7

Sources: R.M.J.M. Alternative Urban Strategies Western Region Plan, Kingdom of Saudi Arabia, August 1972, p.45. The Writer's fieldwork, 1975.

Comparing column1 with column 2, the rate for the unoccupied room category had risen slightly, the same has occurred in the up to one person per room category. The rate for 1-2 persons per room has also risen. The extra

buildings which have been constructed during the four intervening years must have contributed strongly to the general decreasing of population density. The increase in the third category has probably occurred due to an increase in the number of rooms per dwelling and the fact that more married couples now have their own homes. If the recommendations made by R.M.J.M. to alleviate the congestion of buildings were to be carried out, this would increase the occupancy rate up to one person per room category to more than 30%.[6] The four newly-established quarters of Al-Faisaliyah, Al-Zahir, Al-Nuzha and Al-Zahra contain 40% of the dwellings with predominantly up to 1 person per room occupancy rates in Makkah. This situation has arisen because many residents have added extra buildings and rooms to their homes and, as they have relatively small families, this has lowered the population density in this area.[7]

With regard to the distribution of population in the various quarters, the city was divided into four zones (R.M.J.M. Survey); 49% of all households were in zone A, 18% in zone B, 14% in zone C and 19% on zone D (see Fig. 6.2). It was also found that 52% of all homes in Makkah were rented, compared with only 47% in Al-Madinah; the average for rented homes in the whole of the Western Region is 57%, according to the 1971 Survey.[8]

In 1975, the rate of owner-occupied homes was 52.7% which was not far from the 1971 Survey; 80% of all premises around Al-Haram (the central zone) are rented as pilgrim accommodation (compared with 1971 Survey by R.M.J.M. figure of 85%).[9] The remainder of the population here indicated

that their homes were too small and totally unsuitable for renting to pilgrims.*

B. Al-Madinah

Houses in Al-Madinah were classified into five distinct groups, (1971 Survey): non-detached 76.4%, detached 1.7%, apartments 11.9%, shanty dwellings 0.5% and other (one storey), 9.4%. [10] Al-Madinah had more non-detached dwellings than Makkah (76.4% compared with 65.3%), but Makkah had more apartments than Al-Madinah (21.3% compared with 11.9%). The detached group accounted for about the same proportion of dwellings in each city (1.4% in Makkah, 1.7% in Al-Madinah); similarly the shanty category constituted 11.4% and 11.9%, and the small houses 0.6% and 0.5% respectively.

Table 6.2 : Occupancy Rate: Al-Madinah and other Western Region Cities 1971, 1975.

	Al-Madinah		Western Region
	R.M.J.M.	Writer	
1. Unoccupied	23.5	21.9	14.9
2. Up to one person/room	19.9	22.3	16.3
3. 1-2 persons/room	35.5	37.1	34.0
4. 2-3 persons/room	13.5	12.4	19.5
5. 3-4 persons/room	4.9	5.0	8.5
6. More than 4/room	2.7	1.2	6.7

Sources : R.M.J.M. Alternative Urban Strategies Western Region Plan, Kingdom of Saudi Arabia, August 1972, p.41. The Writer's fieldwork, 1975.

It can be seen from the Tables 6.1 and 6.2 (above) that the percentage in the uninhabited category is higher in

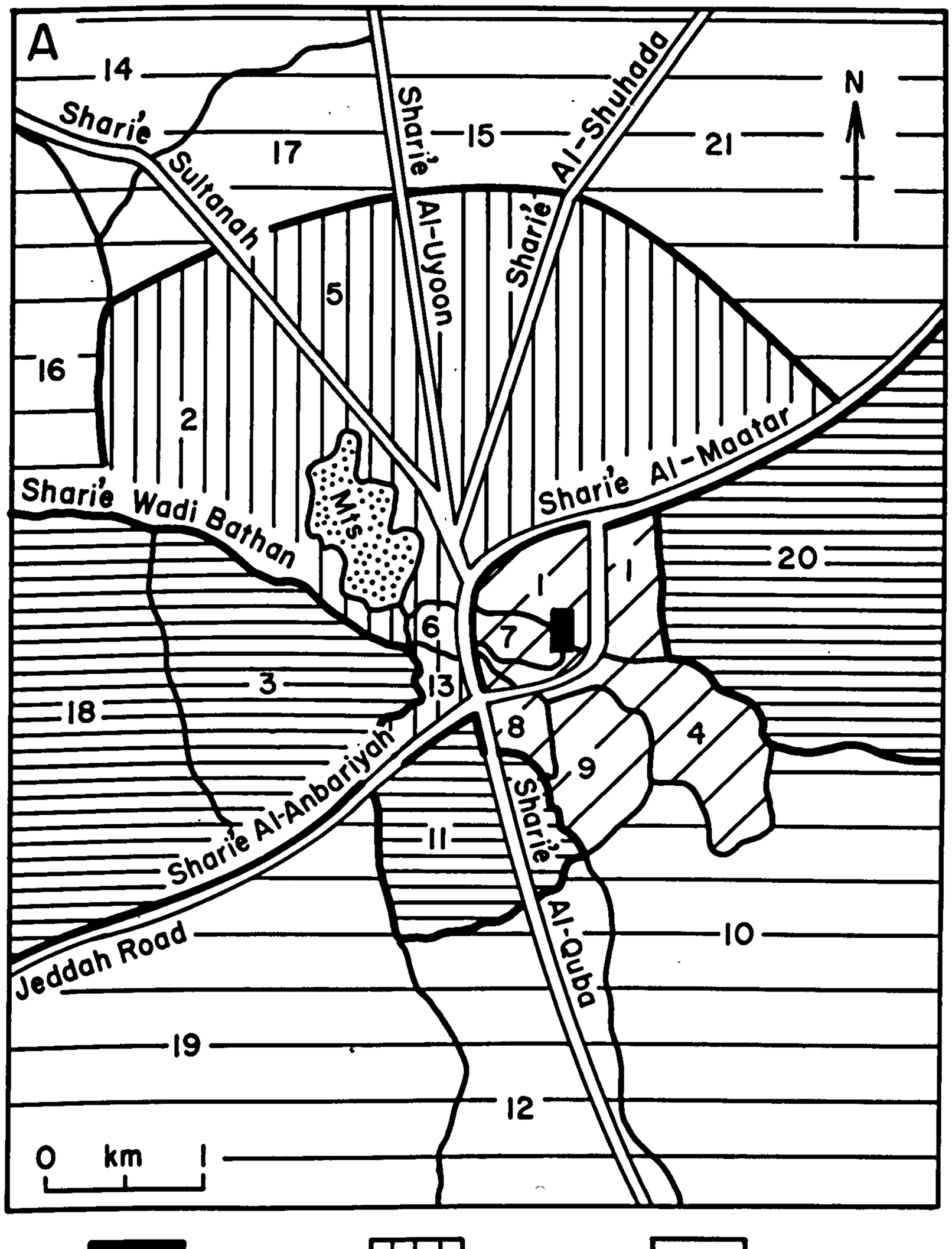
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* i.e. low standard, traditional style buildings (without modern toil facilities.

Makkah from both surveys, and much higher than the Western Region Urban Sectors' average; this may be explained by Al-Madinah's house generally having more rooms per house. The average family was 5.13 members in both cities in 1975.[11] The over crowding of people in Makkah is a result of a shortage of accommodation. This has resulted in families sharing dwellings, in turn leading to a smaller proportion of the population in the uninhabited category than in Al-Madinah. The figure for up to 1 person per room has, in fact, risen since 1971. Many more homes have been built in the intervening years. The 1-2 persons per room rate has also risen, due to the availability of accommodation for newly married couples.. The other rates were lower than those for Makkah in both surveys, indicating that less crowded conditions existed in Al-Madinah overall, in spite of the construction of more houses in Makkah since 1971.

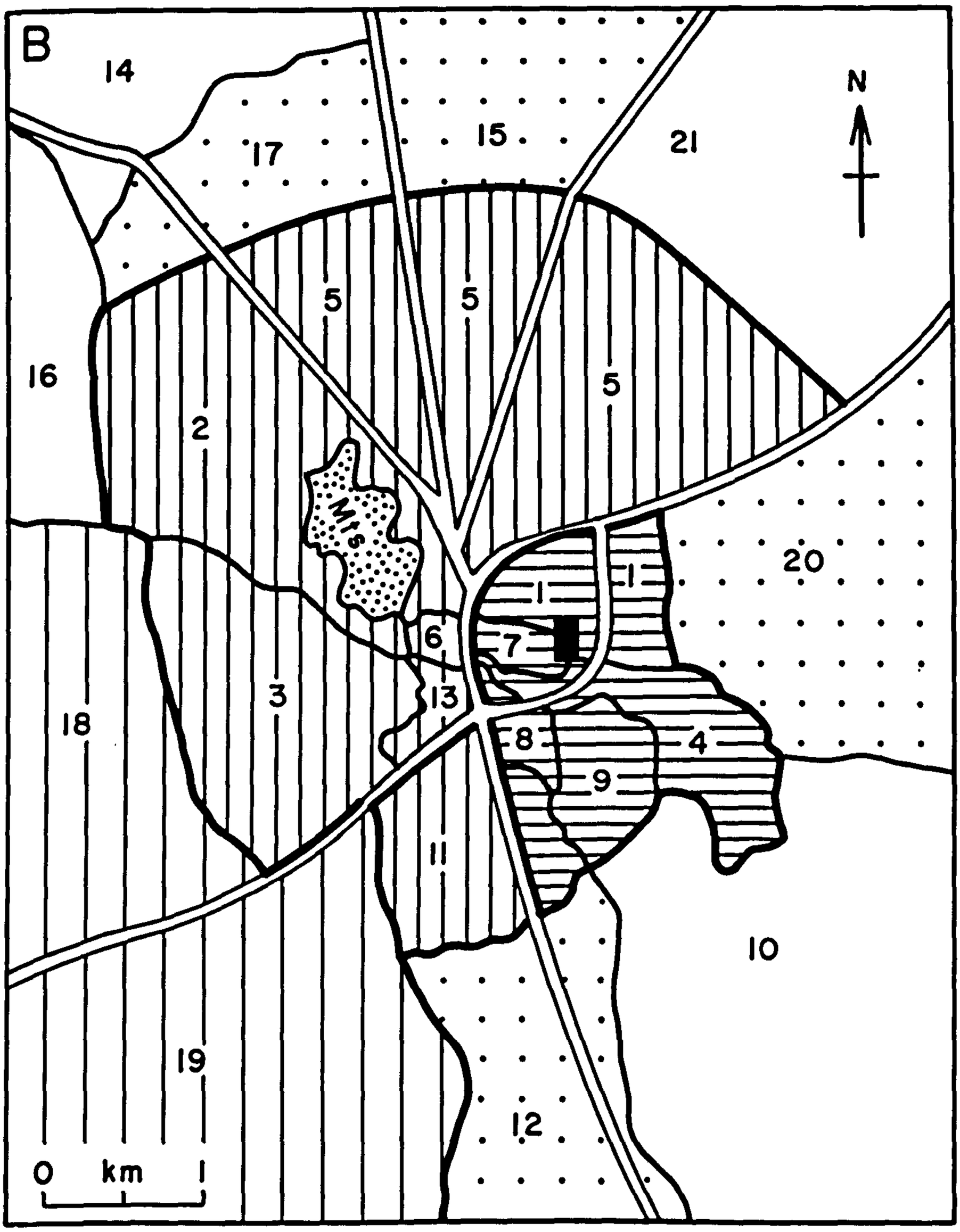
With regard to the distribution of population in the various quarters of Al-Madinah, this was divided into four zones (see Fig. 6.3) in 1971 survey by R.M.J.M. The first zone had the highest population 52%, the remaining three outer zones having 24%, 20% and 4% of the total population. The density was classified into five zones (see Fig. 6.4); the highest population density of 400-499 persons/hectare was found in the centre. The area contains about 37% of the total population.[12] The zone surrounding the centre and small areas a little more distant had 300-399 persons/hectare, while two of the three zones with the highest absolute population (to the west and south, see Fig. 6.3) had only 200-299 persons/hectare. The third high density population zone (to

Fig.6.3 THE DISTRIBUTION OF AL-MADINAH POPULATION, 1971



(for key to numbers see Fig.4.5)

Fig.6.4THE DENSITY OF AL-MADINAH POPULATION, 1971



Al-Haram
400-499 per hectare
300-399
200-299
100-199
50-99

(for key to numbers see Fig. 4·5)

the east, see Fig. 6.3) had only 100-199 persons/hectare, and the last zone with 50-99 persons/hectare lay on the outer perimeter of the city, where only small scattered communities are to be found. All of these four outer areas encircled the centre of the city and had the remaining percentage (63%) of the total population.[13] It can be seen from Figures 6.3 and 6.4 that although the four areas (quarters) comprising the Eastern Harra, the Western Harra, Quba and Al-Anbariyah contained 52% of the total population of Al-Madinah, they were in the second and third groups according to population density.

The religious factor is thus the main cause of the overcrowding in the centres of Al-Madinah and Makkah. In both cities, business has to compete far more strongly with the residential function than is normally the case in Saudi Arabia.

III. Building Response - Pre Master Plan

The urgent demand for housing created by both the resident population and visiting pilgrims has resulted in a concentration of population around Al-Haram, the centre of life for both cities. The business sector and the residential sectors have been in competition against each other. This situation resulted in the imbalance of populations in Makkah and Al-Madinah in terms of both their distribution and density as were shown in survey 1971 and 1975.

The fact that pilgrims prefer to have their accommodation in the zone nearest to Al-Haram has encouraged the construction of tall traditional undetached buildings 4-5 storeys high on small, steeply contoured plots (in the case of Makkah) in

order to accommodate as many people as possible. The introduction of apartment blocks fitted with electric elevators has encouraged many landowners in the area to replace the old buildings with modern dwellings (see Plates 1.14/1.15 and 1.20/1.24). Vertical expansion has made possible the efficient use of extremely scarce and expensive land in the centres of both Makkah and Al-Madinah.

This vertical expansion around Al-Haram, with buildings as high as 7 to 11 storeys in Makkah and 5 to 7 storeys in Al-Madinah has gone a long way to solving the problems of housing. However, little or no planning has accompanied the erection of these tall buildings, and the mistake of buildings being packed together haphazardly leaving only narrow streets and alleys in between has been the pattern. No provision has been made in the modernization period for the construction of car parks. Often these huge apartment blocks can accommodate an average 50 - 100 families. Moreover, high density population and housing causes serious traffic congestion and hinders the movement of pedestrians especially during Al-Hajj season, when the area is crowded by the regular daily shoppers. The situation called for urgent measures on the part of the government to provide alternative ways of relieving traffic and pedestrian congestion in the area as well as housing congestion.

I. <u>The Master Plan</u>

The absence of control over construction and the overcrowding of buildings adjacent to the two Harams by the Municipal authorities of both cities has led to an extreme traffic movement problem in the city centres and has moreover

obscured the magnificent structure of Al-Haram of Makkah. This situation, together with the high population densities, called for urgent measures on the part of the government to provide alternative ways to relieve the city centres of traffic and pedestrian congestion. In order to solve these problems, at the beginning of 1970 the British Firm R.M.J.M. was invited to make a comprehensive study of the Western Region and to prepare the first Master Plan of Makkah and Al-Madinah. The following recommendations were put forward to alter the form of the areas around the two Harams (and other areas of both cities) and to control future development within the 20 year period (1971-1991) set for this study.

A. Makkah

I. The first zone to be considered was the area immediately around Al-Haram which was divided into two sections; the first was to be utilized for the construction of lower buildings, which would be smaller than older buildings, in fact not more than four storeys high. The ground floor of these buildings would be kept for non-residential uses (e.g. as a praying area at the pilgrimage season and as car parks at other times). Under the plan, the area will accommodate 8,000 permanent residents and a further 9,000 during the pilgrimage season, without causing excessive overcrowding. The second section, the area next to Al-Haram, is to have buildings not more than eight storeys high, and again, the ground floor would be for non-residential uses. This area is planned to accommodate 17,500 permanent residents and a further 52,500 during Al-Hajj. [14] These arrangements, which will divide the area immediately around Al-Haram into two rings (Figures

6.5 and 6.6), mean that on completion of the Plan in 1991, zone I would be capable of accommodating 25,500 permanent residents and a total of 61,500 during the pilgrimage season.

This figure is almost 64,500 less than the permanent population of 90,000 found in the 1971 survey in this zone, excluding the total number of pilgrims which is usually more than three times that figure. It is obvious that under the Plan, the first zone (the heart of the city and the most crowded area of Makkah) would be reduced to less than one-third of the total resident population of 1971. This is a very significant cut which gives very low density (almost equal to densities in the outer zones). The Plan requires that the bulk of the population be moved to the outer zone (which is less dense) in order to keep this inner zone relatively clear and to relieve the present congestion of traffic and pedestrians around Al-Haram. It is seen under the Plan that a large area immediately around Al-Haram would have become completely pedestrianised which was absent previously.

The implementation of the Plan for the first zone is very complicated and involves the following problems:

1. A large percentage of the buildings in the area immediately around Al-Haram and on its perimeter are less than 15 years old, having been constructed in the early 1960's and 1970's. Demolition of these modern premises, together with many traditional ones in order to execute the complete project in a short space of time would create severe housing shortages.

2. The appropriation of these premises will no doubt prove extremely costly to the government; several thousand million Saudi Riyals will have to be paid to the owners as compensation.

Fig. 6.5 The First Ring of Makkah (proposed structure plan)

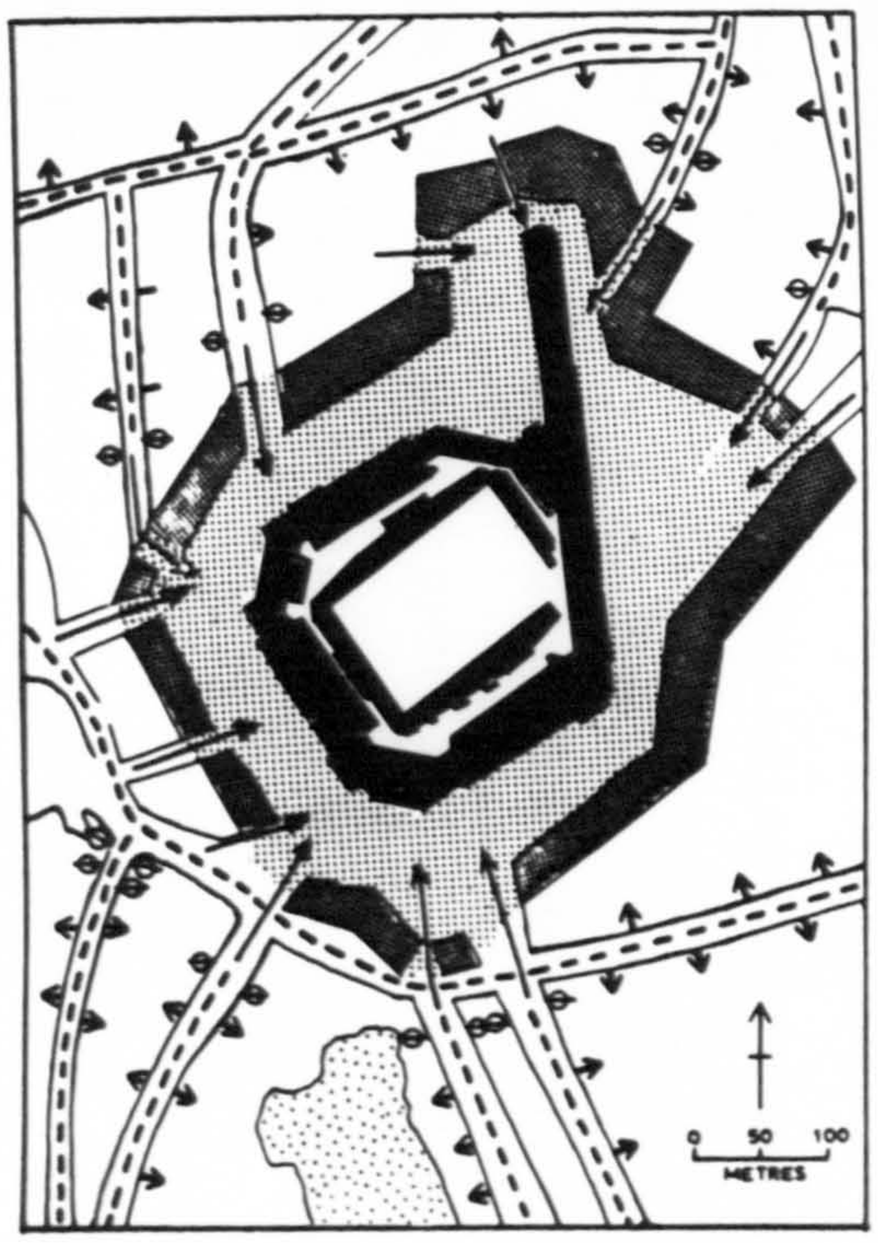
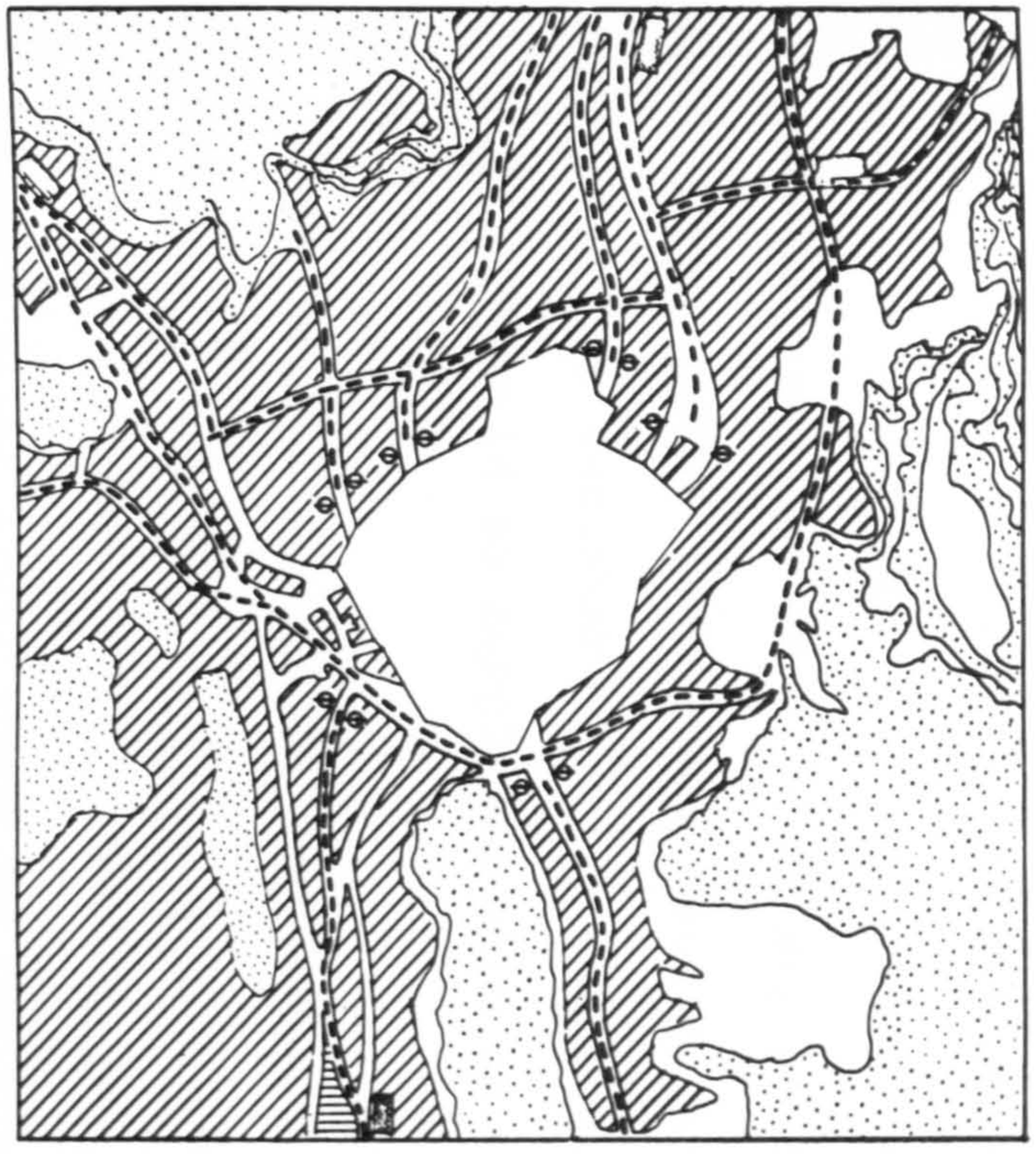


Fig 6.6 The Second Ring of Makkah (proposed structure plan)



Source: S. El-Hamdan, The Pilgrimage to Mecca 1976.

3. Monetary compensation alone would probably not satisfy the owners of these properties as land in the area is almost impossible to acquire. It would appear that in order to implement the scheme outlined in the Master Plan it will be necessary to divide the Plan into three stages and the area itself into three sections (work may be started at the beginning of 1980). Each stage would last five years, and in this way the necessary appropriations, demolition and new construction could be completed with the minimum amount of disruption.

The first stage would involve the demolition and replacement of buildings, built in the early 1960's. After the completion of this stage, buildings in the second stage (constructed after 1965) would be replaced and the third and final stage would involve buildings built around 1970. Work to improve the other recommended areas in the city of Makkah (outlined below) would be carried out at the same time.

The second zone next to Al-Haram area consisted of apartment type buildings over three storeys high; a large percentage of these buildings were constructed after 1957. The area lacks open spaces and other urban services and facilities. The Plan recommended this zone to be provided with the necessary open land, and on completion in 1991 will have a projected population of approximately 80,000.[15]

In the areas further away from the centre of the city, such as the newly established quarters like Al-Hindawiyah and Al-Tundhubawi, population is sparsely distributed, and the area is mostly inhabited by immigrants from Central Africa in the low income groups. Such areas urgently require wider

streets and the provision of vital public services and facilities; under the re-organisation scheduled in the Master Plan, a population of 43,000 is projected for 1991. The other low income groups comprising migrants from various parts of the Western Region and Saudi Arabia in the above quarters also require similar improvements. By the completion of the Plan the population of this area is expected to be 41,000.

The final areas comprising the villa developments made no recommendations under the Plan as these areas had obviously been planned and provided with all necessary utilities, so no further modifications were needed. The anticipated resident population under the Plan in these areas would not exceed 19,000.[16]

On completion of the Plan, the population of these areas would be reduced. Some of the existing residential land would be appropriated for the provision of open spaces and other services; many people would lose their homes and these, together with the anticipated population increases between 1971-1991, would have to be accommodated in the newly emerging residential areas in Al-Aziziyah quarter (mostly detached dwellings); it is proposed to develop and extend its area to approximately 437 hectares, with a population of 68,000 (nearly 156 persons/hectare). Al-Rissaifah quarter, more recently developed, is still not fully developed and requires to be provided with all necessary services and utilities; the total area is 1,800 hectares, the largest area of the city of Makkah and in 1991 it is expected to have a population of 279,000 (approximately 155 persons/hectare).

Al Zahir quarter, one of the most recent and yet fully developed and now after completion of the nearby industrial estate has started growing vastly; its area would be 116 hectares and its population is projected to be 18,000 by 1991 (about 155 persons/hectare). Al-Adl quarter, is one of the three newly planned areas, (Al-Rissaifah, Al-Adl and South Kuday) for future residential expansion. The total area of this land is 1,540 hectares, and it is anticipated under the Plan to have a total population of 240,000 (nearby 156 persons/hectare). Permission to utilize the land for residential use was recommended to be postponed., ownership of the land is uncertain, there were no public services or utilities, and the area is exposed to torrential flooding. South Kuday has an area of 866 hectares and is expected to house a population of 135,000 (nearly 156 persons/ hectare and similar to the projected density of the four above mentioned areas). It was recommended by the Plan that the provision of public services and utilities be left until after the first four above mentioned areas had been fully occupied. [17]

Under the proposals outlined in the Master Plan for Makkah, the three new quarters (Al-Rissaifah, Al-Adl and South Kuday) will have a total area of 4,206 hectares, almost as much as the existing 22 quarters of the city (see Table 6.3); the three areas would have a total combined population of 654,000. This means that, given the projected high growth rate of population, Makkah within the 20 year period 1971-1991 will have sufficient room to be accommodated in these three areas. The density of population was anticipated in the five areas under the Plan to be about 155 persons/hectare, and when the low estimate increase of population of Makkah is

Table 6.3 : Total Area of Quarters of Makkah and Al-Madinah

Makkah	Hectares		Al-Madinah	Hectares
1. Al-Misfalah	296		Bab Al-Madjeedi	104
2. Al-Tundhuba'wi	198		Al-Manshiyah	240
3. Sheib A'mer	73		Al-Anbariyah	276
4. Al-Jumaizah	50		Al-Aghawat	114
5. Al-Zahir	462		Bab Al-Shami	1,152
6. Al-Utaibiyah	224		Al-ManaKhah	14
7. Al-Hinda'wiyah	614		Al-Saha	17
8. Ajaid	89		Al-Tajuri	20
9. Al-M'abdah	312		Al-Nakhawlah	61
10. Jarwal	125		Al-Awali	234
11. Al-Shubikah	33		Quba	163
12. Al-Sulaimaniyah	21		Qurban	257
13. Al-Shamiyah	20		Al-Jurf	205
14. Suq Al-Lail	30		Sultanah	138
15. Al-Naqa	24		Al-Shuhada	65
16. Harat Al-Bab	22		Al-Anabis	66
17. Al-Qararah	5		Al-Tayar	31
18. Al-Qushashiyah	17		Al-Tajuri	20
19. Al-Faisaliyah (Al-Aziziyah)	905		Al-Mataar	578
20. Muna	668		Al-Harrah Al-Sharqiyah	305
21. Al-Zahrah	143		Al-Harrah Al-Gharbiyah	262
22. Al-Nuzha	310			
Total	4641*		Total	4322*
23. Al-Rissaifah	1800			
24. Al-Adl	1540	8847		
25. South Kuday	866			
Total	4206			

* Area is estimated by using the grid method and the planimeter ** Based on R.M.J.M., study

considered (see Table on population) which is 550,000 the density would be on average 100-150 persons/hectare.

B. Al-Madinah

With regard to Al-Madinah, no drastic alterations have been recommended and the Plan only suggested a redistribution of the population expansion expected during the 20 year period 1971 - 1991, between the seven major quarters of the city and the seven other growing areas on the basis of the low-estimated growth (250,000). These recommendations are outlined below: [18]

1.	The Central Area, which comprises 7 quarters, will house	45,000
2.	Al-Anbariyah and Quba areas will have a total population of	27,000
3.	The Western Harra will have a population of	20,000
4.	The Eastern Harra will have a population of	70,000
5.	Al-Shuhada area will have a population of	54,000
6.	Sultanah area will have a population of	25,000
7.	The North west area will have a population of	9,000
	Total population of all areas	250,000

The redistribution of the population of Al-Madinah would give a density of approximately 100-150 persons/hectare, similar to that projected for the outer areas of Makkah. It can be noted that this population density is relatively low and thus there would be ample room to house a population of 350,000 assuming a high growth rate, by 1991 (see Table 4.2 and 4.3).

Through infilling of empty spaces, redevelopment of the existing built up area and the full utilization of areas 4,5,6 and 7, Al- Madinah will not require to be extended beyond these areas (see Fig. 5.7) in order to carry out the recommendations of the Plan.

IV. Future Housing Requirements and Development Control

According to the Socio-economic Survey of 1971, the total population of Makkah was 301,000, with approximately 58,000 families indicating an average family size of 5.19. Working on the projected low-estimate for the 20 year period 1971-1991, and an average family of 5 persons, the total number of families would be 110,000; for the high estimate the total would be 190,000. Housing needs for the extra 52,000 (low estimate or 132,000 (high estimate) families would be provided by the following two methods: The infilling and the redevelopment of the existing built-up area, and the utilization of the five new assigned residential areas (Al-Aziziyah, Al-Zahir, Al-Rissaifah, Al-Adl and South Kuday). It has been anticipated that the apartment type buildings and the detached dwellings would be most suitable for accommodating the estimated growth under the Plan for Makkah. By following the regulations laid down for controlling land use, the city should not expand beyond its present limits; housing requirements over the next 20 years will be met by the development areas mentioned above.[19]

Al-Madinah's total population of 137,000 (survey 1971) had an average family size of 5.07, giving approximately 27,000 families. The projected increase over the 1971-1991 period of 250,000 (low estimate) and 350,000 (high estimate)

would mean increases of 50,000 and 90,000 families respectively. Extra dwellings can be provided by the same methods outlined above for Makkah.

It should be noted that the reorganisation of the structures of the two centres of Makkah and Al-Madinah and the redistribution of population density in the centres and in the other areas of the cities which were recommended by the Plan are to be undertaken in the land already acquired by the cities. The Plan suggested that if the land use control policy is observed during the period of the Plan Makkah and Al-Madinah will not need to extend beyond their current limits. The two cities have expanded and spread outwards and gained more than three times their old areas, the projected growth of population and the subsequent redistribution are going to take place in the existing areas of both cities as they have a tremendous potential for housing the predicted population expansion.

As the two physical centres of both cities have been and will continue to be the centre of attraction of both the commercial and the residential uses, the apartment type of buildings will have to be the dominant type in order to provide as much accommodation as possible for pilgrims. This situation cannot be altered under the Master Plan or under any other future plans because of the existence of the two Harams. Thus an interwoven link has been developed between Al-Haram and the commercial and residential uses in the centre of both cities; any alterations will have to take this factor into consideration. As a result of the shortage of housing near Al-Haram and the high rents paid during the pilgrimage

season, many of the wealthier occupants in Makkah have been persuaded to replace the old traditional buildings with apartment dwellings; the high rents paid during the pilgrimage have persuaded the owners of these large apartment buildings to leave them unoccupied during the rest of the year, and thus they are only fully utilised during the pilgrimage season.

Since the construction of these apartment buildings many of the flats were occupied by citizens of Makkah and Al-Madinah and in turn such flats have been sublet for the pilgrimage season- the tenants often receiving more than their year's rent from their sub-tenants. The high demand for accommodation in this area later encouraged other citizens to acquire flats and then keep them unoccupied, to rent them only during Al-Hajj. This practice has continued and when, in the pilgrimage season of 1969, the number of pilgrims surpassed 400,000 (see Table 2.4), the demand for accommodation was so great that the tenants of these flats made two or three times their annual rent during the short Hajj season.[20]

Many landlords have tried to raise the rents for these apartments. They have attempted to draw up contracts with their tenants whereby they receive part of the income derived during Al-Hajj tenancy conditional on these terms. Other landlords in Makkah have even adopted the practice of keeping their apartment buildings closed for the whole year, with the exception of Al-Hajj. The huge rents from renting in this way have encouraged many landlords to adopt this practice. The income derived during the short Hajj season is normally three or four times the year's rent of a normal tenant.

This has encouraged many speculators to buy old buildings, demolish them and replace them with large modern apartment buildings and keep them empty all the year long, only renting them in the pilgrimage season. This has had the general effect of raising rents. These practices have caused particular concern to the authorities throughout the country as a whole as the practice of raising rents became more widespread. At the beginning of 1974 the government issued a Royal Decree requesting that rents be kept at the 1973 level with only a 5% increase permitted.[21] All building owners have conformed to this request, the only exception being those buildings not let to local residents and kept empty and those buildings constructed after 1974. Such malpractice on the part of the landlords have created the present housing crisis, and have raised the question of why large apartment buildings are closed all year long until Al-Hajj, when there are hundred of people who desperately need this accommodation. Although the total number of empty flats and unoccupied buildings are not accurately known, it has been estimated that 60% of the flats and apartment buildings, in the centre of Makkah, are closed from one pilgrimage season to the next.[22]

As a result, the Amir (Governor) of Makkah District requested the formation of a committee in 1975 to investigate the problem, to list all empty houses around Al-Haram and to offer recommendations for arrangements where the owners of these vacant properties would be encouraged to rent their buildings to the needy residents of Makkah, to reduce the housing problems of the city.[23]

Because the housing crisis in Al-Madinah did not reach the same proportions as in Makkah, there was not such an urgent need to find a solution for their empty houses, but what did take place was a sharp rise in rents similar to Makkah and other urban centres of the country. The increase in property rents as well as in selling prices was a consequence of the inflation which has been taking place in Saudi Arabia since 1973. It can be argued that there was not a real shortage of housing in the city of Makkah or Al-Madinah, but that the high demand for accommodation caused by the rise in the numbers of annual pilgrims since the late 1960's has resulted in such a sharp rise in rents that many owners of houses now keep them unoccupied for most of the year.

It seems that the solution to this problem can be tackled at least by encouraging the landlords of empty apartment buildings to lease their flats to needy residents of Makkah and Al-Madinah for reasonable fixed rents on the basis that the owners will receive 50% of the income derived by the tenant during the pilgrimage season, and that the tenants are responsible for maintaining their flats throughout the entire year. Other ways included the renting of flats to a tenant for half of the normal price for a year; during Al-Hajj tenants should vacate the flats which will then be let by their owners for the pilgrimage season, the owners to be responsible for repairs and other related expenses.

The problem may finally be overcome by applying the knowledge gained in many of the summer holiday cities and tourist cities in order to make use of vacant properties during

the winter. These buildings can be rented to students of colleges in the cities concerned. In the summer such accommodation would be empty. The college summer holiday would have begun and all students who come from other parts of the country would have gone home; in this case such properties can be leased to the summer holiday makers. However. the two holy cities are very hot during summer and not really suitable as summer resorts. People from Muslim countries could be encouraged to make Al-Omrah to Makkah (the little pilgrimage which is not fixed to a certain period like the annual pilgrimage season) and Al-Ziarah (visit to Al-Madinah). The unnecessary visit to Al-Madinah during the annual pilgrimage season to Makkah, which causes overcrowding of pilgrims in Al-Madinah, could be minimized, and also would make use of otherwise empty property throughout the year.

In fact, many of these empty flats are needed by students enrolled in the two colleges (Al-Shari'a and Education) in Makkah; many of them come from other parts of the country and from abroad, and also, by members of staff who come from abroad. The two colleges have holidays during the pilgrimage season. Much of this property is too expensive, so that university people look for alternative housing in the low income quarters. A similar example is found in Al-Madinah at the Islamic University, although here the University provides free accommodation for those who need it, in the University campus. With the increase in enrolment, the existing accommodation has become insufficient and many students are now living outside the University campus, in low income quarters.

It is apparent so far, that development of housing in Makkah and Al-Madinah has been affected by the growth of resident and pilgrim populations. Housing problems in the past were limited. Both the resident and visiting populations increased at relatively slow rates which, together with immobility, low incomes and political instability, constrained any excess demands for accommodation. Although with the creation of Saudi Arabia security of life was improved in the area, the factors causing problems came to the forefront and were not immediately overcome. Only since 1949, when the number of pilgrims had begun to exceed one hundred thousand (see Table 2.4), together with a noticeable increase in the number of resident population (see Tables 4.4 and 4.5), have severe problems become apparent.

Since 1950 the demand for dwellings from both populations has been intensified, exceeding the existing supply. This inadequacy was left to the private sector which was responsible for the supply of accommodation in Makkah and Al-Madinah. Consequently, although many buildings were constructed, particularly in the city centre and peripheral areas, owing to the high demand for accommodation for pilgrims, they were not sufficient. This situation was aggravated by the implementation of the projects to expand Al-Harams (in Al-Madinah this occurred in 1953 and in 1955 in Makkah) and the consequences created housing crises in both cities.

The two cities acquired large areas without positive planning during such period which, by the beginning of 1970, resulted in the formation of the initial Master Plan in order to limit the rapid expansion of the areas of Makkah

and Al-Madinah and secondly, to put a control over construction to avoid a repetition of former inadequacies, such as lack of environmental harmony, social facilities and hygienic sanitation of the former pattern. The Plan recommended the redistribution of population from the city centres and not to allow the expansion of the peripheral areas further than that which currently exists as this area is deemed to be sufficient to accommodate present needs and, indeed, further growth within the 20 year period of the Master Plan.

V. Conclusion

Looking at the housing situation in general, (in Makkah and Al-Madinah) it was shown that there was a high proportion of rented accommodation (47%) which may be taken as an indicator of the need to create more state housing units, especially for low and lower middle income groups, particularly with financial support from the government. The sharp increases in the cost of housing construction, together with increasing costs of building material, labour etc. has slowed the rate of construction and this has been further aggravated by shortages in land supply and high land prices. Therefore it has now become necessary for the government to take an active part in the developing of housing in order to alleviate the acute shortages in both cities.

The creation of the Ministry of Housing and Public Works, together with the "Real Estate Development Fund" in 1975, brought the housing problem to the attention of the government. Under the Development Plan launched in 1977 for the construction of 59,000 housing units for the country as a whole (over a three year period) Makkah and Al-Madinah

were allocated their proportionate share of this figure. Under the two government schemes to be started in January 1978 and 1979 Makkah will have 30 construction projects involving shopping centres, administration buildings, and other buildings. Makkah and Al-Madinah will also have a government housing scheme for the construction of 5,000 low and middle income housing units on the outskirts of both cities which will cost $1,100 million. Under the other scheme to be awarded very soon (probably by the beginning of 1980) a residential and commercial centre will be constructed in Al-Madinah which will comprise 425 apartments, 144 shops, 16 offices and a car park.[24]

The availability of interest-free loans through the "Real Estate Development Fund" has given the opportunity for citizens to construct more substantial houses. The combined efforts now being made by both the government and the private sectors will relieve the problem of shortage of dwelling units in Makkah and Al-Madinah to the specifications recommended by the Town Planning Offices who are supervising the construction of buildings in the two cities.

With regard to accommodation for pilgrims this sector has, and will continue to be provided for by private enterprise. Since early times pilgrims' accommodation has been the concern of the private sector, and even now under the Saudi government the situation remains the same, but with supervision of building construction and rent. The Mutawifeen in Makkah and the Adilla in Al-Madinah have been the major suppliers of accommodation, their demands being met by the availability of private houses. Until very recently pilgrims' lodgings were concentrated in the centres of both cities, for the

reasons stated throughout the thesis (behaviour patterns of pilgrims, transport difficulties).

However, there is now a move by certain pilgrims, particularly from Iran, Kuwait, Qatar and the Arab Gulf States to have their accommodation not as close to Al-Harams. This tendency has been encouraged by the construction of many modern buildings in the new quarters away from the centres by both Al-Mutawifeen, Al-Adilla and others in the private sector. The high rentals of buildings around Al-Harams has resulted in the alternative, relatively cheaper accommodation peripheral to Al-Harams to be a more attractive source of accommodation than the traditional, city centre locations.

The high living standards of certain visiting nationalities has increased the demand for better housing conditions with more modern facilities, such requirements cannot be met by the existing units in the centres of both cities. Thus, the move of pilgrims to the new quarters in the cities has increased the importance of the existing modern buildings and those under construction.If other pilgrim groups follow this trend, congestion in the centres of Makkah and Al-Madinah will be alleviated. One side effect of such a policy is the increase in traffic generated by the higher demand for transport from the suburbs to the centre. In order to reduce traffic, i.e. the number of private and other hired cars, more consideration must be given to increased availability of public transport.

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CHAPTER SEVEN

Commerce, Industry and Administrative Functions

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Commerce, Industry and Administrative Functions

This Chapter will consider the commercial and industrial activities which have affected urban activities and land use in Makkah and Al-Madinah. The relative importance of these activities can be shown in their locational competition with residential accommodation and other public and social services required by both resident and pilgrim populations. Some handicraft products are produced and retailed in the same building which causes a difficulty in their classification such as; goldsmiths, traditional sandals, tailors etc. The labour and manpower situation in Makkah and Al-Madinah together with sectoral employment will also be examined.

I. Commerce and Industry

The size and extent of the commercial and industrial activities in Makkah and Al-Madinah can largely be attributed to the religious function of the cities. Both serve their large permanent populations and a considerable number of pilgrims from all parts of the world (the total number in the pilgrimage season 1978 was 1,899,420). In addition, both cities serve as centres for their non-urban hinterlands, providing a variety of services, facilities and goods to the rural and nomadic population (see Figs. 7.4 and 7.5).

Such permanent and temporary, urban and non-urban populations have created a demand for a wide range of consumer and capital goods. Owing to Makkah's importance and the inability of the area to produce adequate food supplies, her

inhabitants have been encouraged to engage in trade in order to secure a flow of food. Al-Madinah's ever growing population has meant that her own agricultural area cannot now produce sufficient food; thus, trade has also become important here, and Al-Madinah has followed the pattern of development in Makkah and other urban centres of Saudi Arabia in importing food.

A. Commercial Establishments and their Distribution

Sharp increases in the number of pilgrims from abroad, and improvements in the per capita income of the citizens of both cities, has resulted in enormous increases in the amount of disposable capital and in the volume of goods for sale. The increased purchasing power of the population has created large demands on existing commercial establishments and stimulated the creation of more recent additions. However, because of a lack of data concerning the number of commercial establishments in the two holy cities before 1950, only statistics since 1950 have been used in this study.

In 1950 there were 3,518 commercial establishments in Makkah with a total of 8,536 employees* - an average of approximately 2.43 per establishment. Al-Madinah had 1,623 establishments with 3,826 employees - an average of 2.36 per establishment (Table 7.1). By 1954 Makkah had 4,300 establishments (representing a 22.7% increase over 1950) with 10,640 employees (an increase of 24.6%) and Al-Madinah 1,874 establishments (a 15.4% increase) with 4,748 employees (representing a 24.0% increase). By 1958 Makkah had 5,134 establishments (a 18.8% increase over 1954) with 12,768

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* In most Middle Eastern cities "employees" include the owner of the shop, who works alongside his staff.

Table 7.1 : The number of Commercial Establishments and Workers in Makkah and Al-Madinah, 1950-1975

Year	MAKKAH				AL-MADINAH			
	No. of Establ-ishments	% Increase	No. of workers	% Increase	No. of Establ-ishments	% Increase	No. of workers	% Increase
1950	3,518		8,536		1,623		3,826	
1954	4,320	22.7	10,640	24.6	1,874	15.4	4,748	24.0
1958	5,134	18.8	12,768	20.0	2,118	13.0	6,354	33.8
1962	6,665	29.8	18,330	43.5	2,556	20.6	8,490	33.6
1966	7,541	13.1	24,279	28.8	2,962	15.8	10,886	28.2
1971	8,253	9.4	29,759	25.9	3,545	19.6	13,135	20.6
1975	8,926	8.1	34,778	16.8	4,056	14.4	15,168	15.4

Source: Compiled from: The Office of Commerce in Makkah and Al-Madinah; Census of Establishments, 1962, 1966 (Central Department of Statistics), Survey 1971 and personal fieldwork by the writer in 1975.

workers (a 20% increase) and still an average of 2.4 workers per establishment. Al-Madinah, by the same year, had 2,118 establishments (a 1.3% increase) and 6,354 workers (a 33.8% increase) with an average of 3 workers per establishment. As the population of both cities has increased, the built up areas and the number of commercial establishments have increased correspondingly. The 1962 Population Census gave the number of establishments in Makkah as 6,665 (a 29.8% increase over 1958) with 18,330 workers (a 43.5 increase) and an average of 2.7 workers per establishment. The corresponding figures for Al-Madinah were 2,556 establishments (a 20.6 increase) with 8,490 workers (a 33.6% increase) and an average of 3.3 workers per establishment.

Shops have remained small; as no large stores or supermarkets were developed, two or three employees were sufficient to handle such small-scale commercial activities in each case. The slightly higher number of employers in Al-Madinah may be due to the sons of proprietors going into the family business or to extra staff being taken on during the pilgrimage season. It was noted by the writer that most sons of proprietors in Al-Madinah continued in their family line, whereas job opportunities in Jeddah have attracted many young people away from Makkah.

In the sample survey by the Central Department of Statistics in 1966, Makkah had 7,541 establishments (representing a 13.1% increase over 1962) with 24,279 employers (a 28.8% increase) and an average of 3.2 employers per establishment. The corresponding figures in Al-Madinah were 2,962 establishments (a 15.8% increase) and 10,886 employees (a 18.2% increase), with

an average of 3.6 workers per establishment. According to the 1971 Survey, Makkah had 8,253 establishments (representing a 9.4 increase over 1966), 29,759 workers (a 25.9% increase) and Al-Madinah 3,545 establishments (a 19.6% increase) and 13,135 employers (a 20.6% increase). Within the other last four year period 1971 - 1975, the number of commercial establishments in Makkah increased to 8,926 (representing a 8.15% increase), 34, 778 workers (a 14.43% increase) and Al-Madinah had 4,056 establishments (a 14.41% increase) and 15,168 workers (a 15.48% increase).

The ratio of the number of commercial establishments in Al-Madinah to the number in Makkah in 1975 was 1:2.2 compared with the ratio of 1:1.85 between the respective populations in 1974. Insofar as the difference between the two ratios is significant and given the statistical problems of identifying accurately such establishments, we can only note that the temporary pilgrim populations appear to play a major significant role in Makkah's commercial activities, more so than at Al-Madinah.

A useful comparison at this stage is to compare Al-Madinah with Al-Ta'if. Ranking third and fourth respectively, from the 1966 Survey of the Western Province, some 3,374 commercial establishments were recorded in Al-Ta'if compared with 2,962 in Al-Madinah.[1] In the period 1966 to 1971, however, this gap appears to have widened to 4,219 establishments in Al-Ta'if and 3,545 in Al-Madinah.[2]

The discrepancy between Al-Madinah and Al-Ta'if was explained by A.I. Daghistani, in the sphere of Al-Ta'if's marketing influence, which indicated that Al-Madinah is

losing its former position, as the major centre supplying the rural and economic population with services and commodities, to Jeddah (for those to the south-west of Al-Madinah) and to Tabouk (for those in the north).[3] This shift in commercial importance can be explained by the improvement in road transport and to the new roles of both Jeddah and Tabouk as commercial centres for the surrounding rural and urban areas.

It was indicated earlier that since the early days of the foundation of the holy cities, their commercial and residential areas have evolved around Al-Haram and each has competed with the other to gain a foothold as close to Al-Haram as possible. Shops, therefore, have traditionally clustered in the central core of the city, which has an extremely high population density, especially during the pilgrimage season.

The evolution of both residential and commercial areas around Al-Haram has resulted in intensive land utilisation and has created the narrow, twisted streets and alleys with a marked absence of open land and squares in the centre (see Chapter 5). In Makkah, for example, Al-Mass'a, alongside Al-Haram (see Chapter 5) has rows of small shops lining either side, over which lay residential accommodation; in recent years, as both the resident population of Makkah and the number of pilgrims has increased, and as the area is a central part of the religious ceremony and a market centre, it has become extremely congested with pedestrians. Under the current enlargement scheme of Al-Haram, Al-Mass'a has been annexed to the area of Al-Haram, (see Chapter 5) and therefore

the commercial services have moved to the newly established buildings immediately around Al-Haram. The ground floors of all these new buildings were given over to commercial use. However, because such factors as height of buildings, parking areas, the width of the streets and other facilities in between were not taken into consideration, it became necessary to demolish them under the Master Plan recommendation for Makkah.

As all the shops were developed in the centre of Makkah, the commercial activity was obviously concentrated in this area, and led to the formation of several shopping zones each dealing in specialised commodities. The grocery suq, those areas selling meat, vegetables, fruit, bread and other basic daily requirements, initially clustered in three main areas, close to Al-Haram, in Suq Al-Sagheer, Suq Al-Lail and Al-M'ala. Recent residential expansion has moved away from the traditional central area of the commercial services, to relocate along the main streets, creating new linear shopping centres. This development reflects the growth of the population and the need for this type of shopping area. This outward shift has created four more suqs in the new quarters of Al-Jumaizah, Al-M'abdah, Jarwal and Al-Utaibiyah, in addition to the new central food market founded in Jarwal.

Each of these market centres attracts customers from its own quarter and also from other quarters. In the course of the fieldwork carried out in 1975,[4] it was found that Suq Al-M'ala attracted the highest daily number of shoppers from the four nearby quarters of Sheib A'mer, Al-Naqa, Al-Qararah and Al-Sulaimaniyah (about 27% of all respondents

indicated that they shopped in this centre, Fig. 7.1). Of respondents in four other quarters, some quite distant from Suq Al-M'ala (Al-Shubaikah, Al-Shamiyah, Al-M'abdah and Al-Faisaliyah), a significant number of shoppers indicated that they also shopped in this suq. The reason for the high popularity of this suq was the fact that all vegetables and fruit, brought daily to the city, have their bulk sale here. Its popularity was also partly accounted for by its status as one of the three oldest markets in Makkah, where people have shopped for many years.

This suq is closely followed in popularity by Suq Al-Sagheer, which catered for 19% of the respondents from Al-Shamiyah, Al-Shubaikah, Harat Al-Bab, Ajiad and Al-Misfalah quarters. As Suq Al-Sagheer is conveniently situated for them, residents of these five quarters shop there for their daily needs. Other shoppers from the more remote quarters and sub-quarters (such as Al-Hafayir, Shari'e Al-Mansour, Al-Zahir and Al-Nuzha) are also attracted to this market. One of the attractions of this suq to shoppers living in the quarters above is its location at one of the principal entrances of Al-Haram (Bab Al-Omra) which is busy with pedestrians at most times of the day. The third most important suq was Suq Al-Lail, which catered for about 17% of all respondents in the quarters and sub-quarters of Al-Shamiyah, Sheib Ali, Jabal Hindi, Al-Qararah and Al-Shamiyah. This area appears to have become a shopping centre for a considerable number of the residents of Al-M'abdah, Al-Jumaizah and Al-Faisaliyah quarters, due to its position on the route to Al-Haram, and to the fact that many of the inhabitants of

Fig. 7.1 THE LOCATION OF GROCERY SUQS AND COMMERCIAL SERVICES IN MAKKAH

Suq for groceries (meat, vegetables, fruit, bread, and other daily needs) and % of all respondents

Approximate limit of the C.B.D. (1975)

Expected extension of the C.B.D.

a Al-Shamiyah

b Al-Haram

c Al-Qararah

d Al-M'ala 27%

e Suq Al-Sagheer 19%

Suqs for electric tools, building materials, hardware, textiles and carpets

Suq Al-Lail 17%

Kilometres 0 3

Al-Madinah Road

Al-Zahir

Al-Zahra

Al-Utaibiyah

Al-Mabdah

Al-Adl

Al-Nuzha

Al-Rissaifah

Jeddah Road

Industrial Estate

Khariq Al-Ushar Road

Jarwal

Al-Hujun

Sulaimaniyah

Al-Jumaizah

Shieb Amer

Suq Al-Lail

Al-Qushashiyah

Ajiad

Shubaikah

Al-Misfalah

Kunday Road

Al-Hafayer

Al-Tundhubawi

Shari'e Al-Mansour

Hindawiyah

Jarwal - Faisaliyah

Jarwal

Munaa

Al-T'aif Road

13%

11%

6%

7%

17%

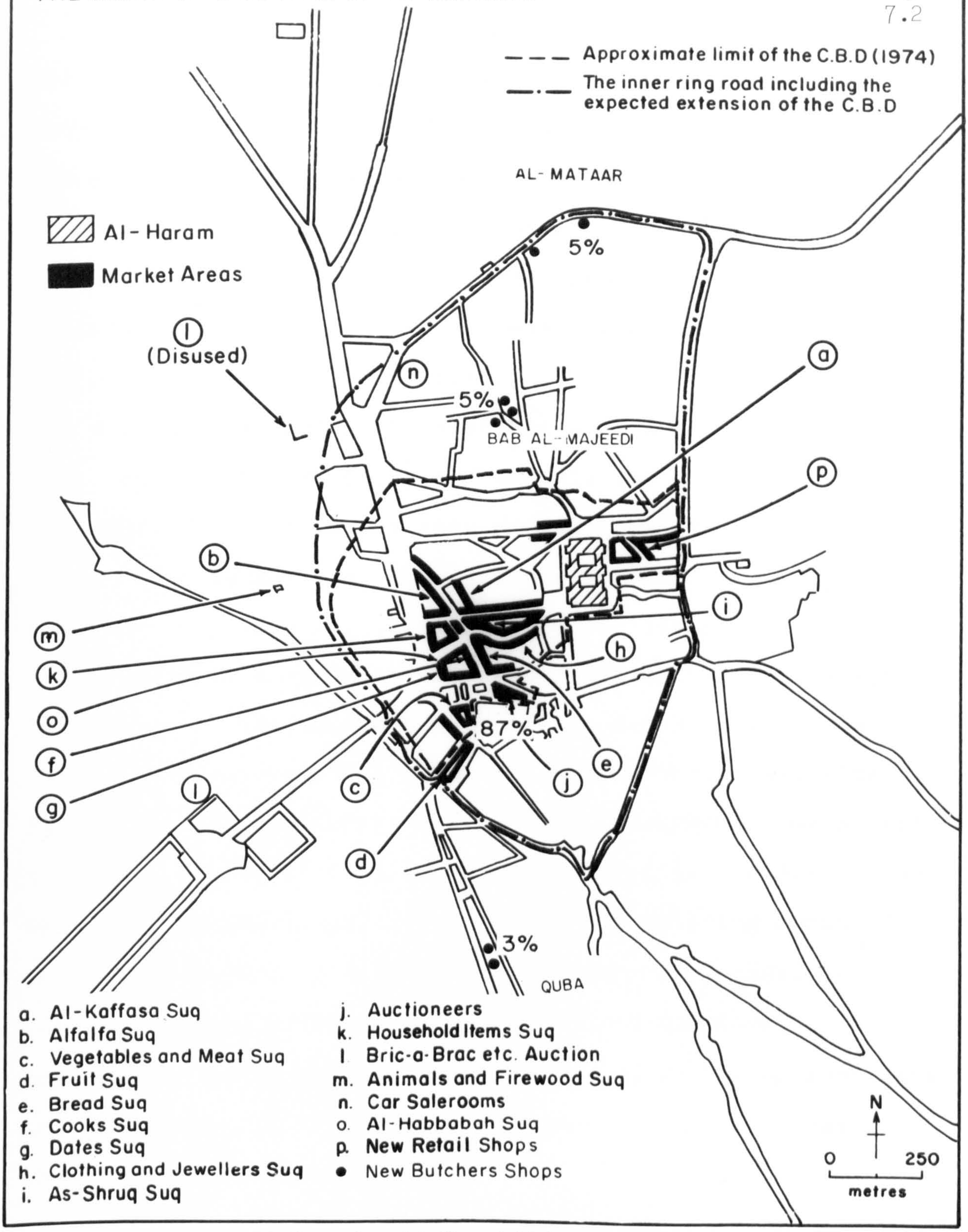
these quarters shopped there before moving to the newer quarters.

Next in importance is Suq Al-M'abdah, which catered for 13% of all residents of this and Al-Faisaliyah quarter; Suq Al-Jumaizah, which catered for 11% of the population of Al-Jumaizah quarter, followed by Jarwal and Al-Utaibiyah, which catered for 7% and 6% of the population of those quarters and also for Al-Hujun, Al-Hinda'wiyah and Al-Tundhuba'wi quarters.

In Al-Madinah the spatial distribution of shopping areas for foodstuffs differs from that of Makkah. The market centre for the whole population is sited to the south-west of the city (Fig. 7.2). This main market, whose location was governed by its proximity to the road to Makkah, the nearby agricultural area to the south of the city and the main entrance of Al-Haram, Bab Al-Salaam, continues to serve the majority of the people of Al-Madinah.[5] Al-Madinah was historically smaller than Makkah, and was also a walled city; these factors therefore heavily influenced the siting of Al-Suq and did not encourage the establishment of other markets or suqs in various parts of the city in contrast to the situation in Makkah. The recent outward residential expansion has not yet stimulated the growth of large shopping areas, although many of the newly-established peripheral quarters are large enough to support their own markets. However, under the "second scheme of enlargement of Al-Haram" another large area was required to be demolished (carried out in 1977), which together with the increase of population and the associated demand for further shopping

THE COMERCIAL CENTRE OF AL-MADINAH

Fig. 7.2



a. Al-Kaffasa Suq
b. Alfalfa Suq
c. Vegetables and Meat Suq
d. Fruit Suq
e. Bread Suq
f. Cooks Suq
g. Dates Suq
h. Clothing and Jewellers Suq
i. As-Shruq Suq
j. Auctioneers
k. Household Items Suq
l. Bric-a-Brac etc. Auction
m. Animals and Firewood Suq
n. Car Salerooms
o. Al-Habbabah Suq
p. New Retail Shops
● New Butchers Shops

Source:- M.S. Mecci, 1975, Maps 4 and 5·10 and Fieldwork 1975

areas has meant that the commercial centre has extended to the area indicated in Fig. 7.2.

In 1975 it was found that the main market attracted the majority of all respondents, about 87% of all daily shoppers; the remaining 13% were catered for in Bab Al-Majeedi, Shari'e Al-Mataar and Quba where some grocery shops have been set up recently to cater for the requirements of the inhabitants of these densely populated areas. The location of the general suq has meant that all the basic daily requirements such as bread, meat, vegetables, fruit are readily available. Because the area has recently become very crowded with shoppers and traffic there has been a pressing need to relocate this market to another area of the city. But, as there is not sufficient open land in the city for this purpose, the idea of establishing this general market outside Al-Madinah was eventually backed by the city authorities. The consequences of this decision will, no doubt, have far reaching effects as the proposed new site is distant from the centres of population and will mean that a regular bus service will have to be provided to discourage the use of automobiles. However, as the existing market is reasonably centrally located and, therefore, accessible to the inhabitants of the nearby residential quarters, a strong case can be made for the retention of the present site and the establishment of shopping areas in the new residential quarters encouraged.

In both cities, shops which sell the same goods prefer to locate close to each other, sometimes even side by side, thus giving minimum effort to customers for selection of the

items they need - one of the common features of traditional markets. It is, therefore, common to see suqs which cater exclusively for gold and jewels, household equipment, cutlery and china, hardware, textiles, fabrics, ready made clothing for women and children, electrical appliances, building materials, carpets, etc. This old arrangement of concentrating certain types of retailing establishments in one locality has started to disappear with the modernisation of the cities, and especially with the recent expansion of the two Harams and the consequent widening of streets (see Chapter 5). The traditional central shopping areas have spread into the new areas around Al-Haram; they now follow the new main streets in the form of linear shopping centres, but have not been planned by the local authorities. The previous cluster around Al-Haram is disintegrating, and the variety of services offered is becoming greater. Sharply increased rents around Al-Haram have driven many of the small grocery shops away, making way for those shops which can compete in terms of rents, such as selling gifts and souvenirs to pilgrims. Shops catering for the pilgrim trade tend to cluster around Al-Haram and are more in evidence than those catering for the local citizens.

In Makkah, retail outlets have clustered around Al-Haram - in Shari'e Al-Mudda'a, Shari'e Faisal, Al-Qushashiyah, Suq Al-Lail, Al-Ghazzah and Al-Judariyah as far as Al-M'ala to the north east of Al-Haram. The second centre, which is close to Al-Haram, is semi-circular in shape and from it linear streets with shops radiate to the north of Al-Haram. The third shopping area is situated to the south and south-

west of Al-Haram, with a small extension to the east (Fig. 7.1).

In Al-Madinah, all the retail outlets which cater for both pilgrims and local inhabitants were found to the south-west of Al-Haram in Shari'e Al-Ayniyah, Al-Manakhah and Su'waiqah (parallel to Al-Ayniyah); however these two areas were demolished in 1977 under the second scheme of expansion of Al-Haram. The new retail establishments, situated to the north-east and north-west of Al-Haram, are centres for a wide variety of goods (Fig. 7.2).

The "central business districts" of both cities are centred around these areas, and signs of recent change are evident, where the new shopping areas have extended beyond the former boundaries to occupy new locations. The traditional features of the shopping centres have changed with the new arrangement and they are now much more open with wide streets to facilitiate the smooth flow of traffic.

Therefore, central business zones can hardly be equated to Central Business Districts in many other cities in that they contain very few high order functions but are the only areas in which small to medium scale retail trade is concentrated. The abbreviation C.B.D. must therefore be understood as a term of convenience and with this relatively restricted meaning. This in part results from the fact that Jeddah is dominant as the regional centre for all large scale activity, so that Makkah and Al-Madinah have a more limited range of central business functions than might be expected solely from population size.

The architecture of the central business districts of Makkah and Al-Madinah still reflect this relatively restricted

range of functions. The traditional style of buildings, comprising houses of 3-4 storeys in narrow streets with shops on the ground floor and covered markets was designed in response to the harsh local climate. Developed over many centuries, this type of construction was well adapted to the environment particularly since it provided shade from the fierce sun. Shops which did not receive adequate shade were fitted with a canopy, made from either tin, canvas or aluminium, which was either supported over the shop on poles in the case of tin or aluminium or rolled inside in the case of canvas; this gave protection for both customers and commodities from the sun and rain. The area of Al-Mass'a in Makkah (see Chapter 5) was provided with a similar structure, an aluminium shed, by the government, and this provided welcome shade and protection from the heat of the sun. This covering was fixed along Suq Al-Mudda'a: when Al-Mass'a was annexed to the building of Al-Haram and gave shade for both shoppers and pedestrians.

Traditional shops were small compared with those of today. Modern shops are larger and shaded, in part, by the balcony of the building above them. The entrance is designed as an arch which is capable of providing sufficient protection against sun and rain, and shoppers can pass freely along the area, which also serves as a side walk for pedestrians. This type of modern design improved the appearance of the buildings and the ground floor shops, and the old methods of providing shade, by means of unsightly canopies, (which can cause fires very easily, as happened in 1977 when the whole area of Su'waiqah shopping centre in Al-Madinah caught fire because

of an electrical fault) are no longer necessary. This area was demolished as part of the second phase of the scheme for the enlargement of Al-Haram (see Fig. 5.9).

In the 1975 survey, it was found that there were 18 covered shopping areas in the centre of Makkah, with an average of 50 to 70 shops in each. These are similar, although on a smaller scale, to many shopping areas in Britain, divided into small shops but with no supermarkets or large department stores inside them. The remaining shops are found in the linear shopping areas along the main streets of the centre.

The covered shopping centre occupies the ground floor of one building and in the case of the larger ones, extends to more than one building. This type of structure (which is known in the Middle East as "Khan") is not found in Al-Madinah, because of the small size of Al-Madinah's shopping centre. The other type of shops, those designed with an arched front, similar to those in Makkah, are found in Al-Madinah in both old and new buildings.

B. Development of Craft Industries

Certain traditional crafts have developed to cater for the needs of the local urban and nearby rural and nomadic populations. By the beginning of Islam, types of handicraft were developed which concentrated on the manufacture of souvenirs and gifts for visiting pilgrims. These light industries continued over the centuries and have guaranteed a livelihood for many citizens of Makkah and Al-Madinah right up to the present time. The most important types of industry existing at present in both cities are

listed in Table 7.2.

The need for animal skins, especially those of the sheep and goat, to make containers (Qirbah) for keeping water and milk, and a demand for leather goods for domestic use, stimulated the growth of hide craft industries from early times. The existence of local tanneries has further encouraged the development of these crafts, which employ both men and women, (women at home and men in shops). Leather was required for making sandals (from the hides of sheep, goats and camels), saddles, belts and many other articles. Until recently these goods were in great demand by both the rural and the urban populations and even more so during the pilgrimage season.

At the same time other handicrafts, such as weaving and spinning were important. This was extended to removing wool from hides and weaving it into carpets and making saddle bags for use on beasts of burden (donkey, horse or camel). Palm leaves were used to make mats to cover the floors of houses and mosques, and for shopping baskets, hand-fans and sweeping brushes. Baskets, fans and brushes were in demand not only by the residents but also by the pilgrims who used to take them home as presents. Many craft industries flourished in Al-Madinah at the hands of women who used to participate along with the head of the family in many economic activities.[6]

It is surprising that although these were regarded as rural crafts, they also flourished in Makkah and Al-Madinah, and until very recently many urban citizens were engaged in these trades. They flourished because of the heavy demand for them. The low per capita income of the population in

Table 7.2 : The Main Industries in Makkah and Al-Madinah 1975

Type of Industry	Classification	Makkah	Al-Madinah
1. Textiles	a) Manufacture of Prayer mats	-	1
	b) Manufacture of Gown of Al-Kabah	1	-
	c) Mattresses, pillows, cushions etc.	62	33
2. Leather	a) Hide preparation	16	7
	b) Sandal making	23	11
	c) Making belts (for men)	8	3
3. Pottery	a) Large Water Pots	5	5
	b) Water Jars	2	6
4. Quarrying and making Lime	a) Stone work	4	2
	b) Lime	3	2
	c) Baked Red Bricks	4	2
	d) Cement Bricks and Blocks	10	8
	e) Glazed Tiles	3	2
5. Metalwork	a) Blacksmiths, Zinc Water containers	8	4
	b) Copper and Brass smiths	6	4
	c) Silversmiths	8	5
	d) Goldsmiths	52	21
	e) Iron gates, shops roller blinds	33	19
6. Woodwork	a) Gates, doors, windows and wood carving	17	10
	b) Furniture	9	6
7. Manufacture of goods from palm leaves	a) Mats and fans	6	10
	b) Baskets	5	8
8. Date Packing	Date Packing	-	2
9. Sweets	Manufacture of all types of sweets	7	5
10. Soft Drinks	Soda	-	1
11. Plastic Goods	Household appliances, water hoses	2	1
12. Ice	Manufacture of Ice	5	3
13. Printing	Paper, cards, posters, advertisements	6	4
14. Bakeries	Making bread, cakes etc.	50	32
15. Dairy Prod.	Yoghurt, Milk etc.	10	6
16. Car repair shops	Repair of cars etc.	35	25
17. Power Station	Electricity	1	1
18. Tailors	Hand made garments, jackets trousers, head caps	25	16
Totals		426	265

Source: Based on fieldwork undertaken by the writer in 1975.

both cities prior to the discovery of oil did not encourage imports of such items from outside the country. Currently, however, with the improvement in the standard of living, many of the above goods are now imported, which has led to a decline in the traditional crafts because they have failed to compete with the modern imported articles. Had more attention been paid to these home industries, they might have been developed into viable enterprises in light industry, especially under the present government policy which is attempting to develop industry in the country.

The need of both urban and rural people for a variety of tools stimulated the development of more skilled craftsmen. These included blacksmiths, gunsmiths, copper and brass smiths, silversmiths, goldsmiths, building contractors and carpenters (for wood carving and the construction of gates, doors, windows etc). A high degree of skill was achieved and these light industries supplied consumers in Makkah and Al-Madinah as well as the rural and nomadic populations and visiting pilgrims.

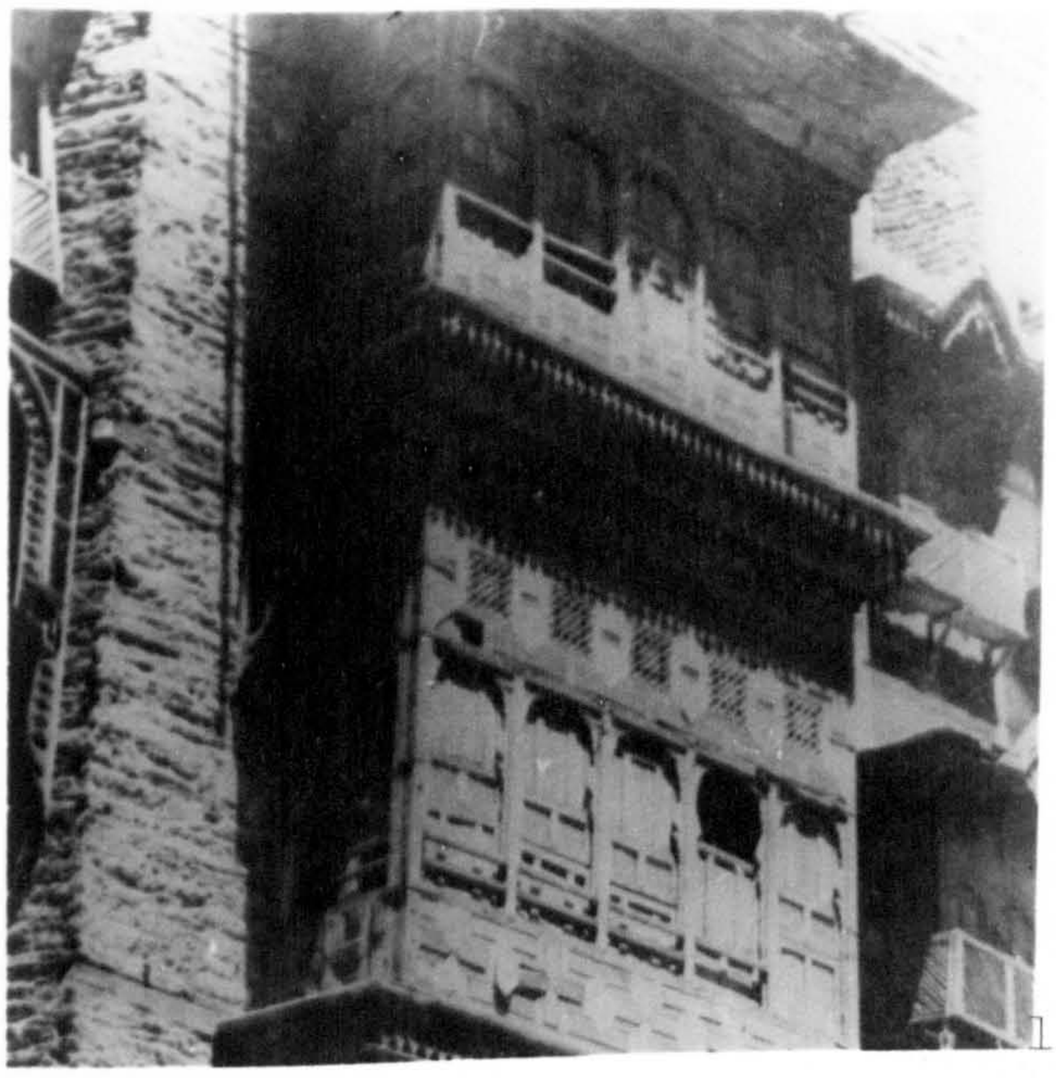
Blacksmiths produced articles such as cooking ranges, frying and roasting pans and other domestic articles. They also produced ploughs for agriculture, and other farm implements. The copper and brass smiths produced pans for cooking as well as tea and coffee pots, spoons and other ornamental items. There was also a heavy demand for bracelets, necklaces, rings and other items of jewellery used by women, in both rural and urban areas. This occupied a good deal of the time of the goldsmiths and silversmiths in the suq (known as Suq Al-Sawagh or the Smith's Market) in both cities. This craft was carried out mainly by a tribe of Jews living in

Al-Madinah before the advent of Islam, but later they left the city and some citizens of Al-Madinah took this craft over.

Woodwork has also developed, and many fine wood carvings were produced to decorate gates, door and windows. An example of these fine designs can be seen on Plates 1.22 and 1.23, which depicts the "Rushan" (Oriel) window, which illustrates the fine features of Islamic architecture in wood carving, some remnants of which can still be found in the old buildings of both cities.

Such craft industries flourished during the settled periods of the history of Al-Hijaz, but the number of artisans declined during the long periods of dispute and unrest which prevailed throughout most of the historical era, with the result that in 1814, when Burckhardt visited Makkah and Al-Madinah, he reported that the first city had only a few artisans such as masons, carpenters, tailors, shoemakers, smiths etc., and the latter had only a single upholsterer and one locksmith.[7] Almost forty years later in 1853, when Burton visited the two holy cities he indicated that although both cities had some craftsmen such as carpenters, masons, locksmiths, potters and others, these were either slaves or foreigners (Egyptians, Syrians or Turks). His report implied that none of the citizens of the two holy cities were engaged in crafts - giving the reason that they disliked craftsmen, and children were brought up to look upon craftsmen as inferior.[8]

In fact, this dislike for manual labour has continued up to the present time, and most citizens avoid light industrial work, preferring not to learn a craft or trade. This problem



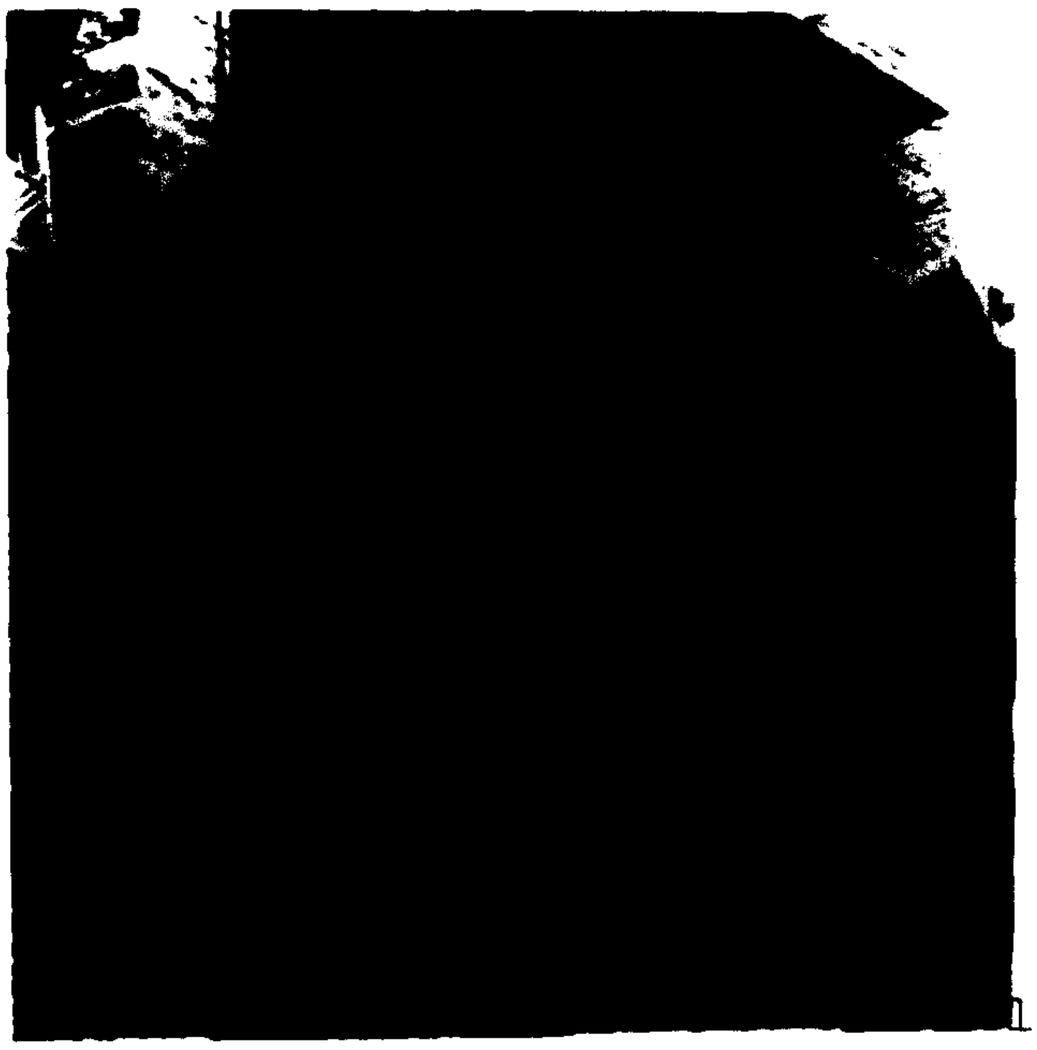
1.22 view showing the Rusham (oriel), an example of ornamental woodwork on facades - Islamic style; showing also lattices fixed on the windows.



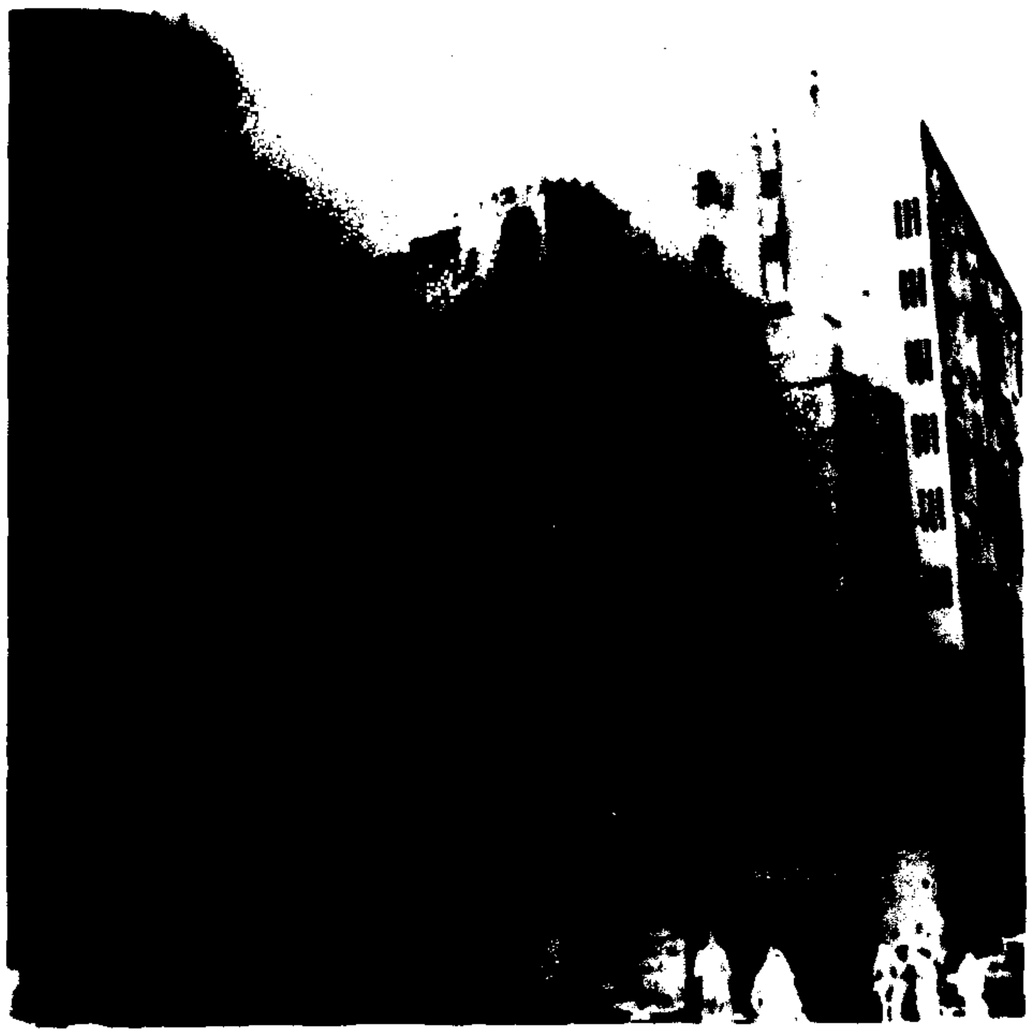
1.23 Al-Ashraf House - a Turkish style building, in Ajiad quarter, mixed with modern tall buildings.



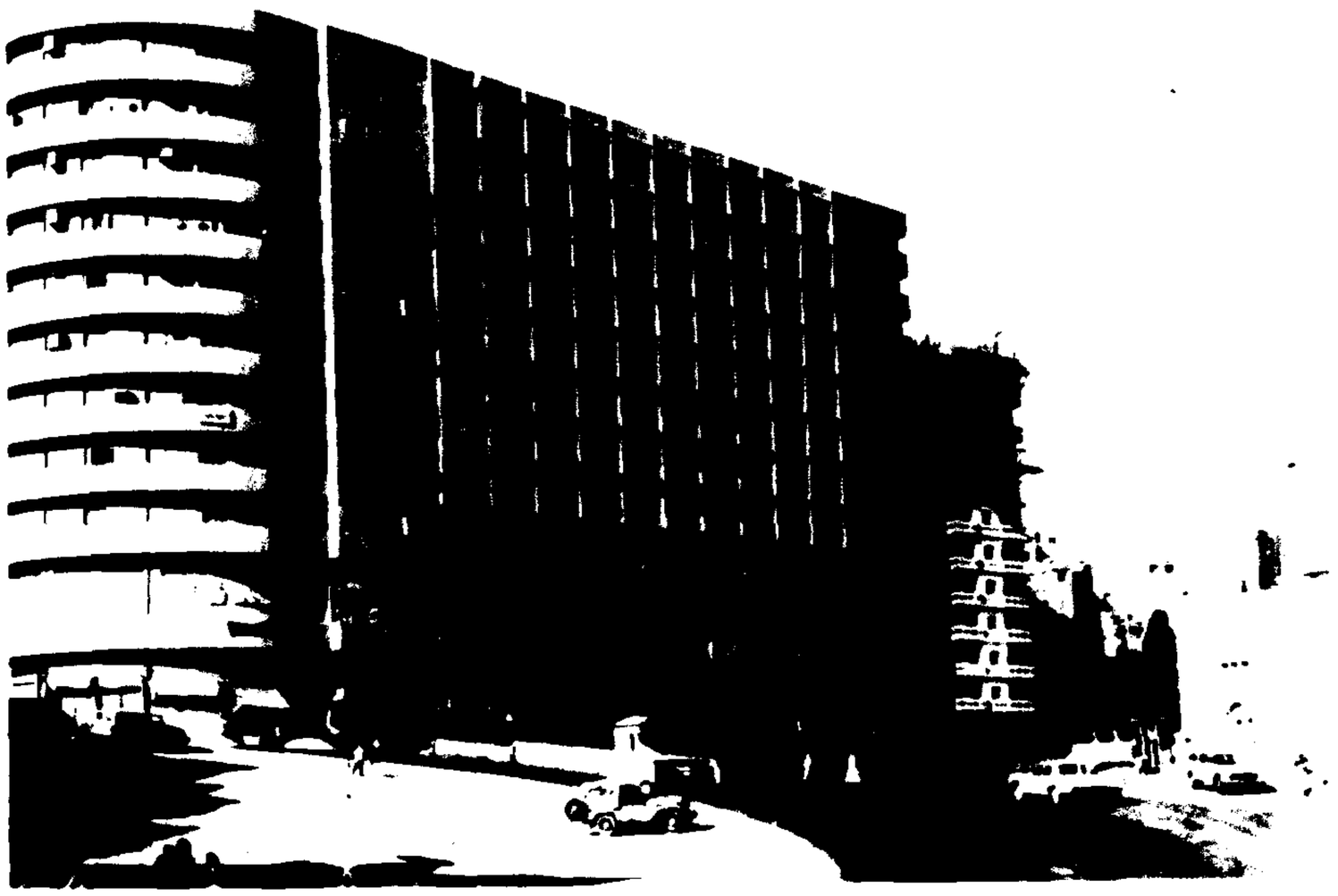
1.24 Al-Ashraf building, one of the big modern buildings around Al-Haram of Makkah, from the side of Al-Marwah, in the quarter of Al-Qararah.



1.22 A view showing the Rusham (oriel), an example of ornamental woodwork on facades - Islamic style; showing also lattices fixed on the windows.



1.23 Al-Ashraf House - a Turkish style building, in Ajiad quarter, mixed with modern tall buildings.



1.24 Al-Ashraf building, one of the big modern buildings around Al-Haram of Makkah, from the side of Al-Marwah, in the quarter of Al-Qararah.

exists on a national level and the shortage of skilled labour is today solved partly through the importation of skilled artisans from other Muslim countries. The government has set up vocational training centres in an attempt to train skilled labourers, and graduates of these centres have the guarantee of immediate employment as an extra incentive to undergo training.

C. Quarrying, Pottery and Light Industries

The existence of basalt rocks around Al-Madinah and the granite surrounding Makkah encouraged the inhabitants to use these raw materials to build their houses. The quarrying industry was developed to supply the necessary stone. Until recently, clay-dried bricks and red-baked bricks were also used as materials for construction of buildings. Today cement bricks and blocks have replaced the stone materials used in modern constructions. Though removing the need for quarrying, the demand for concrete has created new industrial work to supply the needed bricks and blocks, employing many people.

The making of pottery was also important in supplying earthen water-jars. There has been a continuous demand for storing water at home (Zeer), and the smaller ones (Sharbah) for cooling drinking water. The ever-increasing piped water system and the increasing use of refrig-erators has meant that the huge earthenware jars are no longer needed, and that craft is declining over the whole of Saudi Arabia. In Al-Madinah the smaller jars were not only used locally, but were exported to Makkah, Jeddah and

even to Al-Ta'if.

Today the only demand for these jars comes from people in the lower income groups, living in traditional homes, who do not have piped water and refrigerators. A few thousand jars are also required by the two Harams, where they are filled daily to cool water for drinking during prayers in the evening. In addition to these there was another demand (by locals and visitors to Al-Madinah) for much smaller jars which were made into toys for children. Also made from clay are toy camels embellished by small coloured pieces from palm leaves, small hand-fans, bags and small hand-baskets for children. These crafts provided a living for many people, especially the families of farmers in Al-Madinah who engaged in these industries.

Other handicrafts were developed in Makkah to provide items of interest for pilgrims; these included the manufacture of Subah (beads) mainly used for the purpose of prayers, made from beechwood and more recently from animals' bones and hard plastic material, and Kawafy (hats and fezes) from different coloured cloths cut into small square pieces and stitched neatly together. Many people were employed in the making of these items; the beads were made by men, but the fezes were made at home by women. Their earnings helped to supplement the family budget at a time when the average per capita income was very low, (about £250 per annum). Unfortunately imported goods are replacing the local ones, and currently almost all of those traditional craft industries are in the process of disappearing.

The improved standard of living has created a heavy demand for consumer goods, and small factories are being set

for metalwork, woodwork, plastic, date packing, car repairs, printing textiles, sweets, soft drinks, dairy products and ice. In addition to surviving silversmiths and goldsmiths, Makkah and Al-Madinah now have factories manufacturing iron gates, front doors for shops and houses, roller blinds, lattices for windows, lorries and pick-up vehicles. In 1975 an Industrial Census reported that Makkah had 180 metalwork factories, each employing an average of 4 labourers, and Al-Madinah had 112 metalwork factors, each employing an average of 3 labourers.[9] The woodwork industry included the manufacture of doors, windows, dining tables and chairs, kitchen cabinets and furniture. Makkah was reported to have 67 woodworking establishments and Al-Madinah 38, each with an average of 3 employees.[10]

The manufacture of plastic goods is becoming increasingly important, and plastic is replacing traditional materials in the manufacture of many domestic items. The manufacture of tinned goods, which flourished for many years, is now almost obsolete. These are now replaced by imported ones, although two factories in Makkah do make plastic containers for domestic use and for carrying water, more in particularly Zamzam.

There are two modern date-packing factories in Al-Madinah, which pack the dates much more hygienically, efficiently and hence profitably than the old methods. There is also a small factory in Al-Madinah for the manufacture of prayer mats, and one in Makkah where the annual gown to cover Al-K'abah is made. Because the former factory (set up in 1944) was small and the work done manually by forty

people, it took a whole year to make this gown. Currently, the new mechanised factory (set up in early 1970's on a new site on the road to Jeddah) can make the gown in a month. The capital cost for making the once-annual gown in 1977 was about SR 13 million (approximately £1.6 million).[11]

Because they were small-scale operations, frequently carried out by suq retailers, most of the industries listed in Table 7.2 were found traditionally in the centre of the city, close to their customers. Difficulties of transport and the need for security led to the concentration of these trades inside the city intermingled with the residential areas. More recently, with the rapid growth of both the built up area and population in both cities, modern industries such as the metalwork factories (zinc water containers, iron gates, shop roller blinds and car repair shops) and other industrial units have been moved to the outskirts, as have factories for the manufacture of woodwork, printing, ice and furniture. Established initially either in low-density areas or in new quarters, these factories caused much inconvenience to the population of these areas, - principally as a result of noise and dirt, and eventually the factories were moved to more outlying areas.

Because there was no clear plan to assign where these industries should be re-located, the matter was left until the early 1970's when, under the plan for controlling urban growth and the land use policies proposed by R.M.J.M., a solution was found to this problem. In the case of Makkah, the area to the north of Al-Haram was designated as the industrial estate for the city, and it was recommended that

all bulk industries be moved to this area. The advantage of locating all industries on this site were threefold: the area was open unutilised land, it was outside the holy boundary, and it was close to the power station. Because it was outside the holy boundary non-Muslims could work there to supervise the operations.

So far only two firms have built factories on this estate; there is a Plastics factory and Al-Nadwah, the Daily Newspapers Printing Establishment, in addition to a small number of traditional coffee houses. No other industries as yet show signs of moving there, possibly because when the areas was designated as the industrial estate of Makkah, it was not provided with public utilities, workshops, a bank and a postal office. Such essential facilities have proved an important factor in attracting industrial investors to the three industrial estates in Al-Riyadh, Jeddah and Al-Dammam.[12] However, there is now a study underway to examine the feasibility of providing the industrial estate in Makkah with such facilities; all factories in the city are expected to move to this new site once the essential services have been established there.

In Al-Madinah, no industrial area has been designated.* There is some grouping of industrial units, though this is more by accident than design. Certain types of industry have been attracted to certain localities, partly for ease of access and partly by low rents. Another attraction was a good supply of labour.

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* There is a proposal to allocate the area behind Jabal Uhud as the industrial Estate of Al-Madinah, see Fig. 6.9.

In 1975 it was found that all industrial establishments in Makkah (totalling 426) and Al-Madinah (totalling 265), as listed in Table 7.2, were employing a total of 3,650 and 2,594 respectively.[13] These figures illustrate the small proportion of the workforce engaged in industrial activity; this is related to the small sizes of the factories and to the obvious objection to manual labour by Saudis which has kept industrial activity to a minimum not only in Makkah and Al-Madinah but also in all Saudi Arabian cities. There is no shortage of potential private industrial capital, however, those with the capital are reluctant to invest in industry because of the low returns. In fact Saudi Arabia has little industrial experience, and success is not guaranteed. Alternative investments in trade, in construction and in import handling, yielding rapid and higher returns, have proved more attractive.[14]

In order to overcome the private sector's reluctance to invest in industry, the government has provided many incentives to encourage the establishment of industries in various parts of the country. Since the introduction of regulations for the protection and encouragement of national industries in May 1962, more private firms have been encouraged to set up small and medium sized factories in Makkah and Al-Madinah. These factories produce a wide variety of goods, including building materials, metal products, furniture and foodstuffs. Many foreigners have participated in the founding of these factories and some of them have become shareholders and derived benefit from the Foreign Investment Law introduced in 1957. In February 1964, an amendment to this Law was passed, which was more liberal in its treatment of foreign investment and encouraged foreign capital, mostly

into the building and construction sector where the rate of return can be quite quick.[15]

In furthering its policy to support industry, "The Industrial Studies and Development Centre", (linked to the Ministry of Commerce and Industry) was established in the early 1960's. Its function was to prepare probability studies on establishing industries in various parts of the country. The main purpose of this centre is to encourage those prospective Saudi investors who have no industrial experience to use their capital in some of these industries. The government also encourages industrial development projects through measures such as the "Saudi Industrial Development Fund" which was established under Royal Decree No. M/3 dated 20th March, 1974 (26 Safar,1394).

> "The purpose of the Fund is to grant interest-free medium and long-term loans up to 25 per cent of capital requirements, for financing the fixed needs of new industrial establishments in the Kingdom of Saudi for renovation, expansion and modernisation, in conformity with industrial policy of the government". 16

Currently, the private sector in the two cities is becoming increasingly active in many industries such as; the manufacturing of cement, gypsum, fertiliser, soft drinks, printing, date-packing, building construction and furniture and electricpower generation. The importance of the latter in both cities can be seen in the rates of electric consumption by domestic and factory use in the following section.

D. The Supply and Consumption of Electricity

Before the introduction of electricity, lighting in the two holy cities was provided by paraffin lamps. The

Turks, in 1908 (1326 A.H) when they built the railway of Al-Hijaz, introduced electricity to Al-Madinah; a power station was built to the north of the city near Al-Haram. The supply of electricity was limited to Al-Haram and the rest of the city was not supplied until after the beginning of Saudi rule, when a group of farmers obtained electricity by attaching dynamos to their water pumping machines. The supply of electricity produced by these dynamos was made available to some of the houses and shops of Al-Madinah for a fixed monthly charge.[17]

By the end of the first scheme of enlarging Al-Haram there was an urgent need for efficient machinery to produce an adequate supply of electricity, not only for Al-Haram but for the whole city, as by now modernisation had begun in the old city of Al-Madinah (see Chapter 5). A site was chosen at A'bar Ali, west of Jabal A'yr, about 9 km out of the holy territory of Al-Haram (in order that non-Muslim engineers could work and supervise the plant). Al-Madinah was supplied with electricity from this station until 1956 (1376 A.H) when the "Al-Madinah Electricity Company" was founded and incorporated into the existing station, receiving a government grant of 82,000 square metres of land.[18]

The company began supplying electricity to the public in 1958, and by the end of 1960 it had 2,334 subscribers; two years later this total had doubled to become 4,473. In 1963, as a result of increasing demand for further supplies brought about by increases in population and a reduction in the price of electrical installation, the total number of subscribers had risen again, and by 1965 had reached 8,426.

Improved standards of living since 1960 have resulted in the number of subscribers increasing more than four-fold to become 45,080 over the ten year period 1965-1975.[19]

Makkah had a similar experience until its first large electric power station was built in the late 1940's at Al-Tan'im, about 6 km outside the holy territory of Al-Haram. Soon after installation, electricity was made available to the public in Makkah and Muna. The total number of subscribers in Makkah has almost doubled between 1960 and 1975, rising from 43,600 to 85,000.[20] These figures are supplied by the Electric Companies in Makkah and Al-Madinah, and include private consumers and business premises (shops, cafes, restaurants, factories, gas-stations, garages, etc.). No separate figures are given for private domestic consumers but some approximate breakdown of users by type can be made indirectly.

The Population Census of 1974 gave the total population of Makkah as 366,801, constituting 67,947 households and a total population of 198,186 (35,390 households) living in Al-Madinah. By deducting the number of households from the totals of subscribers (assuming all families in both cities had electricity) it would appear that there could be a maximum of 17,053 industrial and commercial users in Makkah and 9,690 in Al-Madinah in 1974.

The introduction of electricity to the two holy cities has greatly influenced the traditional way of life; many people now own refrigerators, air conditioning units, electric fans, electric cookers, washers, irons and other labour-saving electrical applicances. The first three items

have been particularly beneficial, and fewer people now leave Makkah to spend the summer in Al-Ta'if, the country's main summer resort. Although the amount of electricity generated in Makkah and Al-Madinah has increased steadily to meet rising demands, consumption has not yet reached the level of Jeddah and Al-Riyadh. Table 7.3 shows the amount of electricity generated in the five major cities for the six consecutive years 1970 - 1975.

Table 7.3 Electricity generated for six Consecutive Years (1970-75) (in K.W.h, millions)

City	1970	1971	1972	1973	1974	1975
Jeddah	234.3	262.3*	317.7*	365.3*	451.8*	618.0*
Al-Riyadh	208.5	223.4	283.2	346.4	419.0	547.4
Makkah and Al-Ta'if	92.2	184.5	122.0	148.4	180.3	249.4
Al-Madinah	27.0	29.6	37.9	46.3	55.2	71.7
Total	562.0	619.9	760.8	906.4	1106.3	1486.5

* of which: Desalination power plant produced: 92.0, 201.0, 214.7, 244.0 and 303.3 respectively.

Source: Saudi Arabian Monetary Agency, Annual Report, 1976.

Makkah and Al-Ta'if are combined in Table 7.3, since they are now supplied by one Company (The Saudi Electric Company), but it should be noted that consumers in Makkah account for more than two-thirds of the total consumption. Jeddah has the largest consumption, followed by Al-Riyadh, Makkah/Al-Ta'if and Al-Madinah. A great difference in the amount of electricity

consumed exists between the five cities, indicating the importance of Jeddah and Al-Riyadh in terms of industrial and commercial use.

E. The Regional Industrial Position

The dominant role of nearby Jeddah has meant that Makkah and Al-Madinah's share of industrial activities is very low. The potential for future industrial development in either city is small; in the two holy cities there is a shortage of raw materials; they are also relatively isolated and non-Muslims are not allowed to enter them.

Jeddah's advantageous position on the Red Sea has made it easily accessible by sea, air and land from most parts of the country and this has also meant that it enjoys good communications with the rest of the world; thus it has become important on a local, national and international level. Saudi Arabia's dependence on imported goods also increased Jeddah's importance, and about half of the country's import and export trade (with the exception of oil) currently passes through Jeddah. It is also the main source of goods for the whole of the Western Province, and all these factors have encouraged most industrial as well as commercial activities to be located at Jeddah.

Yonbu on the Red Sea, under the Second Five Year Plan (1975-80), is having 7 port piers, a reception hall for pilgrims, and other buildings for customs and Government departments constructed.[21] The purpose of this is to make Yonbu an industrial area to serve the district of Al-Madinah and at the same time to relieve pressure on the port of

Jeddah by receiving pilgrims arriving by sea. Under the Plan, Yonbu is also having constructed three desalination plants (see Fig. 3.5), to provide the area with water for both urban and industrial use. In addition, a number of contracts have been signed worth 400 m for the building of a cross-country pipeline from the Eastern Oil producing Province to Yonbu in order to export crude oil through this port on the Red Sea.[22] This project will serve two purposes, namely the creation of industries linked to oil, and the export of crude oil to Europe (about 40% of the total Saudi production)from Yonbu rather than the reliance on a single outlet on the Arabian Gulf. It is expected that by the completion of the scheme in 1980, new employment opportunities will be opened which will encourage people from Al-Madinah and the surrounding area to work there, in a similar fashion to what happened in Makkah when Jeddah was established as the major administrative, industrial and commercial centre for the Western Province. The location of such development projects in Jeddah and Yonbu effectively restricts the expansion of further industry in Makkah and Al-Madinah to very low levels. Even today, employment opportunities are scarce, and graduates of the Islamic University of Al-Madinah and the two Colleges of Education and Al-Shari'a in Makkah seek employment in Jeddah and Al-Riyadh.

There is nevertheless, a potential for specific industrial development in Makkah in the form of processing the hundreds of thousands of animals which are slaughtered annually at the ritual sacrifice. In the pilgrimage of 1973, the number was estimated at about 600,000 head.[23] The

very short period of Al-Hajj has caused most of the meat to perish because there are no refrigeration facilities at Muna. After the end of every pilgrimage season, the bad meat has so far been dumped underground; the effect of such procedure is discussed more in detail in Chapter 2 under the section - the pilgrimage and health.

Because such slaughtering takes place during the Hajj season only, the establishment of a meat factory is obviously not economical, but a large freezer store could be built where all the extra meat could be kept until after the pilgrimage and then be sold in Makkah and the nearby rural and urban centres. This kind of meat is nowadays highly demanded due to the soaring price of meat in the market. Other useful materials such as hide and bones could be processed through the establishment of other factories for these purposes. This aspect, however, is under review and it is hoped that something practical will be produced to take advantage of this unutilised source of income which can secure employment for hundreds of poeple living in Makkah.

As far as Al-Madinah is concerned, employment opportunities could be created by the extension of date farming in that area. In contrast to Al-Ahsa or Al-Hassa, the Eastern Province, where dates are decreasing in importance, there is a large and growing market for dates for local inhabitants and pilgrims to the rest of the Western Province, and to overseas countries; the religious status of the holy cities has thus given extra value to local products.

It is particularly important to encourage such small industries as meat freezing storage and date production, especially as the local handicraft industries have declined.

F. Labour Requirements

So far we have examined the role of commerce and industry in Makkah and Al-Madinah and the sizes of these establishments. Here we turn to the examination of labour requirements needed by the various sectors. The occupational structure and levels of income and expenditure in both cities will be also discussed.

Since the start of the country's vast investment of its oil revenues in those sectors, directly involved in building the physical and social infrastructure, manpower requirements in both cities have increased rapidly. The Western Province socio-economic survey 1971 analysed the male employment structure and the results are shown in Table 7.4, where the two cities in this study are compared with two other major urban centres of the Western Province, Jeddah and Al-Ta'if.

Private sector services rank first, with 27.5% in Makkah and 28.6% in Al-Madinah; these percentages are similar, but are slightly lower than those for Jeddah and Al-Ta'if. Government services ranked second in importance with 25.1% for Al-Madinah. When the percentage for other areas such as education, water, communications, distribution and agriculture are included, these figures rise to 59.2% for Makkah and 65.4% in Al-Madinah. These figures indicate that more than half of all male employment is found in

Table 7.4 : A Comparison of Employment Structure, Nationality and age Structure of Males in Makkah, Al-Madinah Jeddah and Al-Ta'if (1971) (Percentages)

	Makkah	Al-Madinah	Jeddah	Al-Ta'if
Agriculture,etc.	0.5	1.6	3.4	0.8
Manufacturing & Handicrafts	1.0	1.2	3.6	0.7
Construction	12.4	4.9	10.4	5.8
Distribution	19.0	22.0	17.8	15.0
Professional & Scientific Services	14.4	10.8	12.6	7.9
Transport & Communications	8.1	6.7	12.6	7.9
Electricity & Water	1.3	2.7	2.0	1.7
Education	5.2	7.9	2.6	7.1
Other Government Services	25.1	24.5	15.5	31.6
Other Private Sector Services	27.5	28.6	32.0	29.5
Age Structure of Males				
Under 14 years	46.1	49.2	46.2	48.9
15 - 44 years	39.8	36.9	42.6	41.1
45 - 64 years	11.1	10.0	8.8	7.8
65+	2.9	3.9	2.4	2.2
Nationality				
Saudi Nationals	73.4	82.7	57.9	75.0
Non-Saudi	26.6	17.3	42.1	25.0

Source : R.M.J.M. "Socio Economic Data", The Western Regional Framework 1971, Jeddah, Saudi Arabia. (Figures as given in report)

government services, and emphasises the strong tendency of Saudi citizens to seek employment in the government sector rather than in the private sector.

Many job opportunities have been created in the public sector as a direct result of the vast sums of money allocated to all Ministries and other important government departments responsible for developing the country. An examination of Table 7.5, which illustrates the Government Budgets (Revenue and Expenditure) for the last six fiscal years 1971 to 1977 emphasises the substantial growth which has taken place during this period, and the significance of investing such vast sums of money in advancing the country's development.

The country is heavily dependent on a one product export economy (oil), from which 92.5% of all government income was derived in 1973 - 74, and 87% in 1976 - 77.[24] This type of economy has meant that public sector investment is predominant over the private sector, and this is reflected in the fact that in the public sector, mostly white collar jobs are available. Industrialisation is still in its infancy, and the government's present policy is to aim at expension in agricultural output, and an acceleration of growth in other productive sectors, such as industry, mining and other development projects. This would reduce the country's future reliance on oil, and would broaden the economic base and provide alternative employment for many citizens.

Further reference to Table 7.4 shows that the

Table 7.5 Annual Budget Estimates, Revenue & Expenditure during six years 1971-77 (milion Saudi Riyals)

Source of Revenue	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
Oil Royalties	2,227	2,529	5,336	37,561	21,458	23,002
Income Tax	7,728	9,674	5,930	56,871	65,702	76,854
Custom Duties	314	315	330	400	375	500
Other	513	682	1,214	3,415	8,312	10,579
From General Reserve	-	-	-	-	15,088	-
Total Revenue and Expenditure	10,782	13,200	22,810	98,247	110,935	110,935
Recurring Expenditure	5,746	6,482a	8,547	19,346	36,556	36,502
Council of Ministers	962	1,074	1,461	3,792	5,248	4,336
Planning	9	10	6	26	66	66
Municipal and Rural Affairs	205	246	358	610	1,175	1,320
Public Works and Housing	12	14	17	22	36	70
Information	69	83	91	116	166	205
Foreign Affairs	70	80	94	128	187	189
Defence and Aviation	805	1,050	1,258	1,688	3,051	3,082
Interior	644	825	909	1,334	2,581	2,775
Labour and Social Affairs	286	321	489	1,241	2,483	1,652
Health	250	376	499	728	1,136	1,236
Education	1,031	1,345	1,678	2,516	6,619	7,662
Communications	149	189	231	346	570	1,187
Finance and National Economy	130	133	158	97	401	388
Petroleum and Mineral Resources	26	31	39	47	60	56
Industry, Electricity and Commerce	21	40	45	50	255	350
Agriculture and Water Resources	113	136	177	250	460	615
Pilgrimage and Endowments	60	74	85	141	250	262
Justice and Religious Affairs	83	88	95	139	229	239
Foreign Aid	680	680	710	4,758	4,658	2,967
Subsidies	141	155	147	1,318	6,924	7,846
Project Expenditure	5,036	6,718	14,263	78,910b	74,379	74,433

(a) Net of Rls 468 million expected saving (b) including Rls 52,504 million 2nd Development Plan Project Allocation

Source : Saudi Arabian Monetary Agency (1976) Annual Report, p.119

Construction Sector accounted for 12.4% of all male employment in Makkah and only 4.9% in Al-Madinah. This high ratio emphasises the importance of this sector in Makkah compared to Jeddah and Al-Ta'if where the figures were only 10.4% and 5.8% respectively, the result of the special attention given to the "heart" of Islam. In the field of education, Al-Madinah and Al-Ta'if both had much higher percentages than Makkah. Despite the fact that both are much smaller, their educational districts have a much wider catchment area, and include many villages and rural settlements.

In Makkah, 73.4% of all male employees were Saudi nationals, compared to 82.7% in Al-Madinah (see Table 7.4). As a comparison, Jeddah, where employment opportunities are much higher, had only 57.9% of Saudi nationals.

G. Analysis of the Occupational Structure in 1971 (Table 7.6)

In the category "Skilled Manual Workers", 34.7% of the total labour force in Makkah was Saudi and 46.5% non-Saudi; the corresponding figures for Al-Madinah were 39.9% and 42.0%. The percentages of non-Saudis appear high for both cities, but it must be remembered that at the time of classification, this category included building workers, plumbers, electricians, telephone enginees, nurses, air-conditioning engineers and many more. In this category, non-Saudis outnumber Saudis, mostly in the professional fields.

In the category "Intermediate, non-manual Workers", of the total labour force Makkah had 24.3% Saudi and 10.1% non-Saudi and Al-Madinah 26.0% Saudi and 10.1% non Saudi

Table 7.6 : Occupation Type by Nationality in Makkah and Al-Madinah, 1971

Occupation Type	MAKKAH		AL-MADINAH	
	Saudi	Non-Saudi	Saudi	Non-Saudi
Professional and Higher Managerial	5.7%	2.6%	4.0%	3.6%
Intermediate, Non-Manual	24.3%	10.1%	26.0%	10.1%
Junior, Non-Manual	20.9%	8.2%	15.5%	2.9%
Skilled Manual	34.7%	46.5%	39.9%	42.0%
Semi-skilled Manual	9.5%	26.5%	15.5%	28.7%
Unskilled Manual	5.0%	6.1%	6.2%	12.7%
	73.4%	26.6%	74.3%	25.7%

Source: R.M.J.M. "Socio-Economic Date", The Western Region Framework, 1971 Jeddah, Saudi Arabia

of the total workforce. This category included social workers, clerical workers, drivers, school inspectors, etc., and in these fields less than half of all employees were non-Saudis. In the third category, that of "Junior, non-manual Workers" 20.9% was Saudi and 8.2% non-Saudi of Makkah's workforce and that of Al-Madinah 15.9% Saudi and 2.9% non-Saudi. In this category a distinct predominance of Saudi workers was found, and it included clerical workers, barbers, tailors and various shop assistants. Employment in these trades is easy to find, and requires no special skill or training. The last two groups in Table 7.6, "Semi-skilled Manual Workers" and "Unskilled Manual Workers" showed a predominance of non-Saudis in both cities; in Makkah the figures were 14.5% Saudi and 32.6% non-Saudi, and in Al-Madinah 21.7% Saudi and 41.4% non-Saudi. These categories included construction workers (both buildings and roads), street cleaners, bakers, catering workers and waiters and hotel attendants. The majority of workers in these occupations are Yemeni; the Saudi inhabitants of Makkah and Al-Madinah regard these jobs as socially inferior and the Yemeni immigrants have contributed much to the development of both cities by filling jobs, which though essential, are considered too hard or dirty by Saudis.

The first group in Table 7.6 "Professional and Higher Managerial Workers" includes doctors, pharmacists, senior officers and school headmasters, and engineers; in this group Makkah's workforce had 5.7% Saudi and 2.6% non-Saudi, and Al-Madinah 4.0% Saudi and 3.6% non-Saudi. The majority of non-Saudi doctors, pharmacists and engineers are from

Egypt, Syria, Lebanon, Palestine and Pakistan, and there are not yet enough qualified Saudis in these professions.

Taking all occupations together there were 73.4% Saudi and 26.6% non-Saudi in Makkah's labour force while for Al-Madinah the corresponding figures were 82.7% and 17.3% non-Saudi (see Table 7.4).

As we shall see in Chapter 8, education developed relatively early in Makkah and Al-Madinah but first served national rather than local needs and thus had little effect on the supply of skilled manpower to the cities themselves. The present position is noted in Chapter 8, section I.

H. Levels of Income and Expenditure Contributions by Visitors

The income per household in both cities falls into one of three broad income groups, and in Table 7.7 these income groups are compared with Jeddah and Al-Ta'if for 1971 and 1975.

Table 7.7 Monthly Income per Household in Makkah, Al-Madinah, Jeddah and Al-Ta'if for 1971 and 1975

City	% of population earning less than S.R.400* (£50)		% of population earning less than S.R.401-1000 (£50-125)		% of population earning less than S.R.1000-5000 (£125-625)	
	1971	1975	1971	1975	1971	1975
Makkah	46.5	31.0	38.6	46.7	14.9	22.3
Al-Madinah	57.1	39.4	33.1	44.1	9.8	16.5
Jeddah	46.4	-	35.9	-	17.7	-
Al-Ta'if	32.2	-	41.8	-	26.0	-

Source: R.M.J.M. "Socio-Economic Data", The Western Region Framework 1971, and Fieldwork in 1975 by the writer.

* one Pound Sterling is equal to approximately 8 Saudi Riyals current price.

Makkah had 46.5% of its population with earnings under S.R. 400, and Al-Madinah had 57.1%, indicating a higher relative proportion of lower paid workers in Al-Madinah. Makkah and Jeddah had almost exactly the same proportion in this group, and Al-Ta'if the lowest percentage of all. In the second and third income groups also, the percentage is higher in Makkah (5.5) than Al-Madinah. An examination of Table 7.7 for 1971, indicates that the proportion of low incomes is lowest in Al-Ta'if, followed by Jeddah, Makkah and Al-Madinah, in that order. It is evident that Al-Ta'if has the richest inhabitants of the four major urban centres of Al-Hijaz, and this was confirmed by A.I. Daghistani in his study on Al-Ta'if.[25]

The figures given for Al-Ta'if could be misleading, as they include visitors where the pleasant climate has made it very attractive as a summer resort for the inhabitants of Makkah and Jeddah, and it is now the summer capital of the country. During this period many of the more important members of staff of all minis tries and important Departments, together with the Council of Ministers and heads of government move down from Al-Riyadh to Al-Ta'if. This temporary population, mainly comprising the highest paid people in the country, has resulted in Al-Ta'if having the relatively lowest proportion of low-income inhabitants. Apart from this, Al-Ta'if has no large permanent government offices or businesses, and probably its most important project is the Military Base, which replaced the Ministry of Defence after the latter's removal to Al-Riyadh.

If one considers the number of pilgrims who annually

converge on Makkah, much revenue is derived from the wide variety of services and facilities provided for them. A survey conducted in the pilgrimage season 1973, revealed that overseas pilgrims spent a total of S.R. 709,425,577 (£70,942,568)* in the pilgrimage region for that year.[26] This does not include a sum of S.R. 18,932,323 (£18,932,32) paid by pilgrims for the government to provide services for them. When this sum is included, the total becomes S.R. 728,458,000 (£128,458,000).[27] A rough breakdown of these amounts is given below in Table 7.8.

Table 7.8 Expenditure by Overseas Pilgrims during the Pilgrimage Season 1973

Type of Expenditure	Amount of Expenditure
Travel between Makkah, Jeddah, Al-Madinah and the pilgrimage areas	S.R. 88,167,596 (£8,816,760)
Total receipts of Al-Mutawifeen for accommodation and services	S.R. 82,364,880 (£8,236,488)
Gifts and souvenirs	S.R.132,931,400 (£13,293,140)
Inter-city transport	S.R. 46,929,890 (£4,692,989)
Hotels	S.R. 85,592,480 (£8,557,248)
Restaurants and Cafes	S.R.130,877,388 (£130,877,388)
Consumer Goods	S.R.117,868,858 (£11,786,885.8)
Total	S.R.728,458,000 (£,28,458,000)

Source: El-Hamdan, The Pilgrimage to Mecca p.207.

Such large sums of money doubtless have their effect in raising the income of those involved in providing services to pilgrims. In contrast, the 1971 R.M.J.M. Survey estimated the total sum injected into the economies of Makkah and Al-Madinah from this source to be S.R. 481 millions.[28] This does not include the amount of money spent in Jeddah and the sums paid by pilgrims for the government to provide services for them normally offered at every season. The 1971 sum represented about two-thirds of the estimated amount spent by pilgrims during the 1973 pilgrimage season. The increase between 1971 and 1973 was partly due to the rise in the number of pilgrims, partly to the rising costs of living and also to the methods used to calculate the amount spent by pilgrims.

With reference to Table 7.7 for 1975, it is noted that the population with earnings of less than S.R. 400 dropped in both cities to 31% in Makkah and 39.4% in Al-Madinah. The other groups with earnings between S.R. 401-1000, have increased by 8.1% in Makkah and 11% in Al-Madinah over the 1971 figures, while the last group with earnings S.R. 1000-5000, have also increased by 7.4% in Makkah and 6.7% in Al-Madinah. Inflation, which has been particularly noticeable since 1973 in Saudi Arabia, and the Five Year Development Plan initiated in 1970, have both resulted in a reduction of the number of low wage earners, and an increase in the numbers in the other two groups of between S.R. 401-1000 and S.R. 1000-5000 in both cities. The first factor has caused a sharp increase in prices of food stuffs and other goods and commodities which was followed by increases in the salaries of all public employees and the introduction

of food subsidies. The other factor has created a great demand for manpower which has been satisfied by the importation of foreign labour at generally higher salaries. These two factors combined have led to more and more people earning higher salaries and largely account for the differences between the 1971 and 1975 figures in Table 7.7.

Like other urban centres in the Middle East, Makkah and Al-Madinah display considerable variations in income level, and this is reflected in the creation of both high class homes and shanty quarters in both cities (see Chapter 6). The central areas were favourable as a residential area for the wealthy, until the enlargement of both Harams in the 1950's which led them to relocate on the outskirts (see Chapter 2). Al-Faisaliyah residential area developed to the north-west of Makkah, Al-Zahir, Al-Nuzha, Al-Zahrah and Al-Shuhada to the west and north-west; all these developments, and also now Al-Rissaifah area, are populated by people in the higher income groups and homes are mostly detached villas. In Al-Madinah, Sultanah area has developed to the north-west - where the Royal Palace was originally built; now many of the villa-type homes of the wealthy are found there. To the north and north-west in Al-Shuhada and Al-Mataar two suburbs have emerged, and many of the homes here are also large villa-type dwellings. While these new areas are mostly occupied by wealthy citizens, the area adjacent to the central area is mainly occupied by the middle and lower income groups, and is a mixture of traditional houses and modern apartment blocks. The homes of the lower classes are almost all found on the outskirts

of the city, where shanty-type dwellings predominate encouraged by the lower price of plots of land and the availability of many public utilities.

II. Administrative Functions

In the following section we will examine the administrative functions (excluding the provision of public services - see Chapter 8), of Makkah and Al-Madinah as created by the nature of their existence as the earliest urban centres in the country. The settlement pattern of Saudi Arabia, with its many small scattered communities, none of which has become large enough to acquire the status of towns and receive separate public services has resulted in both cities extending their administrative powers far beyond municipal boundaries.

A. Territorial Authority

Makkah, as we have seen, acted as the capital of the region since early time of Islam and by the creation of the State of Saudi Arabia (1925) its influence spread throughout the whole country. It assumed the task of providing the government's headquarters for many public and social services such as : health, education, agriculture, municipalities, communications etc. Al-Madinah which ranked second in importance to Makkah as a religious centre assumed also a similar role which extended to the nearby settlements of the city. Later in the early 1950's when the country was in a strong financial position, other growing urban centres were given their own government offices.

Because of the absence of any clear division of the administrative territory of these major urban centres, the authority of each extended as far as necessary to incorporate as many of the towns, rural settlements and nomadic areas as possible. Such a lack of formal demarcation of territorial limits of both cities' authority affected the ultimate territorial extent of their larger region (Al-Hijaz) and their influence, and even the extent of Al-Hijaz itself according to the power of the Amirs who were appointed for the region. Thus Makkah and Al-Madinah accepted responsibility for the supervision of all the public services in the region. The area of their jurisdiction was determined by such factors as transport difficulties (especially in the early time of the establishment of Saudi Arabia), and secondly, the actions of governors assigned to them, and the administrative abilities of the local governors.

The consequences of the unification of the various regions of the country under one administrative body by the formation of the Council of Ministers in 1953 resulted in the transferring of all government Ministries and important Departments to Al-Riyadh (the capital city) from Makkah. Makkah was made the administrative centre of the Emirate of Makkah which also includes Jeddah, Al-Ta'if and several other small towns, rural settlements and some nomadic tribes scattered around. Al-Madinah was made the seat of the Emirate of Al-Madinah incorporating in it Yonbu, several other small towns and rural communities and some nomadic people scattered around. Such a division, however, does not appear to have changed the former territorial extent of the

two cities' influence except insofar as it was Al-Riyadh and not Makkah which developed as the capital of the Kingdom.

B. The Provincial Regulation Act 1962

This situation prevailed until 1962 when the Provincial Regulation Act was passed for the purpose of facilitating the first National Census of Population when the country was divided into eighteen Emirates or Provinces (Fig. 7.3). Each Emirate then incorporated a number of settlement centres and a number of municipalities as listed in Table 7.9. The division did not take into account the distribution of population, hence the Emirates varied greatly in the number of settled areas within them. The largest had as many as 1,905 centres (Asir), the smallest only 4 (Al-Khassirah). The number of municipalities assigned by the Second Development Plan (1975-1980) were also unequal in each of these Emirates as is seen in Table 7.10. The total area in square km, and population density per square km in each Emirate were all unequal because the divisions were mostly based on the former territorial influence of these Emirate centres.

According to the Emirate division of 1962, the five major regions or provinces (Western, Eastern, Northern, Southern and Central) which make up the area of Saudi Arabia were divided into eighteen. The Emirate of Makkah was the largest in population (627,447), next came Al-Riyadh (539,692) and Al-Madinah was eighth in that order with a population of only (159,691). The Emirate of the Eastern Province, the fourth largest in terms of population size had the largest area (708,004 sq. km.), second was Al-Riyadh

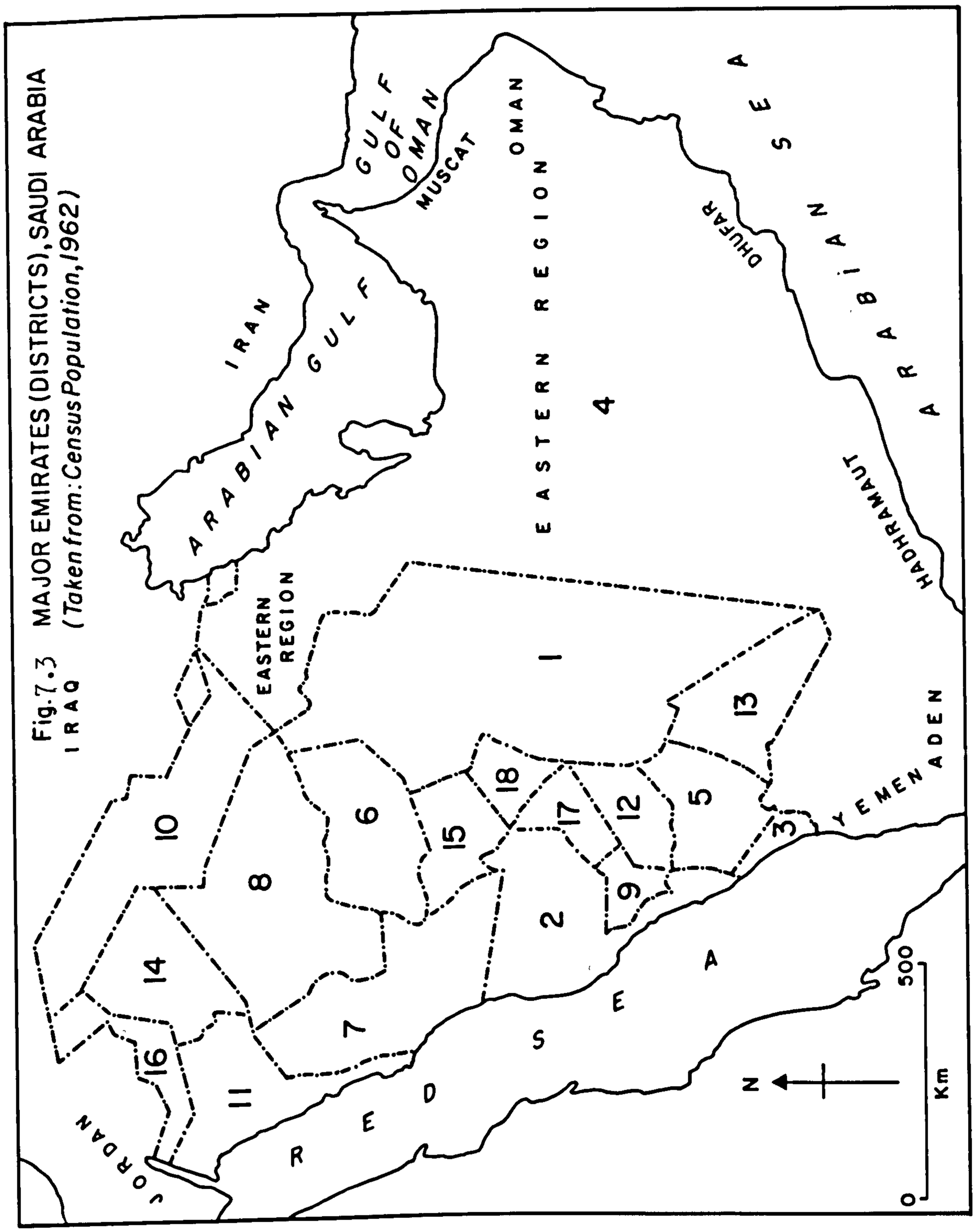


Fig. 7.3 MAJOR EMIRATES (DISTRICTS), SAUDI ARABIA
(Taken from: Census Population, 1962)

Table 7.9 : Distribution of Municipalities and Settlement Centres in the Eighteen Emirates (Provinces of Saudi Arabia; Based on the 1962 Population Census and the Second Development Plan (1975 - 1980)

Emirate	No. of Settlements according to Census Population 1962*	Percentage	No.of Municipalities (End of 1962)	Percentage	No. of Municipalities (Up to 1980)	Percentage
1. Al-Riyadh	547	9.00	13	20.30	38	23.50
2. Makkah	824	13.50	7	10.95	18	11.00
3. Jizan	976	16.00	2	3.13	10	6.20
4. Eastern Province	151	2.50	12	18.75	34	21.00
5. Asir	1905	31.20	4	6.25	9	5.60
6. Al-Qassim	301	5.00	4	6.25	10	6.20
7. Al-Madinah	139	2.30	3	4.68	12	7.40
8. Ha'il	200	3.30	1	1.56	7	4.30
9. Al-Bahah	631	10.30	2	3.13	3	1.90
10. Northern Boundaries	26	0.43	3	4.68	5	3.00
11. Tabouk	35	0.50	5	7.82	6	3.70
12. Bishah	216	3.50	1	1.56	2	1.22
13. Najran	61	1.00	1	1.56	1	0.62
14. Al-Jauf	20	0.30	2	3.13	3	1.90
15. Afif	34	0.50	1	1.56	1	0.62
16. Al-Qurayat	28	0.40	2	3.13	2	1.22
17. Raniah	15	0.20	1	1.56	1	0.62
18. Al-Khasirah	4	0.07	-	-	-	-
Total	6113	100.00	64	100.00	162	100.00

Source : The Central Department of Statistics, Census Population of 1962, Ministry of Finance, Al-Riyadh, Saudi Arabia.

* The 1962 Population Census did not define size of settlements.

Table 7.10 : The Eighteen Emirates of Saudi Arabia, showing Area, Population, Percentage

Emirate	Total Population	Area in Sq. Km.	Percentage of Total Area	Percentage of Total Population	Population Density per Sq.Km.
1. Al-Riyadh	539,692	369,031	16.82	16.37	1.50
2. Makkah	627,447	100,924	4.60	19.02	6.20
3. Jizan	365.063	13,822	0.63	11.07	26.40
4. Eastern Province	360,852	708,004	32.27	10.94	0.50
5. Asir	324,709	59,677	2.72	9.85	5.40
6. Al-Qassim	222,701	76,790	3,50	6.76	2.90
7. Al-Madinah	159,691	143,049	6.52	4.84	1.10
8. Ha'il	187,804	169,596	7.73	5.70	1.10
9. Al-Bahah	120,464	14,919	0.68	3.65	8.00
10. Northern Boundaries	77,801	115,624	5.27	2.36	0.67
11. Tabouk	75,859	98,730	4,50	2,30	0.80
12. Bishah	68,886	39,053	0.68	3,65	8.00
13. Najran	56,583	87,760	4.00	1.72	0.64
14. Al-Jauf	43,989	74,596	3.40	1.33	0.60
15. Afif	30,171	27,864	1.27	0.91	1.10
16. Al-Qurayat	20,933	53,972	2.46	0.64	0.40
17. Raniah	9,626	18,648	0.85	0.30	0.50
18. Al-Khasirah	5,322	21,940	1.00	0.16	0.24
Total	3,297,657	2,194,000	100.00	100.00	

Source : The Central Department of Statistics, Census Population of 1962, Ministry of Finance, Al-Riyadh, Saudi Arabia.

(396,031 sq. km), third was Ha'il (169,596 sq. km.), fourth was Al-Madinah (143,049 sq. km.) and sixth was Tabouk (115,624 sq. km); Makkah comes only seventh in area (10,0924 sq. km)(Table 7.10).

Although the Emirate of Makkah was not the largest in area it had the largest population including the city of Makkah itself, Jeddah and Al-Ta'if. The Emirate of Al-Madinah, though larger than Makkah in area, was eighth in size because it did not have large urban centres other than the growing seaport of Yonbu. Al-Madinah is now the administrative centre of the Emirate of Al-Madinah, a large part of north-western Saudi Arabia, which extends from Teima in the north and Al-Henaikiyah in the east, and from Yonbu in the west to Rabigh in the south-west. Makkah is the administrative centre for another large part of western Saudi Arabia, extending from Rabigh in the north-west to Al-Qunfudah in the south-west and to the east as far as Al-Mu'waih (Figs. 7.4 and 7.5). The two figures show also both cities' market area which by their extent indicates that the cities serve areas behond their provincial boundaries.

However, the function of these two separate Emirates which are each headed by an Amir (governor) is mainly regional and political, linked to the Ministry of the Interior, and does not include direct responsibility for the provision of the social and public services within its boundary. The two Emirate offices are primarily concerned with attempting to solve conflicts or disputes arising among citizens of both cities within their territorial extent in

Fig 7:4 MAKKAH THE FOCUS OF ISLAM

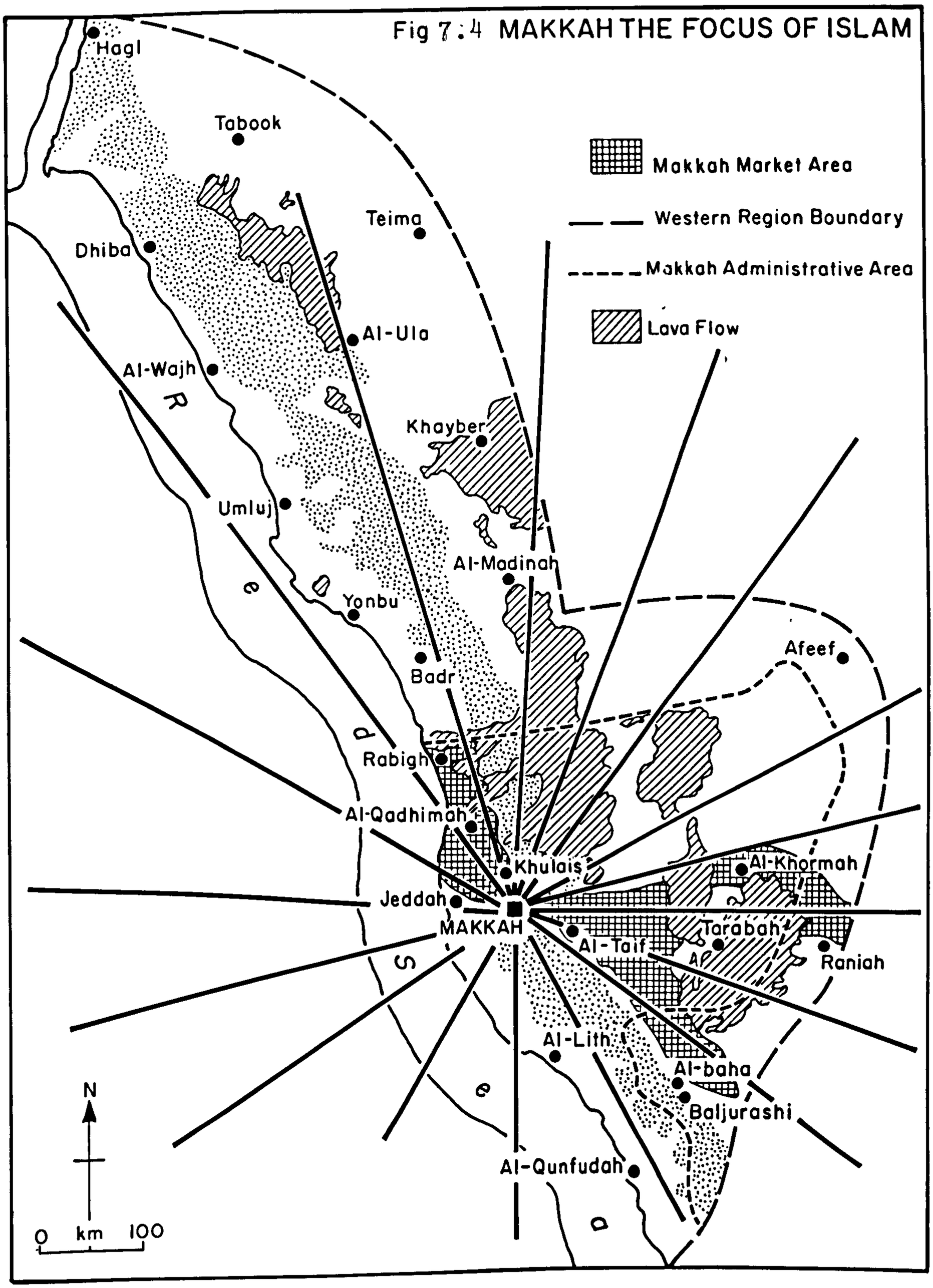
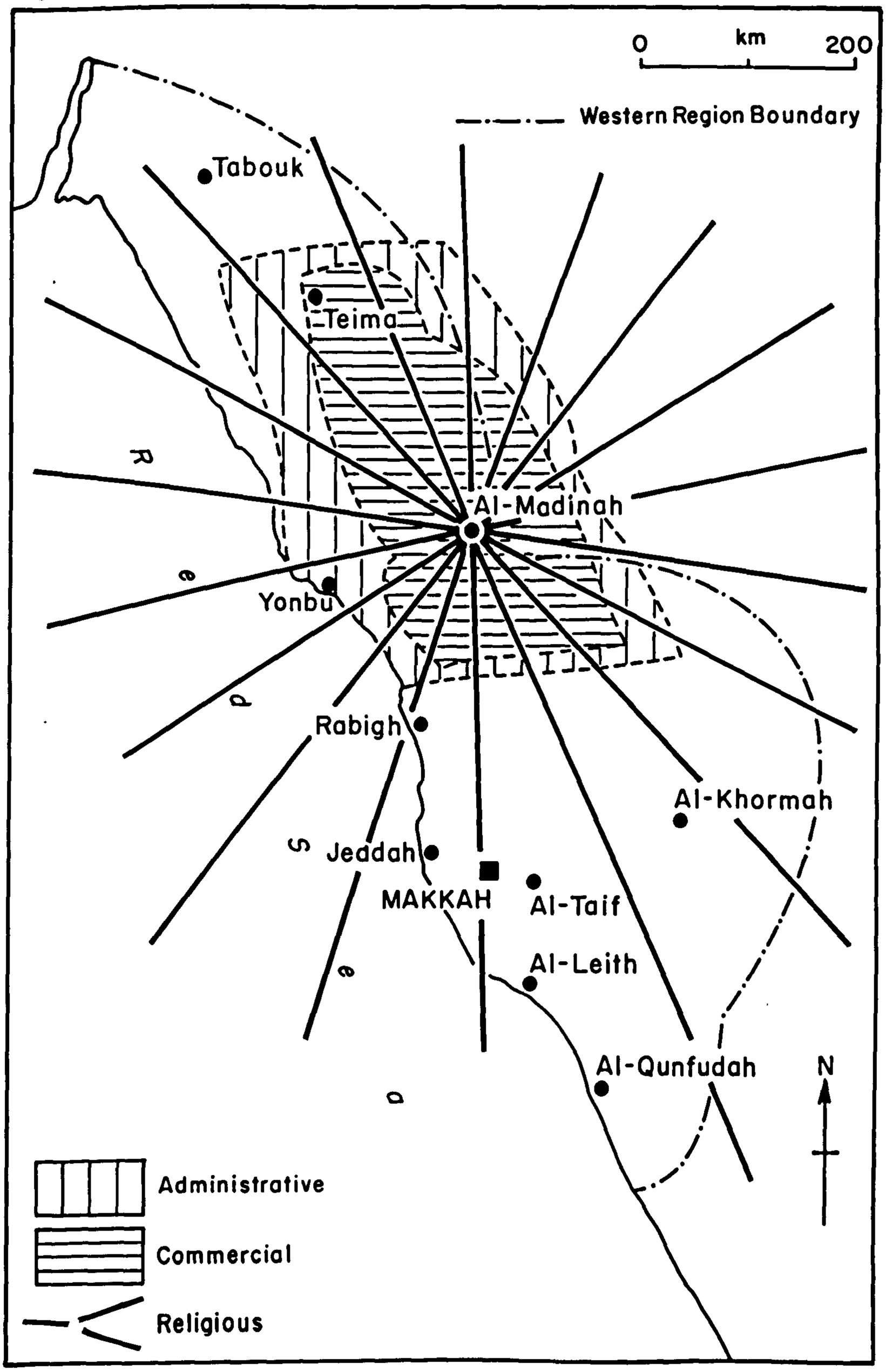


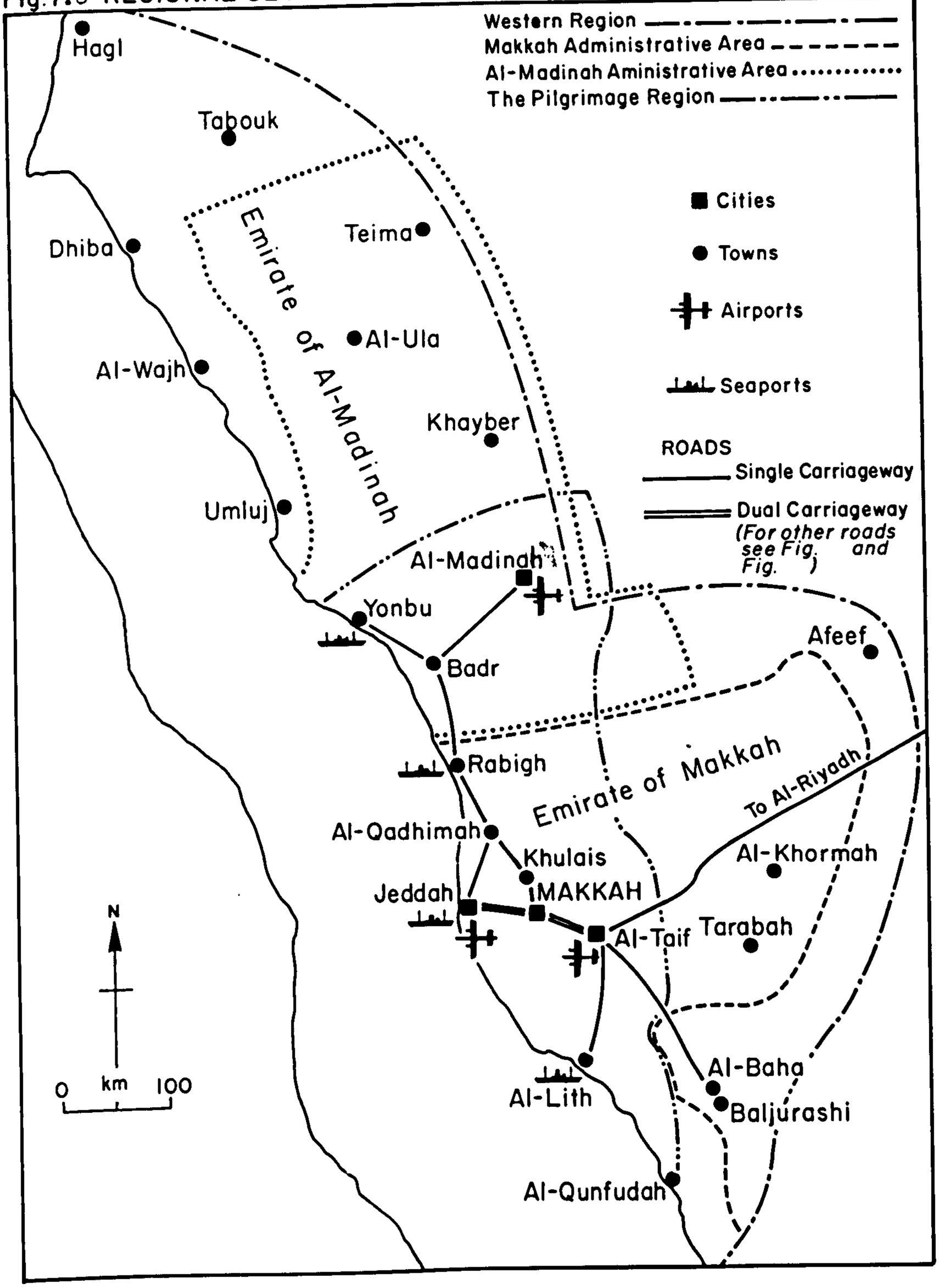
Fig 7.5 THE THREE FUNCTIONS OF AL-MADINAH



in the Emirates division. Whilst, however, both Makkah and Al-Madinah have high hierarchical status as Emirate headquarters, in those fields of administration concerned with official services, their ranking is very different, as we shall see in Chapter 8. This is partly due to the effects and requirements of the pilgrimage. This ever-present special factor cut acrossed Emirate boundaries. As shown in Fig. 7.6. although activities associated with the pilgrimage do not affect the whole of the Emirate of Makkah and Al-Madinah, important parts of both are inter-linked in what may be called "the pilgrimage region". Within this region a network of pilgrimage services and activities, including those already identified in earlier chapters, links Makkah and Al-Madinah into a spatial network involving other settlements. It is now almost impossible to think of a separation of this network even on the administrative place from those linkages which could have been expected to develop purely on a secular basis and in Fig. 7.4 and 7.5 shown the interlock of the main functions of the two cities, illustrated separately.

Nevertheless, if we draw a distinction between the permanent and temporary pilgrim populations of the two cities, and also concentrate on the non-commercial service functions performed for the permanent population of the cities and their hinterlands, a further picture can be drawn. Earlier we have seen how commerce and industry were developed in Makkah and Al-Madinah and how they were affected by local resources and responded to the demand, not only of the pilgrim populations, but also of the resident permanent population.

Fig. 7.6 REGIONAL SETTING OF MAKKAH AND AL-MADINAH



Equally important was development of the role they have played in terms of providing services to the local people as well as surrounding areas. Through these relations the cities were linked with nearby settlements in order to provide services which the two cities themselves were not able to offer. Services such as education, medical and health services, leisure activities and municipal administration are therefore dealt with in the following Chapter, and examined to see how they are responding to demands and how they throw further light on the regional and national non-religious functional status of Makkah and Al-Madinah.

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CHAPTER EIGHT

Social and Public Services and Leisure Activities

CHAPTER EIGHT

Social and Public Services and Leisure Activities

Since the creation of the State of Saudi Arabia many essential urban services which were neglected previously have since been developed in Makkah and Al-Madinah. These include education, health, municipal services, water supply, transport, communication, commerce, industry among others. Although these services were needed in the other expanding urban centres of the country, demand for services in the two holy cities was particularly urgent due to the increases in number of pilgrims and increases in the number of resident population. The rapid progress of economic development combined with the increasing wage levels and the continuous rise in living standards in general, all created extra demands for the provision of services.

In previous chapters, services required by pilgrims were discussed in detail. This chapter will, therefore, be devoted to the services required by the resident permanent populations. In particular the development of education and health services will be examined, but equally important in the urban context, are leisure activities which include coffee-houses, restaurants, open spaces and parks which are regarded as important social institutions within the mixed society of residential and visiting populations..

In the last section of this chapter the levels of regional and national administrative and social services at Makkah and Al-Madinah are summarized.

I. Development of Education

Public education was made available to all Saudi citizens soon after the foundation of the State of Saudi Arabia in 1925. Prior to this, few education services were available and thus high rates of illiteracy were registered throughout the country. Education became a major priority in order to elevate the local levels of education to meet the new demands for professional skilled and semi-skilled workers for building the country.

Initial steps towards the provision of education was marked by the formation of the Directorate General of Education in Makkah in 1926 (1344 A.D). The Directorate was given authority to organise and supervise education throughout the country and as a result many primary schools were set up in the cities and towns, followed by facilities for older age groups.

The first secondary school, Madrassat Al-Be'athat was opened in Makkah in early 1930's. Both Madrassat Al-Be'athat and the second school to appear in Al-M'ahad Al-Ilmi were located very close to the entrance of Al-Haram, Bab Ali. The location was governed by the existence of three large buildings there, (one of them was occupied by the Directorate General of Education) in close proximity to the most crowded quarters of the city. These two schools played an important role in preparing students for employment within the government sector, for which there was a severe shortage of adequate workers, or for enrolment in one of the Universities in Egypt, as university education was not available in Saudi Arabia at the time until 1949 by the establishment of the

College of Shari'a in Makkah.

These secondary schools were the sole institutions in the country at that time and all students who went on from primary level education, therefore, were enrolled in Makkah. The limited extent of initial developments in this sector was determined by the modest resources available to the government.

In 1950 a third secondary school, Al-Rahmaniyah, was opened in Makkah to cater for the rapid increase in student enrolment and the high number of graduates in the city. This school was also located in Al-Mass'a adjacent to Al-Haram. Proximity to the most crowded quarters of the city was a determinant factor, together with the slow development of public transport. However, by the beginning of 1950 increases in demand were taking place elsewhere in the country and secondary schools were set up in Al-Madinah, Jeddah, Al-Riyadh and other expanding urban centres. The expansion resulted in the foundation of the Ministry of Education in 1953, which replaced the old Directorate General of Education.

The rapid increase in the residential population of Makkah and Al-Madinah, which resulted in their physical expansion and the implementation of enlargement of Al-Harams' areas in 1953 and 1955, necessitated the transfer of these schools from their former central location to the new quarters. At the same time many other schools (primary and intermediate) were opened in the various quarters of the cities (see Fig. 5.2 and Fig. 5.3).

An examination of the increases in the total numbers of students, schools and teachers engaged in primary, intermediate

and secondary education in Makkah and Al-Madinah during the 12 year period from 1963/64 to 1974/75 indicates clearly the growth of education (Table 8.1). According to Table 8.1 the total students being taught in Makkah in the three categories in 1975 was 38,859, attending 102 schools with 1,732 teachers. In Al-Madinah the corresponding figures are 16,124 students, 43 schools and 663 teachers. Table 8.1 (column one) shows that the total number of students in the three levels in Makkah grew from 17,367 in 1964 to 38,859 in 1975, almost doubling in the 12 year period; the same is true for Al-Madinah (6,070 in 1964 to 16,124 in 1975). This represents an annual rate of increase of 7.2% and 8.8% respectively during the specified twelve year period.

From Table 8.1 it can be seen that the total number of facilities in Makkah is more than twice that of Al-Madinah. This difference reflects the relative size of both cities, Makkah having almost twice the area and size of population as that of Al-Madinah. The difference in size of population between the two cities is, in turn, explained by the importance of Makkah as the regional capital of Al-Hijaz. Even in contemporary times, despite a shift of population to Jeddah (ranked second after Al-Riyadh), Makkah still occupies the third rank in city size (see Table 5.3).

The expansion of the educational system, however, is not restricted to developments in child education alone. Teacher Training Institutes, Adult Education Centres, Evening Schools for both intermediate and secondary levels, as well as schools for the care and education of orphans and Institutes for the Blind have also been created. With regard to Adult education and Evening schools, by 1975 (one

Table 8.1 : Number of students, schools and teachers in the three levels of Education for boys in Makkah and Al-Madinah during the past 12 years (1963-1975)

Calendar Year	PRIMARY			INTERMEDIATE			SECONDARY		
	Students	Schools	Teachers	Students	Schools	Teachers	Students	Schools	Teachers
MAKKAH									
1963-64	14,436	47	596	2,170	4	96	763	2	33
1964-65	16,197	52	589	2,538	5	110	775	2	36
1965-66	17,363	55	660	2,895	7	170	751	2	36
1966-67	18,654	57	740	2,804	8	189	767	2	36
1967-68	20,114	58	717	3,470	9	214	925	2	46
1968-69	21,272	61	810	3,677	9	237	969	2	54
1969-70	22,418	66	889	3,998	12	241	1,087	2	64
1970-71	23,757	69	895	4,696	12	233	1,455	2	66
1971-72	25,520	74	991	5,551	12	262	1,639	3	82
1972-73	26,635	79	1,096	6,130	15	338	1,814	3	102
1973-74	27,987	81	1,159	6,781	16	361	2,075	3	119
1974-75	29,146	83	1,193	7,423	16	396	2,290	3	143
AL-MADINAH									
1963-64	5,293	18	228	537	3	46	240	2	25
1964-65	6,081	20	240	686	3	49	297	1	20
1965-66	6,675	22	272	804	3	53	308	1	20
1966-67	7,695	22	263	1,027	4	66	352	1	24
1967-68	8,418	24	295	1,309	4	81	302	1	23
1968-69	8,788	24	325	1,368	5	108	275	1	21
1969-70	9,496	26	360	1,781	6	113	341	1	29
1970-71	9,992	27	375	1,722	6	119	431	1	35
1971-72	10,482	29	381	1,973	7	128	542	2	40
1972-73	11,083	31	392	2,184	7	116	731	2	50
1973-74	11,640	32	411	2,495	8	133	942	2	63
1974-75	12,223	33	436	2,722	8	150	1,179	2	77

Source : Saudi Arabia, The Educational Districts of Makkah and Al-Madinah, 1975.

intermediate and one secondary) which were located in Al-Madinah, had 467 enrolled students, while in the same year the two intermediate and one secondary schools in Makkah accounted for 933 enrolled students in evening classes. In Adult Education (or Popular Cultural Education) 3,416 students were enrolled in 27 schools in Makkah[1] and the corresponding figure for Al-Madinah was 1503 in 11 schools in 1975.[2]

The development of public education for women had to wait until the government founded the first girls' schools in 1960*. Numbers increased rapidly from about a few hundred in private schools to 33,764 pupils in the school year 1974/75 for Makkah and 14,280 for Al-Madinah. The number of public schools for girls has also increased from nil in 1960 to 75 for Makkah and 39 for Al-Madinah in 1975; the number of teachers has also increased from zero to 1319[3] and 507[4] respectively for the same period. Because of the segregation of the sexes in schools the administration of schools for both boys and girls is separated and comes under the supervision of independent educational districts throughout the urban centres of the country. The education of boys is linked to the Ministry of Education in Al-Riyadh represented by the Educational District offices in the cities, and that for girls is linked to the Directorate General of Girls Education, also in Al-Riyadh represented by the Educational Districts in the cities similar to that for boys. Therefore, there are four Educational Districts serving Makkah and Al-Madinah, in each one for boys and the other for girls.

In 1975 it was found that approximately 45% of the

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* Opposition from the religious authorities delayed the provision of public education for females.

populations of Makkah and Al-Madinah were considered to be literate.[5] This illustrates a remarkable improvement in reducing the number of illiterates from nearly 85% in 1950 to 45% in 1975. This is reflected in the temporal changes in educational status across the age groups of the resident population. The causes for such high illiteracy rates in 1950 are related to three things : first, to the late start of education of women (1960), secondly to the migration of people from the outlying areas of Makkah and Al-Madinah, where education was not available, and thirdly, to the high level of immigration of uneducated labourers - especially from the Yemen. Such people had been drawn to Makkah and Al-Madinah by employment opportunities in construction and other manual work.

During the 1975 fieldwork period it was found that the population between the ages of 45 and 64 could be divided into two educational levels, namely those who held a Primary Certificate and those who could only read and write, the first accounting for some 28% and the latter accounting for some 59.9% of the total population in Makkah and 31.2% and 56% respectively in Al-Madinah. Between 25-45 years of age, three major groups emerged; about 1.5% had a College education in Makkah and approximately 1.8% in Al-Madinah; about 4.2% had secondary diplomas in Makkah and 5% in Al-Madinah, and 6.4% had intermediate or teacher training institute certificates in Makkah and 6% in Al-Madinah.[6] In an endeavour to improve higher education, six universities exist in the country at present - one at Jeddah, two at Al-Riyadh, one at Al-Madinah, one at Al-Dhahran and one at Al-Dammam.

Makkah and Al-Madinah enjoyed the privileges of university facilities long before other urban centres of the country. As early as 1949 (1369 A.H.) the Faculty of Al-Shari'a and Islamic Studies was created in Makkah, occupying the building of the Directorate General of Education which was transferred to Al-Qararah quarter. This move was followed shortly in 1954 by the opening of the Teacher Training College (later named the College of Education), both of which have prepared a considerable number of qualified people in teaching and other fields.[7]

In 1971 both faculties, which were under the supervision of the Ministry of Education, were connected administratively and financially to the King Abdul Aziz University at Jeddah. However, under the present project in the development of higher education, the University of Makkah or the University of "Um Al-Qura" another name for Makkah, will soon be opened, and is assigned a site in the newly residential developed area of Al-Rissaifah (see Fig. 5.4). Initially, the University of Makkah will consist of two existing faculties (Al-Shari'a and Education) transferred from their present location (see Fig. 5.2) to Al-Rissaifah. The two faculties, which served as the first step in the development of higher education in the country, and which owed their origin to the early association of Islam and learning, are to be expanded by further faculties under the University of Makkah.

Al-Madinah received a share in this same field with the foundation of the Islamic University of Al-Madinah in the academic year 1960/61 (1380/81 A.H.);two faculties are already established, the Shari'a and Religious Foundation

and Arabic Studies. In addition the University has a Secondary Institute and a Preparatory Section for the Students from other Islamic countries to learn the Arabic language.[8] In 1977 a College of Education, similar to the one in Makkah, was set up in Al-Madinah under the supervision of King Abdul Aziz University at Jeddah. These developments outline the growth of education in Makkah and Al-Madinah, and the efforts on the part of the government to raise the level of education in both cities.

Now, as the result of the concentrated effort in improved higher and public education, all teachers in the existing Primary schools of the cities are Saudi local citizens, where once they originated from other Arab countries. In the field of Intermediate and Secondary schools more than two thirds of all teachers are Saudi nationals.[9] At the College level, more than half of the existing members of staff are Saudi citizens.[10]

In one field, however, we find that the special status of Makkah and Al-Madinah once again must be emphasised. The two Harams, in addition to their function as places of worship, have been functioning as centres for both Islamic religious and Arabic studies throughout the history. Many people are attracted from various countries of both Arab and Muslim cultures, and others from the different parts of Saudi Arabia, to attend one of the various informal educational sessions conducted in Al-Harams throughout the year. There have been several well known scholars, or Ulama (sin. A'lim), to whom many people came to in order to learn under their supervision. Some Ulama give teaching about Islam after sunset prayers and after the Friday-noon prayers and many people gather

to listen and learn. Modern education which is offered by the new colleges, however, has begun to diminish the role of Al-Harams as centres for studies. The higher degrees (B.A. and M.A.) which are now offered in Islamic and Arabic Studies and the anticipated degree in Ph.D. have drawn most of the people away from the traditional studies in Al-Harams. The demand for such qualifications (which stem from both Saudi Arabia and throughout the Arab and Muslim worlds) have enhanced the importance of higher education through colleges and universities of the two cities.

However, despite the competition from official education, there is continued importance for Al-Harams as centres of religious gathering (open day and night) and there many Ulama offer their services in teaching Islam and Arabic Studies to small groups of people. These informal sessions are devoted to those who have yet to complete their schooling and seek further education in these fields.

II. Medical and Health Services

The increasing needs of an expanding population in Saudi Arabia, combined with the increase in numbers of pilgrims have necessitated the provision of extensive health services throughout the country. The existing health services are administered via seven government departments, each with its own institutes and budget, with major offices in all urban centres. (These are; the Ministry of Health, the Red Crescent, the School Health Departments of the Ministry of Education and under the General Directorate of Girls' Education, the Food Control Department of the Ministry of

Commerce and the Public Health and Hygiene Department of the Ministry of Municipalities and Rural Affairs).

Today the cities of Makkah and Al-Madinah are provided with free health services as in the State as a whole. Health services developed in a similar fashion to other public services from almost a complete absence in 1925 to present levels, as exemplified by the establishment of 5 hospitals in Makkah and 4 in Al-Madinah by 1975 (almost 8% and 6.2% of the total 62 hospitals in Saudi Arabia respectively). To these figures are added the three private clinics in Makkah and two in Al-Madinah. The locations of these services are shown in Fig. 5.10 and Fig. 5.11. It can be seen from their distribution that they are not concentrated in the centres, but are located in the most populated residential areas of the cities. The number of doctors working in these hospitals and the clinics, and private practitioners clinics, was 230 in Makkah and 150 in Al-Madinah. (These figures represent approximately 14% and 8% respectively of the total number of doctors, 2275 in the whole of Saudi Arabia).

The doctor/patient ratios for Makkah and Al-Madinah (based on the last census figures of 1974, which gave populations of 366,801 and 198,186 respectively) are 1/1672 for Makkah and 1/1522 for Al-Madinah. These ratios are relatively low in comparison with Western European countries, for example Britain. Under the present Development Plan, a programme to increase the number of doctors and other qualified personnel (especially Saudi nationals) has been implemented to ensure a wider distribution of doctors and other medical staff in urban and rural areas. It is planned that by the

end of the Second Five Year Plan (1980), the number of doctors will have increased from 2,275 to almost 3,000 with proportionate increases in Makkah and Al-Madinah over the same period.[11]

Health services in Makkah are nearly twice as extensive as those of Al-Madinah in terms of doctors, hospital beds and other facilities and this is related to the larger size of population. Although there is now some pressure on the health services of the cities at normal times, the demand becomes even heavier at the pilgrimage season as noted in Chapter 2 and is a fact which also concerns us in Chapter 9.

If we use as an indicator of the relative provision of medical services, the doctor : population ratios for the Public Health Districts in 1974, we find that the Makkah District was very similar to Al-Riyadh - 1/1672 and 1/1370. Al- Madinah was intermediate (1/1522) while Jeddah had significantly poorer provision - 1/2040.[12] The population figures here are of course of the permanent residents of the Health Districts. In order to cope with the very large numbers of temporary residents during the pilgrimage, special services are provided at Jeddah, as noted in Chapter 2, and large numbers of doctors from other areas are drafted in to Makkah, Al-Madinah and Jeddah during the pilgrimage season.

III. Leisure Activities

The areas devoted to leisure activities in Makkah and Al-Madinah are very limited. In the past, because the two cities were small in size and their water resources were not over utilized,there were some green areas on the outskirts.

This was especially true in Al-Madinah as it was much better situated in fertile soil and with good water resources; thus, many farms and gardens were established. These surrounding open green spaces served both cities as places of leisure where many of the inhabitants used to go to relax and pass their spare time as family groups. Even so, since early times, being holy cities, inhabitants and visitors were more concerned with religious duties rather than in passing the time in leisure.

In more recent times the establishment of the traditional coffee-houses in both cities has provided another source of leisure activity and form a regular meeting place for citizens of the cities. Today, with extensive vehicle ownership, coffee-houses have been established on the outskirts of the cities, many citizens drive to one of these places in the evening for relaxation and refreshment. Because these, what could be termed 'out of town coffee-houses',were more active during the evening, traditional restaurants were often located in close proximity. Thus, coffee-houses, together with the restaurants, were linked and have replaced the green areas on the peripheries which disappeared with the shortage of water and take-over by residential expansion. Even today, in the face of this demand, many of the coffee-houses in the new quarters have been forced to move away to other open spaces as the land they occupy is required for residential use.

Restaurants in general (including modern restaurants, coffee-shops, coffee-houses and traditional restaurants) now form social institutions and have developed alongside other facilities provided by the government, such as public parks, playgrounds etc. Coffee-shops and restaurants are privately owned and form places of social gathering. In the past, due to the low returns

derived from this trade and the public attitude against "eating out", there was little incentive to open restaurants. Recent economic improvements, higher standard of living, and population increases, together with a relaxation of former traditional restrictions have influenced the way of life and the public are more inclined to eat out. Restaurants are now widely patronised by many citizens of Makkah and Al-Madinah and by pilgrims and visitors from home and abroad, especially on Friday, the Muslim day of rest. Further, a number of specialised restaurants have appeared, particularly those specialised in Indonesian, Indian and Turkistanian restaurants.

Taking these factors into account, the demand for restaurant trade is not excessive, in spite of the vast number of foreign pilgrims. This is partly explained by the fact that most pilgrims eat in the lodgings provided for them by their Mutawifeen : for instance, Iranian pilgrims are usually provided with meals either through Al-Hamladary or Al-Mutawifeen, depending on whose services they engage (see Chapter 2).

Other nationalities who do not use these facilities prepare their own meals in the kitchen of their accommodation; thus very few patronise the public restaurants, and those who do are normally poorer pilgrims who can only afford the cheaper food of the traditional restaurants. The few pilgrims accommodated in hotels may use the restaurants as an alternative to hotel food.

The number of restaurants in Makkah and Al-Madinah (including individual restaurants, hotel restaurants and coffee-house restaurants), totalled 103 and 47 respectively of

varying size and quality based on the existing style of restaurants in the country according to the writer's survey in 1975. Figs.5.13/14 show their distribution throughout the cities of Makkah and Al-Madinah and it can be seen that a large proportion of them are clustered in the centre. These restaurants do provide an essential service for local citizens, pilgrims and visitors and provide, in addition to meeting places similar to the traditional coffee-houses, employment and a source of income for both owners and employees (an average of four employees for each restaurant).

If the behaviour pattern of pilgrims in Makkah and Al-Madinah changes in the near future, it could be advantageous for more restaurants to be opened. These would create further social meeting places and more jobs for local people; simultaneously they would also increase the pressure on the extremely scarce land, in particular in the city centre around Al-Haram.

The increased value of land in the immediate area surrounding Al-Haram has forced restaurants out of the city centre to more peripheral locations. The loss of these facilities in the city centre reinforces the provision of alternative leisure facilities, especially for the female section of the population who are restricted in their movements. The outlying wadis of both cities such as Wadi Fatimah, Arafat, Al-Abdiyah and Al-Husseiniyah in the case of Makkah and Al-Aqiq, Al-aqul and A'bar Ali in Al-Madinah are examples of meeting places for families. These open areas are very popular picnic areas, again, especially on Fridays.

Public parks, until recently, did not exist but currently with the modernisation of Makkah and Al-Madinah

such facilities have been created inside the cities and, also, in some areas of the cities on the outskirts. Yet these facilities are restricted to men only due to the prohibition of meeting women in public.

It is obvious now that the continued use of the veil which is symbolic of the restriction over the interaction of sexes in public was, in the past, alleviated by family visits to the outlying cultivated areas as in other parts of Saudi Arabia. For cities located on the seaside such as Jeddah, the citizens there can now utilise beach and marina areas, either in family groups or in separate groups of men and women.

Elsewhere at other public social meeting places such as Al-Muntazah or the Casino,* Zoo, Fun Fair and Public Gardens, special arrangements have been made in order that both males and females may enjoy the facilities provided. For example visits to the Zoo in Al-Riyadh, the Fun Fair in Jeddah and Al-Zahir Public Garden in Makkah are open exclusively to females at certain times and on certain days. Al-Madinah has not yet been provided with any such facilities and apparently the inhabitants are making use of the outlying agricultural areas which are more available than in the case of Makkah.

In general, use of the veil in Saudi Arabia has excluded the women from full participation in most of the leisure activities which so far have been introduced to other urban centres of the country (as is also the case with the use of public transport - see Chapters 4 and 5).

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* This term is used for the open meeting-place and having refreshment under the shade of trees planted for this purpose.

The effect of segregation of the sexes in public, as in other towns in Saudi Arabia has been on the one hand to restrict the need for land to be devoted to general recreation since most social activities take place within the home, whilst on the other hand it has in some ways increased the demand for land since some facilities have to be duplicated. This latter point particularly affects education since separate schools and colleges have to be provided. There are still, of course, no cinemas or similar places of entertainment but here Makkah and Al-Madinah are no different from other Saudi Arabian cities except that religious conservatism is stronger.

IV. Municipal Administration and Public Services

Makkah and Al-Madinah had established municipality status long before the creation of the Saudi Arabian State in 1925. General reform measures were introduced by the Ottomans in the second half of the 19th century when Al-Hijaz region benefited under their rule. As a result, four of the major cities and towns of Al-Hijaz, such as Makkah, Al-Madinah, Jeddah and Yonbu had municipal authority through elected Municipal Councils. [13] The authority of these local combined governments was limited to the city concerned and to neighbouring towns and villages and linked to the governor of Al-Hijaz, located in Makkah.

When the region became part of Saudi Arabia this level of organisation was retained and introduced to other cities and towns of the country. These departments which were usually headed by a president or mayor were attached to the Provincial or District Governors. In 1951 the Ministry of the Interior

was created, and thus all the municipal departments were connected through this department. The subsequent improvement which took place following the expansion of the existing organisation and the creation of new urban municipalities resulted in the re-organisation of the department by the creation of a Deputy of Municipalities' Affairs in 1962.[14] The department had four major sub-departments responsible for planning, engineering, public utilities and surveying. The Department of Municipal Affairs, headed by a Deputy Minister, had broader powers and authority in appointing Mayors and Presidents of the Municipalities in cities and towns of the country.

Rapid urban growth made improvements in capital inputs necessary to keep up with the increases in the demand for services and, with the help of the United Nations, the creation in the Kingdom of Saudi Arabia of regional town planning offices followed to provide the necessary technical and professional personnel for modernization, development and control over under-development. In the early 1960's, a Town Planning Office was set up in Jeddah followed by four other offices in different Provinces. The planning office at Jeddah is responsible, in addition to the city itself, for Makkah, Al-Taif and other surrounding towns and settlements, and the other at Al-Madinah is responsible for the city itself and other surrounding towns and settlements, as far as Tabouk to the extreme north-west of the country. The functions of these regional offices include all normal planning activities.

In order to sustain the substantial expansion of towns

and cities which is taking place throughout the country, the Ministry of Municipalities and Rural Affairs was established in October 1975.[15] This independent Ministry took over the functions of the former Deputy of Municipalities Affairs of the Ministry of the Interior.

This development is accompanied by increases in the number of municipalities, from 64 in 1962 to 162 by 1980, an increase of 40% (see Table 7.9). The present hierarchy in rank of administrative authority of the Ministry for Municipalities and Rural Affairs is shown in Figure 8.1 and it is through this channel that finance and other requirements of each urban and rural municipality in the country are met.

It is seen also from Table 7.9 that according to the Emirate division of the country in 1962, the Emirate of Makkah had 7 municipal departments and Al-Madinah had 3 departments. This figure is to be increased to 18 and 12 respectively by 1980. The individual Emirates however (as was indicated in Chapter 7, Section II.B) are not directly responsible for the provision of services within their boundaries. The Ministry for Municipalities and Rural Affairs is primarily responsible for services throughout the country, and the functions of this department include the provision of all activities for both cities and towns. The most important tasks include water supply, sewage disposal, rainwater and stormwater drainage, sanitation services and construction of modern slaughterhouses and markets for meat, fish and vegetables. Further, it is also responsible for the general improvement and beautification of urban and rural areas, some urban road-

Fig. 8.1 Organisation of the Ministry for Municipalities and Rural Affairs

Minister for Municipalities and Rural Affairs

- Deputy Minister for planning
- Deputy Minister for Technical Affairs
- Deputy Minister for Administration
- Deputy Minister for Municipal and Rural Affairs

- Water Agencies
- The Municipalities (162) Makkah Al-Madinah
- Dept. of Municipal Councils and Village Affairs

- Dept. of public Utilities
- General Dept. of Engineering Affairs
- General Dept. of Town Planning
- General Dept. of Surveying

- Public Admin. Dept.
- Organisation and Methods Dept.
- Environment Health Dept.

- Dept.of planning and Engineering (Jeddah) office
- Dept.of planning and Engineering The Southern Province (Abha)
- Dept.of planning and Engineering The Northern Province (Al-Madinah)
- Dept.of planning and Engineering The Central Province(Al-Riyadh)
  - -Surveying Div.
  - -Town Planning Div.
  - -Engineering Div.
  - -Public Utilities Div.
- Dept.of planning and Engineering The Eastern Province (Al-Dammam)

works, the building of parks and playgrounds, and the designing of residential areas and public buildings.[16]

V. Administrative Functions by Organisational Status

In Figure 8.1, the relative status, in terms of administrative services of Makkah and Al-Madinah, Jeddah and Al-Ta'if is indicated. This, together with Figure 8.2, further illustrates the complex relationship between the major cities of Al-Hijaz which has already been discussed with particular reference to the pilgrimage (Chapter 2), commerce and industry (Chapter 7), water supply (Chapter 3) and population (Chapter 4) as well as in the historical introduction of Chapter 1.

Whatever the special status conferred by their place in Islam, Makkah and Al-Madinah have legally no more special status than the other 162 municipalities of Saudi Arabia (although Makkah is recognised as a first rank municipality* like Al-Riyadh and Jeddah). However, Al-Madinah is the headquarters of the Emirate of the same name whilst the Emirate of Makkah has its effective headquarters in Jeddah and only a sub-office in the city of Makkah headed by a Deputy of Amir or Governor - with higher rank than that of Al-Ta'if (which together are linked to the headquarters located in Jeddah).

In terms of some criteria then Makkah and Al-Madinah appear no more than sub-regional centres, provincial towns, in which the provision of services and the importance of

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* All the municipalities (162) are divided into three levels of importance, Makkah, is one of the first and Al-Madinah is in the second level.

Fig. 8.2 Administrative Functions by Organisational Status

	Makkah	Al-Madinah	Jeddah	Al-Taif
Emirate	(Sub-office)	(H.Q.office)	(H.Q.office)	(Sub-office)
Education	District (boys), District (girls) General Directorate	District (boys) District (girls) General Directorate	District (boys) District (girls)plus (H.Q.General Directorate Western Province)	District (boys) District (girls) General Directorate
Health	District	District	District plus (H.Q. General Directorate Western Province)	District
Water	Local office	Local office	Local office plus (H.Q.General Directorate Western Province + H.Q.Saline Water Conversion Corporation	Local office
Agriculture	-	Agricultural Unit	(H.Q.General Directorate Western Province)	Agricultural Unit
Communications	Local office (Post + Telephone)	Local office Post + Telephone)	Local office (Post + Tele) (H.Q. Post + Telephone + Roads)	Local office (Post + Telephone)
Agency Ministry of Pilgrimage and Waqf	(H.Q.office)	(sub-office)	(Sub-office) plus (H.Q.Pilgrims' Agents)	-

Fig. 8.2 (Cont.)

	Makkah	Al-Madinah	Jeddah	Al-Taif
Town Planning Office	-	(H.Q. office)	(H.Q. office)	-
Municipal and Rural Affairs	City Municipality office	City Municipality office	City Municipality office plus (H.Q. General Directorate Western Province)	City Municipality office
Defence	(Sub-office)	(Sub-office)	(H.Q.General Directorate Western Province)	(Sub-office)
Police	(Sub-office) + (H.Q.Pilgrimage Police Force)	(Sub-office)	(Sub-office)	(Sub-office)
Commerce	(Sub-office)	(Sub-office)	(H.Q.Western Province)	(Sub-office)
Industry	-	-	(H.Q.Western Province)	-

administrative organisation is at a level generally correlated to the size of their permanent resident populations, within the Saudi Arabian context. On the other hand, as we have seen, they are obviously far more than this. In the conclusion of this thesis an attempt will be made to place in perspective these different aspects of their urban characteristics. First, however, one consequence of their unique status as pilgrimage centres needs examination, the extent to which some control of the impact of the pilgrimage may be necessary if their successful urban functioning is not to be damaged.

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CHAPTER NINE

Controlling the Number of Annual Pilgrims

CHAPTER NINE

Controlling the Number of Annual Pilgrims

The annual pilgrimage to Makkah is made by pilgrims both from overseas and from within Saudi Arabia. The two component groups have been increasing as a result of improvements in transport and a rising standard of living within Saudi Arabia and in the Muslim nations. As in Chapter 2, the term "External" is used to designate those arriving from outside the country and the term "Internal" for those making Al-Hajj from within Saudi Arabia (Saudis and non Saudis). This Chapter is devoted to the study of both kinds of pilgrims and to establish what problems their presence in large numbers poses to existing services and facilities.

I. External Pilgrims

It has been shown earlier in Chapter 2, that pilgrimage transportation has evolved over the centuries from animal transport (camels, donkeys, horses and mules) to ships, railroad, automobile and aircraft. At the same time, factors noted earlier have brought about an increase in the total number of external pilgrims visiting Makkah each year by land. In the last 28 years, from 1950 to 1978, the total number of pilgrims progressively rose from 107, 981 to 830,236, an increase of about 700%. On the basis of past records, the annual number of external pilgrims can be expected to rise even further in coming years thus placing increasing burdens on existing services and facilities.

II. Internal Pilgrims

From all over Saudi Arabia several hundred thousands of people, both Saudis and non Saudis, annually make Al-Hajj. The numbers of both internal and external pilgrims have increased annually in recent years, (for numbers and trends see Chapter 2), but pilgrims from within the country comprise a large proportion of the total. Nevertheless 1972 figures [1] and a 1973 study [2] show that internal pilgrims as a whole (both Saudis and non-Saudis) havedecreased in recent years by 60% in 1971, 54% in 1972 and 47% in 1973.

The forecast of the 1973 study for the period 1973-1993 gave a projection for the first ten years (1973-1983) of 1,601,000 comprising 576,000 (36%) internal and 1,025,000 (64%) external. For the remaining ten years (1983-1993) the figures were 2,383,000 total, 712,000 (30%) internal and 1,661,000 (70%) external. Table 9.1 shows the projected numbers of foreign pilgrims in relation to the changing numbers of Saudi Arabian pilgrims over the next 20 years (1973-1993), the total numbers of pilgrims for 1971, 1972 and 1973, and the percentage of external and internal pilgrims.

Table 9.1 Change in Proportion of Saudi Pilgrims to total 1973-1993

	Observed Change			Predicted Change	
	1971	1972	1973	1983	1993
Saudi Pilgrims	684,490(60%)	562,688(54%)	571,769(47%)	576,000(36%)	712,000(30%)
Foreign Pilgrims	431,270(40%)	479,339(46%)	645,182(53%)	1025,000(64%)	1661,000(70%)
Total	1,079,760	1,042,027	1,216,951	1,601,000	2,373,000

Source: S. El-Hamdan, The Pilgrimage to Mecca, 1976 p.353.

This study forecast that over the coming twenty year period, the numbers of overseas (external) pilgrims would increase considerably. From 53% in 1973, it was expected that by 1993 they would account for 70% and the proportion of internal pilgrims would fall dramatically to only around 30% of the total even though increasing in number. The projection was based on three assumptions. Firstly, that the majority of all external pilgrims will travel by air and that these numbers will increase even further as the cost of air travel falls and per capita income in the Muslim nations increases. It can be seen from Table 9.2 that the number of pilgrims arriving by air will be greater than those travelling overland by 1983 and will rise to nearly twice as many in 1993, comprising about 55% of the total traffic of pilgrims. Secondly, the awareness of Saudi pilgrims of traffic congestion and overcrowding in the three holy areas during Al-Hajj could discourage many of them from making the pilgrimage. Finally, as the 1983 and 1993 pilgrimages will fall during the high summer season many Saudi pilgrims who have already made Al-Hajj several times will probably be discouraged from making another pilgrimage by the extremely hot, unbearable weather.[3]

Table 9.2 Predicted Total Numbers of Foreign Pilgrims By Mode of Transport 1983-1993

Mode of Transport	Predicted Travel pattern	
	1983	1993
Air	471,000	912,000
Overland	413,000	556,000
Sea	141,000	193,000
Total	1,025,000	1,661,000

Source: S. El-Hamdan, The Pilgrimage to Mecca, 1976, p.349.

Referring to Table 9.3, it is observed that during the three years 1975, 1976 and 1977, the number of internal pilgrims comprised a growing proportion of the total. If this trend continues over the next few years, it will mean that the existing services and facilities will be badly stretched, especially if the number of external pilgrims continues to increase so rapidly also. Since the early 1970's some means of limiting the number of internal pilgrims appeared necessary in order to allow the number of external pilgrims to rise.

The first measure on the part of the Saudi government occurred before the beginning of Al-Hajj in 1974 when the late King Faisal made a personal TV and Radio appeal to all residents of Saudi Arabia, and especially to those who had already made Al-Hajj before, asking them to postpone making the pilgrimage if they had done it previously until such time as the developments then being carried out were complete.[4] However, this appeal brought about no apparent reduction in the number of internal pilgrims, and it is clear that more effective measures are necessary. It was surprising that in the 1974 pilgrimage season, the number of external pilgrims increased sharply to nearly 900,000 (see Table 2.2) and the internal pilgrims were also high in number which resulted in overcrowding of pilgrims. Absence of some measures to control both totals of pilgrims (internal and external) have made their numbers rise in some years and decline in others.

For the purpose of forecasting accommodation requirements, only the external pilgrims were considered from the

Table 9.3 : Number of Saudis, Non-Saudis and External Pilgrims for the Last Three Years 1975, 1976 and 1977 and their Percentage

	1975	1976	Difference 1975/76 (%)	1977	Difference 1975/77 (%)	1975 per cent-age of total	1976 per cent-age of total	1977 per cent-age of total
Saudi Pilgrims	306,159	302,303	- 3,856 (1.26)	392,129	+ 89,826 (29.71)	19.65	20.76	24.09
Resident non-Saudis	357,135	435,089	+ 77,954 (21.83)	496,141	+ 61,052 (14.03)	22.92	29.87	30.48
Total pilgrims of Saudi Arabia (Internal)	663,294	737,392	+ 74,098 (11.17)	888,270	+150,878 (20.46)	42.28	50.63	54.58
Overseas (External)	894,573	719,040	-75,533 (19.62)	739,319	+ 20,279 (2.82)	57.42	49.37	45.42
Total non-Saudis	1,251,708	1,154,129	-97,579 (7.80)	1,235,460	+ 81,331 (7.05)	80,35	79.24	75.91
Total all pilgrims	1,557,867	1,456,432	-101,435 (6.5	1,627,589	+171,157 (11.75)			

Source : Pilgrims Statistics, Agency Ministry of Interior for Passport and Civil Service, Saudi Arabia Issues 1975, 1976 and 1977.

projections of El-Hamdan.[5] The internal pilgrims (especially resident non-Saudis) were excluded and this means that the predicted figures lose much of their value for accommodation planning as roughly half of the internal pilgrims (Table 9.3) were non-Saudis working in the country, of which not less than 30% of these secured their own accommodation in Makkah.[6] When making any forecast of future accommodation requirements for pilgrims, the proportion of resident non-Saudi pilgrims arriving in Makkah from the various parts of the country should be carefully considered.

Sharp increases in the total number of pilgrims has required the recruitment of extra administrative staff of all categories. Many Saudis are employed as Mutawifeen and assistant Mutawifeen, and also in shops, restaurants, cafes and hotels, as bus and taxi drivers and private car drivers, administrators such as traffic control police and officers, firemen, doctors, nurses, and other related capacities. Increased per capita income in Saudi Arabia now means that a large proportion of her citizens own their own cars; this facilitates the movement of people and encourages many more internal pilgrims to make Al-Hajj. Higher incomes have also encouraged many resident non-Saudis to make Al-Hajj while they are in the country, and as their numbers increase annually, this also swells the total number of pilgrims.

The above factors have all helped to swell the numbers of internal pilgrims, with the result that in 1977 they outnumbered external pilgrims. It is evident from Table 9.3 that the internal pilgrims have recorded

progressive increases in the pilgrimage seasons of 1975, 1976, and 1977. It can also be seen that the total number of resident non-Saudis have increased from 357,135 in 1975 to 435,089 in 1976 and 496,141, in 1977. Meanwhile the number of external pilgrims in 1976 fell by about 19.62% from 1975, however, their numbers were slightly higher in 1977 by about 2.82%. The overall total also fell by about 6.51% between 1975 and 1976 but rose by 11.75% in 1977. If the number of external pilgrims continues to reach a figure of between 700,000 and 800,000, in the next few years, then the numbers predicted in the 1973 study for 1983 (1,025,000) and 1993 (1,661,000) will probably not be reached, however.

Based on the 1976 and 1977 figures, the writer has estimated that the internal pilgrims which in 1977 represented 54.58% of the total, will have increased by the 1978 season to about 56% of the total pilgrims. If similar rates of increase persist (about 2% per year), then the proportion of internal pilgrims would reach 60% of the total by 1980. Possibly also, in successive years, the proportion of internal pilgrims would continue to increase. It is clear therefore that in order that more external pilgrims have the chance to make the pilgrimage, the number of internal pilgrims should be limited, and as a proportion of the expected total should remain at 30-40%. The remaining proportion should be reserved for external pilgrims, and this could be controlled by the cooperation of the Ministry of Pilgrimage and the Embassies of the Muslim countries concerned. This could be achieved by allocating a certain proportion

to each Muslim country each year according to its total population, such a percentage to be decided about three months before the start of each year's pilgrimage, not later than the commencement of the month of Sh'abaan, the month before the beginning of Ramadhan. Such procedures will help the government to know in advance how many external pilgrims would be arriving in the country so that they would be able to prepare the necessary services and facilities.

III. The Problems of Increases in the Number of Internal and External Pilgrims

The administration of Al-Hajj now involves a wide variety of facilities which require the employment of many people to serve pilgrims, as well as large numbers of Saudi and non-Saudi residents in the four major cities of the pilgrimage region and other parts of Saudi Arabia. The number of both Saudis and non-Saudis in these areas directly or indirectly involved in the services of Al-Hajj is almost 100,000. Changes noted earlier have vastly reduced the cost of Al-Hajj to most pilgrims from within the country. There have also been rapid increases in imported manpower since the 1960's from both Arab and other Muslim countries. This imported workforce has increased even further in the 1970's since the commencement of the present Development Plan. Taking advantage of their presence in Saudi Arabia, these people find it very easy to make Al-Hajj. Recent remarkable natural increases in the resident Saudi population due to improved living standards, state welfare and improved health care, have also led to a greatly increased pool of prospective pilgrims.

Such rapid increases, coupled with increases in the number of External pilgrims have generated enormous traffic and pedestrian congestion and created extreme difficulties for all who make Al-Hajj. The nature of Al-Hajj itself, which requires the movement of all pilgrims, whatever their number, at fixed times from one area to another has created many problems and has resulted in traffic accidents, inconvenience to pilgrims making Al-Hajj and sometimes serious delays in transporting pilgrims between the three pilgrimage areas especially at Al-Nafra (the mass movement of all pilgrims from Arafat to Muzdalifah and later to Muna).

It was indicated earlier that the three areas of Al-Hajj are not of the same physical size. The physical capacity of Muna, the smallest of the three pilgrimage areas, and the place where pilgrims are required to remain for the longest period, is the prime factor limiting total annual numbers of pilgrims. The total recognised area of Muna including its mountains is only 635 hectares of which only 246 hectares can be used for accommodating pilgrims; to this can be added 43 hectares of built up ground, making a total of of 289 hectares and this includes 20 km of asphalt roads. All pilgrims congregate in this minute area for almost three days, and in recent years when the total number of pilgrims has attained 1,899,420 (1978), population density has been almost impossibly high, (5,692 per hectare). It would appear therefore that, as Muna is the critical point in the whole affair, two possible solutions are open to the Saudi government in an attempt to reduce the congestion

during the pilgrimage season. The first solution is to expand the area of Muna, the second to restrict the number of pilgrims. In any case, it is clear that there must be an absolute maximum number of pilgrims which Makkah and the three holy areas can support at any one time, and this can be expected to be reached within the next few years.

With regard to the possible expansion of the area of Muna, the following points must be taken into consideration. The total recognised area of Muna is only 635 hectares, of which only 289 hectares are suitable for camping, and all pilgrims must congregate within this area; any extension beyond this is invalid, and pilgrims congregating outside this area have not fulfilled the requirements of the pilgrimage. However, it is possible to clear the mountainous area at Muna, thus increasing the available area by about 200 hectares. This appears technically feasible, and a scheme is now under way to remove these mountains, as recommended in the 1971 R.M.J.M. study. The scheme being undertaken for the expansion of Muna area also includes moving the slaughter enclosure from its present location within the recognised holy area to outside this limit, thus releasing 17 hectares for the accommodation of pilgrims. The smaller mountains are to be removed and the gentle slopes of the large mountains which encircle Muna like a chain are to be levelled and the ground made suitable for camping. On completion, this scheme will add approximately 200 hectares to the area of Muna, bringing the total area available for accommodating pilgrims up to 506 hectares.[7] Even so the R.M.J.M. projections, based on 1951-71 trends,[8] suggest that at the

completion of the second stage of the programme of expanding and improving Muna and the other areas, in 1991 (1410 A.H), the total number of pilgrims would be in excess of 2 million, comprising 1.2 million (60%) external, and 0.8 million (40%) from within Saudi Arabia itself. The breakdown of this figure is shown in Table 9.4.

Table 9.4 The total number of pilgrims forecast for the short term and estimated for the longer term (1971 - 1975 - 1991)

Pilgrims by Type	1971(1391 AH)	1975(1395 AH)	1991(1410 AH)
Foreign Pilgrims	479,339	650,000	1,180,000
Resident Pilgrims	562,688	625,000	895,000
Total Pilgrims	1,042,027	1,275,000	2,075,000

Source : R.M.J.M. (1972) The Hadj - Special Action Area Study, Hadj Survey Final Report, Stage Four - Phase Two, Western Region Plan, Kingdom of Saudi Arabia p.135.

The recommendation are not only for Muna but also Arafat,- the two areas of camp accommodation to be further organised into three types of camping facility. The first unit or camp, covering an area of 6.25 hectares, is to be reserved for pilgrims travelling by air and sea. Capable of accommodating approximately 11,800 pilgrims, population density would be in the region of 1,900 persons per hectare, with parking made available for buses and lorries. The second unit would be reserved for foreign pilgrims travelling overland in their own cars. Covering an area of 6.25 hectares, this would accommodate 7,760 pilgrims with a

population density of 1,248 persons per hectare, and parking for 144 buses or lorries or 240 cars. The third unit, of similar size, would be reserved for pilgrims from withing Saudi Arabia; capable of accommodating 7,600 pilgrims with a density of 1,200 persons per hectare; it will also have two car parks near its entrance, with space for 700 cars and 20 lorries.[9]

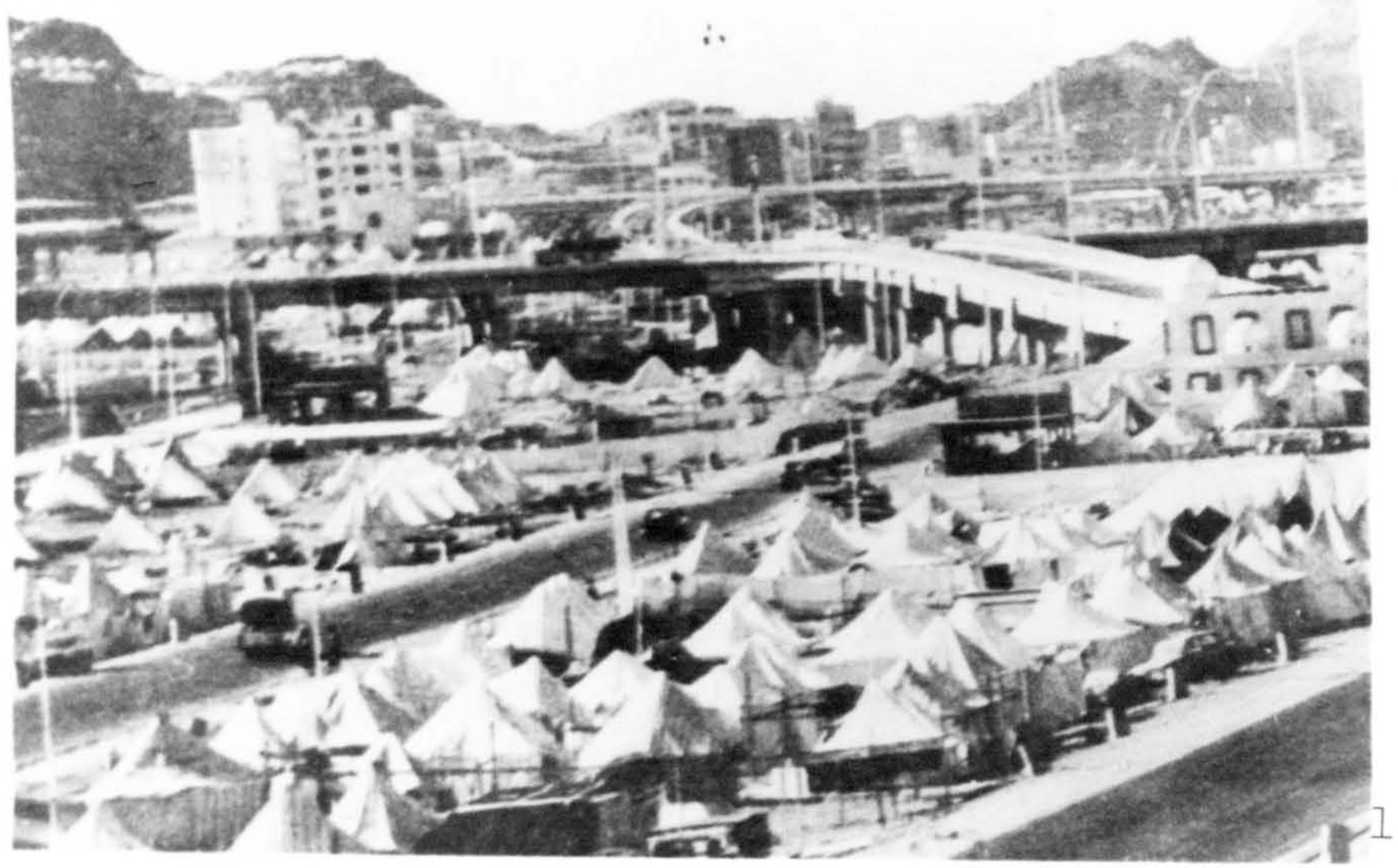
The impossibility of extending the area of Muna more than is already being done, coupled with the impossibility of extending the period fixed for making Al-Hajj in order to allow more pilgrims to make it, leaves only the possibility of limiting numbers of manageable proportions to be considered. This alternative poses many questions which require serious consideration: the government of Saudi Arabia cannot forcibly reduce the number of pilgrims, and since they accepted the responsibility for the holy areas of Islam, they have done all in their power to make Al-Hajj accessible to Muslims. It is now the job of the Ministry of Al-Hajj to enlist the help of the governments of the Muslim nations concerned to determine an ideal maximum number of pilgrims to be allowed each year. Because of the chronic overcrowding, many pilgrims fail to make the necessary duties of Al-Hajj properly. Governments and individual pilgrims therefore must be made aware of the extreme overcrowding in the holy areas.

Each Arab and Muslim country sends an official mission to represent them at Al-Hajj (each mission has press, radio and television units) in order to report conditions during Al-Hajj to their governments. In the pilgrimage season of 1977, Saudi Arabian Television for the first time

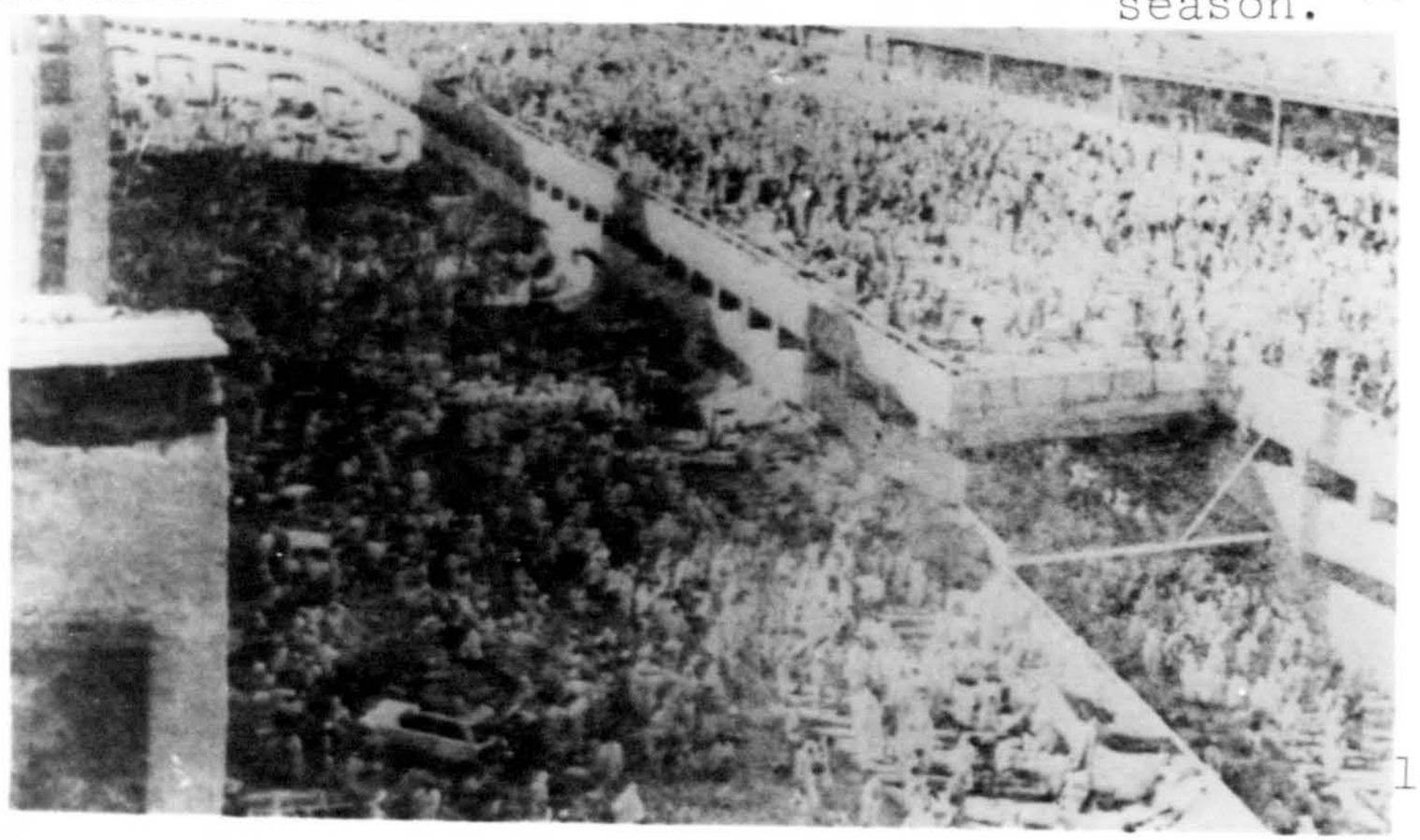
transmitted to 33 Arab and Muslim countries the "Day of Standing in Arafat" for nearly two and half hours. [10] These facilities which have made it possible to record Al-Hajj in the three holy areas and in Makkah itself give a true picture of conditions in Al-Hajj.

The problems of Al-Hajj are now not only those of building more roads and more bridges (Plates 1.17 and 1.18), of controlling traffic, providing further services etc., (Plates 1.19 and 1.20) but also of attempting to control the number of pilgrims in order to make the administration of Al-Hajj manageable. Even the enormous resources which the government of Saudi Arabia currently has at her disposal and the endeavours already made for Al-Hajj, have been unable to keep pace with the rapidly rising number of pilgrims.

In the Second Development Plan period (1975-1980) the following requirements for Al-Hajj were made: (a) the physical limitations of Al-Hajj areas were to be assessed; (b) the inclusion in the Master Plan for Makkah of detailed coverage of Al-Hajj areas and related projects to incorporate provision for the pilgrims; (c) the investigation of all transportation alternatives such as monorail, etc., for relieving the internal road traffic problems within the Holy areas; (d) the establishment of a system of road patrols and supporting services, to minimise traffic accidents, delay due to breakdown etc., in land travel within Saudi Arabia to Al-Hajj areas; (e) the exploration of the possibility of developing a volunteer staff of private citizens to assist in administrative matters associated with Al-Hajj to relieve



1.28 A view in Muna showing the modern system of roads linked with bridges to facilitate movement of traffic in the area during Al-Hajj season.



1.29 A one-way system rigorously enforces a network of pedestrian flyovers for stoning Al-Jamarah Al-Kubra in Muna.



1.30 A view showing another side of the one-way pedestrian system in Muna, facilitating movement of pilgrims around.



1.31 A view in Muna showing the modern system of roads.

some of the present demands on government agencies; (f) optimising utilisation of facilities by establishing tours and other related events to encourage visits to the Holy areas at times other than during Al-Hajj period; (g) the development of a plan for the continuing expansion of the numbers of pilgrims.[11]

It is obvious from point (g) that there was acceptance of a continued expansion of the numbers of pilgrims in line with the two millions projected for 1991 by R.M.J.M. It was pointed out earlier that the administration of Al-Hajj involves a wide variety of services and facilities which require the recruitment of many people. Such requirements have placed great demands on the available manpower, and in order to meet such requirements they can only be carried out at the expense of other development programmes in the country:

> "As attendance continues to increase, attention must be focussed on the potential limits of expansion, both physical and administrative.... Ministerial and Government agency participation in the annual Hajj planning and implementation demands more and more commitment of personnel at the expense of other ongoing activities, and adjustments must be considered". 12

The steps outlined above show that effective measures to solve the problem of reducing the number of pilgrims have been considered, based on an assessment of the physical limitations of Al-Hajj areas; however, in addition the political situation and economic instability in both the Arab and Muslim world, have all played their part in producing significant fluctuations in the numbers of pilgrims. For example, the establishment of the State of Bangladesh in 1971 meant that in that year the number of pilgrims from East

Pakistan dropped sharply from 38,258 in 1970 to 23,344 in 1971, and indeed no pilgrims whatsoever arrived that year from the newly created state of Bangladesh, as Saudi Arabia was one of the countries which did not immediately recognise the new regime. In 1972, however, the number of pilgrims from Pakistan trebled (from 23,344 to 89,373) compared with only 6,595 from Bangladesh, which has a much larger population than Pakistan. In succeeding years, numbers from Bangladesh dropped even further due to the country's chronic economic position (Table 9.5).

The two Arab/ Israeli wars of 1967 and 1973 influenced the number of pilgrims arriving from Egypt, Jordan and Syria. With the granting of independence to the Aden Protectorate the creation of Southern Yemen in 1970, and subsequent disputes between South Yemen and Saudi Arabia no pilgrims arrived from there in 1971, 73 and 1974. (These statistics may be misleading, as they may have been included in the North Yemeni totals). However, in the two pilgrimage seasons of 1975 and 1976 pilgrims from Southern Yemen showed a remarkable increase, and further rises can be expected in the coming pilgrimage year due to improvement of political relations between Saudi Arabia and Southern Yemen (see Table 9.5)

The economic recession taking place throughout most of the world since 1973 has also influenced the total number of pilgrims arriving from selected major pilgrim-sending countries. In the 1976 pilgrimage season, for example pilgrims from the major countries (listed in Table 4.5) totalled 158,516 less than the previous year. These major countries accounted for the largest percentage of the annual totals - almost 85% in 1976 (see Table 9.5).

TABLE 9.5 PROPORTIONS OF PILGRIMS FROM SELECTED MAJOR COUNTRIES OVER THE LAST TEN YEARS (1967-1976) AND THEIR PERCENTAGES OF THE TOTAL.

Country:	1967	1968	Difference.	1969	Difference.	1970	Difference.	1971	Difference.	1972	Difference.	1973	Difference.	1974	Difference.	1975	Difference.	1976	Difference.
Egypt	7134	12413	+5279	10875	-1638	11490	+ 615	29171	+17681	39606	+ 10435	36452	- 3154	89617	- 53165	51230	- 38387	28045	- 23185
Syria	14521	12814	-1707	22383	+9569	42339	+ 19956	27045	-15294	31777	+ 4732	10448	-21329	31583	+ 21135	31209	- 374	24446	- 6763
Jordan	4449	5179	+ 730	6376	+1197	10909	+ 4533	15933	+ 5024	25819	+ 9886	12851	-12968	19391	+ 6540	17331	- 2060	23427	+ 6096
Iraq	19475	24857	+ 5382	10880	+ 13977	19482	+ 8602	17628	- 1854	24681	+ 7053	35567	+ 10886	58983	+ 23416	10368	- 48615	49703	+39335
Libya	10444	16565	+ 6121	13547	- 3018	11835	- 1712	16861	+ 5026	23774	+ 6913	30705	+ 6931	30715	+ 10	52718	+ 22003	18057	-34661
Algeria	4663	7053	+ 2390	8735	+ 1682	3960	- 4775	8894	+ 4934	25864	+16970	22945	- 2919	49025	+ 26080	55010	+ 5985	34851	-20159
Sudan	18035	21646	+ 3611	20495	- 1151	14865	- 5630	20004	+14139	29506	+ 502	33222	+ 3716	42084	+ 8862	24209	- 17875	41656	+17447
Yemen (Northern)	31489	51577	+20088	54658	- 3081	50269	- 4389	60358	+10089	60250	- 108	54082	- 6168	75557	+ 21475	113899	+ 38342	61110	-52789
Yemen (Southern)										2046						5508		7792	+ 2284
Iran	22903	13642	- 9261	15132	+ 1490	48367	+ 33235	30299	-18068	45289	+ 14990	57230	+11941	57230	+ 84	74090	+ 16776	39296	-34794
Turkey	41998	51055	+ 9057	56578	+ 5523	13269	+ 43309	23922	+10653	27235	+ 3313	36258	+ 9023	106045	- 69787	136115	+ 30070	13729	+1176
Indonesia	17569	17062	- 507	10615	+ 6447	14633	+ 4018	22753	+ 8120	22659	- 94	40668	+18079	68872	+28204	55617	-13255	25624	-29993
Pakistan	25052	27402	+ 2350	28535	+ 1133	38256	+ 9721	23344	-14912	89373	+ 66029	60688	-28685	66534	+ 5846	45027	-21507	48327	+3300
Bangladesh (Fast Pakistan)										6595		5187	- 1408	2921	- 2266	3580	+ 659	3490	- 90
Nigeria	10790	16177	+ 5387	24185	+ 8008	35187	+ 11002	44061	+ 8874	48491	+ 4920	38869	-10112	51764	+12895	92593	+40829	66873	-25720
TOTAL	228522	277442	+48920	282994	+ 5552	314861	+31867	349273	+34412	501409	+152136	475172	-26237	750?0	+275233	768504	+18099	609988	-158516
All External Grand Total	318507	374784	+56277	406295	+31511	431270	+24975	479339	+ 48069	645182	+165843	607755	-37427	918777	+311022	894573	-24204	719040	-175533
Percentage	(71.74)	(74.02)		(69.65)		(73.00)		(72.86)		(77.71)		(78.18)		(81.67)		(85.90)		(84.83)	

Inter-mingling of politics with religion in recent years has influenced freedom of religious practices. For example, in the 1960's when Iran was in direct conflict with Egypt and indirect conflict with the rest of the Arab world, the number of pilgrims from Iran declined. At the same time, the boundary dispute between Iran and Iraq prevented many pilgrims making the overland journey through Iraq.

In recent years, it has been evident that many pilgrims are neither financially nor physically equipped to complete Al-Hajj satisfactorily. This had led to begging or stealing in the holy areas on the part of the financially disabled, and sickness and even death f or the physically incapable. Many pilgrims in poor health have actually died from being crushed in the densely crowded pilgrimage areas. These destitute pilgrims were taken into care by the Saudi authorities and provided with food, accommodation and even transported back to their homeland after completing their pilgrimage. This phenomenon, together with the distrust of many pilgrims of their Mutawifeen in Makkah and their Muzawireen in Al-Madinah led the government to give these problems serious consideration (see Chapter 2, pp. 87) The main reason of such distrust was the absence of fixed current prices for these services, as many pilgrims still think of costs in terms of 20 years ago when prices of services in general were very low.

In early 1975, the government ordered a Committee to be set up to examine the expenses likely to be incurred by all external pilgrims for example hotel accommodation and the Mutawifeen lodgings' cost for pilgrims arriving by sea and air. The overland pilgrims normally stay in one of

the pilgrims' camps on the outskirts of Makkah and Al-Madinah, which are free. The Committee classified all available accommodation into three categories. namely hotels, Mutawifeen lodgings and camps and fixed prices within each category of accommodation. This means that the governments of the countries concerned will be able to determine the total minimum cost to pilgrims by making Al-Hajj, and so be able to ensure that their citizens are financially capable of the journey; also it will solve the former problem of some pilgrims' discontent with the service they receive from the Mutawifeen. Thus far, enforcement of this procedure, which is supported by Al-Shari'a's explanation of the real meaning of "the capability to make Al-Hajj" (Appendix B.I.5) does not seem to have made Al-Hajj prohibitive and it has meant that the number of pilgrims who arrive in Saudi Arabia without sufficient funds to complete the pilgrimage and the return journey, has been cut to a minimum. The government required in 1977 that each pilgrim should have at least S.R 1219. Checks are made on each pilgrim to ensure that each has at least the minimum amount. This amount of money covers the required expenses for each pilgrim which includes: the travel between Jeddah, Makkah, the three holy areas and Al-Madinah, and the accommodation in these areas and the services offered by Al-Mutawifeen and Al-Adilla.[13]

Presently, although Al-Hajj constitutes the third greatest source of income in the country (after revenues from oil and spending by oil companies), the substantial investments which have been made in the many projects directly related to Al-Hajj have exceeded its receipts. For example, in 1976

the total money spent on such investments was more than S.R. 1,000 millions.[14] In 1977 alone the projects approved for building more road, bridges and other facilities in the three pilgrimage areas cost the government S.R. 14,000 millions.[15] Money spent on the administration of Al-Hajj has not been included in this sum.

The many problems involved led to the "Central Planning Organisation" of Saudi Arabia to assess potential problems of Al-Hajj; points indicated earlier in this chapter which were stated in the Guidelines for the Second Development Plan (1975-1980) are the first logical measures to be examined. The Minister of the Interior favoured numerical limitation at the "Supreme Pilgrimage Committee" meeting at Al-Ta'if on August 17th 1976 by suggesting a quota system be adopted in order to limit the increasing numbers of pilgrims.[16] In a study done in 1978 by El-Hamdan and Rowley it was concluded that:

> "the various sites of the obligatory pilgrim rites suggest a figure of 2.8 million, of foreign and Saudi pilgrims combined, as the maximum feasible capacity. Beyond this we suggest that a national allocation - quota procedure be contemplated". [17]

It is inevitable that sooner or later pilgrim numbers will have to be limited in order to preserve the spiritual values of Al-Hajj, which are nowadays seen to be decaying. The commercial aspect has become far more important in recent years than earlier in the past, and has partially obscured the religious significance of the event.

With regard to the possibility of the promotion of tours and other related events to encourage visits to the

Holy areas at times other than Al-Hajj, as was recommended in the Plan, there seems very little chance that such a scheme will succeed. Although this project involves the development of the tourist industry, and could ultimately attract millions of visitors from the Islamic nations, the visit will be limited only to Makkah and Al-Madinah. The three pilgrimage areas of Arafat, Muzdalifah and Muna will be excluded from such visits as their religious significance is confined to the fixed days of Al-Hajj. The existing services and facilities and those which are presently being developed have been established for the purpose of easing the overcrowding of pilgrims within these areas and will thus remain underutilised during the non-Hajj period. Therefore, there are only two potential avenues for year-round tourism with a religious emphasis. These are the promotion of Al-Omrah to Makkah (the little pilgrimage) and Al-Ziarah (the visit) to Al-Madinah.

However, although these two sources have potential for the development of tourism throughout the year, it is probable that they will have little impact on the overall situation as overseas pilgrims would certainly not be easily attracted outside Al-Hajj season. Therefore, in order to attract pilgrims in a period other than the annual pilgrimage season, there is an obvious need to show them the advantages of such a practice. Thus, it could be stressed that the climate is more favourable in winter than in summer, and that there are plenty of facilities available outside Al-Hajj season. The promotion of Al-Ziarah at the best time of year may attract many people to make it at such times when there

are few crowds and no severely hot weather, especially when Al-Hajj falls in summer.

To these can be added another source of potential tourist development for Al-Madinah throughout the months of R'bi'e Al-Awwal, Rajabb, Sh'abaan and Ramadhan. The first month is connected with the birth of the Prophet, and the other three are regarded blessed months for Muslim nations. With the wide use of automobiles in Saudi Arabia and other Arab countries, many visitors have travelled during the above months to Makkah and Al-Madinah. Their numbers are still small, yet they can be expanded by offering them more facilities, such as visits to those historical places in and around Makkah and Al-Madinah (see Appendices C/D) which cannot be visited during Al-Hajj because of the overcrowding. Another incentive is the availability of charter flights and package tours offered by many International Airlines that could be encouraged to operate certain flights between distant Arab and Muslim countries and Saudi Arabia.

Through such procedures there can be developed a tourist industry in Saudi Arabia throughout the year and thereby make use of those services and facilities provided during Al-Hajj season, such as Al-Mutawifeen and Al-Adilla and means of transport. To these religious and historical visits can be included the other historial sites situated at Mada'in Salih north of Al-Madinah. Although the last source of potential tourist development has been under consideration, no doubt the connection of these sites gives more importance to it and encourages many people to visit them especially as they are not very far from each other.

It is an economic fact that by developing tourism to those sites which have religious connections or historical importance there could be profitable advantages, while at the same time diminishing pilgrimage season congestion. Sites in the vicinity of Makkah, apart from the three holy areas (Arafat, Muzdalifah and Muna) could be given some consideration under the Plan for development of tourism in Saudi Arabia. The situation in Al-Madinah is different where the three historical sites located to the north, north-west and south of the city (see Fig.5.7) are already nearly encircled with residential dwellings within the three newly established quarters (Al-Shuhada, Sultanah and Quba). However, in Makkah Jabal Al-Noor* located to the north-east of the city, which was until the end of the 1960's a deserted area, has now begun to become a new residential quarter though not yet provided with services and facilities. With regard to the other historical site at the vicinity of Makkah, Gh'ar Jabal Thawr to the south of the city (see Plate 1.1), although the area has not yet been developed it is expected soon to be incorporated into the current expansion of Makkah. In the Master Plan of Makkah and Al-Madinah done by R.M.J.M. was listed names of places and buildings of historical and religious importance which were recommended to be conserved (see Appendices C and D).

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* Jabal Al-Noor or Gh'ar Hira'a (cave of Jabal Hira'a) is the site where the Prophet Muhammad received the first revelation of Islam.

** Gh'ar Jabal Thawr or Cave of Jabal Thawr, is the site where the Prophet Muhammad hid away from those people in Makkah intending to kill him on his way to Al-Madinah.

IV. Summary and Chapter Conclusion

Makkah and Al-Madinah are pilgrimage cities with all that this implies. In the context of this Chapter and preceding Chapters there appear clear conflicts of interest, in particular that between the need for serving the interests of pilgrims and visitors on the one hand and maintaining viably functioning urban systems on the other.

The pilgrimage function has some inbuilt inflexibilities. In the case of Makkah and the associated three holy places there are general and specific time rigidities. Not only does Al-Hajj have to be performed as a religious duty during a specified period but detailed rituals including prayer, the Nafra etc. are time specific. Al-Madinah is affected indirectly by the inflexibilities of Al-Hajj period which encourages many pilgrims, especially external, to combine visits to Al-Madinah with the obligatory visit to Makkah.

Spatial inflexibilities are added, not only by the unchangeable delimitation of the holy area at Muna, but also by the fixed points of Al-Haram and other established sites of veneration at Makkah and Al-Madinah; volumetric inflexibilities appear as the result of the nature of the pilgrimage itself and from the national location of the holy cities. As noted in Chapter 2, the pilgrimage is one of the five pillars of Islam and as such, it is inconceivable that Muslims worldwide could be discouraged from fulfilling Al-Hajj. Since the Kingdom of Saudi Arabia, the custodian of the Holy Places, is also a wealthy State it is expected that it will not only maintain the Holy Places themselves but will also support and assist pilgrims in every way possible. At the same time

the Kingdom is acutely aware of the religious and political need to fulfil its obligations. Meanwhile, it has to be recognised the reason for the existence of Makkah, and for much of the importance of Al-Madinah, and that the prosperity of both lies in their religious function (see Chapter 7) more so even that that of the only analogous holy city, Benares.

Given all these inflexibilities, it is not easy to see how, whatever the effects on the urban fabric of the two cities, the Hajj and the less seasonal flow of visitors can be limited. Nevertheless, as indicated here and in earlier Chapters, the difficulties of making compatible permanently viable and stable urban systems with the vast flow of temporary residents, and even of maintaining the correctness and validity of religious devotions, are making it necessary to introduce some control of pilgrim numbers.

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CONCLUSION

CONCLUSION

Arising from this study of Makkah and Al-Madinah in the urban context, distinctions can be made in the processes of urbanism they manifest. In particular, there is the question asked in the Introduction, to what extent do forces operate within these two cities which are common to other urban centres throughout the world and, due to their religious importance, to what extent are they unique urban phenomena? It is clear from the discussion in Chapters One and Three, that Al-Madinah had sufficient resource potential and locational advantages to support the early normal development of a market and trading settlement of some regional significance. In contrast, the site of Makkah, we are told (according to some account in the holy Quran, see Appendix B.1.1) was based upon its foundation by Ibrahim, that is, the existence of Makkah rests on its pre-Islamic religious significance.

Given this religious status, a visit to Makkah by those travelling in the area was encouraged as reflected in the pre-Islamic pilgrimage. What is not clear is the function of the initial settlers in Makkah, whether it was to guard the religious shrine (Al-K'abah) or the idols kept inside Al-K'abah (360 of which were worshipped in pre-Islamic times), or whether it was a base camp for the local tribes who were encouraged to settle there because of the existence of the well of Zamzam, the only source of water at the time in the wilderness of the valley of Makkah. What is clear is that the tribe of Quraysh by organising the pilgrimage to Makkah and trade, was able to create a source of income for the city and they benefited from the income generated from these

activities. By the time of the Prophet Muhammad, trading was an important activity in Makkah; the Prophet himself was initially engaged in this business following in the line of his tribe. Rivaling Al-Madinah for trade, Makkah was the most attractive centre as the travellers could fulfil their spiritual needs as well as carrying out business deals because there was a concentrated flow of trade passing through. The availability of sufficient water supplies to supply agriculture, together with the favourable soils in the area, allowed agricultural production to become Al-Madinah's primary function.

The rejection of the Prophet Muhammad's message by the majority in Makkah led to his migration to Al-Madinah, thus giving the latter city, for the first time, a religious status. As a consequence a linkage between the two cities was created. Al-Madinah was the first to give a warm welcome to the Islamic faith and is acknowledged as such, and became the first capital of Islam while Makkah retained its status as the birthplace of Islam and the focal point for the prayers and the place of pilgrimage. With the spread of Islam came the increasing numbers of pilgrims to the cities, even though journies were hard, lengthy and dangerous. As the numbers of visitors increased so did the need to fulfil the pilgrims' spiritual and physical requirements. The central core of each city became dominated by the religious functions of the nucleus Al-Haram. Commercial activities and the need to accommodate pilgrims close to Al-Haram determined the physical urban development that was concentrated, schematically in an annular zone around

Al-Haram. The increases in the indigenous populations which grew partly in response to the pilgrimage further emphasised the zonal growth around the religious nuclei.

Despite the somewhat similar roles played by Makkah and Al-Madinah, the two cities took on different forms. Some basic factors such as topographic constraints to the expansion of the cities initiated deviations from simple concentric growth forms. Furthermore, the pilgrimage area in Makkah extends beyond the confines of the city area further out to include Muna, Muzdalifah and Arafat. Visitors to Al-Madinah, however, confine their attention to Al-Haram and the three minor historical areas on the outskirts which became engulfed in the urban expansion of the city as three of Al-Madinah's 21 quarters. The holy areas of Muzdalifah and Arafat were closed to urban development and Muna had only a limited urban development because pilgrims have the longest stay there of nearly three days (see Chapters 2 and 5). These factors help to explain the differing evolution processes.

In secular terms other changes were significant. Initiated by the Ummayyads, the seat of political power, the Caliphate, was transferred well outside the region of the holy cities and there is remained under successive Muslim dynasties, until the first quarter of the 20th century. This situation severely downgraded the socio-economic status of Makkah and Al-Madinah and is reflected in the slow growth of the built up areas during these periods of time. The political instability of the region of Al-Hijaz and its poverty and the slow growth in urban population are further

characteristics of the period up until the creation of the Saudi Arabian State and the discovery of oil that marks the beginning of the modern era.

Makkah, not only had religious pre-eminence over Al-Madinah, but,following the transference of the Caliphate, became the capital of Al-Hijaz. From the foundation of the Saudi Arabian Kingdom to 1953 Makkah also served as the national capital. However, Makkah was closed to non-Muslims and during this period government was only slowly developing a bureaucratic apparatus. Even then Jeddah was the seat of many early ministries and today Makkah shows little trace of its almost 28 years of functioning as the Kingdom's capital. Since central administration moved to Al-Riyadh, Makkah has reverted to the lower status of headquarters of the Emirate of Makkah and as early noted, even this is functionally limited; the seat of the Amir or the Governor is in Jeddah, together with many Emirate offices. From Al-Madinah, on the other hand, are carried out all the functions of the Emirate of Al-Madinah.

As the custodian of the holy places, the national government has paid much attention to the needs and problems of Makkah and Al-Madinah. Large financial resources concentrated in the hands of the government have permitted large scale projects to improve communications, education and administrative activities. The religious importance of Makkah and Al-Madinah was quickly appreciated by the government and despite problems in the implementation of development schemes they were to benefit from government legislature.

Initially, normal development changes were manifested in the administrative and public service sector. Police stations, hospitals and schools, together with various public and social services were located in the two cities, as they were in the other larger cities of the country but also to provide, in part, for the seasonal pilgrim population. Apart from the obvious social effects, these institutions created some physical changes associated with the siting of these activities. However, as noted in earlier Chapters, many of these were lodged in Jeddah rather than in the holy cities. By far the most important change was the introduction of modern transport systems and linkages to the area.

The building of roads connecting the region of Makkah and Al-Madinah, Al-Hijaz or the Western Province with the other regions of the country and neighbouring States, together with the expansion of pilgrims' facilities at the sea and airports at Jeddah, heralded the most rapid and vigorous changes to these cities. Formerly, the pilgrimage to Makkah was difficult, the long dangerous journies excluded a large proportion of Muslims from attending. Easier access, together with the rapid increase in the total Muslim population of the world and numbers wishing to make the pilgrimage, accelerated the arrival of pilgrims in Makkah and Al-Madinah in such numbers that the facilities designed to serve them were strained beyond their original capacity. The planning institutions, designed to plan for the development of individual projects, undertook to cater for the increased demands of the visitors. Initial changes were to Al-Harams to cater for the primary religious functions. In order to

accommodate more pilgrims in Al-Haram, the physical expansion of the area consequently affected the land use pattern of the surrounding area and, in turn, of the city as a whole. These changes were experienced by both Makkah and Al-Madinah.

The seasonal fluctuation in number of pilgrims in addition to the overall increase in the numbers of the permanent population created increased seasonal and general demands for services. These demands are reflected in the quantities of water, electricity, foodstuffs, accommodation and transport needed. Just as the need for space in Al-Haram was under intense strain, so were the services that were demanded. The necessary changes to water supply, availability of transport, electricity and foodstuffs have been met by a mixture of public and private enterprise.

As we have noted, the influx of visiting populations is seasonal and during the remaining period of the year the more normal functions of the cities might be expected to operate. However, because of the inherent changes made to the functioning of the cities to make preparations for the pilgrimage, and the fact that the religious significance of these two locations is a continuous function, the religious aspect is more or less maintained throughout the year. These preparations and accommodating visitors at off peak periods are the main permanent social and economic activities of the indigenous populations with the religious function being predominant and affecting all aspects of the urban centres of Makkah and Al-Madinah.

Consequently, the process of urbanism within the two cities can be said to be unique if we link type and scale.

The term Al-Haram itself implies restriction. As non-Muslims are not allowed to enter Makkah and Al-Madinah this poses several limitations on some urban functions, as noted earlier. Restrictions of this kind, affecting whole settlements are relatively rare, e.g. Lhasa in Tibet, but here one is considering two cities which lie at the heart of a faith which embraces over 600 million adherents. To this extent, with no other centres of such importance to the Islamic faith, the twin cities of Makkah and Al-Madinah can be considered to be unique. Although certain forces operate in the process of urbanism which are similar to those experienced in cities elsewhere, the religious functioning had adapted these forces to highlight or diminish their role.

Similar trends may be expected in the future with increasing numbers of pilgrims expected to visit the area. The 1971 Study of Al-Hajj projected that by the pilgrimage season of 1991, the total pilgrims would have become slightly in excess of two million. In order to accommodate such numbers some recommendations have been outlined in this report which included re-development of the pilgrimage areas and implementation of necessary services and facilities which need to be undertaken in stages (see Chapter 9). A study in 1973 by El-Hamdan predicted that by 1993 the total number of pilgrims would reach 2,373,000 and it was suggested that many services and facilities would need to be undertaken in order to cope with such numbers. In yet another study by El-Hamdan and Rowley in 1978, based on travel cost analyses, concluded that by the pilgrimage of 1993 approximately three million would make the pilgrimage; they also estimated that the

maximum number of pilgrims which could be accommodated, was approximately 2.8 million (Chapter 9).

In the light of these studies it can be concluded that in the final event some efforts must be made to control numbers of pilgrims to a manageable size, based on the actual capacity of the physical areas of the pilgrimage, in particular, the area of Muna, the smallest of all. The recent rapid increases in the number of pilgrims have directly affected the two cities, especially Makkah, where all pilgrims whatever their number, have to be within the city and the pilgrimage areas during a specific and short period in order to perform certain duties. Thus, a reduction in pilgrim numbers would mean a reduction in the pressure on existing services and facilities in Makkah and Al-Madinah. Consequently, by such control it would be possible to allow secondary functions to develop more proportionately to indigenous requirements.

It has been noted that the government of Saudi Arabia has been trying to make Al-Hajj as easy as possible and accessible to every Muslim as it is one of the five pillars of Islam. Yet the situation currently has shown enormous traffic and pedestrian congestion which created extreme difficulties for those who make Al-Hajj. The chronic overcrowding has made it very difficult for some pilgrims to make the duties of Al-Hajj properly.

In every aspect of life within the two cities and in their spatial relationships with other regional and national centres, the effects of pilgrimage and religious status are overwhelming. The population and employment structures

clearly reflect both opportunities and limitations. For the younger age-groups job opportunities lie elsewhere. Manufacturing developments are limited by paucity of local resources, the closed communities and by the dominance of other demands for services. Land use now has more and more to be determined by planning to meet the requirements of the cities' religious functions rather than by economic and commercial forces. At the same time Makkah and Al-Madinah now exist in a stable and wealthy state which can protect and provide at the general level what one can see, whether in retail trade, building and other sectors in the private sector, as a response to uniquely created demands, the response itself having to adapt to the limitations on behaviour, range of activities, land supply etc., which are also part of the unique Islamic and Arabic character of Makkah and Al-Madinah.

APPENDICES

APPENDIX A

THE QUESTIONNAIRE

In the name of God, Most Gracious, Most Merciful. The present rapid growth of Makkah and Al-Madinah has raised many questions regarding the availability of essential services such as housing, education, shopping facilities and so on, and whether they are sufficient to meet the requirements of the citizens. In order to be more clear about the extent of the provision of these services and the demand which is placed on them,it is necessary to carry out a comprehensive survey. This population survey, which is sponsored by King Abdulaziz University, aims to determine such matters in order to assist the authorities in planning and allocating resources in Makkah and Al-Madinah. Therefore, your participation in answering the following questions will assist in an active way to achieve improvements and developments in these cities. Please note that the answer does not require any effort on your part other than the placing of an 'X' between the brackets, or a name, or the correct figure.

THE QUESTIONS

(1) Place of birth: Makkah ( ) Al-Madinah ( ) others, please specify .....

(2) Present Age: Less than 20 years old ( ) from 21-30 ( ) from 31-40 ( ) from 41-50 ( ) from 51-60 ( ) more than 60 ( )

(3) Educational status: Can not read or write ( ) can read and write ( ) hold a primary certificate ( ) Intermediate ( ) Secondary ( ) Institute ( ) College ( ) higher than College ( ) others, please specify .....

(4) Social status: Please indicate as follows:

a. number of members in the family: ( ) males ( ) females ( )

b. Age of the males in order .....

c. Age of the females in order .....

d. Monthly income

a. less than SR 400 ( )

b. " " SR 401-1000 ( )

c. " " SR 1000-5000 ( )

(5) Your own house and the type:

a. non-detached house (old Arab type house)

b. apartment (concrete built house)

c. detached house (villa)

d. an ordinary house of brick blocks

e. a hut (shanty homes)

(6) Own house ( ) rented house ( )

(7) Contents of the house

a. How many rooms in the house ( )

b. The house is provided with piped water ( )

other please specify .....

c. Do you let your house during Al-Hajj season, yes ( )

no ( )

d. If the answer is "no", please give the reasons:

(1) too far from Al-Haram ( )

(2) small house ( ) other reasons, please specify.....

(8) Do you get your daily requirements (meat, vegetables, fruit preserved cans, bread etc.) from the modern grocery near the house ( ) from the market in the centre

If the answer is from the market in the city, which one of these markets do you go to for your shopping (for Makkah residents only) from the following:

a. Al-M'ala ( )

b. Suq Al-Lail ( )

c. Suq Al-Sagheer ( )

d. Al-M'abdah ( )

e. Al-Jumaizah ( )

f. Al-Utaibiyah ( )

g. Jarwal market ( )

Appendix B

B. 1.1 An account from the holy Quran about building Al-K'abah at the time of Ibrahim

On Ibrahim's last visit to Makkah, he said to his son Ismail:

> "O my son, our Lord had commanded me to build his sacred House here on this spot, so we must begin to lay its foundations"
>
> (Quran, ch.13, verse 10)

After they raised the House (Al-K'abah) they lifted their hands to heaven and cried:

> "Our Lord accept from us, verily Thou art the Hearer, the Knower"
>
> (Quran, ch.11, verse 27)

B. 1.2 An account for calling all mankind to make Al-Hajj to Makkah

> "It is the duty of every man, who has the requisite means, to undertake a pilgrimage to the house of God (Al-K'abah in Makkah)"
>
> (Quran, ch.111, verse 96)

B. 1.3 The following are two selected extracts from the Saying of the Prophet Muhammad.

> "O, Allah (God), Ibrahim was thy slave and companion and prophet; I am thy slave and prophet. Ibrahim blessed Makkah; I call on thee to bless Al-Madinah, just as Ibrahim called on Thee to bless Makkah"

> "O, Allah, I have consecrated the two rocky hills (black volcanic grounds in Al-Madinah located to the east and west of the city), just as Makkah was made sacred by Ibrahim's request"
>
> (Source: Sahih Muslim)

B. 1.4 The following statement by a pre-Islamic poet confirmed the poor environmental condition of Makkah, which deterred settlement of the area until the establishment of trade and the foundation of Makkah as a centre of commercial activity.

"If Mecca (Makkah) had any attractions to offer, Himzerite princes at the head of their armies would long since have hurried there. There, winter and summer are equally desolate. No bird flies over Mecca, no grass grows. There are no wild beasts to be hunted. Only the most miserable of all occupations flourishes there, trade"

Source : Essad Bey, (1936) Mohammed, New York p.44.

B. 1.5 "It is the duty of every man, who has the means, to undertake a pilgrimage to the house of God (Al-K'abah in Makkah)".

(Quran, chapter 111, verse 96)

B. 1.6 "Whoever performs the pilgrimage to Makkah, then continues and visits my mosque in Al-Madinah, I shall credit him with two blessed pilgrimages".

(Landau, J.M., 1971, p.110)

B. 1.7 "Do not undertake a pilgrimage to any shrine except three: the great mosque (Al-Haram) in Makkah, Al-Aqsa mosque in Jerusalem and my mosque (Al-Haram) in Al-Madinah".

(Muslim, Sahih Muslim, vols.4.1931. p.164, Arabic)

B. 1.8 "Who goes on Al-Hajj and does not visit me has insulted me !".

(Zwemer, S.M. Al-Haramain: Mecca and Medinah 1947, p.12)

These accounts from the holy Quran and A'hadeeth Sayings of the Prophet Muhammad have persuaded Muslims

from all over the world to make Al-Hajj to Makkah and the visit to Al-Madinah. Although the visit is not required to be made simultaneously with Al-Hajj, the majority of the pilgrims since early Islam have made Al-Ziarah to Al-Madinah in conjunction with the pilgrimage to Makkah. The above account, number 16, obviously shows the advantage of combining both visits at the same time, saving both money and time and which has encouraged pilgrims to continue in such a way. However, those who visit Al-Madinah do look forward, as a reward for meritorious pennance, to some slight return in the next life, as all Muslims believe in the resurrection after death, the Last Judgement and life thereafter.

Appendix C

Conservation Areas

This is a list of places and buildings of historical and religious value in Makkah.

		Location
1.	The birthplace of the Holy Prophet	Al-Chazzah Area
2.	The birthplace of Ali Ibn Abi Ta'leb	Shi'eb Ali
3.	The birthplace of Fatimah	Shar'e Al-Mudda'a
4.	Al-Arqam Ibn Al-Arqam House	Al-Safa Area
5.	Abu Sufian House	Al-Mudda'a
6.	Mosque of Al-Jin (Masjed Al-Jin)	Al-Ghazzah Area
7.	Mosque of Al-Rayah (Masjed Al-Rayah)	Al-Ghazzah Area
8.	Mosque of Al-Bai'ah (Masjed Al-Bai'ah)	Makkah-Muna Road
9.	Mosque of Al-Kawthar (Majed Al-Kawthar)	Mina Area
10.	Mosque of Bilal (Masjed Bilal)	Top of Abu Qubais Mount
11.	Al-Jaffali House	Al-Ghazzah Area
12.	Abbas Qattan House	Al-Shamiyah
13.	Al-Ashroaf House	Ajiad (see plate I.23)
14.	Ba'ghadlaqa House	Al-Shubaikah
15.	Abdullah Al-Sulaiman House	Jarwal (see plate I.10)
16.	The Old Haram Building	Al-Haram
17.	The Cave of Hira'a (Gh'ar Hira'a)	Top of Jabal Al-Noor North of Makkah
18.	The Cave of Thawr (Gh'ar Thawr)	Top of Jabal Thawr South of Makkah (see plate I.1)
19.	Ajiad Castle	Top of Ajiad Mount. (see plate I.1)
20.	Khadijah Cemetery	Al-Hojun Area
21.	Mosque of Abu Bakr	Al-Misfalah Area
22.	Mosque Khaled Ibn Al-Waleed	Har'at Al-Bab Area
23.	The Qishla (Turkish Military Barracks) (presently H.Q. of the Defence Unit of Makkah)	Jarwal Area
24.	Al-Saqqaf House (Ex-Royal Palace, presently H.Q.of Emirate of Makkah)	

Source : R.M.J.M. and P., Master Plan Mecca 1971-1991, Western Province Plan, Town Planning Office, Jeddah, Saudi Arabia p.46.

Appendix D

Conservation Areas

This is a list of places and buildings of historical and religious value in Al-Madinah.

		Location
1.	Mosque of Quba & The Well of Al-Khatam	Quba Area
2.	The Sayed Al-Shuhada Tomb	Sayed Al-Shuhada Area (see Fig.
3.	The Tomb of Uhud martyrs	
4.	The Hill of Roumah (Archers)	
5.	The Mosque of Sulaiman Al-Farsi	Al-Fatah Mosques Area
6.	The Mosque of Ali Ibn Abi Taleh	
7.	The Mosque of Abu Bakr Al-Saddiq	
8.	The Railway Station	The Railway Area
9.	The Mosque of Seqaya	
10.	The Mosque of Al-Aubariya	
11.	The Mosque of Al-Qiblatain	Historic Mosque
12.	The Mosque of Al-Juma'h	
13.	The Mosque of Al-Shajarah	
14.	The Mosque of Al-Mussala ."Al-Ghamamah"	
15.	The Mosque of Abu Bakr	
16.	The Mosque of Ali Ibn Abi Taleh	
17.	The Mosque of Omar Ibn Al-Khattab	
18.	The Mosque of Al-Fadheih "At Shams"	
19.	The Mosque of Abi Zarr	
20.	Bir Budha'ah	Historic Well
21.	Bir Maa	
22.	Bir Al-Bassah Al-Janoubiyah	
23.	Bir Arees"Al-Khatam"	
24.	Bir Al-Furs	
25.	Bir Al-Seqaya	
26.	Bir Othman "Roma"	
27.	Baqi'e Al-Farqad	Cemetery contains various tombs before Islam times
28.	Bab Al-Masri	One of the old city gates

Source: R.M.J.M. and P., Master Plan Medina 1971-1991, Western Province Plan, Town Planning Office, Jeddah, Saudi Arabia pp.33-34.

APPENDIX E

Glossary

The writer has used the Arabic terms for the following words:

Makkah : more commonly known in English as Mecca

Al-Madinah : Known in English as Medina

Al-Haram : designates the Holy Great Mosques of Makkah and Al-Madinah

Al-Hajj : refers to the pilgrimage to Makkah

Al-Ziarah : "the visit', refers to the visit to Al-Madinah

Al-Mutawif (plur.Mutawifeen) refers to the pilgrims' guide in Makkah

Al-Muzawir (plur. Muzawireen) or Al-Dalil (plur. Adila) is the same term in the context of Al-Madinah

The term "Al-" has been used extensively to signify "the", especially as in Al-Haram, Al-K'abah (the Holy House of God) in Makkah, and in place names such as Al-Riyadh, Al-Ta'if, etc. Other names, such as names of the quarters of the cities and names of the streets are written as pronounced locally.

R.M.J.M. and P., has been used as the abbreviation of "Robert Matthew, Johnson-Marshall and Partners", a British Firm, which conducted a socio-economic study and other related aspects of development for the Western Region or Province of Saudi Arabia.

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Fig 4.1 TREND IN POPULATION GROWTH DURING 200 YEARS (1800-2000) FOR MAKKAH AND AL-MADINAH

